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THE

# CANADA LUMBERMAN

Wood-Workers', Manufacturers' and Millers' Gazette

TORONTO, CANADA, FEBRUARY, 1901

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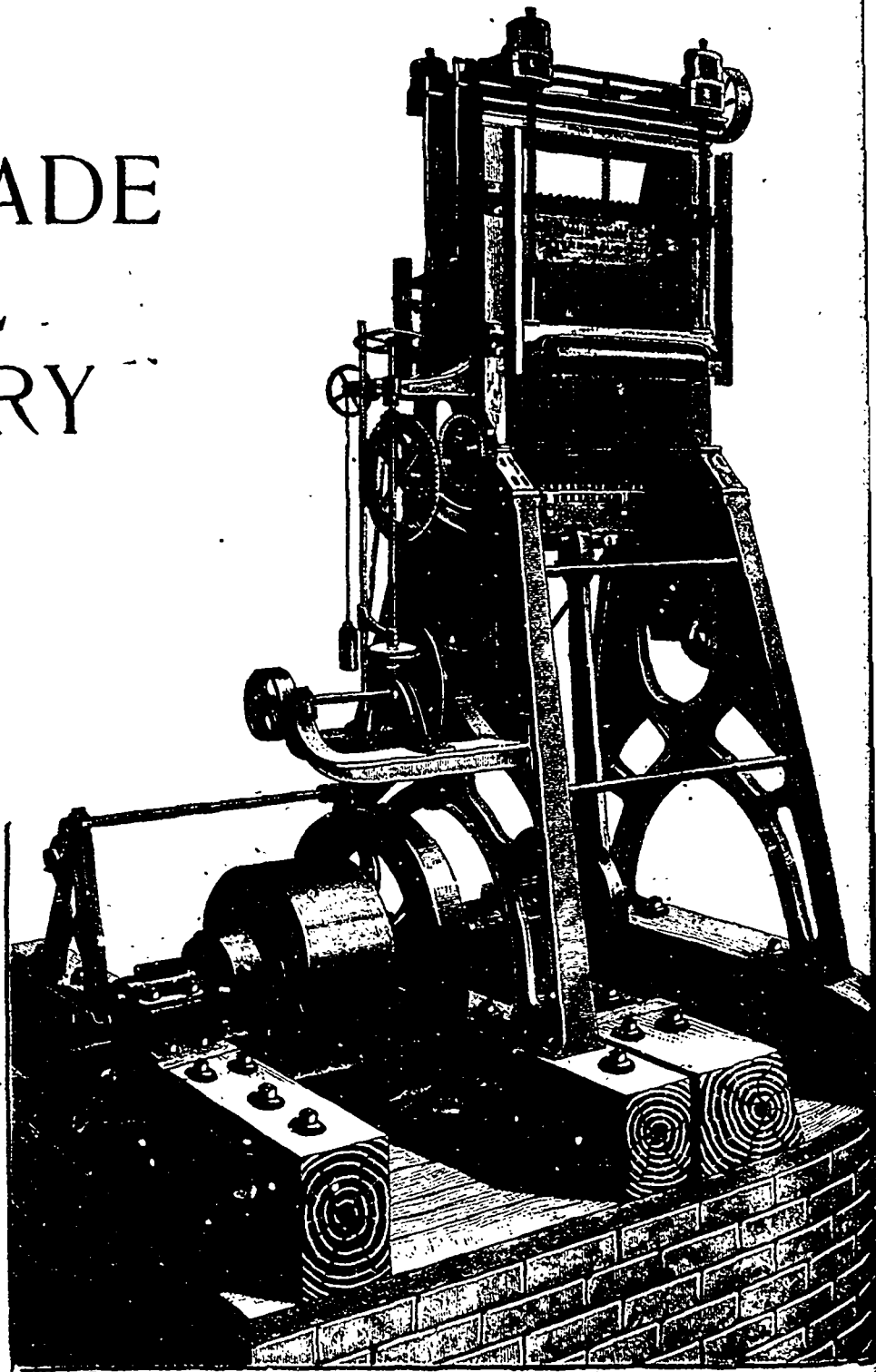
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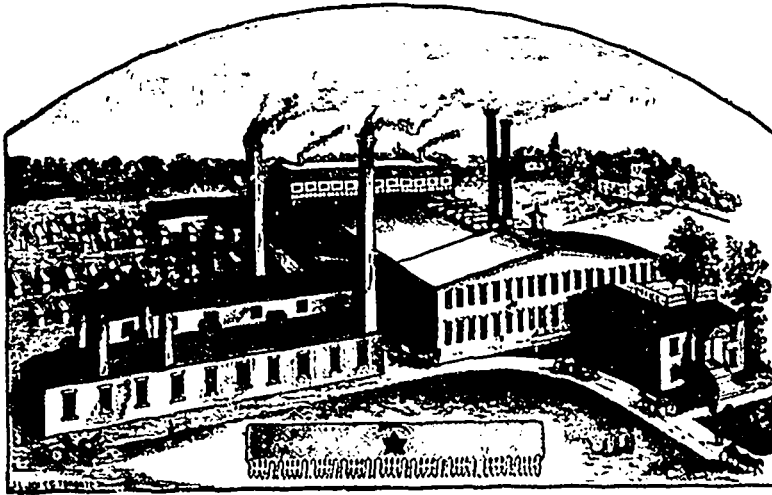
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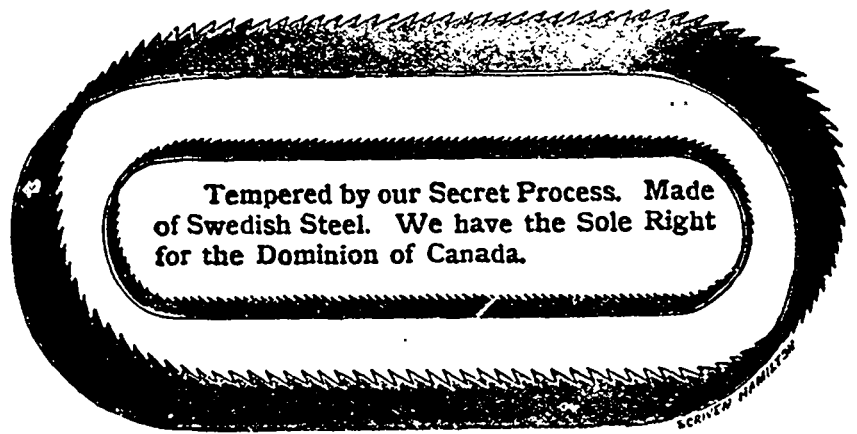
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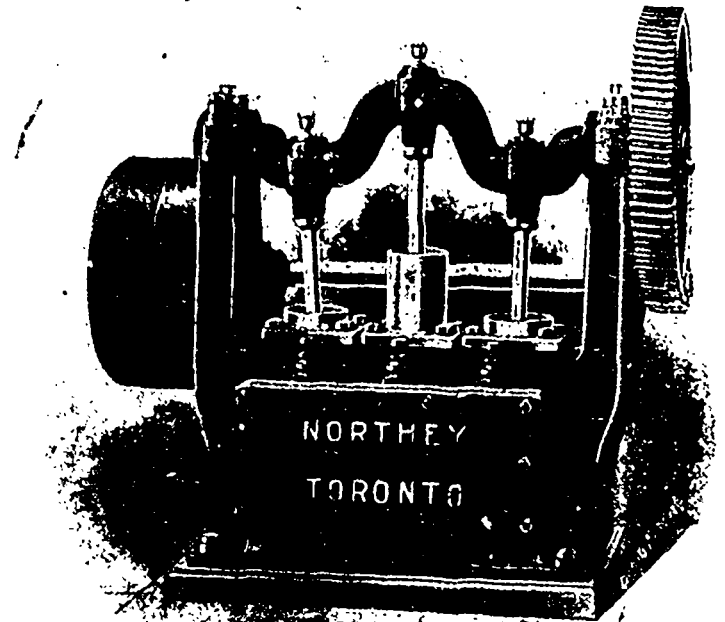
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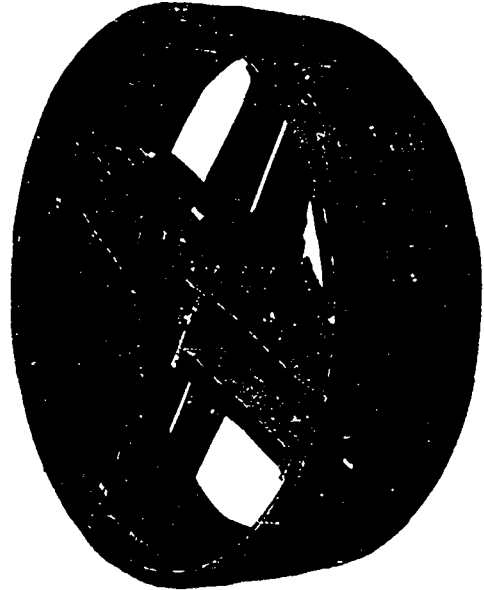
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# THE CANADA LUMBERMAN

TORONTO, CANADA, FEBRUARY, 1901

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## THE LUMBER TRADE OF 1900

Tables Showing the Shipments from the Different Provinces.—Year of Satisfactory Progress. High Freight Rates the Feature of Export Business.

FOLLOWING our usual custom, a review of the lumber trade of the year 1900 is presented in this issue. By means of the tables given, the extent of the lumber industry of the Dominion may be estimated, while the tables of particular value as showing comparisons with previous years. Some advancement was made by the lumber industry during the year. The volume of home consumption was as large as in the previous year, while the exports to foreign countries show a slight increase. The shipments of lumber from British Columbia were 1,000,000 feet greater than in 1899, those of New Brunswick 70,000,000 feet greater, and of Nova Scotia 20,000,000 feet greater. From the province of Quebec the exports were slightly less, although statistics covering the province of Ontario are not available, it is believed that the shipments were about the same as in the previous year.

The output of lumber during the year exceeded the production of 1899, and at the close of the season manufacturers and dealers held slightly larger stocks. The Presidential election in the United States was a disturbing factor, causing a falling off in the demand from that country. Prices ruled firm throughout the greater part of the year, although towards the close there was a slight depreciation in the price of hardwoods. The figures at which lumber was sold, however, show that there is a growing appreciation of lumber values, consequent upon the decreased timber supply. This is especially true in respect to hardwoods, of which the supply has become greatly diminished.

Excessive freight and insurance rates and a scarcity of tonnage from both the Pacific and Atlantic coasts were features of the export trade. Vessel charters were effected at the highest rates on record, 62 shillings 6 pence being paid from Montreal to London. Early in the year the export demand was very brisk, but towards the close of the British market became somewhat depressed. The stock of export lumber held over at shipping is greater than at the close of the previous year.

### ONTARIO.

When the mills in Ontario commenced operations last spring, the stock of unsold lumber held by dealers and manufacturers had been reduced to very small proportions. The active demand which characterized the trade of 1899 continued during the first half of last year, with lumber prices generally quite as high, and in some in-

stances higher. The probability of a weaker market as midsummer was approached was removed by the fire in the lumber district of Ottawa which occurred in April, and by which over 150,000,000 feet of lumber, chiefly pine, was destroyed and thus taken out of the market. While more directly affecting the Ottawa district, the result of the fire was to cause manufacturer throughout the province to hold prices firmly, as it became evident that all the lumber manufactured was likely to be required for local and export purposes. Sales of the most active grades of pine lumber were made at prices about one dollar per thousand higher than in 1899, and although some stocks were allowed to accumulate at the mills towards fall, there was no depreciation of values, and the year on the whole was characterized by high prices, especially for white and red pine. The Presidential election in the United States was the cause of a temporary cessation in the demand from that quarter. Larger shipments were made from the Georgian Bay district to Michigan than ever before.

The quantity of lumber manufactured was equal to, if not greater, than in 1899. Many of the Georgian Bay mills were employed in sawing for firms which had in previous years rafted their logs to Michigan to be manufactured. The Ottawa Valley production of pine was slightly increased. While prices during the year were high, it is understood that the profits of lumbermen were no greater than in the previous year. This is due to the increased cost of production, brought about by the higher cost of labor and supplies and by high freights and insurance in transportation.

The early part of last year was phenomenal in the remarkable demand for hardwoods of all kinds. Prices were then the highest that have been known for years. Later in the season this demand fell away. Many of the hardwood lumbermen did not avail themselves of their early opportunities to sell, and consequently the stocks at the close of the year were rather heavy. In the winter of 1899-1900 extreme prices were paid for hardwood logs, so that it was necessary to hold lumber for high figures. Beech lumber came into unusual demand during the year in some localities. There was also a greater use of hemlock, which sold at \$9 per thousand at mills in western Ontario.

The shingle market did not seem to gain in strength in common with lumber. The white pine variety encountered severe competition from red cedars.

Lath was in fair demand, but the high price of \$3.75 for No. 1 white pine which ruled in the fall of 1899 did not hold. Towards the close of the year there was greater firmness.

On a conservative estimate the cut of the Ottawa and Ottawa Valley mills for 1900 will total 588,000,000 feet. This is an increase of 56,000,000 feet over the cut of 1899. This may seem surprising, in view of the fact that fire played havoc with the Ottawa lumber interests. The Hull Lumber Co.'s mill was completely destroyed, but this company had the use of the Mason and Bronson & Weston mills at Ottawa and an Aylmer mill, the combined cut of which was greater than that in 1899 at the old mill. The Booth mill at the Chaudiere was only interfered with early in the season by the fire, though the standing supply of lumber was wiped out. As the mill was worked day and night till late in the season the cut was large. Gillies Bros., Brakeside, also had a large cut at their mill, amounting to 30,000,000 feet. The cut at the other mills was about the same as in the past year. The Ottawa Valley production for two years is given below:

OTTAWA VALLEY PRODUCTION.		
	1899—Feet	1900—Feet.
J. R. Booth, Ottawa	125,000,000	125,000,000
Gilmour & Co., Trenton	25,000,000	25,000,000
Hull Lumber Co., Hull	25,000,000	35,000,000
McLachlin Bros., Arnprior	65,000,000	70,000,000
Hawkesbury Lumber Co., Hawkesbury	50,000,000	45,000,000
W. C. Edwards & Co., Rock- land and New Edinburgh	70,000,000	85,000,000
St. Anthony Lumber Company, Whitney	43,000,000	42,000,000
Gillies Bros., Brakeside	13,000,000	30,000,000
Gilmour & Hughson, Hull	30,000,000	35,000,000
R. & W. Conroy, Deschenes Mills	3,000,000	.....
Pembroke Lumber Co., Pem- broke	11,000,000	14,000,000
Ottawa Lumber Co., Calumet	10,000,000	8,000,000
Ross Bros., Buckingham	10,000,000	10,000,000
McLaren Estate, Buckingham	16,000,000	15,000,000
J. R. & J. Gillies, Arnprior	3,000,000	3,000,000
A. Hagai & Co., Plantagenet	6,000,000	6,000,000
A. & P. White, Pembroke	5,000,000	5,000,000
Bailey Bros., Aylmer	8,000,000	4,000,000
McLaren & McLaurin, East Templeton	10,000,000	6,000,000
G. H. Perley Co., Calumet	.....	25,000,000
Total	532,000,000	588,000,000

### QUEBEC.

Nearly every lumber manufacturer in Quebec catering to the local and United States markets reports a very satisfactory year's business. Particularly in the early months in the year was there an active demand from the United States, and as stocks became scarce prices were advanced. One manufacturer writes that the average prices of spruce and hemlock lumber were three dollars higher than in 1899. There was also an increased demand for hardwoods, and the season closed with stocks of lumber suitable for the United States market practically cleaned up. The higher prices offered by shippers to the United States was an inducement

to manufacturers to cut for that market rather than for Great Britain, and consequently the shipments to the latter country show a considerable falling off. Another drawback to the British trade was the high freight and insurance rates from the St. Lawrence. Owing to the Ottawa fire only about 40 per cent. of the shipments from the port of Montreal came under summer insurance rates, while 60 per cent. were under extreme autumn rates. The opening spring rates of freight ranged from 45 to 50 shillings, according to port of destination; summer and autumn rates ranged 60 shillings and upwards, as high as 75 shillings having been paid for special ports.

The trans-Atlantic shipments from the port of Montreal were approximately 239,000,000 feet, a decrease of 50,000,000 feet as compared with the previous year. The following table shows the respective shipments of the different firms from the port of Montreal for two years:

	1899—Feet.	1900—Feet.
Watson & Todd	52,152,000	55,574,000
Dobell, Beckett & Co	54,852,000	39,429,408
W. & J. Sharples	52,166,308	37,735,855
R. Cox & Co	35,732,949	26,826,629
McArthur Bros	24,368,952	19,302,370
Charlemagne Lumber Co	19,079,315	16,135,965
J. Burstall & Co	26,887,315	14,843,496
Cox, Long & Co		6,643,931
McLaurin Bros	5,385,000	5,214,061
E. H. Lemay	5,934,000	4,339,925
D. Cream	1,268,840	955,526
Harold Kennedy	961,838	613,800
The Robert Reford Co., Ltd.	207,900	524,708
Imperial Lumber Co		289,020
Montreal Lumber Co		228,189
Sundry Shippers	9,876,804	3,328,537
Railways, etc		7,236,960
<b>Total feet</b>	<b>288,826,512</b>	<b>239,222,380</b>

Only one shipment of lumber was made to the River Plate, consisting of 463,765, the shippers being the Export Lumber Company.

From ports east of Montreal, exclusive of Quebec, the following shipments were made:

	Feet.
Dobell, Beckett & Co	97,153,332
W. & J. Sharples	41,601,780
McArthur Bros., Limited	12,946,959
J. Burstall & Co	7,919,143
Price Bros. & Co	60,000,000
King Bros. & Co	25,000,000
<b>Total</b>	<b>159,621,214</b>

This brings the total lumber shipments from Montreal and eastern ports to 484,307,339 feet. The two largest shippers were Dobell, Beckett & Company, with a total 136,582,740 feet, and W. & J. Sharples with 79,337,635 feet.

The returns from the port of Quebec show a considerable falling off in the export of square and waney timber and pine and spruce deals. The annual timber trade circular of J. Bell Forsyth & Company reviews the timber trade of the port of Quebec in the following manner:

**WHITE PINE.**—Even with the diminished export, which is the lightest on record, the wintering stock has fallen far below that of any previous year since the trade was established. The production will be small in spite of the advanced prices, and the sources of supply seem almost exhausted.

	Supply.	Export.	Stock.
1900 { Square	570,818	2,754,920	804,417 Square.
{ Waney	1,504,625		506,001 Waney.
1899 { Square	592,088	3,085,560	1,147,817 Square.
{ Waney	1,793,281		1,014,344 Waney.

**RED PINE.**—The supply, export and wintering stock all show reduced figures. Canadian red pine deals being in good demand in the markets of the United Kingdom, the manufacture of this wood as timber will be exceedingly light this winter.

**OAK.**—The export shows some falling off, but the light supply has left a very small stock on hand. The production will be very restricted this winter, and seems likely to cease altogether shortly, unless a very marked advance in price takes place.

	Supply.	Export.	Stock.
1900	63,780	133,640	85,880
1899	159,977	234,240	142,078

**ELM.**—The marked advance in price has brought out a good supply, but the demand even at the increased figures has been so good as to leave a lighter stock than the moderate figures of last year.

	Supply.	Export.	Stock.
1900	488,100	779,040	303,413
1899	607,965	877,320	615,520

**ASH.**—This wood continues in good demand at full prices, and although the advance in value has increased the production, the stock is again almost nominal.

	Supply.	Export.	Stock.
1900	91,745	84,880	2,211
1899	58,212	58,360	2,950

**BIRCH.**—The export has again been large, almost clearing stock. As business in this wood has been very unprofitable, the production will be much reduced.

	Supply.	Export.	Stock.
1900	441,019	371,240	11,486
1899	253,039	328,440	3,331

**PINE DEALS.**—The advance in value noted last year has been maintained; the Ottawa mill cuttings having been disposed of at similar figures for next season's cut. Prices continue good in the United Kingdom, but the diminished consumption shows a necessity for caution. It must be remembered the following figures are for Quebec only, and represent a very small proportion of the deal trade.

	Supply.	Export.	Stock.
1900	182,367	233,540	15,720
1899	396,000	353,000	66,003

**SPRUCE DEALS.**—Values have been maintained on this side of the Atlantic, but owing to the large supply of Baltic whitewood, a drop of price from the highest point has taken place in the United Kingdom, and the stock wintering there is greatly in excess of last year.

	Supply.	Export.	Stock.
1900	5,414,171	4,965,468	904,863
1899	5,403,000	6,563,000	516,160

**SAWN LUMBER.**—Shipments have been almost nil during the past season to the River Platte, that market having been unable to respond to the increased value recommended by the shippers.

**FREIGHTS.**—Opened for steam at about forty-seven and sixpence for deals for Montreal liners, and steadily advanced, owing to the scarcity of tonnage, to seventy shillings. For steamers for Quebec timber cargoes eighty shillings for timber and fifty-five shillings for deals was paid in the spring. For sailing vessels loaded at Quebec, twenty-five shillings per load was paid for the Clyde in June.

It is interesting to compare current prices for timber with those ruling five years ago. The advance in the price of square pine timber is shown to have been about six cents per cubic foot, that in waney pine about four cents, red pine eight cents, ash six cents, while in elm the advance

had been fully fifteen cents per foot. Oak and tamarac are selling at about the same price as five years ago.

THE MARITIME PROVINCES.

Manufacturers of lumber in New Brunswick and Nova Scotia disposed of the greater part of their product at very satisfactory prices early in the year there was a very active demand for stock for shipment to Great Britain and United States. Spruce deals which in 1899 at \$10 per thousand were freely contracted for the early spring of last year at an advance of a dollar over this price, while South American specifications were taken at \$11.50. Winter prices of deals were higher, the margin of profit was no greater, owing to the increased cost of production and higher ocean freights. The shipments to the United States, while active during the year, decreased in the fall, and the total for the port of St. John shows a decline in value of \$347,048.59. Clapboards were a drug upon the market, and such sales as were made were chiefly of an unprofitable character. The cedar market was also depressed, the average price being 25 to 50 cents lower than in 1899.

The trans-Atlantic shipments from the Maritime provinces were of large volume. From New Brunswick they reached 489,000,000 feet, which is within 5,000,000 feet of the largest export record, that in the year 1897. The exports were chiefly to Great Britain; France and Spain about 9,000,000 feet each; Australia, 6,000,000 feet; and Italy a little over 1,000,000 feet.

Although accurate statistics are not available it is believed that a fair estimate of the total exports from Nova Scotia would be 200,000,000 feet. The shipments to trans-Atlantic ports have been given as 146,000,000 feet, showing an increase of 18,000,000 over the previous year. Probably 20,000,000 feet was shipped to South America and about 10,000,000 feet to Cuba and the West Indies. The principal shippers to South America were E. D. Davidson & Sons, of Bridgewater; Dickie & McGrath, of Tusket; Parker, East & Co., of Yarmouth; Blackadar Bros., of Yarmouth; S. P. Benjamin, of Wolfville; and Dickie, of Lower Stewiacke; and I. T. Freeman, of Jordan River.

Below is given a table showing a comparative statement of lumber shipped from St. John to the United States in the years 1899 and 1900, a comparison being made in the lumber manufactured from New Brunswick logs and that from Maine logs:

EXPORTS OF ST. JOHN TO U.S.—1899			
NEW BRUNSWICK LUMBER.			
	First Half Year.	Second Half Year.	Total.
Long lumber	\$32,935.43	\$05,075.88	\$38,011.31
Laths	28,561.72	00,095.94	28,657.66
Shingles	23,283.75	41,957.87	65,241.62
Piling	4,327.40	13,263.32	17,590.72
Kilnwood	2,879.00	4,224.00	7,103.00
Staves	132.08	340.66	472.74
Pulp		54,615.29	54,615.29
<b>Total</b>	<b>\$92,119.38</b>	<b>\$243,772.96</b>	<b>\$335,892.34</b>
MAINE LUMBER.			
Long lumber	\$519,150.96	\$277,377.30	\$796,528.26
Laths	45,182.41	40,213.73	85,396.14
Shingles	17,170.50	10,978.47	28,148.97
Clapboards	865.00	1,918.37	2,783.37
Staves		106.94	106.94
Shooks		681.50	681.50
Planers		1,428.24	1,428.24
<b>Total</b>	<b>\$582,368.87</b>	<b>\$331,794.55</b>	<b>\$914,163.42</b>
<b>Total</b>	<b>\$674,488.25</b>	<b>\$575,567.51</b>	<b>\$1,250,055.76</b>

ST. JOHN EXPORTS—1900.

Table showing St. John exports for 1900, categorized by First Half Year, Second Half Year, and Total. Includes items like lumber, shingles, and shooks.

AMERICAN LUMBER.

Table showing American lumber exports for 1900, categorized by First Half Year, Second Half Year, and Total.

The export trade of the province is carefully reviewed by Hon. J. B. Snowball in his annual Miramichi Wood Trade Circular, from which the following details are extracted :

Advanced freight and high insurance rates had a curtailing effect on fall business, producers refusing to ship without seeing a prospect of realizing first cost; consequently wintering stocks at this port are slightly larger than last year and shipments proportionately less.

Shippers from this port are not able to keep pace with the cheaper productions from Nova Scotia and the Bay of Fundy ports, as the latter largely escape the high stumpage taxes to which lumbermen in the northern portions of New Brunswick are subject ; and in view of the fact, also, that cheaper supplies and labor are available for their operations.

The stock of merchantable spruce and pine wintering here is 33,000,000 superficial feet, against 32,000,000 last year and 40,000,000 in 1898—4,500,000 superficial feet being pine, against 6,293,000 superficial feet last year.

Table showing shipments from Miramichi for 10 years, from 1891 to 1900, inclusive.

Table showing distribution of Miramichi shipments by shipper and vessel.

Spoolwood and shooks—Clark, Skillings & Co., 2,312,250 sup. feet; James A. Rundle, 1,393,933 sup. feet; Thos. Skiffings, 243,000; total, 3,949,888 sup. feet.

DISTRIBUTION OF MIRAMICHI SHIPMENTS.

Table showing the distribution of Miramichi shipments by country.

Spoolwood and shooks—Great Britain, 3,949,888 sup. feet.

DISTRIBUTION OF ST. JOHN, N.B., SHIPMENTS, DEC. 1ST 1899, TO, TO DEC. 1ST, 1900.

Table showing the distribution of St. John, N.B. shipments by port and product type.

SHIPMENTS FROM ST. JOHN TO TRANS-ATLANTIC PORTS FOR THE PAST 10 YEARS.

Table showing shipments from St. John to trans-Atlantic ports from 1891 to 1900.

SHIPMENTS FROM OTHER NEW BRUNSWICK PORTS. MONCTON.

Table showing shipments from other New Brunswick ports, specifically Moncton.

Table showing shipments from other New Brunswick ports, specifically Dalhousie.

Table showing shipments from other New Brunswick ports, specifically Shediac.

Table showing shipments from other New Brunswick ports, specifically Sackville.

Table showing shipments from other New Brunswick ports, specifically Campbellton.

Table showing shipments from other New Brunswick ports, specifically Richibucto and Buctouche.

BATHURST.

Table showing Bathurst shipments for W. M. Mackay and P. G. Mahoney.

TOTAL TRANS-ATLANTIC SHIPMENTS OF NEW BRUNSWICK 1900, COMPARED WITH 1899.

— 1900 —

Table comparing total trans-Atlantic shipments for 1900 and 1899, categorized by port.

— 1899 —

Table showing trans-Atlantic shipments from the Province of New Brunswick for the past ten years, categorized by year.

The trans-Atlantic shipments from the Province of New Brunswick for the past ten years were :

Table showing shipments from Nova Scotia for 1900, categorized by port.

SHIPMENTS FROM NOVA SCOTIA, 1900.

Table showing shipments from other New Brunswick ports, specifically Halifax.

DISTRIBUTION BY PORTS OF HALIFAX SHIPMENTS, 1900.

Table showing the distribution of Halifax shipments by port.

The shipments of deals from Nova Scotia to trans-Atlantic ports for the past ten years were :

Table showing shipments of deals from Nova Scotia to trans-Atlantic ports from 1891 to 1900.

BRITISH COLUMBIA.

A moderate local demand for lumber was experienced by the manufacturers of British Columbia during the year, although the consumption for domestic purposes was not as great as in 1899. There was less activity in building and mining operations and consequently a falling off in the demand for lumber. The Manitoba and eastern trade compared favorably with the previous year, a feature of eastern orders being the

ST. JOHN, N.B., SHIPMENTS OF DEALS TO TRANS-ATLANTIC PORTS, DEC. 1ST, 1899, TO DEC. 1ST, 1900.

Table showing shipments of deals to trans-Atlantic ports from St. John, N.B. from Dec. 1st, 1899, to Dec. 1st, 1900.



call for large timber. Unfortunately, however, the consumption in Manitoba and the Territories is still partially supplied by United States manufacturers, the Dominion Government having as yet taken no action towards placing a duty on the United States product. British Columbia manufacturers report that the difficulty of obtaining raw material is steadily increasing; loggers demanded higher prices for logs, which reduced the profits of manufacturers.

If the domestic trade was not all that could be expected, the loss in this respect was more than offset by the increase of cargo shipments to foreign countries. It was a banner year in the export lumber business, the shipments being greatly in excess of any previous year. The total value of the lumber shipped from the province by vessel was \$767,121, as compared with \$432,151 in 1899 and \$406,001 in 1898. These figures show an increase of more than 53 per cent. A still greater volume of export business would have been done but for the lack of tonnage, it being found almost impossible in some instances to effect charters. Freight rates ruled very high, 92 shillings being paid from Vancouver to a South African port; 82 shillings to the United Kingdom; 63 shillings to Melbourne, Australia, and 62 shillings to west coast of South America. The quantity of lumber exported to foreign countries was 76,208,087 feet. The following table shows the point of shipment, destination, and value of the various cargoes:

FROM CHEMAINUS.			
Vessel.	Destination	Feet.	Value.
Hawaiian Isles	Melbourne	1,929,442	\$ 19,317
Glenalvon	London	1,872,368	16,231
Renee Rickmers	U. K.	1,820,956	17,149
Peru	Cork	1,800,382	16,203
Nymph	U. K.	1,628,202	17,556
Arethusa	Havre	1,554,967	15,796
Drumnuir	Melbourne	1,508,649	14,165
Fort George	Sydney	1,505,895	14,342
J. B. Thomas	Adelaide	1,443,465	13,337
Glenesslin	Cape Town	1,425,972	12,206
Mario Chilcott	Adelaide	1,400,652	14,091
Emilie	U. K.	1,393,217	13,360
St. David	Delagoa Bay	1,212,871	12,934
Victorius	Sydney	1,201,460	11,640
St. James	Melbourne	1,198,984	12,519
J. B. Brown	Sydney	1,187,731	11,753
James Drummond	Sydney	1,164,711	12,185
Creedmoor	U. K.	1,156,540	12,095
Silo	U. K.	1,156,308	12,979
J. B. Brown	Melbourne	1,136,690	11,674
Elwell	Cape Town	1,099,524	10,026
Rufus E. Wood	Adelaide	1,090,304	11,495
Great Admiral	Sydney	1,066,218	6,315
Republic	Melbourne	898,813	8,993
Lyman D. Foster	Australia	887,130	7,761
Antofagasta	Antofagasta	800,454	8,400
Hesper	Melbourne	790,059	6,893
Admiral Tegetthof	Antofagasta	706,024	8,081
Transit	Sydney	617,561	6,175
James H. Bruce	Sydney	592,228	2,650
Wrestler	Melbourne	574,031	5,179
Defender	Fiji	465,724	5,600
Corona	Santa Rosalia	76,701	1,330
Totals		38,365,833	\$370,340

FROM VANCOUVER.			
Vessel.	Destination.	Feet.	Value.
Paul Rickmers	London	2,593,827	\$ 22,252
Lindfield	London	1,724,895	22,585
Banda	U. K.	1,580,925	20,374
Wilhelms	South Africa	1,379,305	12,102
Star of the Sea	Sydney	1,180,293	10,240
Pallas	Callao	1,141,275	17,174
Louisiana	Melbourne	1,109,949	9,665
Errol	U. K.	1,069,195	9,099
Caesarea	U. K.	1,031,450	9,200
Guy C. Goss	Philadelphia	1,030,625	16,861
Lakemba	Iquique	890,958	8,166
Chas. F. Crocker	Sydney	880,405	8,762
Ivy	Shanghai	857,713	9,950
Atalanta	Callao	831,236	8,513
Fred J. Wood	Kobe	786,205	8,923
Sonoma	Melbourne	720,732	6,794
Arnold	Newcastle, Eng.	632,617	10,516
Tartar	Hongkong	449,002	7,085
John D. Tallant	Guayaquil	327,995	6,400
Totals		20,138,612	\$224,661

FROM MOODYVILLE.			
Vessel.	Destination.	Feet.	Value.
Falls of Garry	Sydney	1,655,847	\$ 14,390
William H. Smith	Sydney	1,508,365	14,070
Marie	London	1,312,375	13,611
Nixe	London	1,297,438	11,677
Sea King	Sydney	1,107,485	10,033
Adderly	Sydney	1,080,349	10,038
Senator	Callao	1,074,518	10,139
Altcar	Callao	992,307	9,090
Thistle	Fremantle	942,943	8,515
Condor	West Coast	892,658	9,018
Latona	Valparaiso	788,359	6,571
Bertha	Valparaiso	673,333	6,196
Rose	Geraldton	613,217	6,282
Garibaldi	Callao	410,075	...
Elema	Callao	351,198	3,301
Totals		14,700,467	\$132,931

FROM ESQUIMALT, PORT MOODY, COWICHAN, NEW WESTMINSTER AND VICTORIA.			
Vessel.	Destination	Feet	Value.
Onaway	Adelaide	687,353	\$ 6,900
John Smith	Nagasaki	673,447	10,987
Defiance	Sydney	659,003	2,240
Elizabeth Nicholson	Shanghai	638,653	6,678
Expansion	Santa Rosalia	132,011	2,681
Defiance	Santa Rosalia	120,133	3,000
Olympia	Japan	63,975	1,275
Fred J. Wood	Santa Rosalia	14,440	3,178
A. J. West	Santa Rosalia	14,160	2,250
Totals		3,003,175	\$ 39,189

The value of shipments to the different countries in comparison with the previous year is shown below:

	1899	1900
Australia	\$152,329	\$298,323
United Kingdom	...	222,887
South America	52,621	83,875
South Africa	58,563	47,268
China	113,348	23,713
Japan	24,284	21,185
United States	17,000	16,861
France	...	32,970
British India	29,306	...
Fiji Islands	...	5,600
Mexico	...	12,439
Totals	\$432,151	\$767,121

It will be observed that the shipments to China show a large falling off, while increased shipments were made to South America, Australia, and the United Kingdom. Those to Australia were approximately 32,000,000 feet, or double the previous year, and to the United Kingdom there were shipped 21,000,000 feet, as against no exports to that country in 1899. Notwithstanding the war in South Africa, the lumber shipments to that country show but a slight decrease. South America took about 9,000,000 feet.

Seventy-six vessels were employed in carrying the lumber. Of these, 33 loaded at Chemainus, 19 at Vancouver, 15 at Moodyville and 9 at New Westminster. Below is given a summary showing the gain of each port:

From	1899 Lumber, Ft.	1900 Lumber Ft.	Per Cent Gain
Chemainus	38,365,833	24,952,042	53.8
Vancouver	20,138,612	12,553,087	60.4
Moodyville	14,700,467	9,615,655	52.9
Esquimalt, etc.	3,003,175	2,620,180	14.6
Totals	76,208,087	49,740,964	53.2

British Columbia shingles were in fair demand throughout the year, but the production is too great for the limited market, and steps were taken towards the close of the year to curtail the output. The volume of business with eastern jobbers was about the same as in 1899. Towards the fall there was a slight weakness in the market, although few sales were made below the regular price list.

The outlook for 1900 is not altogether promising. The export demand is expected to keep up, but as the Government has discontinued the rebate on timber exported from the province, there will be a smaller margin of profit in this

branch of the industry. The hope of the lumbermen of the province is that the Dominion Government will impose a duty on United States lumber similar to that placed on Canadian lumber entering the United States.

### MANITOBA.

There was considerable activity in the manufacture of lumber in Manitoba and the Territories in 1900, although the bulk of the consumption in these provinces is imported. The report of the Department of Interior for the year ending June 30th last states that in Manitoba the sawmills were run to their fullest capacity, the output being about 24,000,000 feet b.m., an increase of 4,000,000 over the previous year. The output in the Territories was 13,510,287 feet b.m., in the railway belt in British Columbia 29,684,003 feet b.m., and in the Yukon Territory about 9,000,000 feet b.m. In addition to the lumber sold by mill owners in Manitoba, it is reported that no less than 132,669,083 feet of lumber was sold in Manitoba and at points as far west as Regina, the bulk of which came from the mills at Lake Umbagog and Rainy River. Although the shipments from the United States still continue large, there has been a falling-off as compared with last year's business. The number of lumber berths under license in Manitoba and the Territories is 171.

The anticipations of lumber dealers that the year would witness an exceptionally good demand for lumber was not altogether realized. The market after midsummer was inclined to be quiet, and the practice of cutting prices was indulged in to some extent, thus reducing the profits of the business. The prospects for the coming season are of a satisfactory character, the hope of increased building operations in Winnipeg and the provincial towns being a favorable feature.

### ANOTHER FOREST RESERVE.

THE Ontario government has announced the creation of a forest reserve in the vicinity of Lake Temagami. The reserve embraces about 200 square miles of territory, equal to 1,400,000 acres, surrounding Lakes Temagami and Lake Evelyn. The location of these lakes is to the west of the Upper Ottawa river, in the district of Nipissing. It is proposed by this reservation to preserve the head waters of the chief rivers of the Nipissing district; the timber on these lakes will also be preserved intact, and the natives that their abodes will also have a safe resting place.

Until the government see fit to grant special permission, no one will be allowed to cut timber on this area, although there are said to be there over 5,000,000,000 feet of white pine. If, however, permission should be granted to cut the timber, part of the plan will be to reforest what is cut over in order to keep a succession of forest growths in the reserve. Rangers will be appointed to take precaution against the spread of fire.

There were previously in existence in Ontario two smaller forest reserves, one in the rear of Addington and Frontenac counties, containing 80,000 acres, and the other on the point of the ending in Thunder Bay, Lake Superior, containing 45,000 acres.

**AXE AND SAW COMPETITIONS.**

Our readers will doubt be interested in some particulars of the axe and saw competitions which are held annually in Tasmania, an Island belonging to the Australasian federation. It will be necessary first to be brought about the contests. The majority of inhabitants are either settlers cutting out homes for themselves, or earning a living by felling

these were sharpened to correct pitch prior to the day of the contest. The result was that a victory was gained for English axes by three points. Not so with the saws. Three American saw manufacturers and one English manufacturer entered, but the latter failed to come to the starting point and the award was given to the Atkins' saws, with the Simonds' saws second.

The above particulars and the accompanying

thickness, making the lumber more even in thickness than the band or circular saws. But I prefer the band saw for cutting 4" and up in thickness or dimension timber of any size, owing to the small waste in saw-dust. The twin circulars I consider the best for slabbing small logs, but for no other sawing, as the waste in saw-dust is too great. The band saws cannot be beaten for getting the most good lumber out of a log.

J. R. BOOTH.

**RAT PORTAGE, Jan. 1st.**—There is, as you know, much difference of opinion concerning saw mill machinery, and especially with regard to the different kinds of saws which should be used. I have arrived at the conclusion, after twenty years experience, that circular saws are a thing of the past, especially where logs are worth seven dollars per thousand or upwards; the waste in sawdust is altogether too great to allow of their being used successfully in competition with band saws. The band saw under all circumstances reduces the waste to about one-third, and where two-way cutting band saws are used the capacity of the band saw is greater than that of the circular, with very little extra expense for the running of it. Gang saws can be used successfully where mills of large capacity are required; for example, where a capacity of one hundred thousand feet of lumber per day or upwards is required, a gang may be used in connection with one or two band saws, but where smaller mills answer the requirements, I should say a band saw or a band saw and a band re-saw should be used. With a two-way cutting band mill and band re-saw worked in connection with it, nearly one hundred thousand feet of lumber per day can be produced with the greatest economy both as to labor and saving of the log, owing to the thinness of the plate of the band saw.

D. C. CAMERON.

Manager Rat Portage Lumber Co.



FIG. 1.—THE CHAMPIONSHIP MATCH—LYING BLOCKS.

timber for saw mills, by splitting timber into post rails or palings, or by felling the scrubs by contract for the more wealthy class of settlers who are making clearings in the forests. Many of the settlers have but little education. Their best loved weapon is the axe. From their desire to excel in their work arose the Australasian Axemen's Association, formed for the purpose of demonstrating the skill to which the settlers in the colonies have attained with the axe and saw. Since June, 1891, annual contests have been held. The ninth of these was held last year.

For the championship of the world in standing block chopping, i.e., logs placed just as though the trees were still growing, there were about a dozen contestants, and the blocks were of stringy bark, freshly cut, and trimmed to exactly 6 feet 4 inches girth, the work of cutting being accomplished by the winner in 4 minutes and 8 1/4 seconds.

A second event was the underhand championship chop, i.e., chopping through a log 6 feet 4 inches in girth whilst it was in a lying position such as is occupied by a tree when it has been felled. Another interesting event was the championship sawing match, the men to cut through a similar sized log, 6 feet 4 inches. This was accomplished by the winner in the marvellously quick time of 1 minute 49 seconds. In the double handed sawing match, one man on each end of saw, a log 2 inches in diameter was cut through in 3 1/2 seconds.

The most interesting features of the competition were the contests in axes and saws by international teams. These contests were inaugurated for the purpose of giving the manufacturers of Great Britain an opportunity to prove to the world that they could produce axes and saws equal to the tools made by the Americans, the latter having practically monopolized the trade of Australia in late years. The winning manufacturer in each case was to receive a gold medal. Each manufacturer who entered sent in his lot of axes or saws, and

illustrations are taken from the Chicago Hardwood Record.

**MERITS OF DIFFERENT SAWS.**

The following opinions regarding the merits of different saws came to hand after our January number had gone to press:

**NANAIMO, B.C., Dec. 24th.**—My views on the relative merits of the circular, band and gang saws are as follows: The circular will get out more timber into the several kinds that the log is suited for, and with less care, but more waste, than the band. The band takes

**GRAPHITE AS A LUBRICANT.**

GRAPHITE is a good lubricant when it can be placed and kept where it is needed. A shaft running in a graphite bushing is perfectly lubricated, and needs no oil or grease. Such a shaft will also run with very little friction. But, in ordinary bearings, the problem with graphite is to place it where the friction is. When oil is used, it will insinuate itself into a pretty small place between the bearing surfaces, and will flow readily through long and

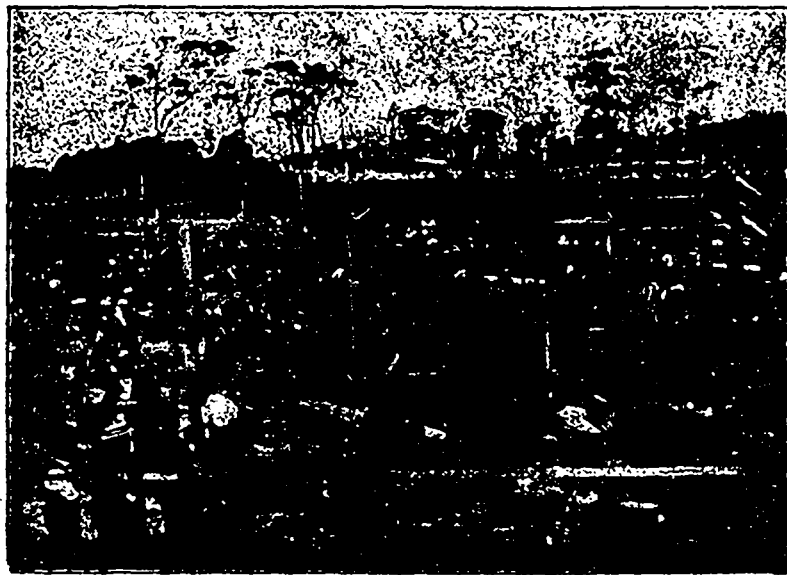


FIG. 2.—THE SAWING MATCH IN FULL SWING.

less power and less kerf than the circular and has the same advantage that the circular has for picking lumber of different sizes and qualities out of the same log. It requires more care, but when fliers become impressed with the fact that the mill will work even if they quit, the band will be the mill of the future. For quality and quantity without regard to the suitability of the log for the lumber cut, the gang takes the lead.

A. HASLAM.

**OTTAWA, ONT., Jan. 5th.**—My experience goes to show that the gang or Wickes gate is the most desirable for the cutting of all kinds of lumber say 3" and under in

crooked passages. With graphite, on the other hand, there is a pretty big problem as to how the stuff is to be gotten into a bearing. A powdered material cannot be made to flow like oil, no matter how it is tried, and there seems to be no means of using graphite except by mixing it with a liquid that shall act as a vehicle for the powdered material. By doing this the object of using graphite is largely lost sight of, for oil has to be used in the bearings as before. Before graphite will displace lubricating oil, there will have to be devised some means of blowing the substance into the bearings, and of keeping it there when once in the right place. When that is done, all hail to graphite.

# THE Canada Lumberman

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

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

Special correspondents in localities of importance present an accurate report not only of prices and the condition of the market, but also of other matters specially interesting to our readers. But correspondence is not only welcome, but is invited from all who have any information to communicate or subjects to discuss relating to the trade or in 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.

## CANADIAN FORESTRY EXHIBIT AT THE GLASGOW EXHIBITION.

THE Canadian forestry exhibit at the Paris Exposition was one that did credit to Canada and to the Exposition commissioners under whose instructions it was got together, but it is understood that a larger and more complete exhibit will be sent to the Glasgow Exhibition, which is to open on May 1st of this year and continue until November. Everything that was shown at Paris, with the exception of a few manufactured articles which will be replaced by new material, will be on view at Glasgow, and an effort is being made by the Minister of Agriculture to secure additional material from Canadian producers and manufacturers.

The value of such exhibitions cannot be over-estimated, and none of the objections made by manufacturers to exhibiting at Paris apply to Glasgow. Users of wood and articles manufactured from wood from all parts of the world will visit the exhibition, and Canadians who are interested in the manufacture of wood products can find no better advertisement for their products than will be afforded by this exhibition.

It is noteworthy that the international exhibition held at Glasgow in 1883 was attended by over six millions of people. It is only reasonable to suppose that at the forthcoming exhibition this number will be exceeded. The international character of the exhibition can best be shown by giving the names of the countries whose official support has been secured, in addition to the exhibits of the United Kingdom. They are:

Russia, Denmark, France, India, Australia, Japan, Morocco, Queensland, Mexico, British South Africa, Persia, South Australia and Canada. Canada is to have a special building, covering about 12,000 square feet, wherein to make exhibits.

## MEANING OF BRITISH TERMS.

Two terms in general use in the British timber trade are "f. o. b." and "c. i. f." The former is commonly used in this country, meaning, of course, the delivery of goods on board a ship, car or other appointed place. The latter term is seldom made use of by the lumber trade of Canada, excepting by shippers to foreign countries. We have occasionally been asked to give the meaning of the term, and our explanation has been that a contract made on a "c. i. f." basis would provide for the delivery of the goods at the port named, the costs of the merchandise in the country to which it is exported, freight to port of unloading, and insurance being paid. To illustrate, we will assume that an importer in London, England, enters into a contract with a Quebec shipper to supply a cargo of lumber at a certain price c. i. f. London. The shipper, therefore, becomes responsible for the delivery of the goods at that port, and for the payment of all costs, freight and insurance until that time.

Notwithstanding that this term has been in use many years by British timber merchants, there still seems to exist some ambiguity of meaning, as well as regarding the obligations which it places upon sellers and buyers. This is illustrated by a recent occurrence. A Manchester merchant purchased a quantity of goods in Calcutta, to be shipped to Larnaca, in Cyprus, the contract stating that cost, freight and insurance was to be borne by the shippers. Owing to the plague in India the authorities at Port Said, where the goods were to have been transferred to a steamer for Larnaca, would not allow them to be landed, and they were taken to London. They were put on board a steamer for the East Mediterranean, and after some further difficulties and a second trans-shipment reached their destination. The question naturally arose as to who should bear the extra cost of freight incurred by the incidents above mentioned. The seller contended that having put the goods on board at Calcutta in good condition and paid the insurance premium and freight to the proper destination, his responsibility ceased. The buyer, on the other hand, held that the acceptance of the c. i. f. terms imposed upon the shipper the responsibility of assuming all the actual expense incurred to the port of destination. The dispute was referred to arbitration, and the award was finally given in favor of the shipper, thus making it incumbent upon the buyer to assume the extra expense.

The decision in this case has not been generally accepted by the timber trade, many of whom are strongly of the opinion that the shipper, in agreeing on the c. i. f. terms, accepts the responsibility of just such accidents as the one in question. The difficulty was encountered before the shipper had finally completed his contract, and it would seem unfair to place the responsibility upon the importer, who, according to the contract, does not come into possession of the goods until delivered at the port called for.

## THE PRESERVATION OF CANADIAN FORESTS

UNTIL recently it could truly be said that no steps had been taken to preserve the forest supply of the Dominion. The Federal Government apparently had not recognized the necessity of providing for future needs in this respect, and of the Provincial Governments, only that Ontario had shown a proper recognition of the subject. The recent action of the Ontario Government in creating a forest reserve of 1,400,000 acres in the vicinity of Lake Temagami, but following up the commendable policy of establishing such reserves which was inaugurated a few years ago.

It is a source of satisfaction to learn that the Dominion Government has now under consideration the adoption of a system of forestry, and that an effort is to be made to provide an ample timber supply for Manitoba and the Territories. It is not generally known, as pointed out by the Dominion Superintendent of Forestry at a meeting in Toronto recently, that there are in the North-west, north of the prairie region, 1,100,000 square miles of timber lands under the control of the Dominion Government. This is a larger area than the combined territories of Ontario, Quebec, Nova Scotia, Prince Edward Island, Manitoba and British Columbia. Of course much of this territory is north of the height of land, and as the streams flow northward, the timber thereon can only be made available by the construction of railways. Nevertheless, these forests are an asset of great value, and should as far as possible be preserved from fire.

In the preservation of her timber Canada should profit by the experience of the older countries of Europe. Germany and France were among the first to apply scientific forestry. In 1740 Frederick the Great promulgated laws regulating the cutting of timber in Germany. He established rotations of seventy years, and also prescribed methods of thinning so that the young and healthy growth of trees would be better protected. He established forests under the care of wardens, forbade private owners from wasteful cutting, and placed under the care of the State a portion of the forests in Silesia. Yet with these precautions, established at such an early date, we find that in 1899 Germany imported 36,000,000 cubic feet of timber, and forestry experts admit that the Empire will never be in a position to supply her own market.

The total area of state forests in France is 2,700,000 acres, which yield annually to the state a total of 96,100,000 cubic feet of timber, equivalent to nearly 46 cubic feet per acre of productive forest. The gross annual incomes £1,100,000, or about 10 shillings 6 pence per acre. The high trees are cut down at periods ranging from 120 to 150 years, the work being directed in a way that will insure natural re-forestation from the seeds that fall from the standing trees.

Great Britain, as is generally known, possesses no forests of any account. This is well demonstrated by the fact that last year her importations of hewn and sawn timber, not including manufactures of wood, reached in value \$125,000,000.

The United States has of late made marked advancement along the line of forestry, having established several important reserves. A bill is now before Congress providing for the purchase

THE CULTIVATION OF FORESTS.

AN IMPORTANT MEETING IN TORONTO. INTERESTING ADDRESSES AND VALUABLE SUGGESTIONS REGARDING TREE PLANTING.

A meeting under the joint auspices of the Canadian Institute and the Canadian Forestry Association was held in the Canadian Institute, Toronto, on Saturday evening, January 12th. The meeting was very largely attended by members of the Institute and persons specially interested in the subject of forestry. Mr. James Bain, jr., presided, and after a few opening remarks called upon Mr. E. Stewart, Superintendent of Forestry for the Dominion, to give an address. His remarks in full are given below:

FORESTRY AS IT RELATES TO LANDS UNDER THE CONTROL OF THE DOMINION GOVERNMENT.

By E. STEWART, Dominion Superintendent of Forestry.

In the few remarks that I shall make I purpose confining myself to forestry as it relates to Dominion territory as distinct from that of those Provinces which control their own land and the timber growing thereon.

According to the agreement entered into at the time of Confederation, each of the Provinces, namely, Ontario, Quebec, Nova Scotia and New Brunswick, retained the ownership of any ungranted lands within its limits, and when Prince Edward Island and British Columbia subsequently came in they did so on the same conditions. Shortly after the union the Federal Government became possessed of the Hudson's Bay Territory, a district of vast extent in the interior of the Continent, which now forms the Province of Manitoba and the North-West Territories, the latter being now divided into a number of territorial districts. Subsequent to this the Province of British Columbia handed over to the Dominion as her contribution for the building of the Canadian Pacific Railway through the Province, a tract of 20,000 square miles of great value for its timber along the line of the railway. This tract is forty miles in width each side of the track. So that the territory of which the Dominion was first owner embraced these great areas, with the exception of a small percentage retained by the Hudson's Bay Company, and though the aggregate of land and timber that has so far been granted by the Crown to private parties, corporations, etc., is very considerable, yet in a relative sense it is a mere trifle as compared with the total area.

Let us endeavor to obtain some idea of the total area of this territory. I shall first give a few figures which must be taken as only approximately correct, though it is believed that the errors will be in under-estimating, not in over-estimating, both the area of the land and the timber thereon. The total area of Dominion lands, including that owned by the Hudson's Bay Company and that of the railway belt in British Columbia, is estimated at 2,456,500 square miles. The total area of the five Eastern Provinces and British Columbia, less the railway belt, is 860,000 square miles. That is, the total area of the territory under Dominion control is about three times that which is owned and controlled by the Provinces.

But our subject is confined to the timber and not necessarily to the extent of land that either the Dominion or the Provinces possess, and it will be said that inasmuch as we have included both the prairie lands of the Dominion and the barren treeless areas of the far north in our calculation, it is of no value for our purpose. This is true enough, and we must now attempt to ascertain as nearly as possible the extent of that land which is not timbered and deduct the same from the total area.

The general impression of those whose only information is derived from a trip across the Continent on the Canadian Pacific Railway will be that most of the North-West consists of prairie land, and that after leaving Ontario on the east till we reach British Columbia on the west, there is no timber worthy of notice. Now, this is not incorrect so far as the country through which the railway runs is concerned, but we must remember that this railway traverses the full length of the prairie section of the country. If, however, the traveller, instead of continuing straight on along that line, would at almost any point within this prairie section turn at right angles and go north, he would not be able to proceed more than two hundred or three hundred miles at most from the

United States boundary before he would have left the prairie behind and entered what is known as our great northern or sub-arctic forest belt, which extends from there far north to the limit of tree growth.

This prairie section may be roughly estimated at 250,000 square miles, and the treeless land of the far north at 1,000,000 square miles; and this taken from the total of 2,436,000 square miles will leave 1,186,000 square miles as the area of the timbered lands, or over 300,000 square miles more than the total area, both cleared and timbered, contained in the six Provinces above referred to.

It must not be inferred that this immense tract is a solid forest, but what is not covered by lakes or streams on the one hand, or is not too mountainous on the other, will be properly classed as wooded country, the prevailing species of the northern belt being the white and black spruce, tamarac, balsam fir, Banksian pine, poplar and birch. Of these the spruces are the most widely distributed, and considering the great number of uses to which wood pulp is now being applied, and that spruce is of all varieties the one best adapted for that purpose, it seems very probable that this timber will in the future take the place so long held by the white pine in this country as the chief variety sought after by the lumbermen. It should be borne in mind that a large part of this wooded area of the north is better fitted for the growth of timber than for any other purpose.

There is no one who has ever travelled through the woods of the Provinces of Quebec and Ontario, or in fact any of the Canadian provinces or territories, who has not been impressed with the immense destruction that has resulted in forest fires. It is not an extravagant estimate, but well within the mark, to place the proportion of pine trees destroyed by fire as compared with those cut by the lumbermen as ten to one, while the value of the timber which has thus gone up in smoke would be more than sufficient to pay our national debt. And this destruction will continue to render barren and worthless a large portion of that vast area above referred to as under the control of the Federal Government unless very great care and attention is bestowed on its preservation. In fact, the conditions existing in the northern region are such as to render forest fires most destructive. A large part of the country is rock with scarcely any soil covering, but covered with moss and also hanging from the branches of the coniferous trees are thick bunches of moss. In a dry time every particle of moisture is evaporated from the forest floor, the moss on the rocks and also that on the trees is as dry as tinder, while the gum on the trees helps to make a more lasting fire. With such conditions it is not difficult to imagine the immense destruction produced when a fire gets started in these woods. Now the question is, can anything be done to stop or even lessen the destruction from this cause.

The Royal Commission on Forestry in Ontario, appointed in 1897, in their reports say:

"While there have been even within recent years extensive and devastating fires, destroying large amounts of timber, the saving to the province effected by the system of fire-rangers adopted in 1886 has nevertheless been very great. During the course of their investigations, your commissioners had brought to their notice a great many instances in which incipient fires, that unchecked would have been disastrous in their consequences, were successfully fought and suppressed by the rangers.

"Wherever the system has been employed by the various limit-holders, the results have been very marked. It is to be noted, however, that as the employment of fire-rangers is optional with limit-holders, some of them have failed to take advantage of the system, at the risk not only of their own limits but of those of their neighbors in addition.

Again in the Interior report we find the following:

"All unregulated fires must be strictly guarded against and prohibited. Every acre of forest lands under license, and all government lands in their immediate vicinity, or wherever prospectors or tourists are allowed to go, should be under the supervision of competent fire rangers, strictly under government control, and clothed with full power to call to their aid needful assistance to extinguish fires."

"Young growing trees too small to cut profitably and often neglected by licensees as of no value, should be zealously guarded as the source of future wealth, and all isolated pine trees or small groups of trees still living after a fire has passed over a district, should be taken care of as the parents of future forests."

Mr. W. C. Edwards, one of the leading lumbermen of

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1,000,000 acres of forest land in the States of Virginia, North and South Carolina, Georgia, Alabama and Tennessee, and appropriating five million dollars for the purpose. The reserves previously established have been in the northern western States.

The setting apart of forest reserves and the adoption of a system of scientific forestry are questions which should at once be taken up by Dominion and Provincial Governments. The proposal to establish a forestry department in connection with one or two of the leading universities of the country is a step in the right direction.

EDITORIAL NOTES.

It is not unlikely that the Dominion Government will be petitioned to remove the duty on foreign cooperage stock coming into Canada from the United States. This duty is 25 per cent. on manufactured stock, cooperage material in the rough being admitted free. The reason for this exemption is claimed to be that the Canadian manufacturers of cooperage stock are unable to supply the local demand, and that it has been necessary to import considerable material from the United States. It is by no means certain that the government would accede to this request, but it is asked to do so, as while it would result to the advantage of one or two large Canadian firms who have mills across the border, it might seriously affect the smaller producers of cooperage stock in Canada. It is at least fair to point out that such action is under consideration, and to give all who are likely to be affected an opportunity to place their views before the Government.

In the past more or less reliable estimates have been made of the quantity of pine timber standing on the Crown lands of Ontario. The provincial estimate of 1893 showed the quantity to be 26,000,000,000 feet, of which 10,000,000,000 feet were under license. The territory explored for the purpose of this estimate did not include a large tract of country north of the height of land. Of the other varieties of timber owned by the Crown no estimate has ever been made. The necessity of securing a more accurate statement of the Crown timber has been felt by the Government of the province for some time. It was recently decided to make explorations with a view to securing the necessary data and accompanying maps, showing the quantity and location of both pine and spruce timber, the latter now having a merchantable value that it did not possess at the time previous estimates were made—due to the growth of the pulp industry in Canada. It is hoped that the plan of the Government will include also the collection of data concerning the hardwoods of the province. It is quite a common thing to receive inquiries regarding the location of hardwood timber of certain varieties, but the information which it has been possible to impart has been a very uncertain character. If more accurate data were available it would greatly assist the development of the hardwood industry.

WESTERN RETAIL LUMBERMEN'S ASSOCIATION.

Although the date has not been definitely arranged, it is expected that the annual meeting of the Western Retail Lumbermen's Association will be held in the city of Winnipeg on or about February 16th. Mr. Henry Byrnes, of Winnipeg, is president of the Association.

the Ottawa Valley, writes as follows: "Imperfect though the system of fire protection now in vogue in the Provinces of Ontario and Quebec may be, at the same time the result has been the saving of millions of dollars worth of timber to these provinces. Previous to the employment of fire rangers in the Province of Quebec, annual serious fires took place in the Ottawa region, destroying enormous quantities of timber. Since the adoption of the fire ranging system, there has not been, so far as I am aware, one very serious fire."

I may say that within the past year a system of forest fire guarding has been undertaken by the Dominion Government, differing in some respects from that adopted by the province, but it is believed that it is one well adapted for the purpose, and so far seems to work well. The plan is as follows: Forest fire rangers are selected from men residing in or near the district where they are to be employed. They are notified that they will be under the direction usually of the crown timber agent, regular forest ranger or homestead inspector for the land agency in which they are employed. When this supervising officer considers their services are required he notifies them to commence work, furnishes them with a copy of the Fire Act, a copy of general instructions defining their duties, and also with notices, for posting up and distributing warning, the public against the careless use of fire. Where horses can be used they are to supply themselves with them. Their remuneration in such case is \$3 per diem, which includes expenses for both man and horse. When the supervising officer considers it unnecessary for the ranger to continue the work he recalls him and instructs him to make out his account, which the former certifies to as correct, and on forwarding the same to the department with a diary detailing how he was employed each day, the account is paid. By this system the ranger is employed only when his services are considered necessary, and in case the season is very wet he may not be employed during the whole season. Where there are timber limits under license within the area guarded the holders pay a proportionate amount of the cost, but the greater part of the country is still held by the crown and consequently the government bears the larger part of the cost of guarding it.

There is another point in this connection that properly belongs to the forestry branch which I desire briefly to notice. The country should be explored in advance of settlement, and such portions as are unsuited for agriculture, but which are adapted for the growth of timber, should be permanently set apart for that purpose and not even surveyed into farm lots. Again, as one of the great uses of the forest at the sources of rivers and streams is to hold back and regulate the even flow of the water much in the same way as a reservoir does for towns having a waterworks system, in no case should these districts be denuded of their forest covering, but retained for this, if for no other purpose.

Another duty devolving on those having charge of the forests is to regulate the cutting of the timber on tracts set apart for timber purposes. There is no reason why the element of growth should be disregarded, or why by a proper system of cutting a continuous supply should not be maintained, provided the fire can be kept out of the woods. The indiscriminate cutting of the young sapplings struggling to attain a sufficient size when they would be of value is a sin against nature and a crime against the community that should not be tolerated.

But I have dealt with only that portion of the subject that related to those districts on which there is a natural growth of timber, and I wish very briefly to refer to those areas of the North-West which are now devoid of tree growth, to those treeless plains where the many comforts and advantages which trees afford do not exist.

As this phase of the subject will be dealt upon by others well qualified to deal with it, I shall refer only to one or two points in connection with it. It is admitted by everyone that it would be of the greatest benefit to the prairie settler to have wind breaks and shelter belts of trees on his homestead. I will grant that there is a peculiar charm in viewing those great undulating meadows, especially when they are covered with flowers in the spring time, but there is also a dreary monotony akin to melancholy which becomes oppressive when its novelty is gone. The silence is unbroken. The old familiar bird songs are not there to cheer the pioneer settler in his oneliness, but instead he is oppressed with the almost constant wind which has no obstacle to break its force. In summer the cool shade which our woods afford, and in

winter the protection they render, are both denied to him. The advantages that belts of timber growing on the homestead confer on the prairie farmer are various. In addition to the beauty they bestow on the landscape and the comfort they afford to the settlers, they are of direct value in the shelter they provide for both man and beast, decreasing the quantity of fuel used in the dwellings in the winter and the amount of feed necessary for the stock. As windbreaks they prevent the snow from drifting off the fields, leaving them so dry in spring as to be unable to withstand that scourge which the western farmer fears more than any other, the summer drouth. And this is not all; they are also a protection against the destructive dry, hot winds that blow so frequently over those parched plains during the summer season. Mr. S. A. Bedford, superintendent of the Experimental Farm at Brandon, in one of his reports says: "The last week of May and June were noticeable for very low temperatures and high windstorms which were very disastrous to the crop in exposed situations. The benefits of hedges and shelter belts are very clearly demonstrated at this time. The grain growing on portions of the farm protected ever so slightly by a hedge or breakwind escaped injury from drifting soil, and when this was followed by severe frost the unbruisd plants in the protected areas were not frozen, while the exposed grain was in many instances completely killed."

Our various governments have long recognized the wisdom of assisting the agriculturist, and it is believed that the whole aspect of our prairie country may be changed by the co-operation of the government with the farmers. It is beyond doubt that where grain can be raised, there also some varieties of forest trees can be successfully grown, and I may be permitted to state that it is expected that during the coming season a regular system of afforestation will be commenced by which the government will endeavor to do its part in co-operation with the settlers to bring about the desired results.

One feature of this work will be the instruction of the people regarding tree planting. It is well known that careless planting and want of attention after planting are frequently the cause of failure in growing trees, not only on the plains but nearer home, and I would like to make just one suggestion here, and that is that more attention might be profitably given to the subject of forestry in the schools of the country.

Now, it may be asked why we should come to the city of Toronto to discuss the forestry problem. You say it may be of interest to the lumberman or to the prairie farmer, but what interest can the towns and cities of Ontario have in the subject.

My reply to this is that there is no citizen of Canada, no matter whether he reside in the rural or urban districts, who should not be interested in the forestry of the country. It is well known that this province derives a very large proportion of its revenue from the timber growing on its public domain. So as citizens of the province you are directly interested in the management of the forests on the Crown lands of the province. Again, as previously pointed out, as citizens of Canada you are the possessors of vast forest wealth in the ungranted lands of the Dominion, but more than this, if you will but take a glance at the countries of the old world you will find that many large districts owe their decline to the ruthless destructions of their forests. The effects of over-denudation of the forests even in Ontario is now witnessed almost every spring in the disastrous floods that occur and which are becoming annually more and more frequent and destructive.

In the countries of Southern Europe bordering on the Mediterranean, in Spain, Italy, Greece, Turkey, and also in Northern Africa, there are large areas of barren waste, which in the middle ages were fruitful, cultivated valleys. This has been caused by the destruction of the forests and the consequent drying up of the country. So great is the influence of the forest that several writers attribute the decline of many of the nations of the earth to the aridity of the land, brought about by the wholesale depletion of the forests.

When all this is considered, I think we may ask you to urge your representatives in parliament to use their influence to promote a judicious system for the protection and management of the existing forests and for the encouragement of tree planting wherever such is desirable.

I may say in conclusion that within the past year, in order that those who felt an interest in this subject might most effectually exert their influence, a Canadian Forestry

Association has been formed and I would commend it to your membership.

Prof. John Macoun, of the Geological Survey of Ottawa, who has for many years been an observer of forestry principles, was the speaker. He opened his remarks by relating an incident which occurred sixteen years ago when he was invited to Rideau Hall by Lord Dufferin, then Governor-General. Being asked by His Excellency what was the chief occupation of the Canadians, he replied that it was the destruction of our forests. At that time, he said, this was to be the sole aim of the people, but conditions have changed. Prof. Macoun spoke extensively but we give below the address which had been prepared, and which may differ in detail from the remarks of the speaker:

#### ON CLIMATIC CONDITIONS IN MANITOBA AND THE WEST TERRITORIES, WITH SPECIAL REFERENCE TO REFORESTING.

By Prof. JOHN MACOUN.

Three factors are always necessary in successful growth or culture. These are heat, moisture and air. Winter cold is injurious and in many cases is an insurmountable barrier to success, but is not prohibitive to reforestation. Before seeking to reforest any section of the country the first thing to be considered is the existing conditions, secondly, those which pre-existed. The pre-existing conditions are those shown by an old forest. The species to replant are those found in such a forest, the cutting away of the forests may cause draughts, and if so care should be taken to counteract these before planting is commenced.

I have heard it asserted that after a forest has been burnt over the same species of trees will not come back to the ground again. This is only a seeming truth, and were said that they generally do not, it might be the truth. Let us enquire why the same species do not usually cover the ground after a forest fire. There is no doubt many in the audience who have been in a forest of unburnt maple and beech forest left by the farmer's firewood. From many of these firewood has been taken for thirty or forty years, and yet young maples and beeches are found in myriads unless eaten down by cattle, and this forest being in all stages will continue for untold generations, because what is taken from the forest is returned to it by the constant decay.

Should a fire run through these very woods, and young growth spring up, instead of maple or beech, you will find poplars and cherry predominating, and a little north birch. A little thought will show that it is the burning of the seeds that is the drawback in the case of maples. The same reasoning will apply to every other species. The sole cause of this is the want of seeds. Pine trees when burnt over are also spoken of as not replacing themselves, but this also is a fallacy, except in the case of repeated burnings where all the seeds are destroyed. All woodsmen know that the seeds of conifers are not destroyed by ground squirrels and mice in old logs and stumps, and after one burning of the forest the seeds germinate in myriads, and a close observer about the first year after the fire will find seedling conifers on every log and by every old stump, and this is one of the most important factors in the reforestation of pine land. The ground is then covered by weeds and grasses and trees which are of quick growth, and not a pine tree to be seen, but within ten years after the fire the pine begins to assert itself, and in 50 years we have a pine forest. The whole of this is well shown along the Peterborough River and Catfish Lake in the Algonquin Park.

The reforestation of the prairie region is a different question and needs more careful treatment. I will state a few facts and later draw a few conclusions from these facts. The beech ceases to grow before we reach Lake Superior. Sugar maple ceases on McKay Mountain, a few miles from Port Arthur. Basswood comes up to the Red River and extends westward to Morden. Over the prairie remains as a forest tree for 200 miles and more west of Winnipeg. Red or green ash was formerly abundant in the Red River valley and extends westward to the base of the Dirt Hills, 400 miles west of Winnipeg. The cherry tree—was found four years ago in the

le valley, nor of Regina, and is still a large  
eralley of the Red Deer river flowing into Lake

foregoing it will be seen that maple and beech  
ach Manitoba, and that basswood is sparingly  
that province. In the first prairie steppe. Elm,  
red or green ash, extend well across the second  
steppe, but do not ascend to the third prairie  
Tamarack is abundant in a swaup near Bran-  
spruce is occasionally met with in the sandhills

years ago the Cypress Hills at their eastern  
re covered with fine aspen and balsam-poplar,  
spruce, and some canoe birch. On the western  
e hills where the elevation rose to over 3,500 feet  
ere large quantities of lodge pole pine, which is  
t in the Rocky Mountains. In the valley of the  
askatchewan there were many cottonwoods, and  
ted all the way up to the foothills in all the  
es. At Lethbridge two species of poplar are  
at are peculiar to that part of Alberta and Mon-  
These are the only species of trees found on the  
airie steppe.

eforesting of this part of Manitoba included in  
rairie steppe, with spruce, various species of  
elm, Manitoba maple, over-cup oak, tamarack,  
en ash, will be a very simple matter, as all the  
pecies of trees flourish there now. The chief  
ack in parts of Manitoba is the presence of sodiac  
superabundance in the soil, but local knowledge  
n overcome this difficulty.

e of a few hundred feet brings us to the second  
steppe, which with increased elevation becomes  
d less wooded and hence more difficult to re-  
with forest. Much of the country between Bran-  
Indian Head, including Brandon Hills, the Oak  
istrict, around Fort Ellice, and south of Indian  
nd north to the Touchwood Hills, was within the  
y years covered with heavy forests of aspen and  
poplar, with oak in the sandy tracts. This region  
o soon become largely forest again, if care be  
o keep out fires and protect the young growth.  
o miles west of Winnipeg there is no reason why  
ole land should not produce trees. Neither climate  
titude is against them, and if the trees of the  
y are used, with certain species of Russian poplar,  
can be no failure.

r passing Moose Jaw, on the Canadian Pacific  
ay, we ascend to the third prairie steppe, and here  
nditions change at once. The rainfall is lighter  
the altitude has increased so much that fewer  
s are available and less ground is suited for pre-  
e culture. Owing to the light rainfall and certain  
arties of soil, trees would not succeed in many  
ons, but by the aid of windbreaks to catch the snow  
y judiciously damming all the water courses, those  
dry up during the summer as well as those that  
permanent water, large reservoirs of water could  
d that would irrigate considerable areas. On all  
of the Cypress Hills perennial streams descend to  
ain, chiefly over gentle slopes, and these streams  
at little expense, be made to irrigate large areas  
eat growing, they would also serve to create a  
d forest that would change the clim-  
e country as far east as Regina. Enough water  
er this region, if only conserved, to reforest where  
ary and make farming profitable. It is only  
ary to mention that in Alberta irrigation over  
area has begun, and besides the pioneer ditch at  
y, the St. Mary's canal from the boundary to  
idge will revolutionize an extensive district in  
m Alberta, and grain areas and forest belts will be  
red all over this region.

TO REFOREST THE PRAIRIE. The reforesting of  
ole country from Winnipeg to Moose Jaw is only a  
of detail. There are no climatic conditions to be  
and trees seeds suitable for planting or grow-  
at once be obtained in necessary quantities. It is  
purpose to give advice in this matter, but only to  
e lines in which, in my opinion, success lies.  
es of the country alone should be used at the start.  
eeting with recommended species and varieties  
be planned. Manitoba Maple (Negundo Aceroides),  
ood (Populus monilifera), Balsam Poplar (Popu-  
amifera), and Poplar (Populus Tremuloides)—  
our trees. judicious sprinkling of known

hardy conifers, birches and Russian poplar, will be  
quite sufficient for all purposes.

The ground should be thoroughly prepared as if for a  
wheat crop and laid out in drills far enough apart to suit  
the person making the venture. Then seed of the species  
should be sown in the drills and covered. If poplar of  
any kind be planted, all that is necessary is to lay down  
in the drills pieces of wood fresh cut, or better still, the  
surface roots of the poplars found growing in the neigh-  
borhood, and cover them up. If the soil is fairly damp  
these billits or roots will soon throw up shoots and a quick  
and strong growth will follow. If four farmers having  
lots adjoining each other would plant five acres of ground  
on adjoining corners, a block of twenty acres would be  
grown in one locality, and these groups scattered over the  
country would add much to its beauty as well as to its fer-  
tility.

On the third prairie steppe most of the trees spoken of  
above would be available, but the poplar and spruce  
would be the surest. Where water is not constantly  
available no attempt should be made, except where the  
soil is constantly moist, as in the vicinity of springs or  
dams made for the purpose. As soon as nuclei are estab-  
lished, more can be added as the moisture increases owing  
to the accumulation of snow caused by the windbreaks at  
these points.

Windbreaks for the gathering of snow in the winter in  
the young plantations could be grown by the planting of  
tall growing corn for that purpose.

Mr. R. F. Stupart, Director of the Meteorolo-  
gical Service of Toronto, followed with an ad-  
dress showing what part the chinook plays in  
forestry in Alberta. By means of some lantern  
views of weather maps he showed that the  
chinook has its main point of entry into the  
plains at a point near the international boundary.  
Its existence was a great barrier to tree growth.  
He pointed out that the difficulty of making the  
trees grow would be greater further west, and  
claimed that the rainfall and snow-fall was  
about the same in the prairie country as in the  
wooded country.

Mr. John Bertram said that he had no doubt  
as to the success of practical forestry. Forestry  
was no new thing, but had been practised by  
some lumbermen for a considerable time, and  
scientific men were now coming into line with  
practical observers. Fortunately, in Ontario the  
ownership of the land still remained with the  
Government, making it easier to apply forestry  
methods. He said that the State of Michigan was en-  
deavoring to solve the problem of forestry, but  
under far less favorable circumstances than  
in Ontario. The area there fit for reforestation  
was about 4,000,000 acres, or 70 per cent.  
There are a great many gravel ridges and sand  
flats, and after cutting the timber the lumbermen  
had abandoned the land and fires had swept over  
it. There are no trees for miles, making it diffi-  
cult to reforest. Regarding the growth of trees,  
Mr. Bertram said that the pine usually occupied  
the higher land, and did not seed more frequently  
than every three or four years. The trees that  
have flying seeds would reforest most quickly.  
The problem was how far will pine seeds fly.  
That the pine tree would out-grow the other  
varieties could be proven by an examination of a  
forest sixty or seventy years old, where the hard-  
wood trees would be found to be dead. Mr.  
Bertram commended the Ontario Government in  
its action in setting aside forest reserves, and  
hoped that further steps towards securing a per-  
manent forest supply would be taken.

In reply to a question Prof. Macoun said that  
the gall louse was destroying spruce trees in the

east, and that tamarac in Algonquin Park was  
suffering from the same cause.

Some remarks relating to the scientific side of  
forestry were made by Mr. Gilchrist, who advo-  
cated that greater success would be obtained in  
reforestation by planting smaller trees.

Mr. Arthur Harvey said that he did not be-  
lieve that deforestation had any effect upon the  
climate, but the climate might affect the growing  
of trees. He instanced Ireland, England,  
Quebec and even Ontario, where the climate had  
not changed as a result of the cutting away of  
the forest. He said that it took a longer period  
of moisture to start pine seeds to grow than was  
the case with hardwoods.

Mr. E. C. Jeffries, in a few remarks, advocated  
the establishment of a school of forestry by the  
provincial university, and Prof. Doherty, of the  
Royal Agricultural College, Guelph, referred  
briefly to the diseases with which trees are  
threatened. As a means of destroying the gall  
louse he said that spraying had been resorted to  
with very doubtful results.

Mr. Thomas Southworth, chief forester for  
Ontario, pointed out that the work of reforesta-  
tion was really only commenced. The point had  
now been reached where a considerable expendi-  
ture of money was necessary in order to make  
the forest reserves profitable. He referred to  
the forthcoming meeting of the Canadian Forestry  
Association and to the conference upon forestry  
to be held in Kingston.

Mr. Aubrey White, Assistant Commissioner  
of Crown Lands, was called upon, but owing to  
the late hour declined the invitation to address  
the meeting.

#### THE LUMBERING INDUSTRY IN CANADA.

THE Labour Gazette for December, issued by  
the Department of Labour of the Dominion gov-  
ernment, contains a lengthy review of the lum-  
bering industry in Canada, under the following  
divisions: 1, Canada's Forest Areas; 2, Regu-  
lations Governing Lumber; 3, The Export Trade;  
4, Conditions Affecting Employers; 5, Lumber-  
ing Methods; 6, Conditions Affecting Work-  
men. The last chapter contains much informa-  
tion of an interesting character which has not  
been published heretofore. It is stated that re-  
ports from every quarter go to show that, looked  
at from a wage-earner's point of view, the present  
is probably the most favorable period in the his-  
tory of the lumbering industry. Wages have  
increased materially; there is a strong and  
general demand for men, and the standard of  
living provided by the lumbering companies has  
been raised. In next issue we may publish some  
of the statistics given.

#### CORRECTION.

SOME typographical errors occurred in the  
letter of Mr. J. D. Shier, on the relative merits  
of different saws, printed in last issue. Referring  
to the double band saw it was stated that "it will  
cut from ten to fifteen thousand feet in an hour  
more than a single band, and will not make  
shaky lumber." This should have read "it will  
cut from ten to fifteen thousand feet in a tour  
more than a single band and will not make snaky  
lumber," atour, of course, usually representing  
10½ hours. A similar error occurred in Mr.  
Shier's reference to a gang saw, the word "hour"  
being printed instead of "tour."



FEBRUARY, 1901

STOCKS ON HAND—WHITE PINE LUMBER, PRINCIPALLY :

On hand Dec. 31, 1900	216,349,000 ft
On hand Dec. 31, 1901	120,000,000 ft
Increase for 1901	96,349,000 ft
Of the stock on hand Dec. 31, 1900, there was sold waiting delivery	92,109,000 ft.
Unsold	124,240,000 ft.
In the year 1896 the stock at mills in pile (exclusive of Rail Portage) was	406,000,000 ft.

EFFECT OF THESE FIGURES ON PRICES :

Taking into consideration the large decrease in the United States mills, and also the fact that the increase in production is offset by the reduction of the output of Michigan mills hitherto supplied by Canadian logs, one naturally comes to the conclusion that workings of the law of supply and demand should tend to a maintaining of present prices firmly, if not an increase, particularly as it is likely that large demands on the source of supply referred to will be made from the English market.

TRADE OF 1901 :

In regard to the volume of next year's trade, the estimated production of 1901 is	501,900,000 ft.
The production of 1900	476,000,000 ft.
Increase	25,900,000 ft.

The following figures are given of the volume of trade in the United States :

SOUTH WESTERN MILLS :

The highest year was 1892, the production being 591,222,802 feet.

For the years	Production.	Stocks on hand.
1896	5,725,763,035	4,053,937,435
1899	6,056,508,000	2,728,271,000
1900	5,485,261,000	2,839,705,000

In regard to the hardwood trade, the information I have received is imperfect and not full enough to compile figures that would be a guide.

W. B. TINDALL, Secretary.

Mr. Bertram complimented the president upon his able address, stating that he was particularly interested in his reference to the forestry problem. It seemed to him that lumbermen should take an interest in the perpetuation of their own business. His observations had convinced him that if a sufficient quantity of pine timber was left standing to seed the country, pine would invariably grow, although the first growth was usually poplar and white birch. He urged his colleagues to give attention to the preservation of the young pine. He was also in favor of an import duty on United States lumber, contending that the conditions between the two countries should be equalized, and that Canadian lumbermen should be given fair play. Our lumbermen, he said, were not afraid of competition, but they should be allowed to sell their product in the United States if the manufacturers there were allowed free entry into the Canadian market.

Mr. Dymont said that he was strongly in favor of a duty on the American product. He had found great difficulty in shipping lumber to the United States at a profit.

Mr. J. T. Conlon also spoke on the duty question, urging the lumbermen to take a fair stand. He said they were not asking it as a matter of protection, but as a matter of equal rights.

The suggestions in the president's address regarding forestry and an import duty on lumber also met the views of Mr. W. A. Charlton, M.P.P. He had been an observer of forestry matters, and was certain that pine would grow after pine. The poplar and white birch to which Mr. Bertram referred were peculiar to the northern districts. On the Moose river he had found sufficient small pine to reforest the land. Mr. Charlton strongly urged the employment of a greater number of fire rangers as an effective means of protecting the forests.

Messrs. M. Boyd, Robert Watt, C. Beck, William Laking, W. T. Toner, and Hon. John Charlton also spoke in sympathy with the movement to secure an import duty on lumber. Mr. Charlton said that the justification of the policy is that it would be an advantage to the country and give us proper protection. He pointed out that Canada buys three times as much from the United States people as she sells to them.

Mr. Bertram said that heretofore the lumbermen had not been organized in Canada to cut hemlock bill stuff; it had been taken out by the farmers and cut at small local mills. The situation was changing. The lumbermen find that on their land they have large quantities of hemlock, and if the United States hemlock was kept out of the Canadian market, it would be found profitable for Canadian lumbermen to manufacture the hemlock on their berths.

The following resolution was then submitted to the meeting :

"Moved by Hon. John Charlton, seconded by M. Boyd, that the address of the President be adopted by the Association and a copy forwarded to the Dominion and Provincial authorities and that the president be instructed to adopt such a course as he thinks fit to have a duty placed on lumber coming into Canada."

This resolution was unanimously adopted.

The election of officers resulted in the re-election Mr. John Waldie as president and Mr. James Scott as 1st vice-president. Mr. N. Dymont, of Barrie, was chosen as 2nd vice-president, and the following as the executive committee: D.L. White, jr., Midland; John Bertram, Toronto; W. A. Charlton, Toronto; J. B. Miller, Toronto; Robt. Laidlaw, Toronto; C. Beck, Penetang; R. Watt, Wiarton; J. T. Conlon, Thorold.

The question of the number of hours which mill employees should work was brought up. On the south shore of the Georgian Bay it is ten and one-half hours, and on the north shore eleven hours. The opinion of the meeting was that it is a question which must be governed by local conditions.

Mr. J. L. Hotchkiss was introduced to the meeting as an American who had come to reside in Canada. Mr. Hotchkiss has assumed the management of the lumber interests of Pitts & Charlton at Victoria Harbor. He stated that the resolution which had been adopted in favor of an import duty on lumber was one which appealed to him as proper. He did not think that the interests of the inhabitants of Manitoba would suffer thereby, as there was an immense supply of timber tributary to the Rainy river which could be drawn upon.

Before adjourning the members were addressed by the president and secretary of the Canadian Manufacturers' Association, inviting the association to join that organization. The matter was left to the executive committee.

**SOME USES FOR OLD FILES.**—There are many uses to which old files can be put. A good flat scraper can be made from a flat file, a half round scraper from a half round file, and from a three cornered file a good centre scrape can be made for use in scraping centre of work in order to make them run true. Drill drifts, cutters for arbors, etc., can also be made. When it is desired to remove a pipe nipple that has been broken off close to the threads, grind the corners of a square file sharp and drive down into the broken nipple. Unless it is rusted in very tight, it can be unscrewed. Broken cap screws can be removed this way, first drilling in hole for the file.

THE USE OF EMERY WHEEL.

The following advice to users of emery wheels will be of interest to many. Too great a variety of work should not be expected from one grade of wheel. If the amount of grinding will warrant it, several grades can be profitably employed, each carefully selected for its particular purpose. Wheels should be kept perfectly true and in balance. In order that they may not become in the least out of true an emery wheel dresser should be used to dress up the wheels a little each day, or as often as they require it.

In mounting emery wheels never crowd them upon the arbor. Use flanges at least one-third the diameter of the wheel. Flanges should always be concaved and fitted with rubber washers between the flange and wheel. Have wheels slip easily on the arbor and screw flanges only tight enough to prevent wheels from slipping. Stands on which wheels are mounted should be heavy and strong, and solidly bolted to a firm foundation. Keep machine well oiled, so that arbor will not become heated, otherwise there is danger of wheels breaking from expansion of arbor.

Users of wheels are particularly cautioned not to run wheels on shaky machines, or on machines in which the arbors have become loose in the boxes from wear. See that rests are properly adjusted in relation to the wheel, otherwise accidents may occur owing to work being drawn between the wheel and the rest. Never run wheels at a higher speed than the maker recommends. Don't try to grind malleable iron with a wheel that was made for brass, as no one wheel can be made which will be just right for grinding all kinds of metals.

To obtain the best results, emery and corundum wheels should be run at a surface speed of 5,500 feet per minute. Wheels, if run too fast, will heat the work and glaze, and if run too slowly will wear away rapidly and do but little work. The same speed should be maintained as the wheel wears down, and the speed of the spindle should be increased correspondingly as the diameter of the wheel is decreased. Where there is a different amount of grinding to warrant the use of more than one machine, this can be accomplished by transferring from the first or larger grinder to smaller ones as the wheels wear down, otherwise by means of cone pulleys.

SAVE YOUR OLD FILES.

The Globe File Mfg. Company, Port Hope, have recently added to their large manufactory a re-cutting department, which will enable them to re-cut and make equal to new promptly, files of any make or size at low prices. They have a special price list for this work which they will mail to any large consumer of files on application. The output of their factory is 600 dozen new files daily, which are shipped from Halifax, N. S., to Victoria, B. C.

The current (January) issue of the International Monthly, published at Burlington, Vt., is one of unusual interest. Emile Reich, of London, writes on "England at the Close of the XIX Century." He gives a comparative and most interesting study of the true status of Britain's interests, military and diplomatic. Bernard Bosanquet, of London, writes on "The English People": Notes on National Characteristics, the first of a most interesting series of papers on the national characteristics of the greater nations. Prof. Geikie, of Edinburgh, the geologist, describes "Mountain Structure and Its Origin." Dr. F. H. Williams, of Boston, writes on "The X Rays in Medicine," Herbert Putnam, Librarian of Congress, on "The Public Library in the United States."



# WOOD PULP ~ DEPARTMENT

## COST OF PRODUCING SULPHITE PULP.

A meeting of the sulphite pulp manufacturers of Canada and the United States was held in Boston on December 28th last. Those present included Messrs. M. F. Mooney, of the St. John Sulphite Pulp Company, St. John, N. B.; P. V. Gascoigne, of the Laurentide Pulp Company, Grand Mere, Que.; and Chas. Riordan and George E. Challes, of the Riordan Pulp and Paper Mills. A question under discussion was the cost of producing sulphite pulp. Figures were submitted representing the cost of three sulphite pulp mills that were built in localities with advantages in the manufacturer's favor, and the figures went over \$10,000 per ton of production. Two of the mills cost \$300,000, and the daily production of each was 30 tons. An estimate is as follows:  $2\frac{1}{4}$  cords of wood at \$6 per cord, \$13.50; coal, \$3; sulphur, \$3.30; lime, 70 cents; labor and salary in office, \$7; wear and tear, \$2.50. These figures are based on the cost for manufacturing a ton of pulp, and do not include insurance, interest, taxes, freight or commissions for selling pulp, and yet they show a total cost of \$30 per ton.

The Sulphite Pulp Manufacturers' Association represents a daily production of 650 tons of pulp, only 50 tons being made by manufacturers not represented in the Association.

## INCREASED PRODUCTION OF SULPHITE PULP.

"A prominent sulphite manufacturer who has been collecting data concerning new sulphite mills now in course of construction, figures that there is going to be a surplus on hand in America by June, 1901," says the Paper Mill. "It is estimated that within the next six months there will come into the American market from new plants now building, and not counting the proposed increases in capacities of the mills at present engaged in making sulphite, 370 tons of sulphite pulp. This increased production is divided up as follows: Malone Paper Company, Malone, N.Y., 10 tons; Avalomink Paper Company, Minsi, Pa., 10; Jefferson Paper Company,

Carthage, N.Y., 30; Gould Paper Company, Lyons Falls, N.Y., 30; Traders' Paper Company, Lockport, N. Y., 20; Cushing Sulphite Fibre Company, St. John, New Brunswick, 50; J. Henry & Sons, Lincoln, Me., 30; St. Regis Paper Company, Great Bend, N.Y., 40.

"This list, representing 220 tons, shows the new plants which will be in operation by January, 1901. The St. Regis pulp is to be sold outside until April or May, when it is expected the paper mill will begin to run. But even then it is not expected that the paper mill will use all the sulphite product, and it is thought to be the intention of the St. Regis management to supply the felts mills and Taggart's plants with the surplus.

"Between January and June, 1901, the following plants will begin operations:—Sault Ste. Marie Pulp and Paper Company, Sault Ste. Marie, Ont., 60 tons; Bayliss Mill, Williamsport, Pa., 30 tons. To this list is to be added several new mills in the Fox River Valley, which some time between now and June 1 will add 60 tons to the grand total.

"There is little foreign sulphite imported today. Probably 10 tons a day would cover the amount coming in on contracts. During the boom last fall as high as 100 to 150 tons per day were imported.

"It is thought unlikely that even with a greatly increased consumption and the substitution of American pulp for the foreign article, that the domestic demand will be able to care for the increased production."

## BEATING WOOD PULP.

Of all pulps wood is perhaps one of the most susceptible to altered manipulation in the beaters, though the chemical processes necessarily have much to do with its properties, says the Paper Maker (England). Sulphite pulp can be beaten to produce a paper exhibiting the high breaking strength of a rag paper, with an almost equal amount of expansion. This does not mean that the best rag papers can be equalled by sulphite,

but that experienced and careful beating will materially affect the strength of the fibre. It is well known that wood pulp may be made tough and strong, or soft and porous, capable of being used as a substitute more or less for cotton and linen, and, on the other hand, for suitable the use of esparto in the manufacture of art papers. The most striking point of difference between rag pulp and sulphite is the resistance to crumpling—a very important quality. Sulphite pulp, even when exhibiting the highest possible breaking strain, is brittle and unable to withstand any extraordinary amount of friction. Rag pulp, on the contrary, is especially suitable for paper which may have to put up with rough handling. The brittleness of wood pulp cannot be greatly modified by the beating, as it is determined by the chemical treatment, and it too much attention is given to making the pulp soft the strength suffers accordingly. The question of adjustment of conditions thus becomes a very delicate one. As far as the paper maker is concerned, his judgment is called into requisition to decide on the merits of various brands of pulp in order that the pulp most suitable for use may be selected. A raw material consisting of fibres of a maximum length is easy to manipulate or to reduce to a given standard in the beater, while a softer pulp is not so capable of alteration, the fibre being already shortened by the chemical process.

Whatever may be the ultimate use of the pulp its manipulation in the beater must be carried out intelligently. It should be a gradual process, the roll being let down on to the bedplate not all at once, but bit by bit, so that for the first half hour or more the engine acts as a breaking machine. In this way the best qualities of the pulp are brought out and the fibres are drawn properly. The roll can then be lowered as much as may be necessary to reduce the pulp to a right consistency. For fine printing the rate of beating is important, as a fast speed gives the paper a mottled appearance, which is highly undesirable in this class of paper, and a evil peculiar to wood pulp. Seeing that wood is now being used as a substitute for all sorts of fibres, and that by careful treatment it may be imparted to it the qualities which at one time were thought to be the particular property of other pulps, it follows that the operations of beating cannot be effectively managed by a hard and fast routine, demanding, as it does, the highest skill in modifying the action of the

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...ives to suit the pulp on the one hand, and the paper on the other. There is no question that the marketable value of a paper depends very largely upon the proper manipulation of the pulp in the beater, in view of the fact that the strength, handle and bulk of the finished article are qualities best brought out by the beater man. It is obvious that careless treatment at this stage of the manufacture cannot be put right by the machine man.—The Paper Trade Journal.

PULP NOTES.

J. C. Wilson & Company are placing orders for machinery for their new pulp mill at St. Jerome, Que.

The Chicoutimi Pulp Company will have about 6,000 carloads of pulp ready for shipment to England early in the spring.

The Fraserville Pulp Company, of Fraserville, Que., will seek incorporation at the coming session of the provincial legislature.

It is stated on excellent authority that work on the proposed pulp mill at Grand Forks, B. C., will be commenced early in the spring.

The Ottawa Power & Manufacturing Company are expected to commence work in the spring on the building of a pulp mill on the company's property at the Chaudiere, Ottawa.

Mr. E. S. Jenison has been in consultation with American capitalists regarding the erection of pulp and paper mills at Port Arthur, the necessary power to be obtained from Kakabeka Falls.

The municipalities of Shipton and Danville, Que., on January 17th last granted a loan to Messrs. Angus & Whiteford, of Montreal, to assist them in building a paper mill on the Nicolet river, near the town of Danville.

Messrs Crocker & Company, manufacturers of paper making machinery, of Pittsburg, Pa., are considering the establishment of a branch in Canada. One of their re-

presentatives recently visited Sherbrooke, Que., in this connection.

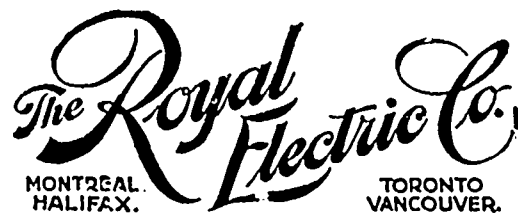
The St. John's syndicate which has secured the Knight lumber property at Musquash, N. B., will erect a sulphite pulp mill and a paper mill, the latter for the manufacture of the higher grades of paper. Mr. H. H. McLean, of St. John, N. B., is acting for the company.

A meeting of the Keewatin Power Company was held in the city of Ottawa on January 10th, at which it was decided to proceed at once with the erection of pulp and paper mills at Rat Portage, Ont. The pulp mill will have a daily capacity of 100 tons, and the paper mill of 50 tons.

It has been necessary for pulp manufacturers in the northern and western part of New York state to secure a large part of their supply from Canada. This winter nearly 20,000 cords of spruce will be taken from the vicinity of Sherbrooke and Brompton Falls, Que. Of this 10,000 cords will be required for the Freidenburgh Falls Company, 5,200 cords for the Treadwell Pulp & Paper Company, and 3,000 cords for the Plattsburg Paper Mill & Bag Company.

The plans for the pulp mills of the Belgo-Canadian Pulp Company are now complete and provide for a plant with a daily capacity of 100 tons of ground wood pulp, 50 tons of bleached sulphite, and 100 tons of paper. The product will all be shipped to Brussels, 50 tons of the ground wood pulp being about 45 per cent. dry and 50 tons 88 per cent. dry, in sheets 24 by 36 inches and .012 inch thick. The work under contract now, and to be in operation not later than June 1st, 1901, is the ground wood mill, 64 by 270 feet, two storeys high; boiler house, 50 by 64 feet, and shipping storehouse, 100 by 252 feet, one storey and basement, with two standard gauge railroad tracks running through the centre, so the pulp can be loaded in the cars from one side and the paper from the other. The contract for the buildings was given to Mr. W. J. Hill, of Toronto, Ont., and that for the steel structural work and steel feeder to the Ritter-Conley Manufacturing Co., Pittsburg, Pa., U.S.A. The special turbine wheels and feeder gates will be supplied by the Holyoke Machine Co., Holyoke, Mass.; the grinders, screens and

wet machines by the Friction Pulley and Machine Works, Sandy Hill, N.Y.; the drying machines by the Black & Clawson Co., Hamilton, Ohio, and the boilers and steel chimney by the Sterling Co., Chicago, Ill. The contract of Mr. A. C. Rice, consulting engineer of Worcester, Mass., with the Belgo-Canadian Pulp Co. is to take the natural conditions of the location, furnish all plans and specifications, place all contracts, and build modern mills in every respect, with a complete organization to operate them.



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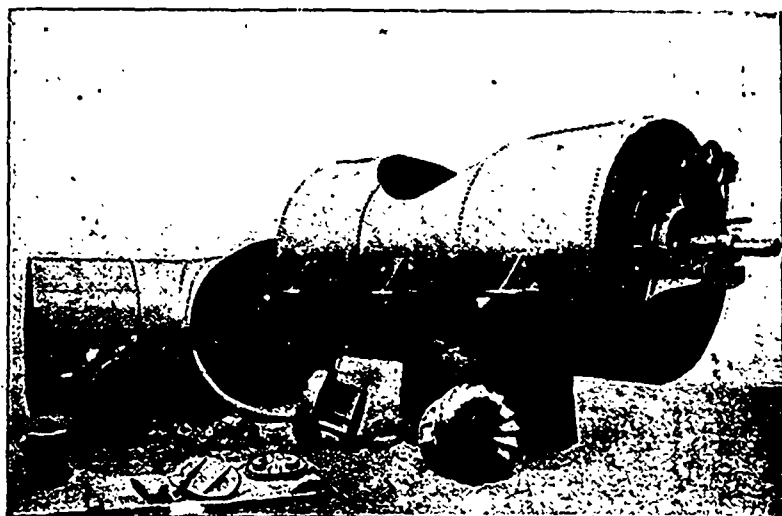
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## THE NEWS

—A. J. Stepan is building a saw mill at Loring, Ont.  
 —D. Cote, of Otterburn, Man., has recently purchased a portable saw mill.  
 —Josiah Keane, of Fesserton, Ont., intends converting his saw mill into a stave mill.  
 —J. D. Shier, of Bracebridge, Ont., is enlarging his planing mill and wood working factory.  
 —Drake & Mackon, lumber merchants, Innisfail, N. W. T., have dissolved partnership, H. Drake continuing.  
 —Peter Nadeau, of Port Daniel Centre, Que., has in view the erection of another saw and shingle mill at Grand River.  
 —The Conger Lumber Company, of Parry Sound, Ont., are building a new brick engine house and putting in another boiler.  
 —The Rathbun Company are said to be negotiating for the purchase of the saw mill near Bancroft, Ont., owned by the Flint Estate.  
 —It is the intention of McNab & Ryan, of Cranbrook, B. C., to establish a saw mill at Jaffray, with a capacity of about 20,000 feet per day.  
 —D. C. Cameron, president of the Rat Portage Lumber Company, states that his company have definitely decided to build a large saw mill in Winnipeg.  
 —The settlers of the Lake Temagami district, in Northern Ontario, are receiving \$2.25 to \$2.50 per cord for their pulp wood delivered at the banks of the Blanche river.  
 —Incorporation is being asked for "The St. Lawrence Lloyds," for the purpose of carrying on an ocean and inland marine insurance business in competition with the Lloyds of London, Eng.  
 —For the first ten months of the year 1900 the exports from the United States to Germany reached in value \$27,000,000. Of this lumber represented \$1,213,479, and timber and manufactured wood \$1,278,933.  
 —Dr. J. W. Good and P. W. Ireland, of Toronto, are interested in the Klondike Lumber and Fuel Co., now seeking incorporation. The head office will be in Winnipeg and the capital \$100,000.  
 —Pelford & Townsend, of Leduc, N. W. T., have established a saw mill on the south west side of the Con-

juring lake, 19 miles south west of Leduc. Lumber is being sold at the mill at \$14 per thousand.

—Mr. Finger, of the lumber firm of Finger, Arpin & Scott, of Port Arthur, Ont., was in Toronto recently on business with the Ontario Government. It is understood that his firm are seeking to acquire additional timber limits.

—A new shingle cutting machine has been invented by Mr. Frank Johnstone, of the Pacific Coast Lumber Company, New Westminster, B.C. It is on a solid iron frame, with no woodwork attachments, as is the case with most of the shingle machines in use to day.

—The annual meeting of the National Wholesale Lumbermen's Association will be held in Pittsburg, Pa., on March 6th and 7th. The meeting promises to be an interesting one, as important questions affecting the lumber trade are to be brought up and discussed.

—The Ontario Government has decided to have a forestry exhibit at the forthcoming Pan-American Exposition at Buffalo. Special attention will be given to spruce suitable for pulp wood, and to hardwood for the manufacture of furniture. Mr. Thos. Southworth, clerk of forestry, visited Buffalo recently to make final arrangements.

—Sir Henry Joly de Lotbiniere, Lieutenant-Governor of British Columbia, has procured and sown in Victoria seeds of hardwood trees not native to British Columbia, such as butternut, black walnut, white and green ash, red oak, etc. He states that in British Columbia they are well supplied with soft wood trees, but need the hardwood species.

—The timber exports of England for the first ten months of 1900 had a total value of \$105,700,000, against \$92,500,000 for the same period of 1899, a gain of 14.3 per cent. The exports of lumber from the United States to England during the ten months show a gain of 41.4 per cent. over the previous year, while Canada increased her exports but 9.7 per cent.

—Ritchey & McDonald, of Makinak, Man., have purchased a saw mill plant from the Stuart-Arbuthnot Machinery Company, of Winnipeg, Man. The mill will have a capacity of about 30,000 feet per day. Manning & McClure, of Stonewall, Man., are putting in a saw mill plant in the Gimli district, Lake Winnipeg, having purchased the machinery from the same firm.

—Messrs John Nicholson and David Clark have purchased the veneer mill which for some time has been standing idle at Eugenia Falls, Ont. They will immediately put the mill in operation and manufacture veneers, heading blocks, staves, etc. Mr. Nicholson was for

thirty years in the employ of the Gilmour Company, of Trenton. Mr. Clark was also in the employ of the same firm for about nineteen years.

—Action has been commenced to decide the ownership of Deadman's Island, adjoining the city of Vancouver, B. C. It will be remembered that Theodore Ludgate obtained a lease of the island from the Dominion government on which to build a mill. After work had been commenced the provincial government put forth a claim to the property involved, and as a result operations towards building the mill ceased. The injunction still stands, and now the matter of the title to the island is about to be adjudicated upon.

—The Pigeon River Lumber Company, composed of members of the firm of Arpin, Scott & Finger, of Grand Rapids, Wis., have purchased the saw mill and accessories of Graham, Horne & Company, of Fort William, Ont. They have also taken over the entire winter cut of logs of Graham, Horne & Company and the tugs and other property of the Lake Superior Tug Company. Graham, Horne & Company retain their logging outfit, with boxes and chains complete, and also their standing pine. It is their intention to continue in business in Fort William, confining their operations chiefly to work in the woods.

—A dispatch from Grand Forks, B. C., states that the largest body of timber in that section, and probably one of the most important in British Columbia, occupies the valley of the north fork of Kettle river, north of that city. Commencing at Cedar creek is a cedar belt which extends for a distance of over fifty miles north in an almost unbroken body. The cedar is interspersed with merchantable tamarac and pine, and at the mouth of Frank's creek the white pine commences. This is of the same variety as the Michigan pine, and is abundant in the river valley for fifteen miles above the mouth of Frank's creek.

An American syndicate, represented by F. J. D. Barnjum, have acquired large timber areas in Cape Breton, and have commenced preliminary work preparatory to the erection of a large pulp mill on the North river, in Victoria county. The syndicate will be known as the North River Lumber & Pulp Company.

COVERING A SAND BELT.—Have good glue hot, say Louis Hurd, in the Blacksmith and Wheelwright, also have a 2½ inch flat brush; have the dry sand nearby; give the belt a good stiff coat of glue, then put on plenty of sand and set into the glue with a hand roller or hand block and pack it down. Do about 2 feet at a time. When done hang up to dry for a day or more.

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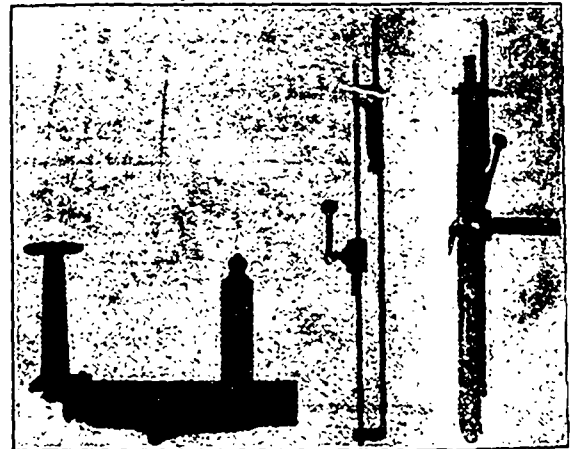
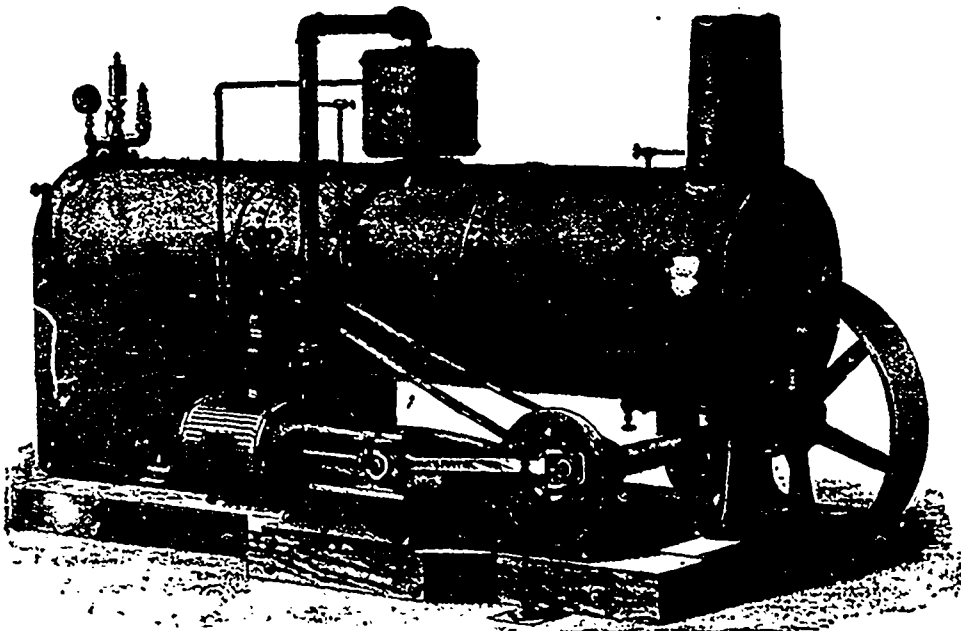
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—:—

**Seaforth, Canada.**

PERSONAL.

Many readers of THE LUMBERMAN will regret to learn of the recent sudden death of Mrs. Ward, wife of Hon. J. K. Ward, of Montreal.

Mr. D. C. Cameron, manager of the Rat Portage Lumber Company, has been elected Mayor of Rat Portage by acclamation for the year 1901.

Mr. Alex. McCowan, foreman for the Pembroke Lumber Company, has accepted a position with Booth & Gordon as manager of their mill at Cache Bay, Ont.

Mr. T. Whaley has resigned as manager of the Whaley Lumber Company, of Huntsville, Ont., and will retire from active business life, although continuing as president of the company.

Mr. Arthur D. Campbell has been appointed Canadian commercial agent of the Argentine Republic and Uruguay, to succeed Mr. D. W. Rennie, who resigned on account of ill health. Mr. Campbell's headquarters will be at Buenos Ayres.

The sympathy of many friends has been extended to Mr. J. W. Maitland, of Maitland, Rixon & Co., lumber merchants, Owen Sound, Ont., upon the death of his eldest son, Mr. F. B. Maitland, which occurred on January 1, in his 21st year.

Mr. J. C. Shook, formerly of Toronto, and lately of British Columbia, has been appointed manager of the Dickson Company of Peterboro, as successor to the late T. G. Hazlett. Mr. Shook has had a large experience in the lumber business and is well qualified to assume the management of the important interests of the Dickson Company.

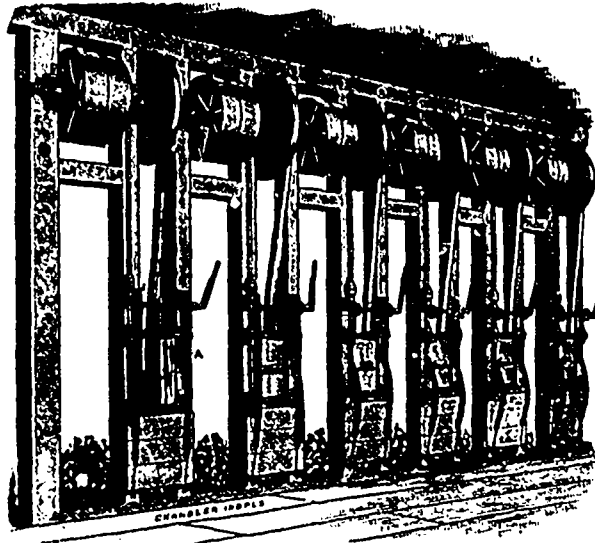
Mr. J. G. Scott, the well known lumberman, of New Westminster, while on a visit to eastern Canada recently received a telegram advising him of his re-election by acclamation as Mayor of New Westminster. This may be regarded as the highest possible testimonial to the value

of the public services which Mr. Scott has rendered to his adopted city.

Mr. James G. Maclaren, son of Mr. David Maclaren, lumberman, of Ottawa, arrived home from South Africa last month. At the outbreak of the war he was employed in the lumber district at Johannesburg for the Lingham-

Maclaren Trading Company, who also have lumber yards at Pretoria and Lorenzo Marquez. At Durban he enlisted in Methuen's Horse and served as a trooper for one year and eighteen days. Notwithstanding the dangerous duties in scouting and outpost work, Mr. Maclaren escaped injury.

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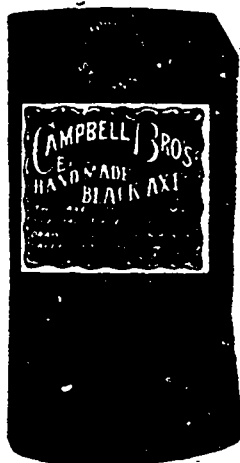
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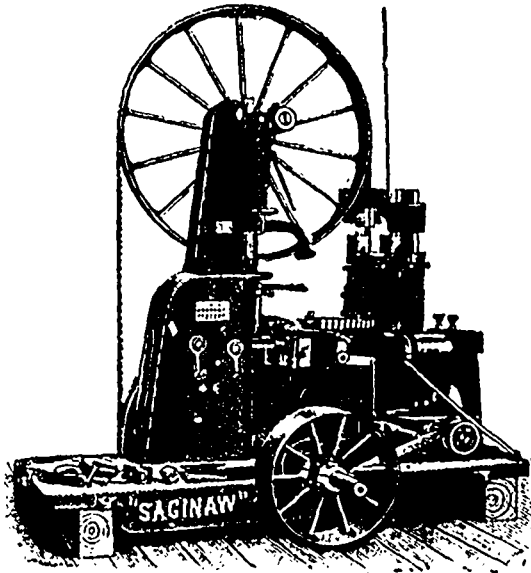
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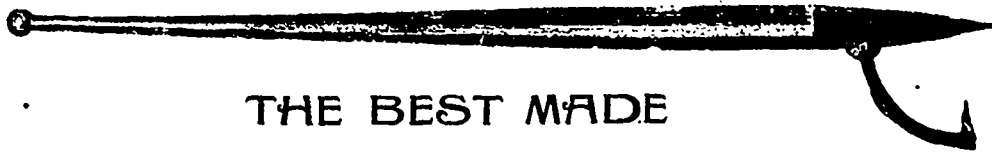
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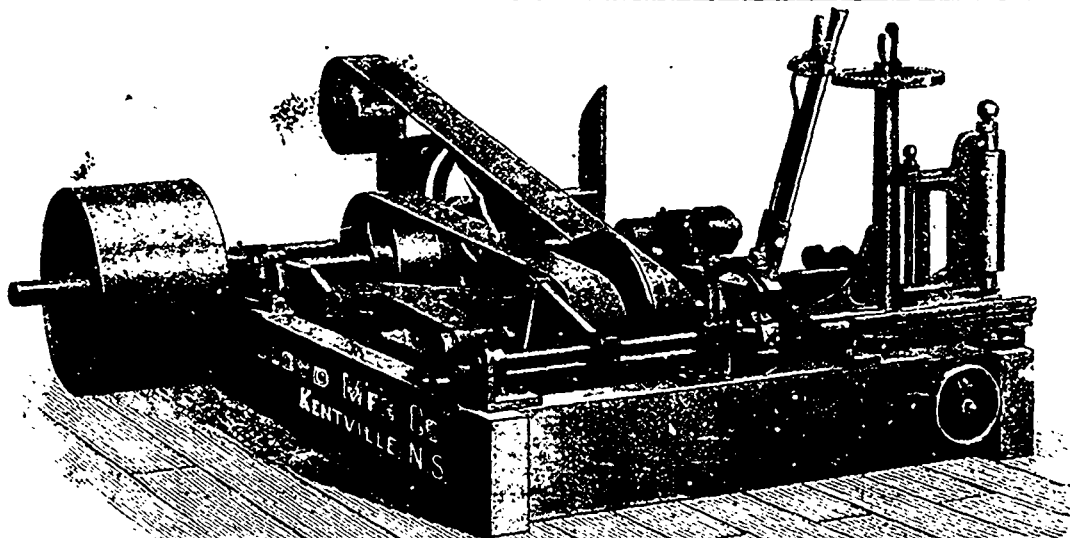
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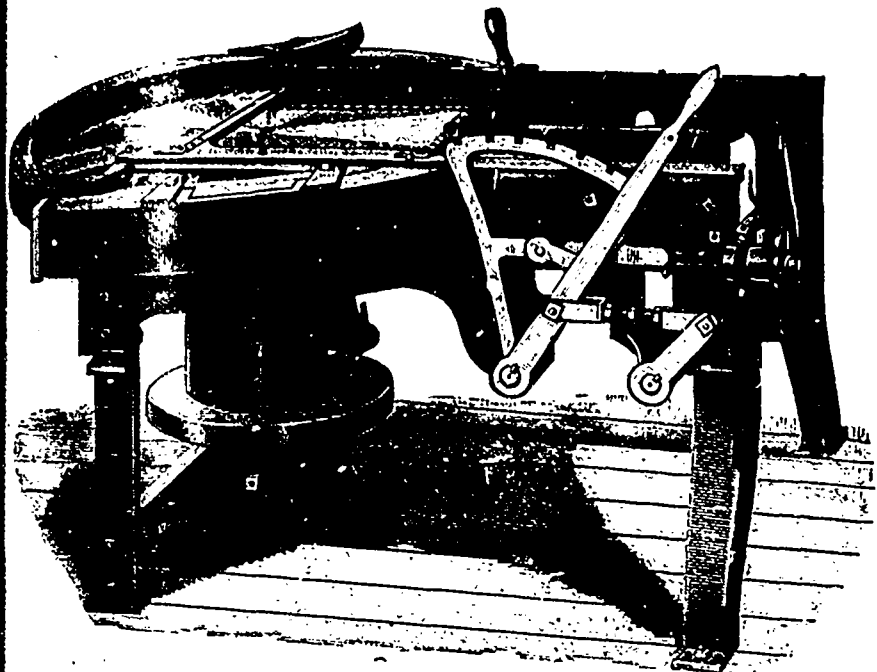
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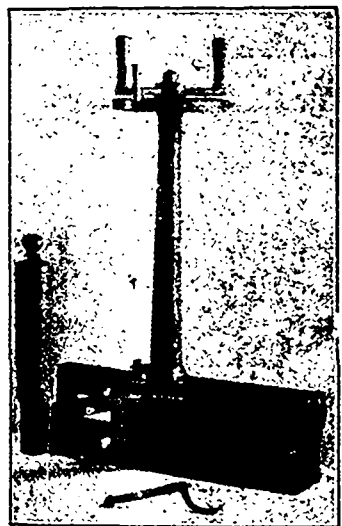
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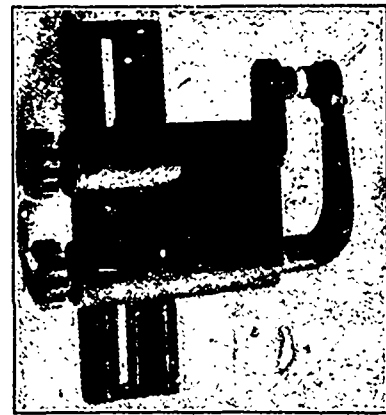


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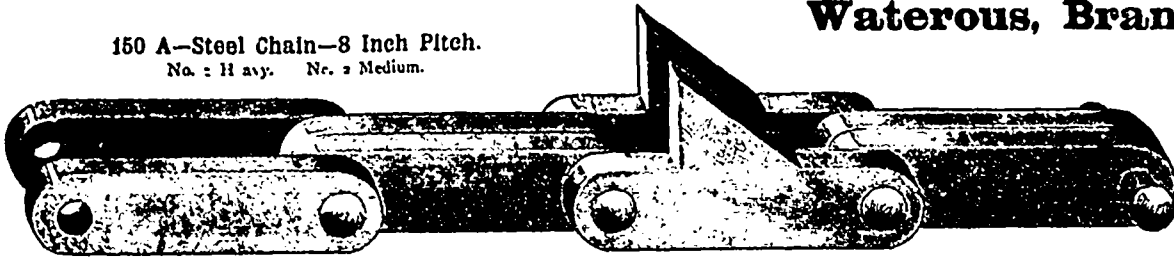
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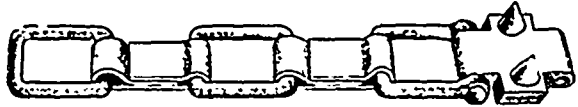
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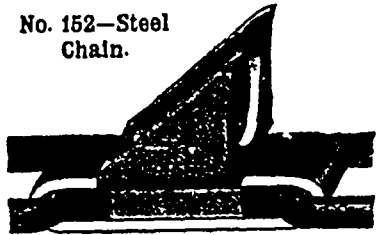
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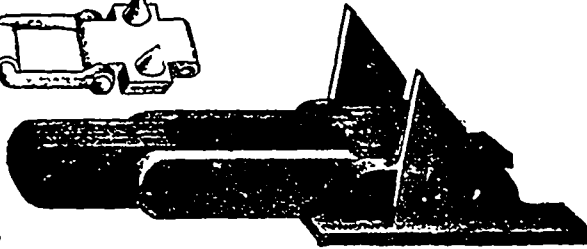
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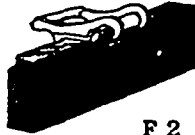
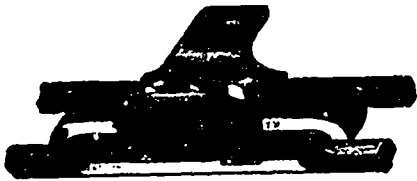
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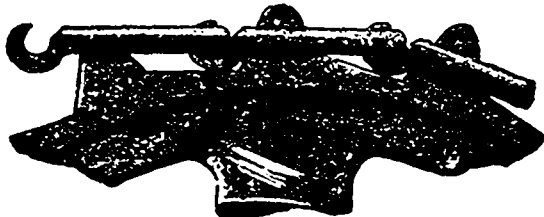
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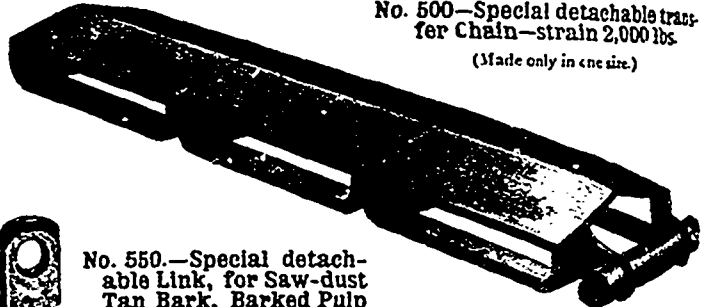
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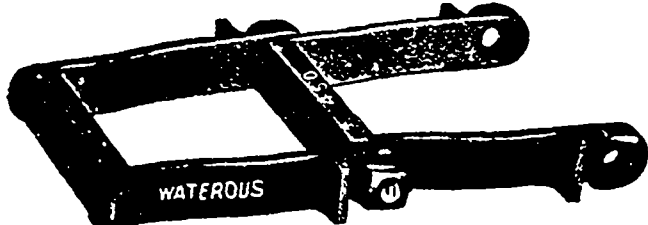


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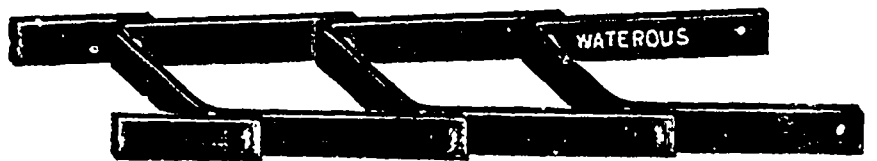


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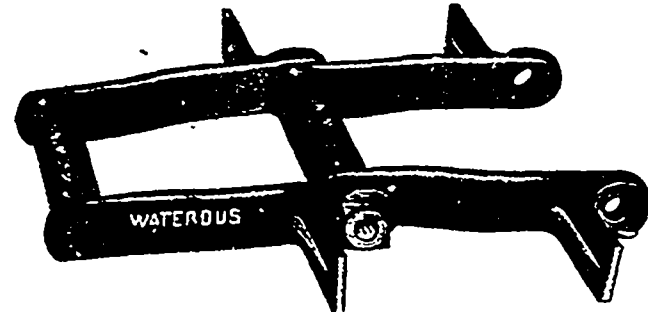
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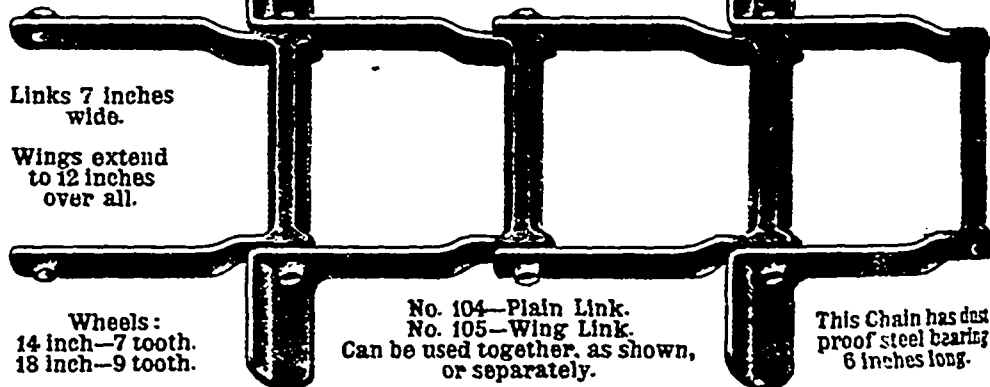


Style A Box Link.



No. 450—Wing Link.

Head Malleable 6 inch Pitch Chain.



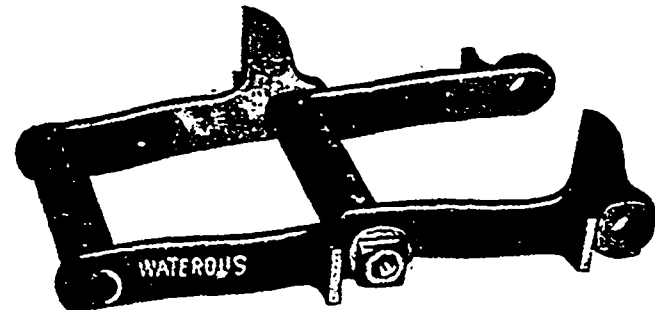
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Wings extend to 12 inches over all.

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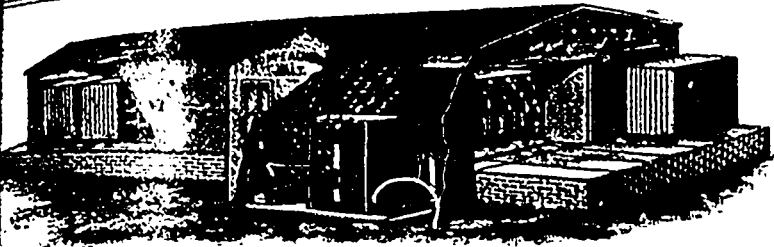
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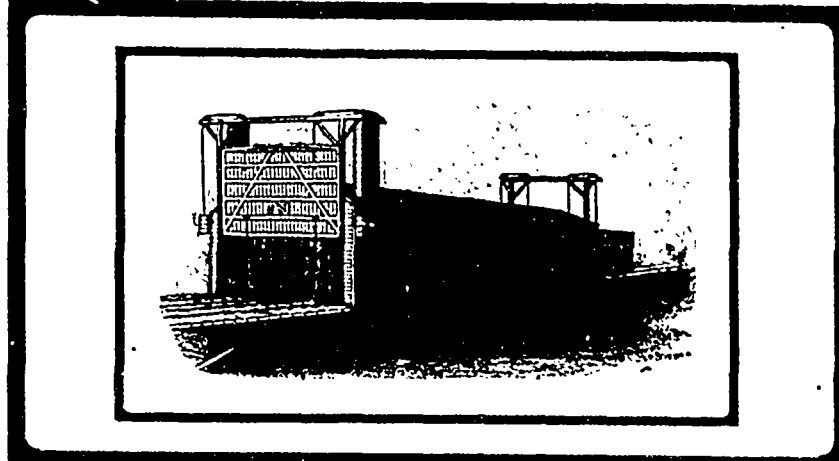


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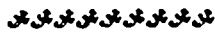
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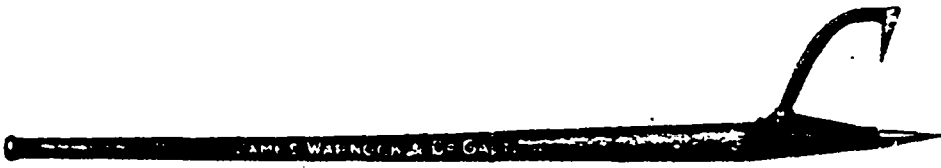
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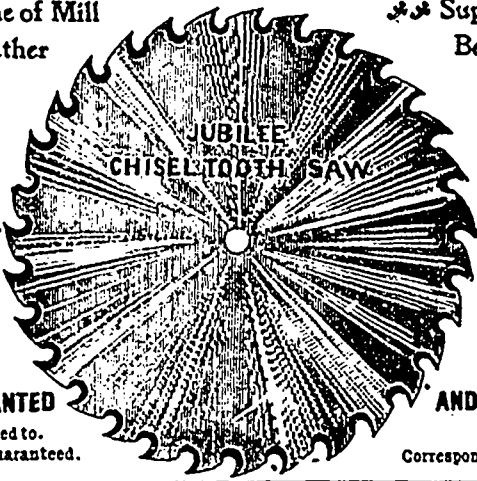
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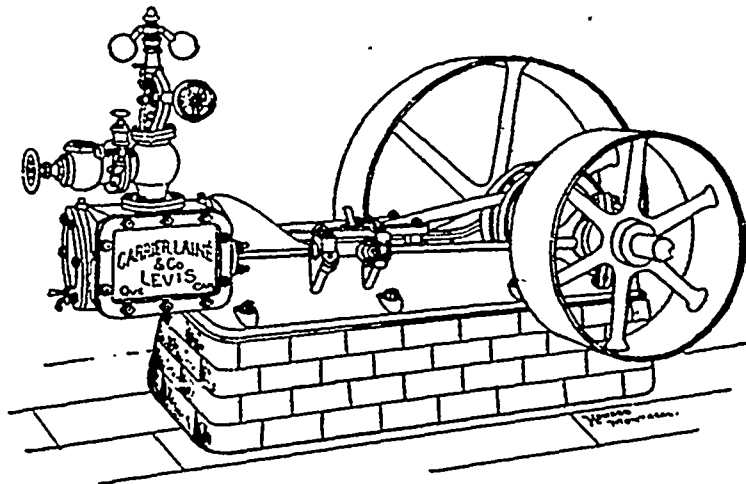
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