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# CANADA LUMBERMAN

WOOD WORKERS' MANUFACTURERS' AND MILLERS' GAZETTE.

TORONTO, CANADA, MAY, 1900

TERMS, \$1.00 PER YEAR.  
Single Copies, 10 Cents

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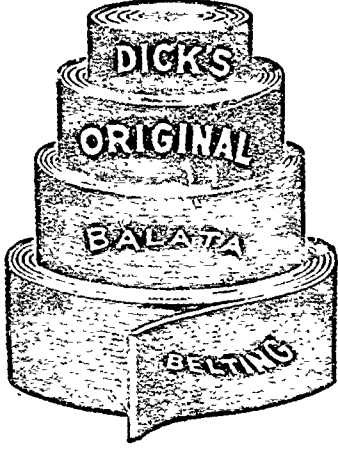
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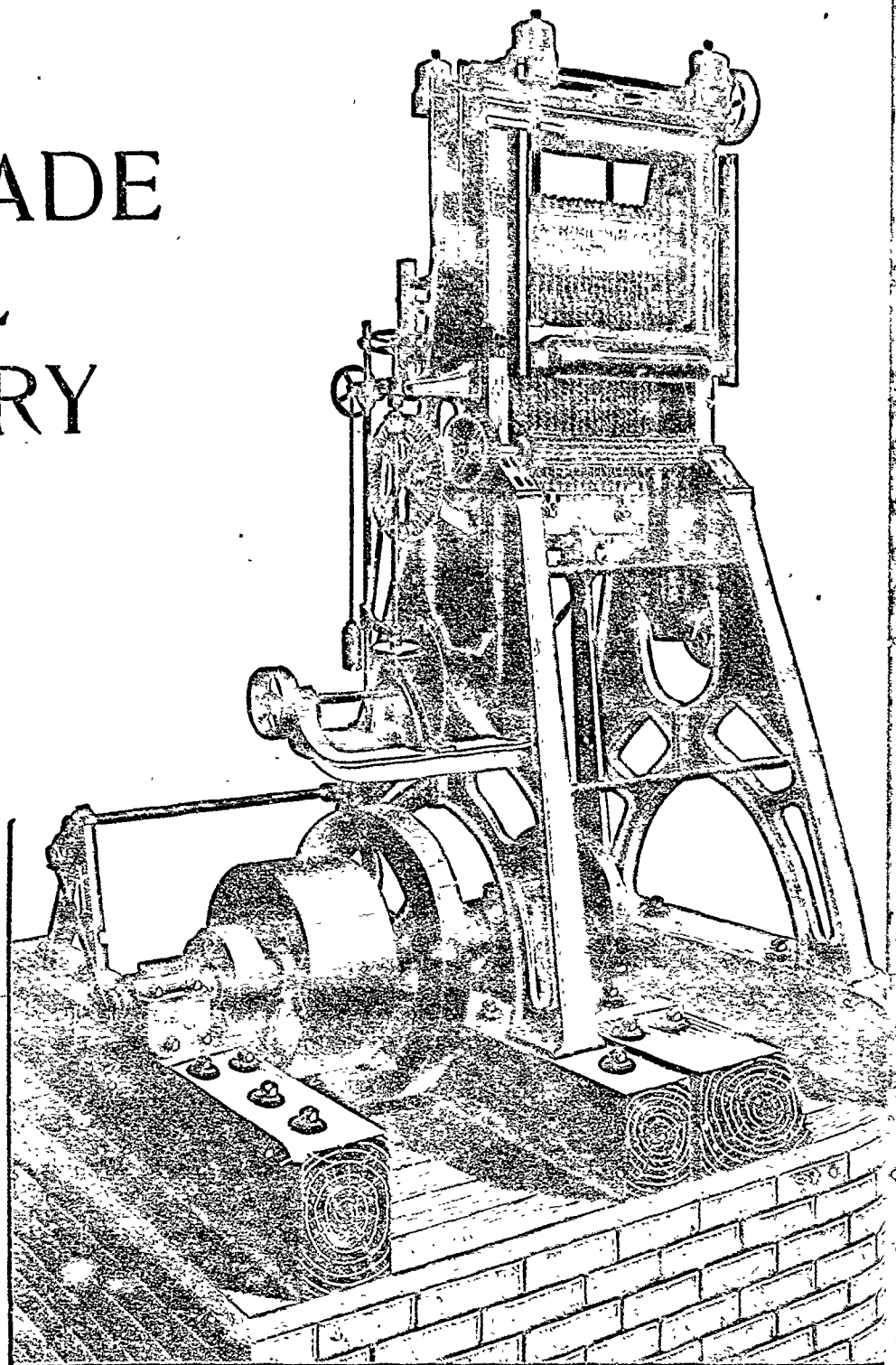
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# EXPORT NUMBER

OF

## The Canada Lumberman



THE publishers of the CANADA LUMBERMAN have now in course of preparation an Export Number, to be published in July next. This will be the first Special Number of THE LUMBERMAN to be devoted exclusively to assisting the development of the export trade Canadian timber products. The contents will include illustrations and descriptions pertaining to the Canadian lumbering and pulp industries, and information regarding the requirements of foreign markets. **Two Thousand Copies** of this issue will be placed in the hands of leading Importers and Consumers of timber, British Consuls and other interested persons in foreign countries, including

**Great Britain, Germany, China, Japan, France, Spain,  
Australia, South America, South Africa  
and the West Indies**

This issue will be a valuable advertising medium for Canadian Manufacturers and Exporters of timber products, and will afford them an excellent opportunity of bringing their goods to the attention of probable buyers in foreign markets. Every lumber merchant catering to the export trade should be represented in this number.

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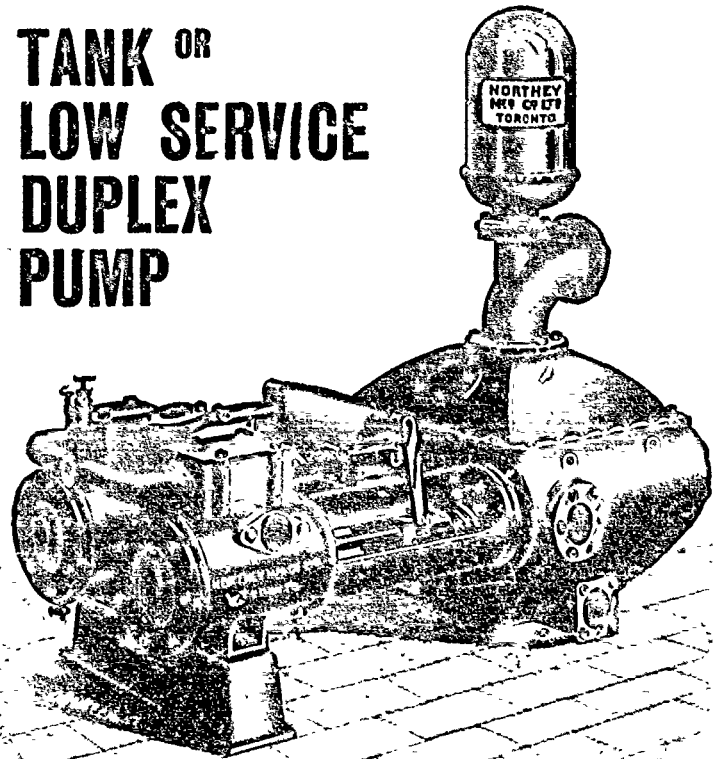
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# THE CANADA LUMBERMAN

TORONTO, CANADA, MAY, 1900

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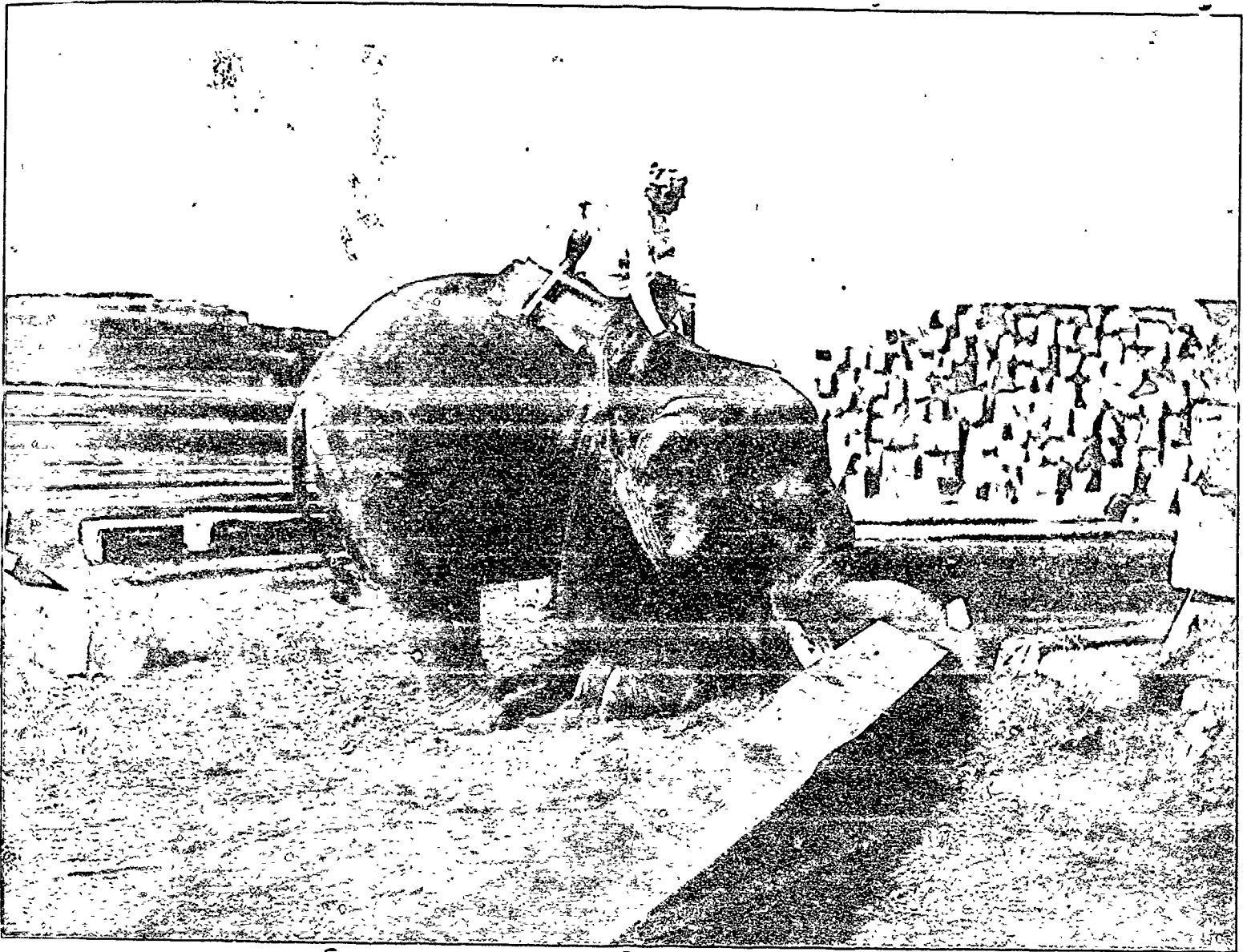
## TEAK LOGGING IN INDIA.

THROUGH the kindness of Messrs. Edrington & Shells, of Glasgow, Scotland, we are enabled to furnish our readers with some illustrations showing how Teak logs are handled at the saw mills of Messrs. MacGregor & Co., of Ragoon, British Burmah, for whom they act as agents. Teak trees found in the forests of Burmah are launched into

carefully piling the slabs preparatory to their being converted.

In some saw mills the elephant is in use in almost every department. One will, when harnessed to a round log, drag it out of the water to the rack bench, and there with its tusks place it on the table, while at the other end his mate is waiting, and when the log has been squared

raises the butt and with his tusks pushes it into the pile. When the pile is low, that is up to six feet, the front of the tusks are used in pushing the square into position, but in the case of the pile being higher, the forehead is used. If, however, the square should be above the level of his forehead, the elephant throws his head well back, and with the points of the tusks high in



TEAK LOGGING IN INDIA—MACGREGOR & CO.'S ELEPHANT PILING TEAK SQUARES.

the streams by the aid of elephants, and floated down the rivers, where they are again drawn out of the river by the elephants and dragged to the saw mills, to be prepared for the Indian, European and other markets.

In the work of piling Teak, the elephant displays an amount of intelligence which is most surprising, more especially when one remembers that an elephant direct from the plain dragging ground of the jungle—the rudimental part of the work as it were—may be seen within a week, or as soon as he gets used to the noise of the machinery, walking along harnessed to a log, or

he takes it in tow and marches off to the piling ground with it, where he in turn hands it over to the piling elephants, who slowly and sedately place it in its resting place.

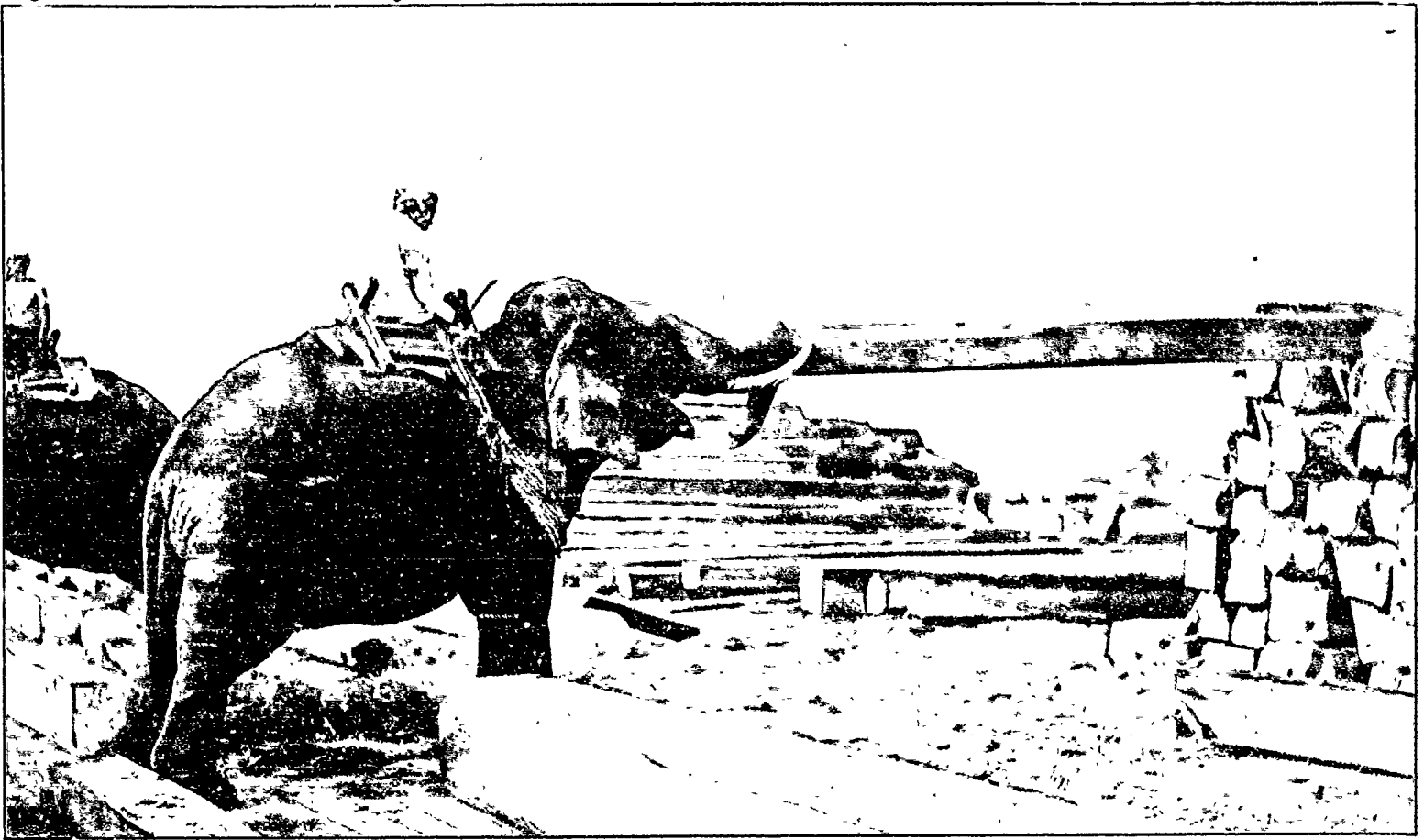
The most difficult, or perhaps we should say intellectual, work is the piling. Say a square has been brought to the piling ground by the dragging elephant, one of the piling elephants would then begin by putting the squares in position alongside the pile, the end of the squares being about six feet past the butt of the pile. He then lifts the end of it on to the top of the pile, and with his tusks holds it in a position, while his mate slowly

the air, will push the square safely home, his mate all the time keeping a watchful eye on it to see that it goes straight, and gently guiding it with his tusks when necessary.

When the squares are wanted for shipment, again the elephant comes to the fore and gently one by one takes them from the pile and lays them out ready for butting, after which he pushes them down to the riverside and into the water, and if necessary will follow them into the water and hold them jammed together while the raftsmen are busy binding them.

When the day's work is over the animals revel





TEAK LOGGING IN INDIA—MACGREGOR & Co.'s ELEPHANT PILING TEAK SQUARES.

in a bath in a river, and often nothing but the tips of their trunks are visible above the water, while their mahouts (native drivers) are doing balancing feats on their backs as the huge bodies loll about under the water. When the bath is over each is loaded with his evening's allowance

of grass, and slowly wends his way homewards, doubtless well pleased that his labor is over for the day, and thinking of the grass on his back.

An elephant is always accompanied by a mahout, either walking by his side or mounted on his back. When working, the driver is always on

his back. Curious as it may appear, elephants are very liable to sun stroke, and those employed on outside work, such as piling, where they are a long time exposed to the heat of the sun, work up to ten o'clock in the morning and three in the afternoon. The others, who



TEAK LOGGING IN INDIA—MACGREGOR & Co.'s ELEPHANT PILING TEAK SQUARES.

more or less under cover and work all day, wear sun protectors while the sun is at its height.

An elephant starts work at twenty-five to thirty years of age and is supposed to be in his prime forty years later, but upon the age that elephants live there is considerable difference of opinion. As regards strength, a good tusker can easily lift half a ton on his tusks and drag a square of three tons weight, but to see an elephant really putting forth his strength one has to see him at work in the jungle and creeks, where both log and elephant are sunk in the soft mud. It is here one realizes his enormous strength, when with a deafening roar he squares his shoulders and gives a tremendous tug which will move the log a foot or two, and he will strain his body forward and repeat the operation till he eventually lands his charge onto hard ground or to the water, as the case may be.

In the matter of hard work, a mill elephant lives an easy life compared to his brother of the jungle. One might be compared with a man

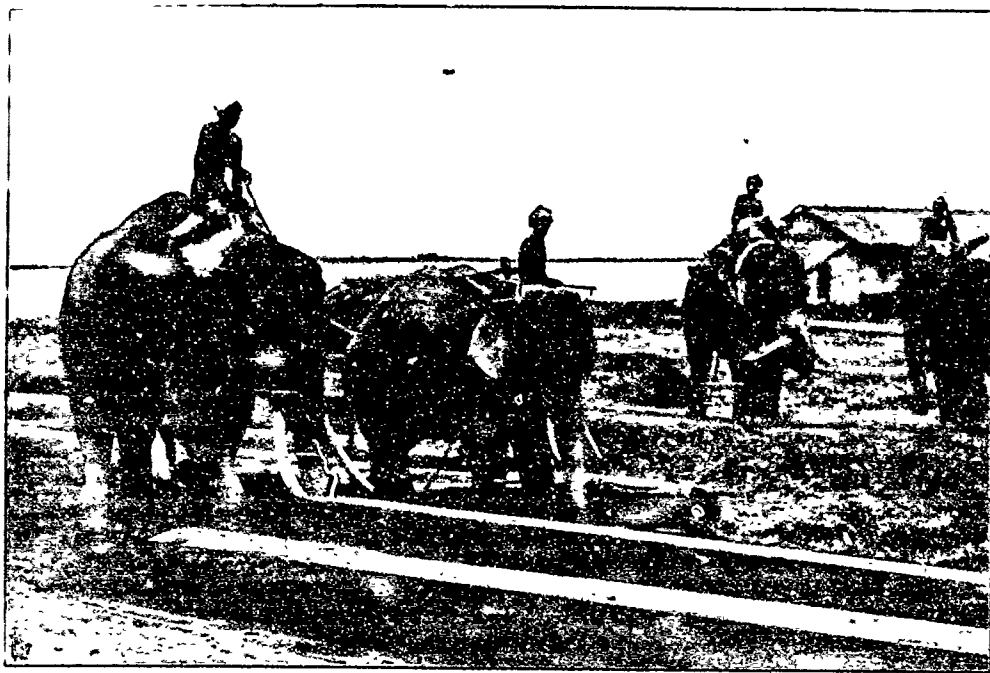


I READ with some relish what are claimed to be the remarks to a reporter of a Montreal daily of Mr. F. W. Allsop, said to be an extensive builder and importer of building materials of London, England. Mr. Allsop deals rather harshly with the Quebec timber broker. While I agree in a measure with the sentiments expressed, I think his criticism is rather severe, as, after all, the business of the Quebec broker is and has been perfectly legitimate. I am in accord with his remarks that the Canadian lumber manufacturers have neglected to place themselves on a direct footing with the British importer, and have allowed commission men at Quebec to make sales practically to suit their

saw-milling establishments became enveloped in flames, their means of livelihood cut off also. It is estimated that 5,000 persons are thereby thrown out of employment, and it will be impossible to provide immediate work. The appeal for assistance for the needy is certain to strike a responsive chord in the heart of every true Canadian, and I feel certain of liberal subscriptions. The Chaudiere has been the scene of many a fire, but in comparison with this one they were but a spark. Think of the burning of the great saw-mills and huge piles of lumber. Various estimates of the quantity of lumber burned have been given, late reports placing the amount at 160,000,000 feet, valued at \$3,000,000. Of this J. R. Booth lost about 100,000,000 feet, and the Export Lumber Company 45,000,000 feet. Other losers include the Hull Lumber Co., mills and yards; Gilmour & Hughson, lumber yards; Bronson & Weston Co., lumber yards; and Parr's planing mill. Mr. Booth suffered the greatest loss, although his large mill was saved, due, I am told, to the excellent system of fire protection installed in the mill and the fact that it was largely of fireproof construction. The E. B. Eddy Co. lost their entire works excepting the sulphite mill, and their loss will probably reach a million dollars.

\* \* \*

The management of the lumber business of Vigers & Co., of Port Arthur, is vested in Mr. Richard Vigers, with whom a recent chat brought out many interesting points concerning the lumber trade of the west. Mr. Vigers was in exceptionally good spirits, and in his countenance one could see a reflection of the prosperous condition of the lumber trade. Mr. Vigers told me that this spring he had refused three times as many orders for lumber as he filled in the spring of 1899, and that prices were very much higher. He had been obliged to turn down orders for as much as 3,000,000 feet. He related a peculiar coincidence which shows the great scarcity of lumber in the west. A customer in Manitoba sent to the Vigers firm last winter an order for certain stock, and a reply was sent that it would be impossible to fill the order for some time to come. In due course the customer responded requesting them to place the order on their books and ship the stock as soon as it was possible to do so in the spring. Speaking along the same line, Mr. Vigers said that whereas a few years ago dealers and consumers would be implored by salesmen to buy lumber, the situation was now entirely reversed, and it was not at all difficult to make sales. This was attributable, not altogether to the improved demand, but in part to the Western Retail Lumbermen's Association, of which the manufacturers are honorary members. Every buyer is furnished with a copy of the price list, which does away with any dickering over prices, as Mr. Vigers states that the list is pretty closely adhered to. In his opinion the great question for the farmers of Manitoba and the Territories to solve is where they will secure their supply of lumber in a few years to come. Reference to the prosperity of the western farmer proved that Mr. Vigers was a firm believer in the future of the North-West. The farmers, he thinks, have not yet learned to use lumber, and in the near future he looks for the erection of many large barns. It is not an unusual thing, he states, to see about a dozen binders and many other agricultural implements standing in the fields all winter unsheltered. Eventually the farmer will become educated to the necessity of taking proper care of his implements and will erect barns for this purpose. I learned from him that the outlook for building operations at Port Arthur was very promising, a boom being anticipated as a result of the construction of the Ontario and Rainy River Railway, of which Port Arthur is a terminus.



TEAK LOGGING IN INDIA—MACGREGOR & Co.'S ELEPHANTS PUSHING AND DRAGGING TEAK SQUARES.

whose calling is of an intellectual nature and the other the manual laborer. Elephants employed at a mill are fed chiefly on paddy (rice) and jungle grass, and occasionally sugar cane when it is in season. Those of the jungle, on the other hand, feed themselves on their natural food. As soon as their work is over they are hobbled together and let loose to wander at their own sweet will till their driver goes out for them to resume their labors.

One would hardly imagine that such huge animals could be stolen, but it is not an unfrequent occurrence for a forest elephant to disappear, no one knows where, and never be heard of again.

Have you sent in your advertisement for the export number of this journal? If not, you should do so immediately. Rates from the publishers.

Mr. Singleton Brown, of Bracebridge, Ont., was recently found dead in a mill yard at Severn Bridge, supposed to have been stricken down with heart failure. Mr. Brown was interested in lumbering.

Mr. W. H. Stubbs, lumber buyer for the Bell Organ and Paper Company of Guelph, Ont., returned a short time from the Muskoka district, whither he went to inspect some timber limits with a view to purchase.

individual purposes. The Quebec middlemen thereby secure almost the entire Canadian export business, and as they deduct a liberal commission on sales from the exporter's liquidated bills of lading, the manufacturer consequently suffers and finds a discouraging influence at work against the development of Canada's export lumber business. Mr. Allsop says that for years the English buyer and Canadian exporter have known no mutual confidence, and until the middleman presented bills of lading, settlement advances in the ordinary course of business were discountenanced. With a healthier commercial confidence, he believes direct buying will ensue, and that the Canadian lumber manufacturers will reap a great benefit therefrom.

\* \* \*

PERHAPS never before in the history of Canada has a fire left in its trail more sadness, to say nothing of the destruction of property, than the disastrous occurrence which a couple of days ago practically wiped out the city of Hull and a portion of the Capital of the Dominion. Hundreds, yes thousands, of persons saw not only their entire possessions reduced to ashes, but, as the large



SCALING SMALL LOGS.

A little point of log scale practice is called to the attention of the American Lumbermen, and through it to the attention of its readers, by the Lufkin Rule Company, of Saginaw, Mich. It involves an agreement on the extension of the Scribner log scale below the minimum diameter of 12-inches in the original scale. In regard to this matter the Lufkin Rule Company says:

"The decimal scale is based on Scribner's. It drops the units and takes the nearest tens. Thus, Scribner's scale gives a log 12 inches in diameter, 16 feet long, equal to 79 feet. Decimal scale makes it 80 feet and is expressed with the figure 8 only.

"There never were any authentic computations for Scribner's scale below 12 inches in diameter, Mr. Scribner at the time considering a log smaller than 12 inches unworthy of cutting.

"Therefore for logs below 12 inches a number of independent computations have been made applying to decimal rules, and great trouble has arisen from this fact, we being at a loss to know what figures we should use. We have recently carefully noted from our customers' orders these differences, and find that about three different computations are being used in different sections. We have therefore named them decimal A, decimal B, and decimal C, and shall hereafter mark our rules in this way. Below we give the figures. The difference being only for logs below 12 inches, we do not consider it necessary to tabulate the whole rule.

DECIMAL A.					DECIMAL B.					DECIMAL C.										
Length	6	7	8	9	10	11	Length	6	7	8	9	10	11	Length	6	7	8	9	10	11
12 ft.	1	1	2	3	4	5	12 ft.	1	2	3	4	4	4	12 ft.	1	2	2	3	3	4
14 "	1	1	2	3	4	6	14 "	1	2	3	3	4	6	14 "	1	2	2	3	4	3
16 "	1	2	3	4	5	6	16 "	2	3	3	4	5	7	16 "	2	3	3	4	6	7
18 "	1	2	3	4	5	7	18 "	2	3	4	5	8	8	18 "	2	3	3	4	8	8
20 "	1	2	3	4	6	8	20 "	2	3	4	6	7	8	20 "	2	3	3	4	7	8
22 "	1	2	3	3	7	9	22 "	3	4	5	7	8	9	22 "	3	4	4	5	8	9
24 "	1	3	4	5	7	10	24 "	4	5	6	7	9	10	24 "	3	4	4	6	9	10

"As stated above, the difference in figures occurs only below 12 inches. From 12 inches upwards the figures are authentic, as furnished by Mr. Scribner.

"We would consider it a wise plan for the lumbermen of the north-west, wherever this scale is used, to get together and decide on one standard rule."

The suggestion seems to be a good one, and it might be well for the more important lumber manufacturers' associations of the country, in sections where small logs are numerous, to take this matter up and settle it once for all. It should be noted that it involves merely the scale for logs below 12 inches in diameter, and not for the larger sizes.

There is, furthermore, in this subject, the question as to measurement of small logs, which is worth consideration and discussion. Conditions surrounding lumber manufacture have so changed since the adoption of any of the present rules that if such a thing could be done an entirely new rule adapted to the new condition might with profit be adopted as more intelligible as well as more equitable.

A unique blotter has been sent out bearing the compliments of Messrs. Sadler & Haworth, manufacturers of oak tanned leather belting, Toronto and Montreal. The blotters are held together by a celluloid button bearing an illustration of the Union Jack, while the name of the firm is inscribed on a fine sheet of celluloid covering the blotters.

MONTMORENCY IN OLDEN DAYS.

The following lines, reminiscent of the lumber trade at Montmorency, were received from Mr. W. B. Dillingham, a former resident of Montmorency, by Mr. F. H. Andrews, of Quebec, who was at one time employed in the saw mills there. The sentiments expressed will no doubt peculiarly appeal to many yet in the timber trade at Quebec:

GREETING.

To the few old friends that are living,  
To the memory of more that are dead,  
To the days of the boom and the saw logs,  
And the blue skies over head.  
To the men that wrought in the Chantier,  
To the men that wrought in the mills,  
To the roar of the Montmorency  
And the green Laurentian hills.

These are the visions that haunt me,  
When the evening fires burn low,  
And the scenes that I loved come back to me,  
With the faces I used to know.  
And the reason why I'm writing  
These unstudied rhymes,  
Is just for a last kind greeting  
To the boys of the olden times.

To the smell of the old mill office,  
When the season's work was o'er,  
When they signed the list for the shanties  
A hundred men or more.  
To the smell of the new beef moccasins,  
Stuffed with pogy oil,  
And the natives' home cured tabac,  
Smoked by those sons of toil.

To the men that tramped on snow shoes,  
Miles o'er the untraced snow;  
Planned the camps and the rollways,  
Far up on the Gatineau.  
Where silence reigned unbroken,  
Save when the wintry winds  
Woke the low sad music  
From the needles in the pines.

To the ring of the woodmen's axes,  
In rhythmic strokes and slow,  
Till the giant pine tree reeled and fell  
Deep bedded in the snow.  
To the trimmers and the sawyers,  
And the swampers that clear the way,  
Out to the well tracked logging road,  
The forest's grand highway.

To shanty life in the pine woods,  
When the daily work was done,  
When the cook had cleand the kitchen  
And the boys were at their fun.  
To the wheezy old accordion,  
The fiddle that lacked a string,  
To the wonderful tales they used to tell,  
And the songs they used to sing.

To the brave and well-trained athlete,  
Detailed to follow the drive,  
With never a thought of the chances  
Of coming out alive.  
To the men that broke the big jam,  
Or man'd the long canoe,  
That followed the logs like an arrow,  
Down through the boiling Soo.

To the men that formed the crib-work  
And builded the mighty raft,  
With axe and auger and dowel,  
All skilled in the woodmen's craft.  
With earthworks for their camp fire,  
A cabin close beside,  
Were ready to catch the tow line,  
And pull out for the ebbing tide.

To the grand old River St. Lawrence,  
Where waves are never at rest,  
But bears an Empire's burdens  
Save on her heaving breast.  
To the green slopes and headlands,  
To the gleam of the village spire,  
Where the happiest of all peoples  
Guard their altars and their fires.

To the timber coves on either shore,  
Guarded by boom and pier,  
From Indian Cove to Sillery, and  
From Cap Rouge to Chaudiere.  
Where the timber ships of England,  
Moored in lines along the strand,  
Took out the wealth of Canada  
Home to the Mother Land.

To the call of the old tug's whistle,  
That turns the boomsmen out,  
And brings them down the Beauport cliff,  
Like an army in a rout.  
To the swing of the signal lantern,  
The rattle and roar and din,  
To the wierd wild song of the boomsmen,  
As they hauled the huge raft in.

To the men that worked in the saw mills,  
In watches night and day,  
To the jolly crews of piers,  
From the stables to the quay,  
To the shippers counting off the deals,  
Along the river's side,  
And the white winged fleet of batteaux  
That went up on every tide.

To the clerks in the shipping office,  
Working with pencil and pen,  
With books of calculation  
Compiled by wonderful men.  
(Oh, useless waste of labor,  
Oh, waste of lead and steel),  
Converting simple honest feet  
To the mythical 'Standard deal.

These are the phantoms that haunt me  
When the evening fire burns low;  
And the scenes that I loved come back to me,  
With the faces I used to know.  
And this is why I hasten  
Before the vital spark,  
Fades like the fading firelight  
And leaves us all in the dark.

W. B. DILLINGHAM

24 Highland street, Auburn, Maine.

HARDWOOD LUMBER PRICES.

GLYSBOROUGH, ONT., April 17, 1902.

Editor CANADA LUMBERMAN.

We notice in your weekly issue of April 4th that it is expected that the prices of hardwood lumber are showing signs of weakness, and that log run maple, dry, is being offered at \$12 at the mill, and black ash at \$15.50. This may be in the case of a millman who has part of a car-load of lumber wishes to get his piling ground clear. Under these conditions he may have offered a mixed lot at the price mentioned, but they cannot be considered ruling prices.

In your issue of the 11th inst. you state that it is expected that prices will weaken slightly as soon as the dry stock of this season's cut is offered to buyers. This is not very encouraging to hardwood millmen, but seems to hint to retail yards and users of hardwood lumber to buy as long as they can, and thus drive us, the manufacturers, to other markets, such as the United States.

A few years ago we paid \$5 per thousand for elm at \$1.50 for sawing, \$1.25 for teaming to the saw and 10 cents for loading on car, to say nothing of the expense of handling during inspection or use of money in different periods, time being generally required by buyers. This brings the total cost of the lumber loaded on car to \$7.85. The average selling price was about \$8.25, we left 40 cents per thousand as the millman's profit. We struggled along on this basis for years with some kind of lumber, but for dimension stuff we obtained a little better price. Now, when higher prices are ruling, those who are standing timber are selling it at a higher figure, but about the millman who is compelled to buy his logs? The only solution of the difficulty is to maintain the prices of hardwood lumber, as it is a fact that logs have run up in price beyond our reach unless we can obtain a fair price for the lumber. As an instance, the hardwood (beech and maple reserved) on about thirty acres of land near here has just sold for \$735. On another tract of a few white ash and basswood trees sold for \$300, another small tract of timber which a few years ago we hardly be taken as a gift sold for \$110. We are just trying living prices for our lumber, when yardmen and manufacturers are given hints to wait as long as they can before buying, as prices are likely to come down. It does not seem fair. Prices here are much lower than in the United States, and my advice to millmen is, do not be in a hurry to sell as there will be a market for all the hardwood lumber that will be manufactured this year.

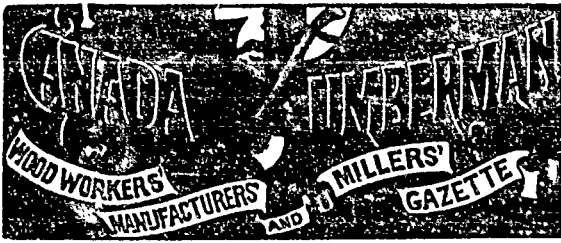
Having been in the mill business over fifty years, I subscribe myself,

GRAY-HEADED MILLMAN

The S. S. Stephens Co., of Kingston, N. S. are building a sluice-way four miles in length to carry lumber

Numerous enquiries received at this office for shooks, doors and mouldings, hardwood specialties, are an evidence that there is a vast market in Great Britain for Canadian timber products. It is only necessary to make an effort in order to secure a greater share of this trade. The opportunity of placing yourself in communication with importers will be afforded by the proposed Export Number of the CANADA LUMBERMAN.





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ADVERTISING RATES FURNISHED ON APPLICATION

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

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

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

Advertisers will receive careful attention and liberal treatment. We need not point out that for many the CANADA LUMBERMAN, with its special class of readers, is not only an exceptionally good medium for securing publicity, but is indispensable for those who would bring themselves before the notice of that class. Special attention is directed to "WANTED" and "FOR SALE" advertisements, which will be inserted in a conspicuous position at the uniform price of 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.

REMOVAL NOTICE.

After May 1st the Montreal office of this publication will be removed to larger quarters in the Imperial Building, 107 St. James street. Customers will always find the office open during business hours, and visitors in Montreal are extended a cordial invitation to call at the office, where they will be given every possible assistance and furnished with requisites for answering correspondence. The telephone number is Main 2299.

AN EXPORT NUMBER.

THE first special number of the CANADA LUMBERMAN to be devoted exclusively to assisting the development of the export trade in Canadian timber products is now in course of preparation, and will be published about midsummer. The proposed publication of this number is the result of a constantly increasing number of enquiries from foreign countries regarding the timber resources of Canada and her ability to supply wood products of various kinds. The present is undoubtedly an opportune time to make our products more widely known abroad, and to bid for a larger share of the foreign trade.

The contents of this export number will include illustrations and descriptions pertaining to the Canadian lumbering and pulp industries, and information regarding the requirements of foreign markets. It is proposed to issue two thousand copies for circulation abroad. These will be

placed in the hands of the leading importers and consumers of timber, and also on view in the Chambers of Commerce, the offices of the British Consuls, and the leading hotels in foreign countries, carefully selected lists of the above having been obtained by the publishers.

A considerable proportion of the issue will be distributed in Great Britain, at present the largest wood consuming country, but it is intended to cover also Germany, France, Spain, Australia, South Africa, China, Japan, South America and the West Indies, all of which countries import Canadian wood products.

As an advertising medium for Canadian manufacturers and exporters of timber products, this number should prove of incalculable value, since it will afford them an excellent opportunity of bringing their goods to the attention of probable buyers in foreign markets. An announcement in this number might prove to be the means of building up an extensive and profitable foreign trade. Already some of our manufacturers and exporters have arranged for announcements, but as it is desired that every person seeking export business should be represented in this number, the publishers would be pleased to be advised regarding the space desired at as early a date as convenient. Full particulars as to rates will be gladly furnished upon request.

TIMBER REQUIREMENTS OF GREAT BRITAIN.

It has sometimes been said that the British timber market has been exploited by Canadians to its full extent, and even that the trade has been overdone. In respect to square timber and pine and spruce deals this may in a measure be true, but there are undisputable evidences that Canada will supply in the near future a much greater proportion of the timber requirements of Great Britain than she does at the present time. The vast manufacturing industries of our Mother country are constantly calling for a class of timber products of which Canada has as yet supplied but a small proportion. This class of wood products may be termed specialties, and it is in this direction that we anticipate the most noticeable expansion in our timber trade.

The publishers of this journal are constantly in receipt of communications from British importers asking for the names and addresses of manufacturers of certain stock. The stock enquired for has included pine doors and mouldings, spruce mouldings, box shooks, maple blocks for flooring purposes, veneers, handle stock, mangle roller stock, wood powder, basswood boards, birch spool wood, pulp wood, butchers' skewers, golf sticks, wooden mantel pieces, plasterers' laths, pit props for mining purposes, railway sleepers, birch and maple dowels, barrel staves, etc. These are sufficient to indicate the character of the timber products for which there is a market in Great Britain, and which the importers and consumers are desirous of purchasing in Canada.

It is not unusual for a correspondent to state that he has been obtaining his stock from other countries, perhaps Scandinavia or the United States, but that he now desires for some reason

to establish a connection in Canada. In the case of doors, it is said that those of Canadian manufacture are of finer appearance and comparatively cheaper in price than the Scandinavian doors.

Canadian manufacturers cannot expect that British importers will put forth more than a reasonable effort to establish a connection in this country. If they are not met with some encouragement, and if some desire is not shown on the part of our manufacturers to secure the trade, they will find other sources of supply.

Granting that there is a market in Great Britain for a greater quantity of Canadian timber products, the question naturally arises as to the most feasible and productive method to be adopted to secure this trade. In the past export trade in timber products has been almost entirely controlled by a few large shippers on this side, who have their agents in Great Britain or who sell to importers there. The result of this course has been that the number of profits taken by middlemen has reduced almost to a minimum the price which the manufacturer receives for his stock. The present tendency towards a closer business connection between the manufacturer and the consumer. Manufacturers are being solicited to ship direct to agents or importers in Great Britain, and in our opinion this is the course which the trade will eventually take. There are in Great Britain many respectable wood brokers who are prepared to handle the stock of Canadian shippers, and in whose honesty and integrity entire confidence may be placed. These brokers are familiar with market requirements, and should be in a position to place stock to the best possible advantage. Frequently they make advances on the shipment and guarantee accounts in case of the failure of the buyer. Under these circumstances the interests of shippers would be protected. At the same time, every shipper of stock to the British market should take the precaution of not being misled by some unreliable party.

GRANTING OF PULP WOOD LICENSES.

THE interest that has been shown in the question of dealing with the large but scattered pulp wood resources of the territory in New Ontario seems to call for some remarks on the subject. The situation is one that presented many difficulties and called for the initiation of a policy radically different from that so successfully adopted in dealing with the pine timber. In opposition to the Government measures—so far as it is honest and not factious—seems to be largely due to the mistaken conception of some similarity of conditions between the two cases exists, so that the system which has been found satisfactory in disposing of the pine stock forms a precedent for the sale of spruce. The facts brought out in the controversy show that there is little ground for such an assumption.

There are two leading points of difference which are sufficient to indicate the need for an entirely different system of treating spruce lands to that which obtains in the case of pine forests. Firstly, while the pine grows thickly over very extensive areas, so that its value is easily estimated within given limits, it is readily accessible to the operator, spruce, on the other hand, is sparsely scattered

over a wide extent of country, so that if a limit any marketable value were set apart, settlement would need to be excluded from an extensive district in order to secure a comparatively trifling revenue. Secondly, pine can be manufactured into lumber with a small outlay of capital. The utilization of pulp wood, however, requires a far more costly and elaborate process. If the raw material is to be worked up in the province, encouragement must be given to extensive capitalists to undertake the erection of large pulp and paper factories involving the expenditure of hundreds of thousands of dollars. It would obviously be impossible to induce investors to risk such amounts in the enterprise unless they were assured in advance of an adequate supply of raw material, and such assurances can only be given by definite agreements such as those which have been made with several companies. The proposal that the spruce should be put up to competition and sold to the highest bidder, as is done with pine, is, we believe, impracticable. If coupled with the restriction that the raw material should be worked up in the province, no one could be found to buy on such terms. It would seem that the only way in which the pulp wood could be exploited on the principle that the manufacture of the finished article is to be done within our own borders is along the line of the plan the Ontario Government are pursuing.

Bearing in mind this essential feature of the case, that in order to secure the manufacture of pulp wood into pulp and paper here, it is absolutely necessary to find capitalists ready to sink large sums in buildings and machinery on the faith of obtaining sufficient and constant supplies of raw material for a term long enough to secure the financial success of the enterprise, it is difficult to see how the interests of the public could have been much more thoroughly safeguarded than has been done in the agreement with the Spanish River Pulp Company. The company guarantee to expend \$500,000 in the erection of a pulp mill, to manufacture 20,000 tons of pulp annually, and to employ on an average 250 hands. In return they get absolutely nothing but the certainty of being able to purchase their raw material for twenty-one years at a price to be fixed by the government. The agreement is far more stringent than the previous contracts under which the Sault Ste Marie and Sturgeon Falls companies are operating, as it limits the kinds of wood to be cut to spruce, jack pine and poplar, and is subject to any increase of dues which may in future be imposed. It is not likely to interfere in any respect with the settlement of the country, as it distinctly specifies that the lands covered by the concession are to remain open for settlers, who upon taking up a lot become the owners of the pulp wood as well as the other timber. All possible objections in short of the character usually raised against the granting of large areas or special privileges to companies appear to have been considered in advance and met by the terms of the agreement.

In view of what has already been accomplished at Sault Ste. Marie and at Sturgeon Falls under agreements of a similar character, though less favorable to the public than the Spanish River contract, having regard to the lavish expenditure of capital, the rapid development of the country at these points, the influx of population, the growing markets afforded to the farmers

for their produce and to the manufacturers of other parts for their wares, the action of the government must be regarded with some approval. Everyone interested in national development is practically agreed as to the proposition that the national resources of the country should be utilized as speedily as may be, and that Canadians should receive the full benefit of the resultant industries by carrying on the manufacturing processes within our own boundary. Rarely has a policy enunciated by a provincial administration been more enthusiastically received than the departure in this direction. But had the principle that spruce should not be disposed of otherwise than by public competition, regardless of the practical difficulties in the way of adopting that system, been sanctioned by the Legislature, we fear it would have been a serious check to the movement for industrial expansion, and would have thwarted and delayed for years the opening up and development of New Ontario, so largely dependent upon the growth of the pulp industry. It would have been an unfortunate thing indeed for the country had the government been compelled, out of deference to a misapplied precedent, to sell off the pulp timber in lots to small operators with permission to ship it as raw material abroad owing to the lack of manufacturing facilities within the province. The system of disposing of pulp wood adopted is in fact simply the logical conclusion and the corollary of the general policy of encouraging home manufacture, and the government is to be commended for the firmness with which they have adhered to the principle, no less than for the foresight and fidelity exhibited in providing against any possible abuse of the privileges granted.

#### A HANDY HAMMERING BENCH.

By J. S. PHILLIPS.

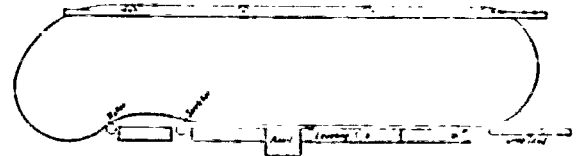
I SEE so many inconveniently arranged hammering benches, or at least such as I would not wish to work at myself, that I will give you the "plans and specifications" of what, to me, is the handiest bench I have seen. We are all so prone to do things as we were taught to do them that it is a continual bar to our advancement. I have never gone into a strange mill where the hammering bench was such as I could work at any longer than I had to, and then it was a question of tearing down and building over at the first opportunity, even if it had to be done on Sunday. But then, quite likely, those following me had to go through the same process again and make it over to suit them. There is no accounting for tastes.

First, I place center of anvil seven feet from left-hand end of bench and the rolls of stretcher four feet, center to the left of anvil, leaving three feet of bench yet to the left of rolls. Then I place the leveling slab immediately to the right and against the anvil. Instead of the stationary brackets usually used overhead for handling the saw around or over above bench, which I always regarded as very inconvenient, I use the following. I take two strips of wood about 1x2 1/2 inches, of sufficient length, and suspend them parallel with the bench, at the proper height, by wooden hangers or cleats, from the ceiling, and about sixteen inches apart.

About even with the left-hand end of the bench I make the necessary gain in each of those strips to receive the 3/8-inch iron pins which are driven

into the ends of a light wooden roller about three inches diameter and sixteen inches long. At the right-hand end of those strips I make a series of those gains, say four or six inches apart, to receive another roller. Then in the intervening space, for one or two more according to length of saw. To raise the saw up on them, instead of having to raise and throw the whole upper half of saw together, I simply take out one of the rollers at a time, the center ones first, the outside ones last. In letting saw down I reverse the operation, taking the outside rollers out first. Some use the above, as I know, but there are many who know of none but the bracket system.

Now fit a roller of about three inches diameter to the extreme left end of bench. Put your saw on rollers overhead and on the bench, ready, let us say, to work on the inside of saw. Instead of having the bottom half of saw rest on bench full length, as is usual, roll the upper part to your left until the end projects over the end of bench and sags down something as shown in the accompanying sketch. Drop your right-hand



top roller into one of the series of gains I referred to, to hold the saw from running any farther to the left than is desirable.

You will now notice that the saw is resting heavily on the little roller fitted on to the left-hand end of the bench, and raises up off the bench three or four feet immediately to the right, yet lies level on the anvil and for a few feet to the left of it. There are a number of very marked advantages in this arrangement of the bench, among which I will mention: First, when you are working at the anvil and raise the saw with your left hand to try for tension, you will find it much more easily raised than when it is lying full length on the bench an advantage you will most assuredly appreciate when working on heavy saws 12 to 14 inches. Second, when you take hold of the saw while still standing at the anvil, to push it to the right or forward, you will find so great a portion of saw resting on that little roller to the left, and so small a portion comparatively on the bench to the right, that it will move so much easier, another decided advantage on heavy saws. Third, if you have just sufficient overhang at left end of bench, as shown and described, when you push the bottom to the right or forward, the top of the saw will of itself roll to the left without your putting a hand to it. The above position of the anvil will also be found convenient when working on the out or log side of the saw.

Still another improvement that can be made on those over-head rollers, if the ceiling is high enough, is to fit them in sliding frames, which can be counterbalanced. Whatever of good there may be in the above, I shall be pleased to learn of other conveniences in this line. The Wood-Worker.

#### EXTEND YOUR TRADE.

If you are desirous of finding a market for your timber products you should place an announcement in the forthcoming Export Number of this journal, to be published about midsummer. Write the publishers to-day for rates.



## LUMBERING OPERATIONS IN NEW BRUNSWICK.

[Correspondence of the CANADA LUMBERMAN.]

As the winter operations of the lumbermen of New Brunswick are about over, we can get a fairly correct idea of the actual as compared with the estimated output of deals and logs for the present season. The logs in most cases have yet to be stream-driven to the mills, and the contingencies arising therefrom will, to some extent, naturally affect the final results.

The portable saw mills operated during the winter sawing deals have been generally successful. This class of mills is practically confined to the counties bordering on the Bay of Fundy, and while preparations of a very considerable extent had been made during the fall and early part of the winter, operations were much interfered with owing to the absence of snow, and the prospect up to the middle of February was not reassuring. However, from that time to the 1st of April winter, with its accompaniment of snow, held with much of its old time force, resulting in the earlier expectations of the portable mill men being fairly well realized.

The lumber operators on the Miramichi and north to the Restigouche had a long winter, with about the right depth of snow until March came in, when it was a greater depth than usual, necessitating a considerable expense in shovelling out the roads to get logs from the woods to the landings on the rivers. It is reported that a much larger quantity of logs than usual will have to lay over a year on this account, but that the average annual output will be obtained.

The mills will not begin operations generally before between the 20th of May and 1st of June, owing to there being no logs to saw until the new stock arrives. It is not often that there is such a clean-up of logs in the booms as was the case last year. Millwrights and engineers are busy putting the mills in order and making improvements where necessary, and the usual quickening of the business pulse is seen and felt incident to the return of spring after the long and comparatively dull winter season.

J. & C. Hickman, general merchants, Dorchester, N. B., last year acquired the valuable timber property, mills and town property of Hazen Copp, Port Elgin, N. B. The mills consist of a grist and a rotary saw mill. The latter they have entirely renewed, excepting the power, which is steam of 100 h.p. They have installed a modern rotary mill, with the latest improvements as to haul-up and means of handling lumber through the mill. Lumber that requires sizing or dressing goes direct to the planing mills. The shipping facilities are very complete, the lumber going from either the saw or planing mill direct to car, vessel or yard as required. The firm are taking out about four million feet of spruce logs this season. The length of drive is from fifteen to twenty miles.

Beharrel & Pelton purchased the mill and timber lands of Ogden & Hicks at Midgie, on the N.B. & P.E.I. R.R., and are operating about three million feet this season. T. B. Calhoun, Calhouns, N. B., has three million feet of spruce for his season's operation. He also had a large portable mill sawing during the winter a few miles back from the I.C.R. near Memramcook. The Calhoun Lumber Company, Gaspé, Que., of which Mr. Calhoun is the general manager, are putting in four million feet of spruce logs at their mill for the season's cut. L. DeB. Lockhart, Humphrey's Mills, has two million feet of spruce, hemlock and pine assured. Lockhart & Lowther, Notre Dame, N.B., are about beginning operations for the season. They have two million feet.

J. D. Irving, Buctouche, N.B., is getting four million feet of spruce and hemlock. He cut about six hundred thousand feet of hardwood and spruce with his portable mill during the winter, shipping from Adamsville, on the I.C.R. M. McLaughlan, Buctouche, has two million feet stocked to saw in his rotary mill. He also has a 50 barrel flour mill, which has induced the farmers in the surrounding country to go quite extensively into the raising of wheat, some farmers supplying themselves and having a surplus for sale.

J. & T. Jardine, Kingston, N.B., will saw in their band mill about seven million feet, spruce and hemlock mainly, and have purchased the cut of several small mills in the vicinity which will give them about twelve million feet of a total output six million feet, of which will be English deals, the remainder being for United States and local markets. This firm have about four million feet of old

logs ready to operate on as soon as the ice is clear. They have added a new boiler to their plant this winter. The Messrs. Jardine are also extensive farmers and stock raisers, horses and cattle being their specialty in the live stock line, and are also general merchants and ship owners.

R. O'Leary, Richibucto, N.B., has a first-class rotary saw mill. He is taking out four million feet to supply it this season. He saws principally English deals. Mr. O'Leary is also a general merchant and one of the largest operators in salmon, smelts and lobsters in the Maritime provinces. McLeod & Atkinson, Kouchibougnac, have a gang saw mill, and have a stock of one and a half million feet for this season. Geo. Jardine, Kouchibougnac, has a rotary saw mill and shingle machine. His output for the season will be about six hundred thousand feet, spruce, hemlock and hardwood. The Bonny River Lumber Company, Bonny River, N.B., will take out for the season's cut about seven million feet of spruce for English deals and enough cedar to supply two shingle machines during the season. They will also manufacture lath, etc. C. M. Bostwick & Co., whose mills are at Salmon River, N.B., have begun sawing and will have five million feet of stock. C. T. White's stock of logs in New Brunswick and Nova Scotia will total nine million feet, Point Wolfe furnishing about two-thirds of the quantity. C. & J. Prescott, Albert, N.B., have stocked fully three million feet and have begun sawing.

G. D. Prescott, West River, has one and a half million feet of spruce logs.

H. E. Graves, Harvey Bank, has two and a quarter million feet ready to begin sawing on. He will employ portable mills.

McLellan Bros., Albert, have one million feet. They put in a new portable saw mill, which has been doing splendid work for a couple of months. McLellan & Turner, Riverside, N. B., have at their mill one million feet of logs and are now sawing them—the greater part is spruce, remainder hardwood.

W. J. Carnwath, Riverside, during the winter and early spring, will saw two million feet in his portable saw mill. J. Lewis & Co., (John L. Pecik, Hillsboro, N.B., manager) have a portable mill sawing back of Hopewell Corner, in which they will cut two million feet. J. W. Smith, Hopewell Hill, N.B., are finishing up one and a half million feet in their portable mill.

W. N. Duffy, Hillsboro, N.B., has a portable saw mill in which he has sawn one million feet during the winter, and with stock of logs on hand and some summer logging which he will do, will cut another million feet during the season. He saws English deals. Mr. Duffy is interested in a saw mill and lumber operations on the Liverpool river, eight miles above Milton, in Nova Scotia, and also does a general merchandise business at Hillsboro, N.B. Mr. Dryden, of the firm of Dryden & Gibson, Hillsboro, N.B., has carried on the lumber business for several years in different parts of the county of Albert. He is operating in five places this season and getting out three million feet of deals, which was cut by portable mills engaged for the purpose. The firm do a large business in agricultural implements, carriages, sleighs, etc., also in oats, feed and groceries. John Fawnes, Havelock, N.B., will succeed in getting out the quantity estimated earlier in the season, viz., one and a half million feet.

Mill owners and operators on the Miramichi have concluded their winter's cut and have got about all to the landings. The mills will be a little later starting than usual, as all the old logs were sawn last fall, and will have to wait for new stock. Adams, Burns & Co., Bathurst, N.B., expect a fair season's sawing, although not to the full capacity of their mill. Sumner Company, Bathurst, have six to seven million feet of spruce on their landings, and besides have cedar enough to keep four shingle machines running the whole season. They also ran a winter mill sawing shingles at Russell Siding on the I.C.R. John Culligan, Belledune, got out four million feet of spruce and cedar—about half of each—and ran a shingle mill during the winter, and also cut a large quantity of spool wood stock.

Geo. Montgomery, Dalhousie, has two million feet of spruce and enough cedar to supply two shingle machines. His mill is a rotary, with steam power. Geo. Moffat, Dalhousie, has five million feet of spruce and will begin sawing on the 1st of May. Mr. Moffat's mill is a live gang and rotary, with lath machines and re-saw, and is reputed to be one of the fastest cutting mills on the north shore of New Brunswick. Dalhousie is a good

shipping port and a large part of the English deal, along the line of the I.C.R. north as far as Sajo, shipped from there.

Wm. Currie & Co., Eel River, have a large shingle saw mill and will saw this season one million feet of spruce, and besides stock cedar for six shingle machines.

David Richards, Campbellton, is the largest operator in northern New Brunswick. His cut of spruce will run close on fifteen million feet this season, he takes out a considerable quantity of cedar. He has a very fine mill built on the site of one burnt two years ago, in which he has a rotary stock gang, three shingle machines, also clapboard and lath machines and the whole mill being strictly modern and up-to-date. Kilgour Shives, Campbellton, will saw from five to six million feet of spruce deals this season and also shingle machines. There is a complete box factory adjacent to the saw mill, with dry house of the pattern. In the sawing season the cuttings are cut here, while in the winter a large quantity of suitable can be procured, so the box factory runs continuously. Mr. Shives is of an inventive turn of mind, and I have no doubt that if he was not so thoroughly immersed in shingle and lumber business as he is, his attention would be given to the planning of new devices and improvements in machinery for working up lumber. A. Alexander, Campbellton, is also a large lumber operator and mill owner. His principal lumber business is in the manufacture of shingles, having thirteen shingle machines, all of which he runs during the summer season and also from two to four machines all winter. He also has a rotary saw mill in which he cuts about one million feet of spruce deals and timber. Mr. Alexander is also the largest general merchant in the town, and holds the position of Mayor.

J. B. Champion, of Campbellton, has purchased the mill at Dalhousie and is putting it in order for the season's cut. The mill contains a rotary saw mill and shingle machines, besides a complete plant for saw door making and general building lumber.

J. & D. A. Haquail and Curry Bros., of Campbellton, each have a sash and door factory, and are doing a considerable business supplying the building trade.

The David Inglis Company, Limited, Flatland, N. B., operate a shingle mill. This property was formerly owned and operated by F. Stancliffe, of Miramichi. Some two years ago the mill was burned, when Mr. Inglis purchased the property and rebuilt the mill. The company handle the output of their mill—about five million shingles annually—without the intervention of middlemen or commission agents, as some members of the company are located at Springfield, Mass., and are large dealers in shingles and lumber. The mill is running steadily day and night, summer and winter. David Inglis is the resident manager, and an expert of the mill and surroundings, with the care taken in manufacturing the best class of goods, shows that he is entirely competent for the position.

W. J.

### CANADA'S COMMERCIAL AGENTS.

FOLLOWING is the official list of Canada's Commercial Agents in Great Britain, British possessions and foreign countries:

J. S. Larke, Sydney, N.S.W., agent for Australasia.  
G. Eustace Burke, Kingston, Jamaica, agent for Jamaica.

Robert Bryson, St. John, Antigua, agent for Antigua, Montserrat and Dominica.

S. L. Horsford, St. Kitts, agent for St. Kitts, Nevis and Virgin Islands.

Edgar Tripp, Port of Spain, Trinidad, agent for Trinidad and Tobago.

C. E. Sontum, Christiania, Norway, agent for Sweden and Denmark.

D. M. Rennie, Buenos Ayres, Argentine Republic, agent for Argentine Republic and Uruguay.

In addition to their other duties, the undermentioned will answer inquiries relative to trade matters, and services are available in furthering the interests of Indian traders.

J. G. Colmer, 17 Victoria street, London, S.W., England.  
Thomas Moffat, 16 Church street, Cape Town, Africa.

G. H. Mitchell, 15 Water street, Liverpool, England.  
H. M. Murray, 40 St. Enoch Square, Glasgow, Scotland.  
Harrison Watson, Curator, Imperial Institute, London, England.



UP THE TOBIQUE RIVER.

(By a Travelling Correspondent.)

Viewing the lumbering interests of the St. John New Brunswick, prominence must be given to the river upon one of its most important tributaries, the Tobique. Of the many streams and rivers flowing into the St. John, this river drains by far the greatest area of

the Tobique river proper, which flows into the St. John about 190 miles from its mouth, passes through the Victoria county, and is just 60 miles in length, following then on the right and left hand branches, the main stream of good length, which draw their waters from Northumberland and Restigouche respectively. It is a stream well fitted for drifting, a peaceful stream, with out falls or rapids of, with the exception, perhaps, of its famous two miles from its mouth. There the banks are high and transform to perpendicular walls of rock of great height, at the base of which the stream drives with great velocity. All of the brooks and streams flowing into the Tobique are operated upon by sawmills, and have been for years, with slight diminution of lumbering value.

The Wapskehegan and Gulquac, the Odell and Three Brooks and Sisson Rivers all contribute to the output of logs. At present the greatest fact more than half of the total Tobique timber, is cut on the left hand branch and on the Sisson branch. All the rest comes from the Mamozekal, Gulquac and Odell.

The Tobique river is well settled for its whole length, for thirty miles containing some flourishing districts and fertile farming lands. Riley Brook is the furthest headwater on the river, and is a flourishing little spot in a beautiful location. There are numbers of islands in the river, some of which are covered entirely with the ash trees of great size. One of these, Long Island, is now being denuded of its growth, which is due to heavy, for the sole purpose of cultivation, there to be, unfortunately, no paying demand for this timber. In the valleys of the Tobique and its branches hemlock predominate. On their upper reaches there is much white birch. The poplar is not so much in evidence. On the high lands and ridges the maple and birch is large and heavy.

The location for pulp mills could not be better than on the Tobique, and its openings for the manufacture of its lumber are yet barely discovered. For years the river has been one of the greatest ports in the province, and the portaging and toting in winter has been one of the greatest boons to the lumbermen.

Now that a railway, a branch of the C. P. R., has been built up the river for 28 miles, much of this business has been largely reduced, but from the railway's terminus the transportation of supplies still depends upon the team-

work of the prime objects in the building of the railway development and shipment of gypsum from the new town known as Plaster Rock, the terminus of the Gypsum. The finest grade exists at this point in the hills, its red and white cliffs stretching for over a mile along the river banks. A plaster mill with improved machinery and good equipment has been erected, but its shipments have so far been very meagre. Just at this point the lumbermen are now held in restraint by a big dam, built by the Tobique Manufacturing Co. They have in view the manufacture of lumber on a large scale, and at some future date the erection of a mill. Already it is stated that Tobique real estate has advanced from 40 to 50 per cent. The committee composed of the Hon. John Costigan, the Dominion Minister of Victoria and Madawaska, Senator Baird, of Andover; Fred Hale, M. P., of Woodstock, N. B.; Geo. A. Murchie, of St. Stephen, and James Stratton, of Ottawa. They control all the lands on the Tobique and intend eventually to locate all the lumber above the mill's location. The Tobique Manufacturing Co. expect to make a decided improvement in shipping their manufactured lumber by rail.

The cost of rafting cedar, going through the Fredericton and towing to St. John, is about \$2.50 per M, as compared with the cost of about 25 cents per M, as now being done. The cost of the log is about equal to 10,000,000 feet in the log is about equal to 10,000,000 feet. The rate by rail to Boston direct is 40 cents. This would give a difference of 15 cents per thousand in

favor of sawing and shipping direct to Boston. So far all the Tobique lumber to speak of has been driven down the river to the booms. If this company carries out its expectations their work will be far reaching in its effects, as it means the transportation by rail of millions which now go by the river route.

R. A. Estey, of Fredericton, has been engaged on the river about ten years, though Jacob Hazen worked for him in this locality for years before that. He will get out about 3,000,000 feet, all of which he will cut in his Fredericton mills.

Geo. Upham will get out 3,000,000 feet from the Wapskehegan, which will also go to his Fredericton mill.

Donald Fraser & Sons, whose mill on the Temiscouata Lake was described in the last issue of THE LUMBERMAN, are getting out 1,000,000 feet. They have a big mill in Fredericton which cuts all this lumber.

Beveridge & Sons, whose cut extends partly over the Salmon river, are handling 1,000,000 feet. They are located at Andover, at the mouth of the Tobique, where they have a store and do a general business. Their operations extend back 12 years, though the old Beveridge concern did business in the same line and location for as many years longer.

F. D. Sadler, of Perth, across the St. John from Andover, is now opening up in lumber, and has handled about 1,000,000 feet from his Rowena mill, five or six miles up the river. The aggregate cut on the whole river may be placed at about 26,000,000 feet, which is not, however, as great as in some years previous.

At Red Rapids Hilyard's mill is running this summer and will cut a good many shingles. It has also a rotary.

Murphy Bros. have a small clapboard mill on the headwaters of Three Brooks. Carter Edgar has, at the mouth of this stream, a mill which manufactures shingles and spruce. About a half million is being cut on Three Brooks this year. At Burnt Land Brook Martin Watson has a small shingle mill, and at Riley Brook is Topley's shingle mill. He also has a rotary which cuts a few deals. Gosline Bros., in Tilley Settlement, have a shingle mill and get out about 2,000,000 feet annually. Fifteen miles above the mouth of the Tobique the Salmon river enters the St. John. Two miles from its mouth are situated the mills of the Stevens Lumber Co. This mill does a large business and turns out in total about 15,000,000 feet per year. Most of its deals are shipped to St. John, where the firm is now filling a contract for several millions. The equipment is a rotary, a lath machine and six shingle machines. All the lumber manufactured is drawn from the Salmon river. Owing to their location, over two miles from the railway, they are put to an expense of about \$30 a day in delivering. The headquarters of the firm are at Stevensville, near Fort Fairfield, Me., about ten miles distant, where they have a larger mill.

Mr. Frank Murchie, manager of the Murchie mill at Edmunston, reports good business and satisfactory prospects. His mill cuts long and short lumber, having an equipment of a rotary, lath, and seven shingle machines. Last year he cut about 17,000,000 shingles, 3,000,000 feet of long lumber and about the same amount of laths. They ship to Boston, via St. Stephen. They also have a large local trade and sell to the Temiscouata and Canadian Pacific railways. The mill has just been opened after an overhauling and the installation of some new machinery. About 60 men are employed. The Murchies operate also a mill at Milltown, Me., which contains two gangs and a planer, a rotary mill about 15 miles from McAdam, N. B., a mill at Benton, containing gang and rotary, and one at Cabano, Que., having two shingle machines.

Octave LeStalieu, of St. Rose, in Quebec, near Edmunston, has put another shingle machine in his mill from the factory of Connell Bros., Woodstock, N. B.

The butter factory at St. Bazil, Med. county, has been supplied with about \$1,300 worth of machinery, furnished by the Canadian Dairy and Supply Co., Montreal, including a 10 h.p. Leonard engine and boiler.

Jos. Hayes is considering the erection of a mill 15 miles below Edmunston.

Wages for stream drivers are unprecedented, and hundreds of men are being engaged on the Tobique and upper St. John at \$2 a day, while \$2.50 is given in some places, and occasionally \$3 has been offered.

ASSOCIATION OF CEDAR SHINGLE MANUFACTURERS.

THROUGH the initiative of Mr F. E. Blackhall, manager of the J. P. Mowat Estate at Campbellton, N. B., a meeting of shingle manufacturers of New Brunswick, Quebec and Maine was held in Riviere du Loup, Que., on Tuesday, March 20th, for the purpose of considering the formation of an association of shingle manufacturers for the above districts. Mr. Kilgour Shives, of Campbellton, N. B., was appointed president, and Mr. F. E. Blackhall secretary of the association.

There were present the following persons: J. D. Sowerby, Oak Bay, Que.; F. E. Blackhall, Manager Estate J. P. Mowat, Campbellton, N. B.; George Berube, Notre Dame du Lac, Que.; John Mullin, of Fort Kent Milling Co., Fort Kent, Me.; Duncan Sinclair, Fort Kent, Me.; T. H. Phair, Presque Isle, Me.; O. L. Stadig, of Jones & Stadig, St. Francis, Me.; C. V. Carleton, of Rimouski Lumber Co., Rimouski, Que.; J. A. Morrison, Fredericton, N. B.; W. B. Hayes, of Grey & Lawrence Co., River Charlo, N. B.; Jas Hayes, Notre Dame du Lac, Que.; Donald Fraser, of Donald Fraser & Sons, Fredericton, N. B.; and Cabano, Que.; C. B. Champion, of C. B. Champion & Son, Campbellton, N. B.; Thos. Crockett, of Kennedy Island Mill Co., Riviere du Loup, Que.; Kilgour Shives, Campbellton, N. B.; A. E. Alexander, Campbellton, N. B.; John Montgomery, Barrister-at-Law, Campbellton, N. B.

A resolution was adopted fixing the following schedule of minimum prices to go into effect on 1st of April, 1900. Extras \$3.25, clears \$2.85, 2nd clears \$2.35, clear whites \$2.25, and extra No. 1 \$1.85. These prices are based on Boston rates f.o.b from the I.C.R., which is 20 cents per 100 pounds, or \$54.00 per car billed at 27,000 pounds.

A resolution was also passed that the commission to be allowed wholesale commission men be 5 per cent on the net amount of sales after freights have been deducted and from Canada duty also.

It was decided to hold another meeting at the same place on April 18th, and the secretary was authorized to prepare in the meantime a constitution and by-laws.

The second meeting was held as above stated, at which the uniform grading of shingles was briefly discussed and steps taken looking to the adoption of such a system. Arrangements were also made to take over the stock of small manufacturers who might feel obliged to sell on a low market. The association has so far been given a hearty reception by the trade, and it is hoped to eventually secure as members nearly every shingle manufacturer in Quebec, New Brunswick and Maine.

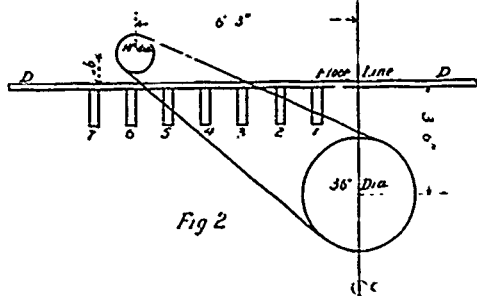
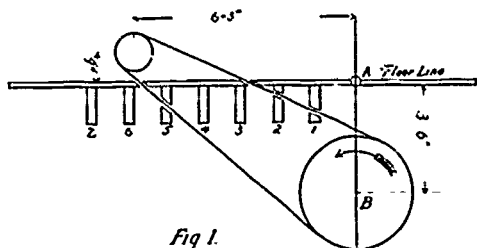
"WANTED AND FOR SALE"

Persons having for sale or wishing to purchase a particular lot of lumber, a mill property, timber limits, second hand machinery, etc., in fact, anything pertaining to lumbering operations, will find a buyer or seller, as the case may be, by placing an advertisement in the "Wanted and For Sale Department" of the CANADA LUMBERMAN Weekly Edition. Testimonials to the value of this department by those who have given it a trial state that the results of advertisements were frequently better than anticipated. The cost is comparatively small. Mill owners might, with profit to themselves, make use of this method of advertising their stock to a still greater extent.

## LOCATING AND CUTTING BELT-HOLES.

There are many practical ways of doing this important work; important because it is done in "any old way." It is often a source of great annoyance and in many cases considerable expense, as belts are left to run against sharp edges in some places, while in others you can "throw a dog through" the extra space, thereby weakening the floor until it shakes the machine operator equal to the ague.

The sketches in the December Wood-Worker are quite easy of comprehension, but the plan is not so well adapted to planing mills. Most planing mills and sash, door and blind shops are two or more stories high, with line-shaft suspended from second floor joists, the heavier machines on the first floor, the lighter ones on the upper floors, necessitating belt holes. These lighter machines, or most of them, have small counters on floor, with tight and loose pulleys 6 to 10 inches diameter, and as they invariably run at high speed, require a large driver. To get the necessary belt length the distance between



CUTTING BELT HOLES.

main and countershafts must be at least 6 to 10 feet. In 99 of every 100 cases the joists run in line with or in same direction as the line shaft, necessitating, in addition to belt holes in floors, cutting away portions of several joists. Frequently girders and beams are butchered up in order to set a machine in a certain position. This should be avoided as far possible, as mill floors are seldom too rigid at best; the millwright or machine man should locate the machine or counter and draw his plans to see that he does not interfere with any girder, and have as little cutting to do as possible. It may be necessary to make several trial positions to get the best results, but it requires very little time to see where belts will run, and it pays in the long run.

To locate belt holes is very simple, as the sketches herewith will show. There are other ways, but none easier or more nearly correct. Fig. 1 shows a 10-inch tight and loose pulley on machine countershaft, centre of which is 9 inches above floor line, with 36-inch driving pulley on lineshaft, center of which is 3 feet 6 inches below floor line; from center to center of shafts is 6 feet 3 inches.

To find where such a belt will require belt hole<sup>s</sup> we will refer to Fig. 2, which is almost a duplicate of Fig. 1, and should be drawn full size on floor where machine is to set. First, find point A, Fig. 1, by plumbing down main line to countershaft—B, Fig. 1 at two places on mill floor, not less than 8 or 10 feet on each side of driving pulley to be belted. If a new plant, or several machines are to be set, find points A at two extreme ends of main floor. Through points A A thus found, draw an indefinite line, which is line of shaft—C C, Fig. 2. Next draw floor line D D, Fig. 2, at right angles to C C, indefinitely or a little longer than distance to driven pulley.

Circles are now inscribed full size of pulleys, the one for driver, on line C C, same distance below floor line D D, as per measurements. The ones for small pulleys are drawn on a line at right angles to D D, measurements for distance from floor line and centres of shafts to be taken from Fig. 1 or actual measurements of shafts and pulleys being belted. Draw actual position of joists, beams, etc., that come between the two lines of shafting, also full size, and number them on plan, beginning at the one nearest to drive pulley, for future reference. Draw line of belts over pulleys, which will show where cutting is required. By the positions of pulleys in this case, it will be seen that joist No. 1 will require a portion of the lower edge cut away. No. 2 has a mortise through it about 3 inches wide and 2 inches longer than double the width of belt to be used. This will allow for sagging or flapping of top or loose belt. No. 3 also needs a portion of the upper edge cut away. The lower or tight belt only strikes one joist, No. 5 necessitating a mortise about 1½ inches wide, as this belt will not sag as does the top one. The floor holes should have a neat batten mitred around them on top of floor, about ½ by 3 inches.

Often belts are run at half twist through floor holes, and almost invariably cut away one or two joists entirely. In this case it is better to take up a portion of the floor and cut and frame in double headers, for strength, rather than have a weak floor. This is better than setting a post below as some do.—George W. Mershon, in Wood-worker.

## PERSONAL.

Mr. and Mrs. McLeod, of London, Ont., recently celebrated the fiftieth anniversary of their wedding. Mr. McLeod is manager of the London Lumber Co.

Hon. Peter White, of Pembroke, ex-speaker of the House of Commons, has again been chosen by the Conservatives of North Renfrew to contest that riding at the next Dominion election.

Mr. James Scott, vice-president of the Georgian Bay Lumber Company, is president of the Northern Navigation Company. This latter company has taken over the Beatty steamship line of Sarnia, and has thus secured control of the passenger traffic of the Canadian side of upper lakes, except that part carried by the C.P.R.

Mr. Carl Zeidler, of Toronto, has been appointed freight agent for the several lines of steamships despatched from New York by Messrs. Barber & Company. He has also secured the agency of the Bristol City Line of steamships from New York to Bristol. Mr. Zeidler is therefore in a position to furnish low rates of freight for car or cargo lots.

Mr. J. G. Scott, manager of the Pacific Coast Lumber Company, New Westminster, B.C., was recently on a visit to Ottawa and other eastern cities. Mr. Scott states that the lumber business in British Columbia is flourishing and that the prospects for next year are most encouraging. His company intend erecting a new mill during the coming summer.

## THE NEWS.

—Albert Eplett has moved his shingle mill to Harbor, Ont.

—The Spicer Shingle Mill Co., of Vancouver B. C., has been incorporated.

—Chas. T. Monroe has purchased a shingle mill at Douglastown, N. B.

—The Parry Sound Lumber Co., of Parry Sound, Ont., are building a new tug.

—Rutherford & Keating have purchased a lumber mill at La Riviere, Man.

—The Huntsville Lumber Company are building offices at Huntsville, Ont.

—A new planing mill is being built by G. Mumford on Red River bank, Winnipeg.

—A Mr. Lamb, of Brechin, intends to erect a saw mill at Big Eddy, on Black river.

—It is reported that a sash and door factory started at Russell Village, Ont.

—A new boiler has been placed in the saw mill at Charles Stewart at Honora, Ont.

—The Fernie Lumber Co., Limited, Fernie, B. C., has succeeded the Fernie Lumber Co.

—N. J. Raymond, of Meteghan Station, N. S., has engaged a sawyer for a rotary mill.

—Howard & Moore have purchased the lumber mill of Caughlin Bros., at Cartwright, Man.

—Price Bros. & Company, of Quebec, have commenced the erection of a large saw mill at Rimouski.

—Wood & Colgate have added a circular saw shingle mill at Bear Cave, in Cardwell township.

—H. C. Rees, of South Woodslee, Ont., is building in addition to his saw mill and putting in stove.

—Dunlop Bros., of Kintore, Ont., will manufacture cheese boxes in connection with their saw mill.

—The Grand Forks Lumber, Sash & Door Co., Grand Forks, B. C., has been incorporated, with a capital of \$15,000.

—Shurly & Deitrich have commenced work on new office building in connection with their saw mill at Galt, Ont.

—Machinery is being installed in Cameron & Co.'s new saw mill at Midland and Chew Bros.' new mill at Dollartown.

—The Whaley Lumber Company, of Huntsville, are refitting their mill and will shortly commence operations.

—W. T. Mason, of the late lumber firm of Mason & Son, Ottawa, has embarked in the lumber business in Montreal.

—The Fairview Sash & Door Factory Company, dissolved partnership, and in future Edward Galt will carry on the business at Fairview, B. C.

—Dunlop Bros., of Kintore, Ont., are building in addition to their saw mill, which they will use for the manufacture of cheese boxes.

—The C. Beck Manufacturing Company expect to operate their mills at Penetanguishene, Ont., during the coming season.

—The Aymer Manufacturing Company, of Huntsville, Ont., has been organized and will manufacture heading, and handle stock.

—The A. T. Wood Co., of Hamilton, are negotiating for the lease of a building in Belleville, Ont., in connection with the manufacture of bent wood articles.

—A Seattle firm has purchased five million feet of logs in the vicinity of Nanaimo, B. C. These logs will be towed to Seattle and manufactured into shingles.

—The Boston Wood Rim Company, Limited, of Boston, has been incorporated, with a capital of \$500,000. The directors are: C. H. Hurdall, Walter Seymour, and J. Edwards.

—A meeting of the Moodyville Land & Saw Mill Company, of Vancouver, B. C., was held in London, last month to receive a statement concerning the operations of winding up the company.

—It is definitely announced that Firstbrook Lumber Co. of Toronto, will locate in Midland, having purchased the factory of the Midland Lumber Co.

ing Mill Company. Alterations and additions will be to the buildings and plant.

the annual meeting of the Tobique River Driving Mill last month, directors were elected as follows: Hilyard, George D. Murchie, G.W. Upham, R. A. and J. E. McCollum.

Judge McDougall last month gave judgment for \$94- the plaintiff in the action of the S. I. Wilson Lumber Company against Solomon Clark and William J. Thomson, Scarborough, on a promissory note.

The Edmund Hall Lumber Company have completed arrangements to build their proposed saw mill at Sarnia. The mill will be built on a pile foundation, and a bay will be constructed across the bay to Sand Point. The small capacity of the mill will be about 20,000,000 lumber.

The timber lands in New Brunswick owned by the Hugh McLean, and situated on the Salmon river, are offered for sale by the trustees. The limits comprise an area of about 200 square miles, and with them will be sold a new gang saw mill, situated at Chipewyan Queen's County.

The large planing mill of Brown & Rutherford, at Winnipeg, which contained much valuable machinery, was destroyed by fire last month. The building was two stories high, 100 x 50 feet, and the machinery consisted of planing and moulding machines, band saws, rip saws, lathes, etc. It is understood that the work of rebuilding has been commenced.

The annual meeting of the St. John Log Driving Company was held at Fredericton, N. B., on April 4th., at which the following directors were elected: W. H. Murray, President; A. H. Beveridge, R. A. Estey, Donald Fraser, and F. H. Hale. An assessment of one per cent. per hundred feet, in addition to the regular driving fees, was ordered to be levied to meet the expenses of the com-

TRADE NOTES.

Messrs. Long & Thompson, foundrymen and manufacturers of shingle machines, Orillia, Ont., purpose building a new brick foundry this season.

The Stuart Arbuthnot Machinery Company, of Winnipeg, are supplying the machinery for a planing mill being erected at Altona, Man.

The McKee Machinery & Lumber Company, of Ottawa, recently formed, are carrying in stock a complete line of mill supplies. They are also agents for the Hart Emery Wheel Company, of Hamilton.

Charles J. Sawyer, of Bangor, is said to have been appointed superintendent of a large pulp mill to be built in Japan.

CORDAGE

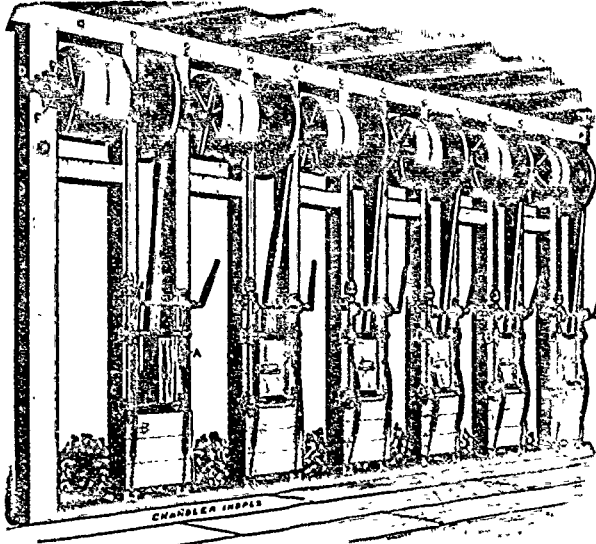
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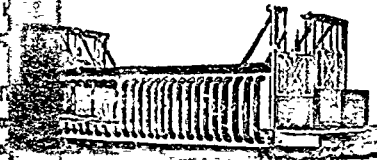
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- 11 x 20 Cunningham Cable Feed, 48 x 12 drum, 10 grooves, 3/4 cable.
- 3 Block girder steel 40 in. Carriage, steel faced, 14 in. wheels. Boss Dogs run one year.
- 2 Block cast iron Hamilton 40 in. Carriage, Boss Dogs.
- 3 Block Sewry Carriage, 40 in. Boss Dogs, run one season.
- 7 Block Stearns Carriage, King Dog, would make two carriages. All have rolled V and flat track planed.
- Waterous iron frame. Three Block Carriage. R H Singe Logger.
- Small wood frame and Two Block Carriage.
- Kelley Kicker, Kline Loader, Steam Jump Saw, 60 in. Saw.
- 1 Waterous Shingle Mill.
- 2 Boss Shingle Mill
- 3 Saw Hamilton Edger, Single Edger, Slabaw
- Endless Log Jack, spiked roll.
- 450 feet Conveyer Chain, 1/2 in. round, 2 x 3/4 in. flat.
- Steel Conveyer Chain, 18 in. iron slights.
- 11 x 15, 12 x 12, 12 x 14, 20 x 24, Engines.
- 60 x 16 Boiler, forty four 4 x 16 tubes.
- 6 x 12 Boiler, Seventy-eight 3 x 12 tubes.
- 48 x 14 Boiler, forty-four 12 foot tubes.
- Several smaller boilers.
- 10, 12, 16 horse upright Boilers.
- 25 h.p. submerged tube Marine upright Boiler, good for 100 lbs., two 2 1/2 in. take offs, double geared.
- No. 5 Rotary Fire Pump, good as new.
- Several Hand Fire Engines; one 600 gallon Steam Fire Engine.
- 21 in. Little Giant Water Wheel with sun.
- 48 in. Lffel Water Wheel with sun.
- 12 in. Centrifugal Pump and 17 x 12 Engine.
- 7 in. four-sided Moulder.
- 20 in. Chopper, 20 in. Chopper, 12 in. Jolietter Crushers.
- Circular Saws, 68, 64, 60, 59 and 55 in.
- 24 in. Champion Planer and Matcher.
- Several Marine Engines and Boilers.

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# WOOD PULP ~ DEPARTMENT

## PULP MANUFACTURE AT SAULT STE. MARIE.

In an address at the Board of Trade in Toronto on April 2nd, Mr. F. H. Clergue, of the Sault Ste. Marie Pulp Company, referred in a most interesting way to the steps which led to the establishment of the present large pulp mill at Sault Ste. Marie. Much that he said has a common interest. It seems that, having selected that place on account of its valuable water power, he and his associates set about to find a means of profitably utilizing this power, and were, of course, attracted by the vast supply of birch, maple, elm, balsam, poplar, tamarac, pine and spruce timber. Except the spruce, none of the above woods would float to the proposed point of manufacture, so it was proposed to engage in the manufacture of pulp. They proceeded to build a small pulp mill, and agreed with the government to expend the sum of \$250,000 in the construction of works. They had not gone far before they found that it cost just as much to run a works of that size practically—except mere labor charges and the additional cost of the raw materials—as a works twice as large, and that their competitors in foreign lands, running on a more extensive scale, could produce pulp for the use of the paper makers throughout the world at a price beyond their competition. So the first step of the evolution was to enlarge the pulp mill from a ground wood pulp mill of 20 tons a day to an output of 150 tons of pulp a day, requiring the use daily of about 200 cords of wood.

The subsequent steps are thus related by Mr. Clergue:

"Having gotten along so far as to build the new pulp mill, we found that even then the influx of this product of ours on a large scale on to the markets of the world was taken advantage of by the paper manufacturers, who needed Canadian pulp, and they began to mark down the values of Canadian pulp. When we originated the mills the market price in the United States was high and profitable, and we had a handsome dividend calculated on the output of the mill. When the wheels began to turn over and the product began to come out, the paper manufacturers in the States resolved that there was a new source of supply on a grand scale and that they could be supplied forever at their own price.

"Up to the time we constructed this mill the ordinary method for producing pulp for the use of paper manufacturers was by attaching the grindstone to a water wheel. Then against the grindstone is placed a block of spruce wood, and that block of spruce wood is pressed against the grindstone by an hydraulic piston, and this continuous pressure against the grindstone results in pulverizing this wood into liquid form. That pulp in liquid form goes off to another machine, where it is crushed around the wooden roller, which presses from the pulp about one-half of the water, and the consequence is you obtain a sheet of pulp something like a thick sheet of blotting paper, containing about 45 to 50 per cent. of wood fibre and 50 to 55 per cent. of water. When the product is shipped to the paper mill the papermaker does not pay for the tons of pulp you ship to him, but he pays you for the amount of pulp fibre, which is about 50 per cent. of the shipment. That circumstance confined our works to the nearby paper manufacturers. We could not ship to England, Germany or any of the foreign countries for these reasons: In the first place we would be paying a freight on 55 per cent. of stuff we never get

paid for ourselves, and that would be impossible; another thing, if the foreign markets justified this extraordinary and expensive means of carrying raw material, we could not send it to distant markets because by this grinding process a great deal of the resinous matter remains in the fibre, and just as soon as you expose this moist pulp to the varying temperature, the moist and dry climate and hot and cold, the resinous matter in the fibre commences to decompose and cause the green stain which is seen in pine boards where they have not been properly seasoned, and we were getting into difficulties. This great undertaking, where we had already spent one million dollars or more, out of which we expected to do very well, was simply a source of annoyance, distress and loss. Then we came along to the next evolution in the process.

"It was decided we must make that pulp marketable all over the world, and it was decided to attempt a process for turning out this pulp as a dry product. An investigation was made among all the paper-machine manufacturers in Europe and the United States with the hope of securing apparatus by which this ground wood pulp just as it came from this grindstone could be taken and turned into a sheet like a sheet of paper. Everywhere the process was declared impracticable. No paper-machine manufacturer in the world would attempt it. In the meantime we were turning out pulp and losing money. We decided to design a machine ourselves, and we did. We designed a machine which we thought on paper would answer the purpose. Having had a long training in mechanics myself, I gave the matter my own attention, and after a while succeeded in designing an apparatus which seemed practical, and this design was sent around to the paper-machine makers, and no paper-machine man would build that machine, and it became necessary to build our machine shop. It involved a large drying cylinder and of a different form than had ever been attempted.

"Having decided to build the machine shop we found it was necessary to build a foundry. We built a foundry of stone of general architecture and design adopted in our mills, then we went on to build the machine shop. Before we were ready to turn out a single machine we had spent about one hundred and twenty-five thousand dollars, all for the object of obtaining dry pulp, and then after all our trouble we got out one of those machines. Well, I took the most skilled foreman we had in the mill and told him to nurse the machine, and told him how it should run and how the paper would come out. He started to run that machine, and in less than a week the man was ready to commit suicide. We gave it to all the foremen in the mill, and it was six months before that machine ever made a sheet of pulp, and now there is not any other machine in the mill except of that class. After a while, correcting this and remedying that, we evolved out of that conception a machine which to-day earns net at the mill a profit of one thousand dollars a day more in that one mill than the profit was by the same output by the process formerly in use. That is the only mill in the world making pulp in that form, and since I have been in Toronto I have received, and I have now with me, telegrams from Paris, from England, and from the United States for orders at our own price, which would more than take the product of that mill for six months if we would accept them. So that the evolution so far was all right. My

associates were well pleased. They thought last their expectations had begun to be met and they were content to go on with development. Having produced this dry and dry pulp, and having gotten the pulp into a form where we could now reach foreign markets, we ship every week to Japan, Australia, France, and England, all over the United States, and no contract is made to-day without first coming from Sault Ste. Marie, Ont., what it will be.

"Having carried the process along so far, I concluded it was a shame to allow the raw material to go out in a manufactured form sold at so low a price as mechanical pulp. The same raw material could be further increased in value by making it into chemical pulp, as probably most of you know, this pulp is made very largely of ground wood pulp, must have some chemical pulp in it, sulphite pulp, having a longer fibre to be sufficiently strong to pass over the roller in the printing press. This requires that all the resinous matter in the wood fibre be taken out, involves a chemical process. Sulphate of soda, the name of the liquor, as it is called, removing from the wood fibre the resinous matter necessary to produce this refined pulp. So that I advised my associates it would be to increase our gross earnings, our net earnings and our labor force and the general opportunities of our works there, by producing a more refined and perfect quality of pulp; and, therefore, it was decided to build a sulphite pulp mill. That was the next evolution.

"While investigating the question, we found that, besides the raw material we had, we required to have sulphur, and we found the only economic source of sulphur, and that was sulphur from Sicily, owned by a syndicate imposing a high value on its output, so that the cost for sulphur for a sulphite paper mill in Canada is probably \$25 a ton, and at the time of the Cuban war the price went up at one time as high as \$50 a ton. We were very far distant from the source of bringing sulphur from Sicily seemed unprofitable, in fact, it seemed, with the cost of sulphur in Algoma, unnecessary. So I went to look around for some sulphur. I went to the works at Sudbury, and found that the escaping sulphurous acid gas off into the air was worth a value of \$2,000 a day, at an expense of \$100 a day.

"I proposed that they take the sulphur from the air at Sault Ste. Marie, where we could utilize the sulphur. The company said they had investigated it and had found it impracticable. My question of what the paper machine manufacturers had said about dry pulp machines came to me. I was not going to Sicily to find sulphur, with all the sulphurous acid gas going off into the air at Sudbury. So I went to Sudbury after looking around there found any sulphur mines. We found nickel ore enough to last the world one hundred thousand years. I found the people, the prospectors, valuing the mines there rather highly, but still I had no option on one property for a sufficient time to allow us to carry on those experiments and determine whether or not that sulphur could be used for a sulphite pulp mill. My associates were not looking after nickel steel. I was not looking after nickel steel. I got a carload of ore from Sault Ste. Marie, and I found that the sulphur with whom I had advised on the sulphur case, although it is half an hour's drive from Sault Ste. Marie, now, it has taken years to evolve all this up to the time we are now discussing getting the ore up to Sault Ste. Marie. That prediction of these scientific men had said that the sulphur could not be fully taken out of the pyrotite ore, was true, by any method in vogue up to the



1900

But I have had the good sense to as- about myself practical and scientific men all parts of the world, who are supposed to ent the latest knowledge and experience in class of scientific and practical under- s which we have to engage in. So, with se gentlemen to assist, we began a study question of extracting sulphurous acid gas pyrotite ore. We were entirely successful, successful as in pulp making.

Then we went down to Sudbury and paid \$100,000 for a nickel mine, and we pro- to carry on our reduction until we found the gas which we got from the Sud- ore was exactly what we wanted for a sul- pulp mill. Then we proceeded to establish sulphite mill. It is now under construction will be in operation about June 1st. It will as much wood as the ground wood mill. employ as many men, and will make our requirements of wood about 300 cords per this summer. But, having got this sulphite business established and under way, then question came up whether the residue which to be left from the ore could not be put to use. We investigated it, put it through chemical laboratory, and found that we had this residue nickel and iron in a natural of union so perfect that when smelted and al and steel so far superior to anything else which yet been used, and when offered to Krupp, the great gunmaker in Germany, he made a con- d at once for a supply for five years.

And we then proceeded to erect our reduc- works and our ferro-nickel plant. But when we began to ship this ore out of Sudbury, we found that although a very considerable pro- portion of it consisted of nickeliferous pyrotite was principally, a still larger proportion consisted of copper pyrites. Of course, it is a well-known fact that a little copper in nickle-steel, or steel of

any kind, ruins its value, use and efficacy, and, therefore, it became necessary, in order to mine this ore profitably, to devise a means of taking out the copper ore with the nickel. So it became necessary to reduce and refine a part of the copper and nickel together. So again was our laboratory set to work. And now we have de- vised a process by which the copper and nickel together are taken out in a refined form equal to that in any part of the world and as cheaply. That was the next step in the evolu- tion.

"But we found that in this process also we re- quired certain chemicals, certain alkalis. We found that, although we had to go outside Al- goma for this resource, we still had not to go outside the Province of Ontario. We only had to go to Windsor or Goderich to get our supply of salt, bring it up to Sault Ste. Marie, take one of our dynamos, attach it to an iron pot, fill the iron pot with brine, start the electric current through the brine, and the chlorine gas came off through suitable pottery tubes, which we got from Hamilton (still in Ontario.) The other part of the salt, the sodium itself, came off as a caustic soda through the water. Thus we found ourselves provided through Ontario resources with all the alkalis said to be necessary, and which are necessary, for a certain process of re- fining, all procured within the Province of On- tario.

"So the next step was the establishment of an alkali plant—a chemical works. We began to investigate all around the world for the latest devices for the electrolytic decomposition of salt, and we finally selected a process which had been recently invented, known as the Rhodin process. After a careful examination on a practical scale, we have finally adopted it, and are now building these alkali works up there. What we needed chiefly of the salt product was the sodium for the metallurgical processes. We did not need the

chlorine, but we could not allow any of it to go to waste. So we came to the next step in the evolutionary process. Chlorine is universally made into bleaching powder, and that is a sub- stance which is used for bleaching woods, cloths and fabrics of all sorts. The most of it is made in England, but a great deal comes from Ger- many; practically all of what is used in Canada and the United States comes from Great Britain. This powder consists of 44 per cent. of active chlorine gas, and the other 56 per cent. is just lime. The lime is a medium for conveying this chlorine gas around. It has an affinity for the chlorine, and thus, seized by the lime in the lime chambers, it becomes impregnated up to 44 per cent., and then ceases to take any more. 'Well,' I said to myself, 'Here is case just like our moist wood pulp.' Our people were now ship- ping that all around the world, and yet, here we were paying for something that was entirely idle. At Sault Ste. Marie, where we want to originate something new, we could not tolerate any such waste as that. So we decided to take the gas from the receptacle where it was formed, and pump it with a glass pump into lime water. The lime water is then utilized for bleaching the sulphite pulp. So, you see, here was a continu- ation of the sulphite evolution. Every constitu- ent it thus utilized. But we found further on experimentation that while the bleaching powder contained 44 per cent. of chlorine gas, the amount actually available and useful when the powder is dissolved in water is only about 35 or 37 per cent., 37 per cent. theoretically, but only 35 per cent. in actual practice. So, you see, there is a loss, never recovered, from this source of the difference between 44 per cent. and 35 per cent. But we found still further that when we carried the gas directly from the apparatus into the bleaching liquor we saved the whole 44 per cent.


We have carried the investigations on theoret- ically, until we have formed these conclusions,

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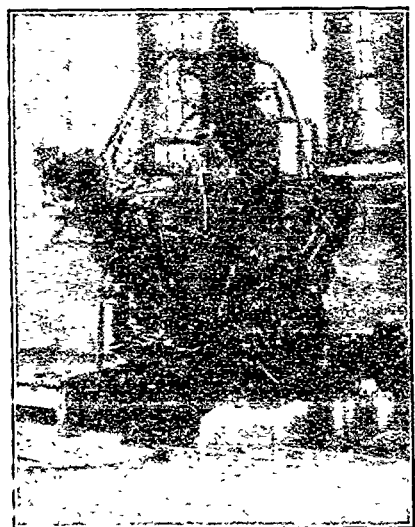
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step by step, and, whenever the laboratory experiments have justified it, we have gone on with the necessary expenditure and completed the works. We have allowed no bye-product to escape us, in fact, when we reduced our ores at the refining works, we found that the amount of ore profitably available was so great that our sulphite pulp mill could not begin to consume the sulphurous fumes from all these ores, and we must allow these to escape into the air at a loss, or devise some other use. What other use could we put them to? To find a use for that sulphurous acid gas was the next step. We discovered that this gas is, by a suitable and economical process, turned into sulphurous acid, which is sold to the oil refineries and put to other uses in the arts. When the market for sulphurous acid becomes supplied another step, and one economical in its process, is the compression of the sulphurous acid gas into liquid sulphurous acid. That is the substance which other sulphite pulp mills in Canada will, in my opinion, be

using exclusively before long. They will not have to go to Sicily for sulphur. We will, after our works are once in operation, be able to ship sulphurous acid in iron tanks at a price about one-half the present cost of sulphur.

PULP NOTES.

The North Shore Timber Company have made application to the Ontario legislature for a charter to engage in the pulp business on Nipegon river.

Mr. L. P. Snider, of Toronto, has purchased the Norris flour mills at St. Catharines, and it is said that he will engage in the manufacture of pulp and paper.

It is reported that a company is negotiating for the purchase of the mill of Samuel Adams at Bathurst, N.B., with a view to converting it into a pulp mill.

The bill providing that after May 1st all pulp wood cut on Crown lands in Ontario must be manufactured in Canada has been sanctioned by the legislature.

Three pulp companies are seeking incorporation in Nova Scotia, namely: Bear River Pulp & Paper Company, Sheet Harbor Pulp & Paper Company, and Meteghan River Pulp & Paper Company.

Messrs. Tower & Wallace, architects, engineers, pulp mill experts, have removed to larger quarters, Mutual Reserve Building, 309 Broadway, New York.

Mr. George Johnson, Dominion statistician, is upon a report of the pulp wood resources of Canada, being the intention of the government to circulate copies of the report at the Paris Exposition. Mr. Johnson estimates that \$20,000,000 is at present invested in pulp mills in the Dominion.

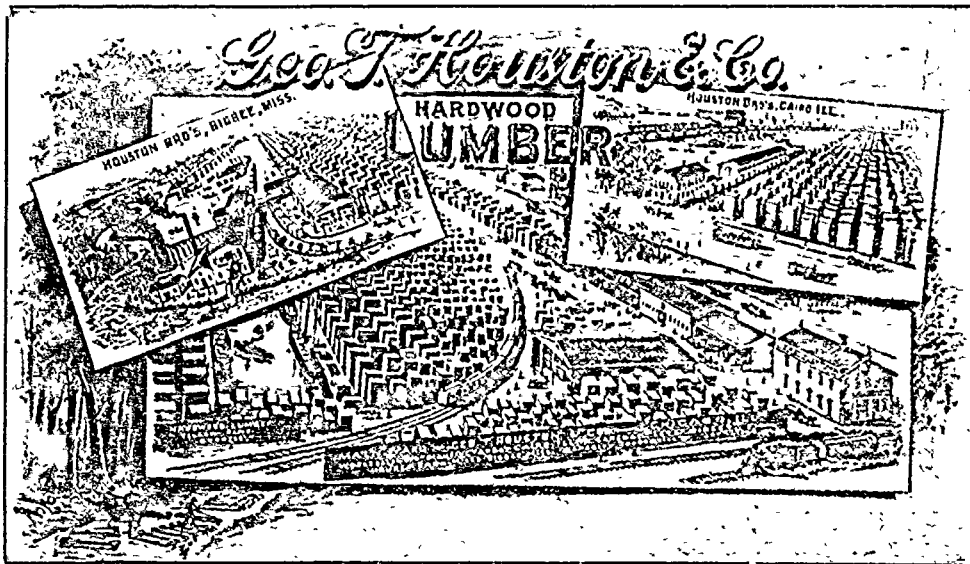
It is announced that John Mather, of Ontario, formed an English syndicate to build a pulp mill and water power on the Winnipeg river recently has the Keewatin Power Co. Mr. Mather states that the syndicate will invest \$1,000,000 providing that the government will give a guarantee that no pulp will be shipped from the district for a period of thirty years.

The Department of Trade and Commerce has received a communication from a firm of Montreal who propose, should sufficient encouragement be given, to charter a sailing vessel of 1,000 tons to load at Montreal about the 15th May, for the Port of Spain, Trinidad. The probable rates of freight would be as follows: Lumber, \$9 per M feet, and cargo 15 cents per cubic foot or \$7.50 per ton on ship's option.

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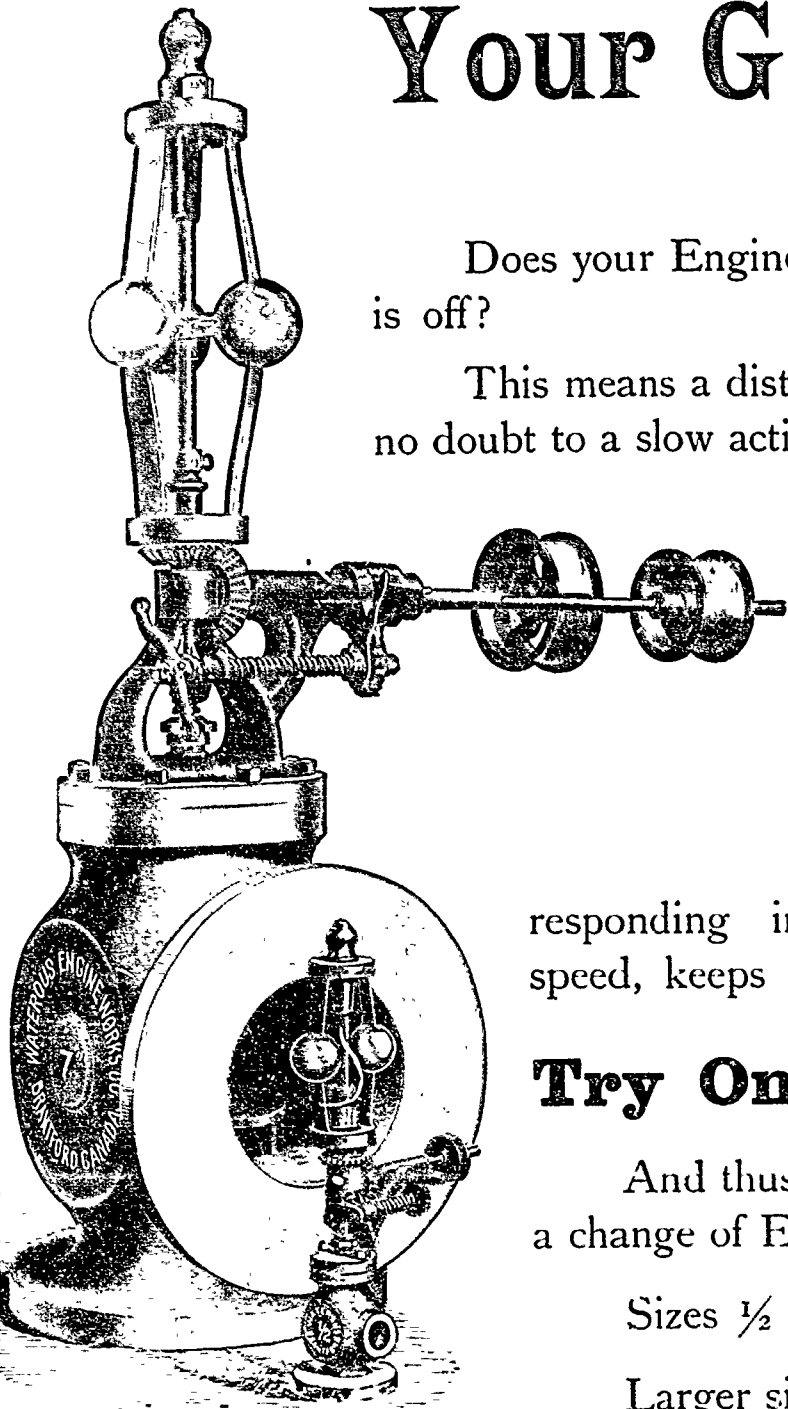
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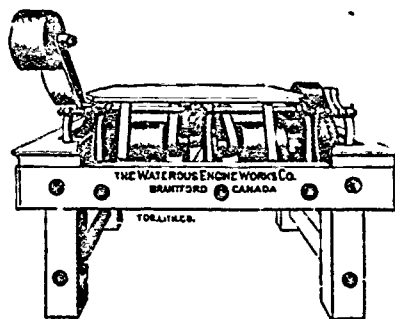
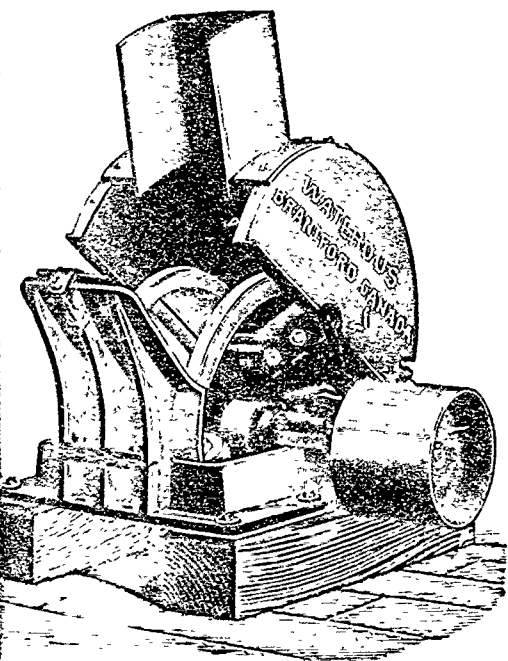
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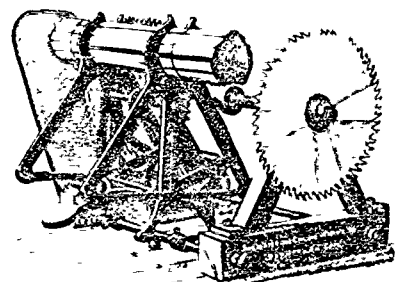
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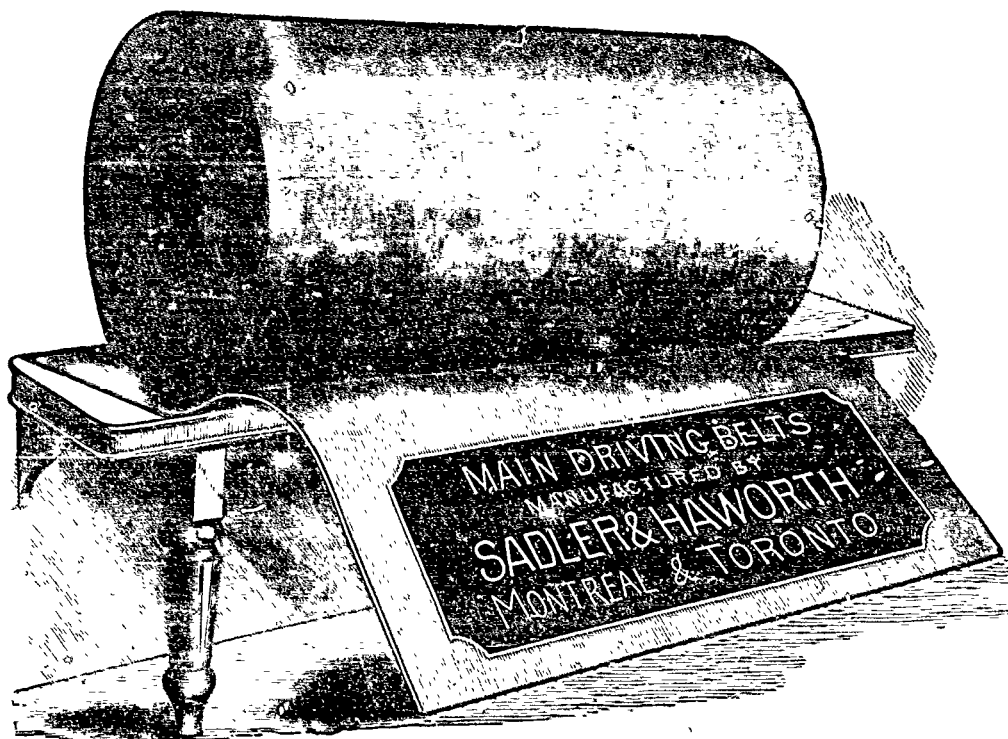
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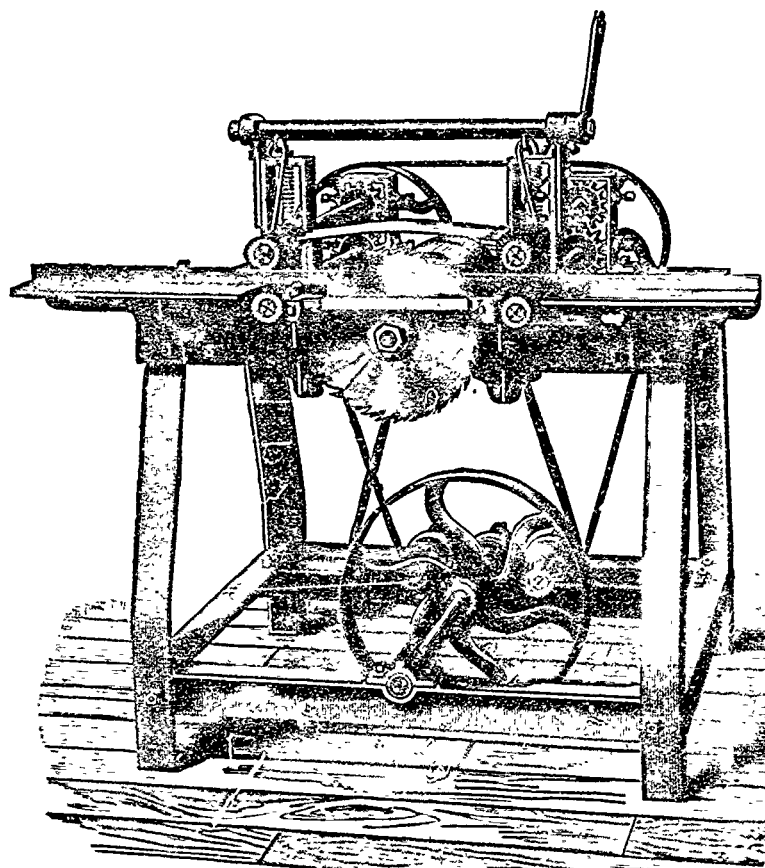
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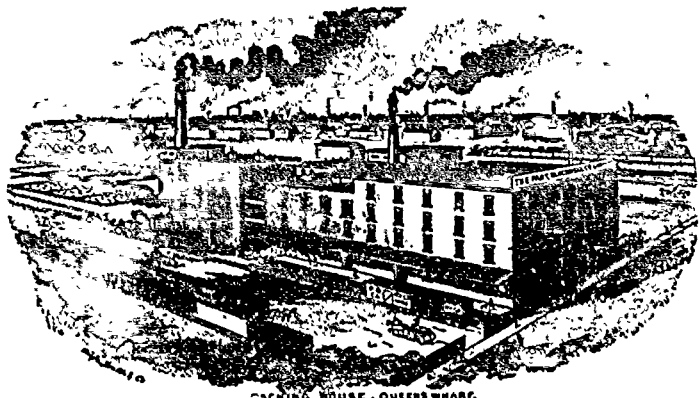
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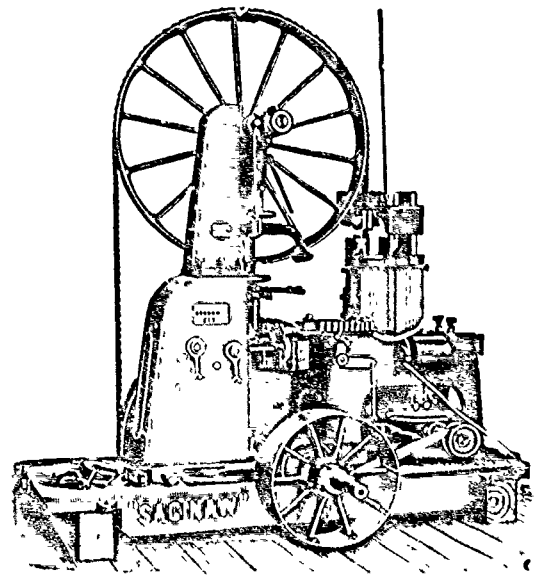
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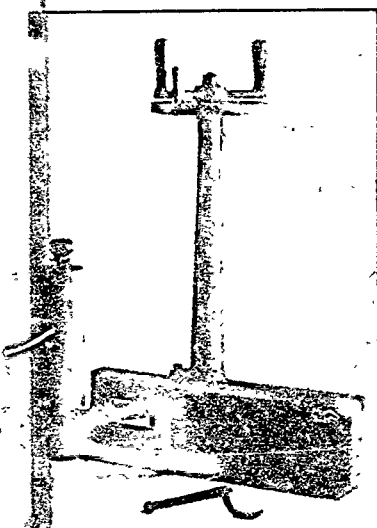
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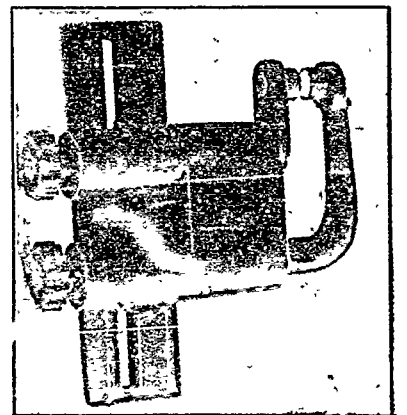
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DEAR SIRs,—Driving a 20 in. 13 gauge saw into frozen hardwood, using a 9 in. 4-ply belt, if it can be done satisfactorily, is a very severe test. Your saws have stood that test better than any I have tried. I have been experimenting with different 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.

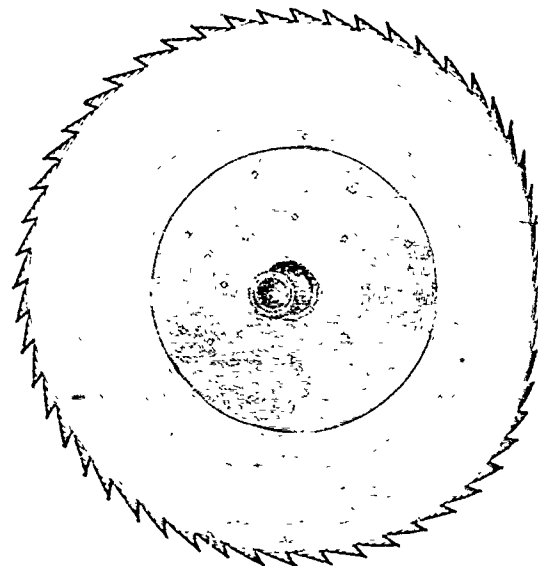
CLAVERING, ONT., May 3rd, 1897.

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

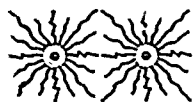


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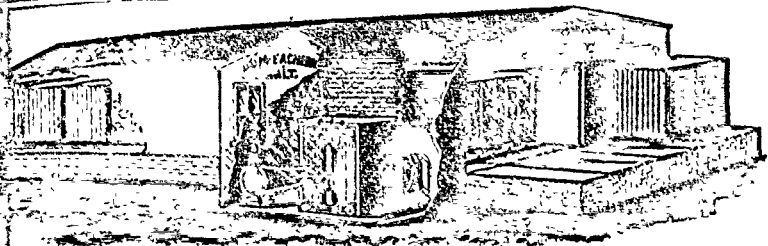


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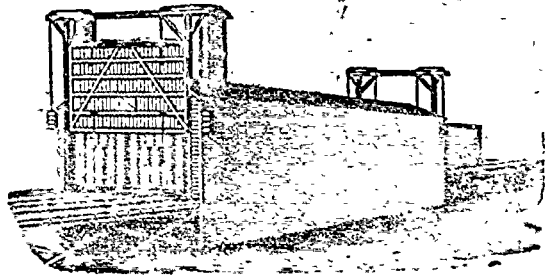
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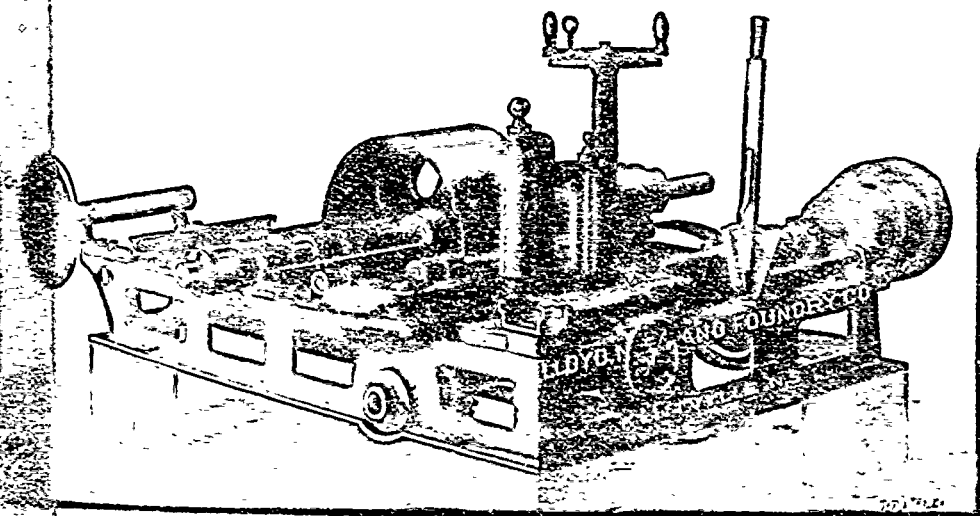
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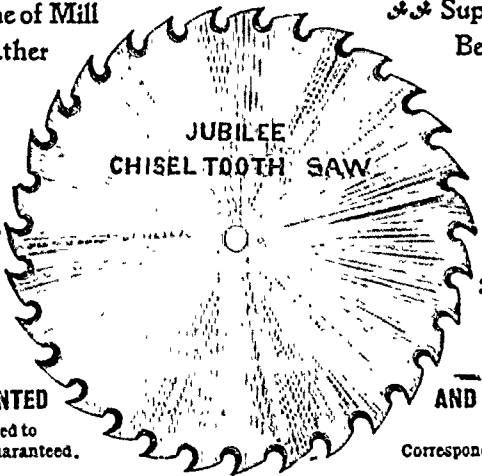
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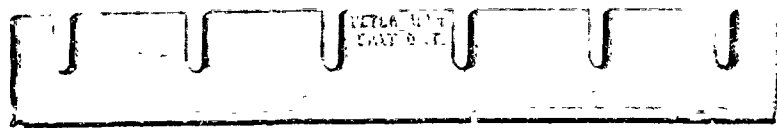
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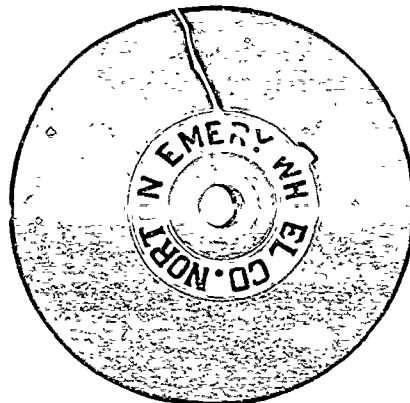
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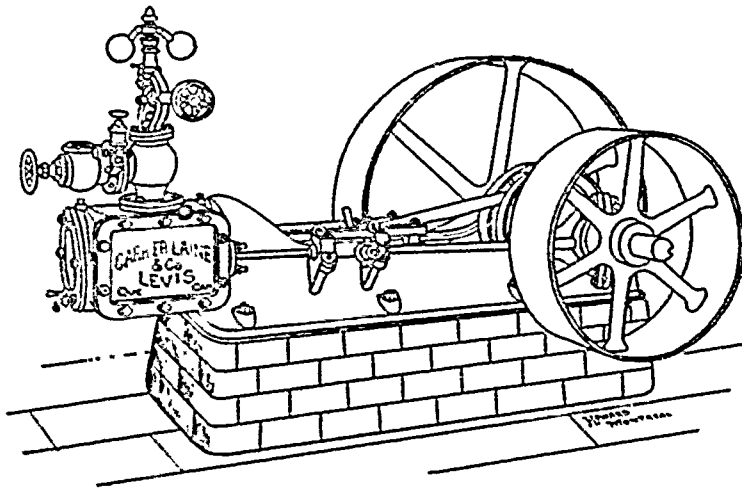
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