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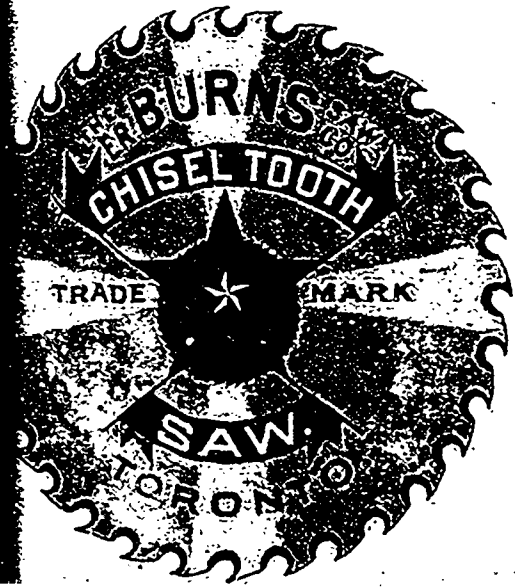


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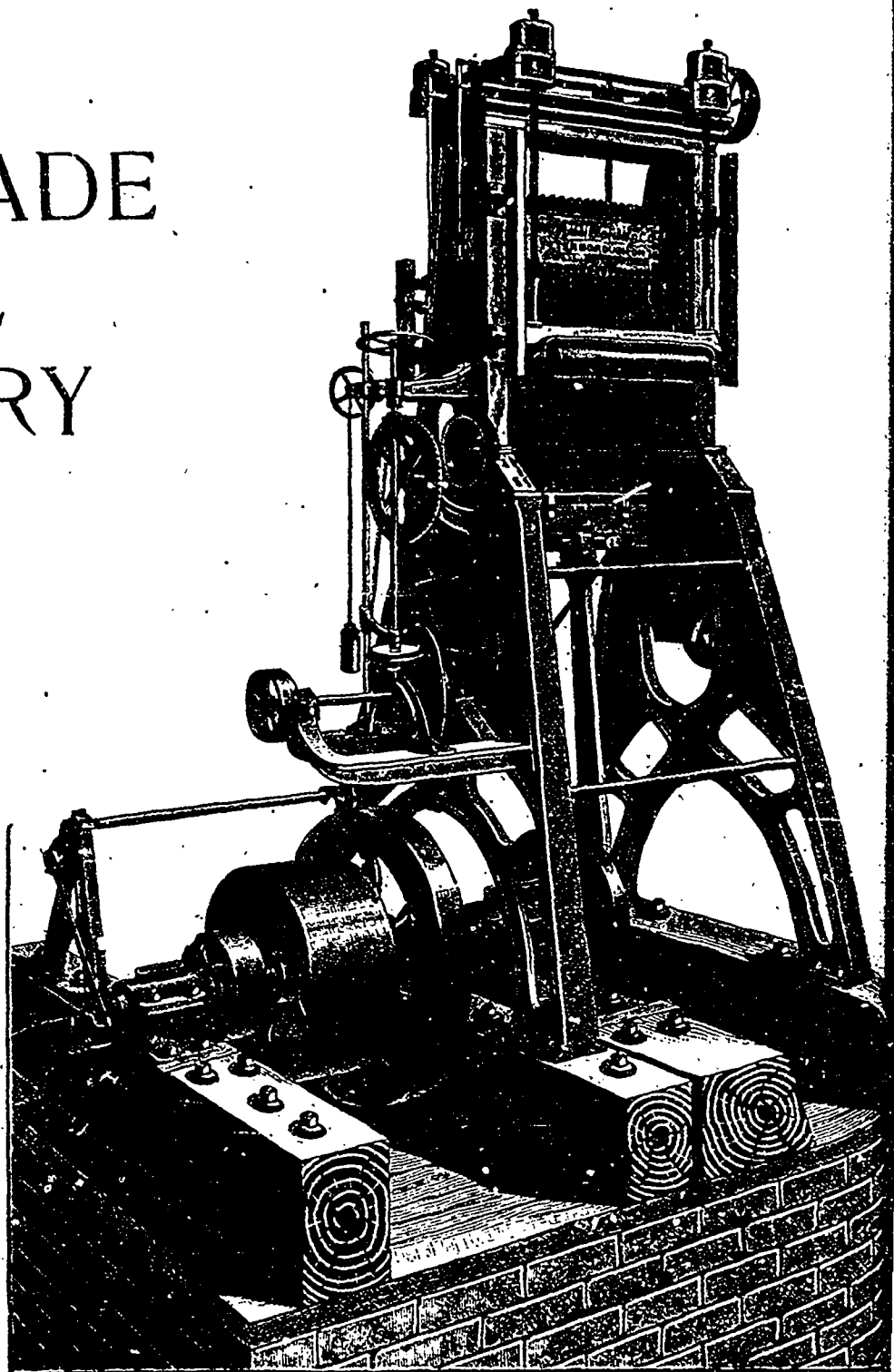
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DEAR SIR, -Driving a 20 in. 13 gauge saw into frozen hardwood, using a 9 in. 4-ply belt, it can be done satisfactorily, is a very severe test. Your saws have stood that test better than any I have tried. I have been experimenting with different makes—both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

Yours very truly, JAMES MCKINLAY.

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

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

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

Yours truly, KILGOUR SHIVES.

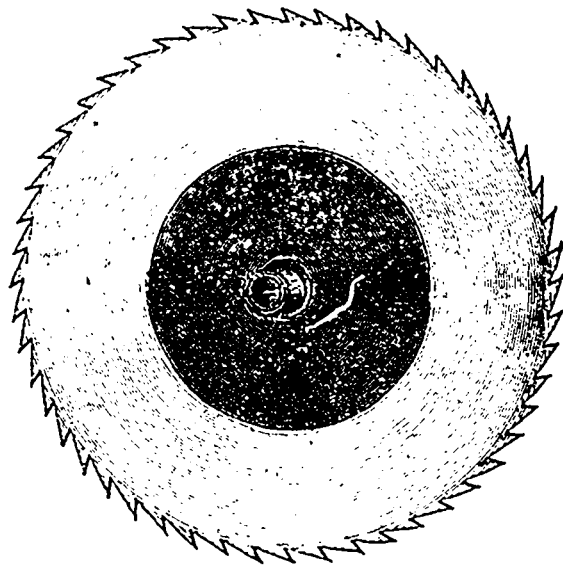
CLAVEKING, ONT., May 3rd, 1897.

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

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

Yours truly, W. G. SIMMIE.

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



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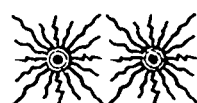
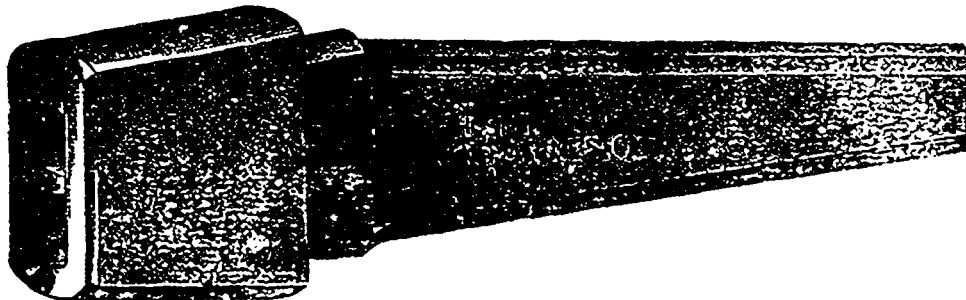
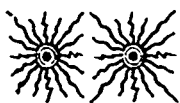


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They are tempered by the Simonds' Patent Process, insuring a perfectly uniform temper throughout the plate, and stand without a rival as the BEST, FASTEST, AND EASIEST-CUTTING SAW KNOWN. A gauge to regulate the clearing teeth is furnished with each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

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

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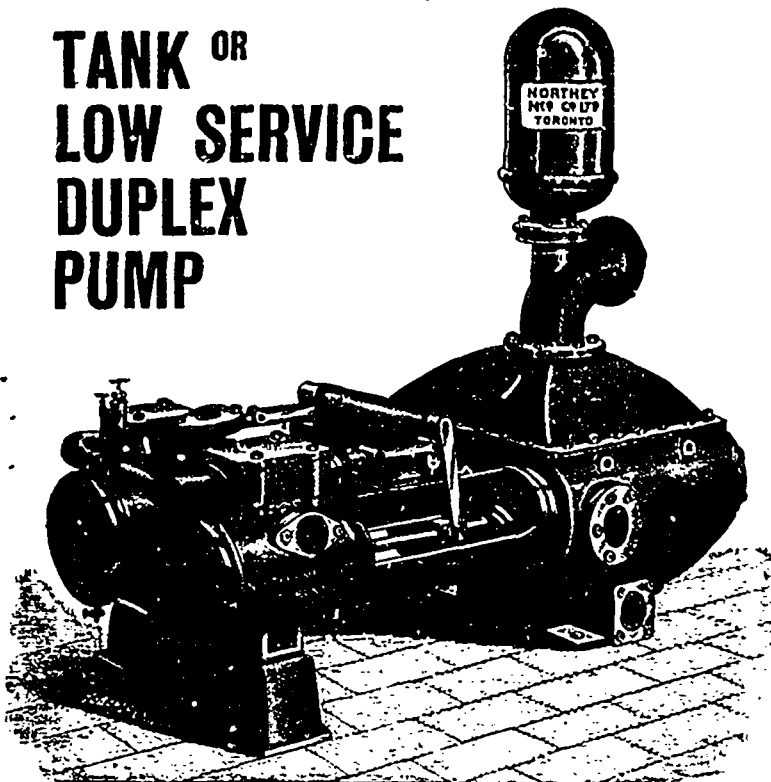
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THE CANADA LUMBERMAN

TORONTO, CANADA, JULY, 1900

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NEW TIE SAWING MACHINE.

The accompanying illustration and particulars of a new type of tie sawing machine will be of interest to readers of the CANADA LUMBERMAN. This machine has been patented in Canada and the United States by Mr. George E. Smith, of Sherbrooke, Que., and is now manufactured by the McKee Machine Company, of that place.

The frame of the machine is 35 feet; it is in two pieces, made of 5/16 angle steel, and can be taken apart very easily. It should be explained that the illustration herewith does not show the machine exactly as it is manufactured, as the patentee has changed the planer by using vertical discs instead of discs, and has added the butting saws and tie cant, thus making the machine automatic in every respect. The saw and planer is 5 1/2 feet wide and the balance of the frame is 12 feet wide. The tooth discs on top of the super-

structure are for the purpose of holding the tie in place, and may be raised or lowered for ties of different sizes. The five carved rolls on the side of the frame are for centering the ties.

The ties are fed through the machine by an endless chain over pulley wheels and the friction pulleys. As the tie leaves the machine the slabs are taken from each side of the machine; the tie then passes on to the planer, and after leaving the

planer is thrown on to the three endless chains and carried to the butting saws, where both ends are cut off the desired length.

The machine will saw and plane ties from 2 to 10 inches thick, as the saw and planer are in movable boxes. By actual count this machine is said to have cut 2,700 ties in four and one-half hours, the ties being hauled by teams from the yard to the machine. To obtain the best results the machine should be placed on a stream or lake and the ties fed to it from the shore by an endless chain, as in this way but six men, exclusive of engineer and fireman, would be required to operate it. The power required for this machine is from 25 to 30 h.p., and as it is made of steel, it is light and easily handled over rough roads.

The machine has been used by the Quebec Central Railway Company, and is said to have given entire satisfaction.

The advantage of planing ties is that some railway engineers claim that a sawn tie will hold moisture and thus be more likely to rot. Another advantage is that every tie is made of the same thickness.

NEW BRUNSWICK TIMBER LANDS.

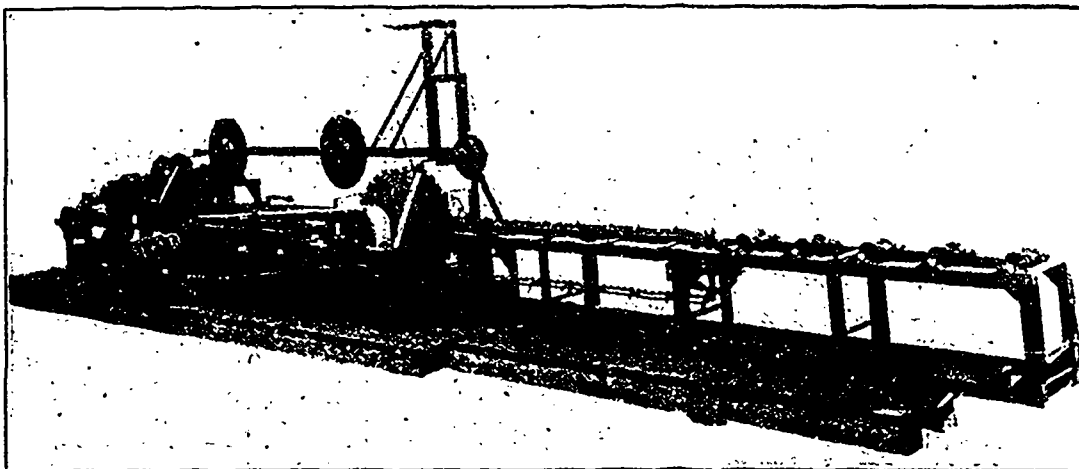
ACCORDING to the thirty-ninth annual report of the Surveyor-General of New Brunswick, the receipts from timber lands for the year ended 31st October, 1899, were \$160,655.67, made up as follows: Timber licenses, \$31,121.15; renewals, \$31,240; stumpage, \$98,294.52. This is an increase over the previous year of about \$25,000, due principally to the large sale of limits held on 30th August, 1899. At this sale 1,169 1/2 square miles were disposed of, for which the sum of \$24,360, or nearly \$21 per square mile, was realized. The licenses were sold for the balance of the 25 year term, which began in 1893.

PACIFIC COAST LOGGING METHODS.

LOGGING methods have undergone a great change during the past five years, and cattle, then commonly used in a majority of the camps,

whole business upon the systematic basis of modern railroad operations. To the uninitiated or to those who are not familiar with present methods, a visit to the logging camps of the coast would be a revelation indeed, especially to the eastern lumbermen. Timber, climate and surroundings are entirely different. In the white pine states the logging season begins as soon as the first heavy frost of winter occurs, and ends with the breaking up of the ice in the rivers and streams. Much depends on the first frost. If the ground is covered with snow before the freeze-up, the foundation is bad, especially in the swamps, and the roads will be bad all winter. On the other hand the absence of snow is not felt very much, because the roads can be easily sprinkled from day to day so long as the frost is severe. The timber is small and easily handled, and horses are universally used. "Driving" is easily accomplished, too, on account of the small logs.

On the Pacific coast, however, things are reversed. Cold weather and snow constitute obstacles not easily overcome. Instead of ice roads the skid road offers the foundation, the use of skid oil supplies the absence of ice, and the donkey engine furnishes the motive power from the woods to the landing. So, too, the jack supercedes the peavy, on account of the size of the



NEW TIE SAWING MACHINE.—PATENTED BY MR. GEO. E. SMITH, OF SHERRBROOKE, QUE.

logs, and the logging locomotive is rapidly taking the place of the river driver. There is no such definition as the "logging season." All seasons look alike to the Pacific coast logger. The work in the woods goes merrily on every month in the year, except when it snows, which is a rarity, and the logs are snaked over the hills as rapidly in December as they are in July.—Pacific Lumber Trade Journal.

have been superseded by the "donkey" engine and the logging locomotive. In a number of the camps heavy logging horses are still much in demand, but usually the horses are supplemented by steam power and all the latest up-to-date appliances. Logging oxen have been practically relegated to the rear, and are now to be found in but few camps in the entire Pacific northwest. On the other hand, the machine shops and foundries have been taxed to their utmost capacity to supply the demand for logging engines, and this in turn has created an enormous demand for wire rope and cable and all other accessories made necessary by the heavy timber of this section. Several "donkey" engines are frequently used in the same camp, being located from half to three-quarters of a mile apart, from which wire cables are run into the timber in distances varying from a quarter of a mile to a mile, the logs being hauled over skid roads, covering the entire distance in twelve to fifteen minutes. These engines will pull from 8,000 to 10,000 feet at a load.

In other localities the logging locomotive is used exclusively, reducing the laborious work involved, increasing the output and putting the

BARBADOES LUMBER DUTIES.

The last report of the Department of Trade and Commerce contains a new customs tariff act passed by the government of Barbadoes on June 21, 1899. According to the tariff the duty on wood products is as follows: Hemlock, birch, beech, white pine, spruce and pitch pine lumber, 7s. 6d. per 1000 superficial feet; coiled and straight hoops, 9s. per 1200 pieces; white and red oak staves, 9s. per 1200 pieces; shingles, 2s. 3d. per 1000; all other kinds of wood, except in naves, felloes, spokes and unsquared posts, 12s. 6d., per 100 cubic feet.

EXTEND YOUR TRADE.

If you are desirous of finding a market for your timber products, you should place an announcement in the forthcoming Export Number of this journal, to be published August 1st. Write the publishers to-day for rates.

LARGE PINE TREE.

Mr. H. A. Hough, of Renfrew, Ont., has sent us a photograph showing a large log cut on the Ross property near his mill. The tree from which it was cut made four sixteen-foot logs, one twelve-foot log, and two shorter ones. The butt log, shown in the illustration, was five feet in diameter. The tree was perfectly sound, and



Mr. Hough believes it to be the largest one cut in the vicinity for many years.

TO EXPLORE NORTHERN ONTARIO.

The Ontario Legislature at its last session, voted the sum of \$40,000 for the purpose of exploring the timber and mineral resources of New Ontario. In pursuance thereof, ten expedition parties have been appointed. Each party consists of from four to six men including surveyor, land and timber estimator, geologist, cook and canoe men. The following are the names of the principal men in each party:—

- Party No. 1.—In charge of T. B. Speight, O. L. S., Toronto; T. G. Taylor, West Gravenhurst, and Graham Belt, Toronto, land and timber estimators; K. C. Coulthard, Toronto, and W. B. Baker, B. A. Geologists.
- No. 2 party—In charge of A. Niven, O. L. S., Haliburton; J. L. Bremmer, Admorton, James M. Milne, Queensville, land and timber estimators; A. G. Burrows, Napanee, and D. L. Fraleck, Belleville, geologists.
- Party No. 3.—In charge of Mr. G. R. Gray; E. E. Silvester, Sudbury, surveyor; Roly Parsons, geologist.
- Party No. 4.—In charge of Mr. Baird, O. L. S. Baird, O. L. S.; John McConachie, Huntsville, land and timber estimator; G. Stewart, Toronto, geologist.
- Party No. 5.—In charge of W. S. Davidson O. L. S., Daniel Procter, Walkerton, land and timber man; E. V. Neelands, Toronto, geologist.
- Party No. 6.—In charge of J. M. Tiernan, O. L. S.; J. L. Humes, Utterson, land and timber man; A. H. A. Robinson, Peterboro', geologist.
- Party No. 7.—In charge of H. B. Proudfoot, O. L. S.; A McGillivray, Murillo, land and timber man; F. J. Snelgrove, Moronto, geologist.
- Party No. 8.—In charge of David Beatty, O. L. S.; John Piche, Cooper Cliff, land and timber man; A. H. Smith, Toronto, geologist.
- Party No. 9.—In charge of Jas. Robertson, O. L. S.; Capt. D. McPhee, Port Arthur, land and timber man; J. E. Davidson, Toronto geologist.
- Party No. 10.—In charge of John McAree, O. L. S.; John Nash, Rat Portage, land and timber man; John A. Johnston, Toronto geologist.

Mr. A. R. Vinnage, secretary of the National Hardwood Lumber Association of the United States, advises us that revised copies of the inspection rules of the above association have been printed, and ten copies are being sent to each member. Extra copies may be obtained from the secretary at ten cents each, and any member of the lumber trade may secure a copy at the same price.

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

FINANCIAL RESULTS OF FOREST MANAGEMENT IN GERMANY.*

Germany has an area of 133,000,000 acres, about one-fifteenth of our country; a population of about 47,000,000, or less than three acres per capita, or only one-tenth of our per capita average. Its forests cover 34,700,000 acres, or 26 per cent. of the entire land surface. A large portion of the forests cover the poorer, chiefly sandy soils, of the North German plains, or occupy the rough, hilly and steeper mountain lands of the numerous smaller mountain systems, and a small portion of the northern slopes of the Alps. They are distributed rather evenly over the entire empire. Prussia, with 66 per cent. of the entire land area, possesses 23.5 per cent. of forest land, while the rest of the larger states have each over 30 per cent., except small, industrious Saxony, which lies intermediate, with 27 per cent. of forest cover. Out of 64 provinces and districts 18 have less than 20 per cent. forest; 18 have from 20 to 29 per cent.; 23, including the greater part of the country, have from 30 to 39 per cent., and five of the smaller districts have from 40 to 44 per cent. of forest. The districts containing less than 20 per cent. of forests are, as might be supposed, mostly fertile farming districts, in which the plow land forms over 40 per cent. of the land, but they also include neglected districts like Hanover and Luneburg, where a former short-sighted, selfish and improvident policy has led to the deforestation of poor, flat lands, which have gradually been transformed into heaths, where an accumulation of bog-iron ore and other obstacles render the attempt at reforestation difficult, expensive and unsatisfactory. Left to forests, these same lands, which now are unable to furnish support to farmers or to produce a revenue to their owners, could easily pay the taxes and interest on a capital of \$50 to \$100 per acre, to reforest them now costs \$10 to \$50 per acre, and requires a lifetime before any returns can be expected.

Since it is one of the common claims in the eastern United States that all the land is needed for agriculture, and since it will be conceded that in hardly any state east of the Mississippi much land necessarily remains untilled, it may be of interest to note that in this densely populated empire of Germany out of 67 districts and provinces the plow land forms less than 20 per cent. in four districts, 30 to 39 per cent. in 10 districts, 40 to 49 per cent. in 26 districts, 50 to 59 per cent. in 20 districts, and 60 to 69 per cent. in seven districts—in spite of the fact that the larger part of the forests are in private hands and would be cleared if the owners saw fit to do so. In our country the total area in farms is only 18 per cent. at present.

Of the total of 34,700,000 acres of forest land (an area about as large as the state of Wisconsin) 32.7 per cent. belongs to the several states as state property; 19 per cent. belongs to villages, towns and other corporations, and 50 per cent. to private owners.

The condition of the forests to a great extent depends on the degree of supervision or control exercised by the state authorities. It is best in all cases in the state forests, is equally good in the corporation forests under state control, and is poorest in the private forests, particularly those of small holders.

The amount of state interest or control varies in the several states, and varies in some cases even in the same state for different districts. Of the state forests, without exception it can be said that they are nearly in that form which, according to present knowledge and reasonable effort, is able to produce the greatest quantities of wood material in those dimensions and of such kinds as best to satisfy the demands of the markets and at the same time render the management as profitable as possible. This does not mean that they are not improving, for as forestry knowledge increases and the methods are perfected the results are better. All state forests as a whole pay, and pay handsomely, where the low intrinsic value of the land they cover is considered.

The control of the corporation forests is perfect only in a few of the smaller states and in some districts in Prussia. Of the private forests, those of Prussia and Saxony, involving 69 per cent. of all private forests of the empire, are entirely free from any interference.

They can be managed as the owner sees fit, and there is no obstacle to their devastation or entire clearing and conversion into field or pasture. The remainder of the private forests are under more or less supervision.

* From a report by B. E. Fernow, late chief of the Division of Forestry of the United States, Department of Agriculture, now Director of the New York State College of Forestry, Cornell University.

Of the entire 34,700,000 acres of forest land then approximately:

- (1) Managed by state authorities as state property, 11,360,000 acres, which is 32.7 per cent.
- (2) Managed by state authorities, but the property in the hands of corporations, villages, towns, etc., a little over 2,100,000 acres, which is 6.3 per cent.
- (3) Under strict government control, the plan of management and the permissible cut having to be approved by state authorities (corporation property), 10,000,000 acres, which is 28.8 per cent.
- (4) Under supervision of the state, not only as state property, but as special property, subject to inspection and, in part, to control of state forest authorities; all private property and partly belonging to large estates, 4,767,000 acres, which is 13.7 per cent.
- (5) Without any government control or supervision beyond that of common property. These forests are divided, sold, cleared, and mismanaged, except in a few cases. Here belong all private forests of Saxony, Prussia and part of the corporation forests and all of Saxony, 11,490,000 acres, which is 33 per cent.

The amount of timber cut per acre is very large compared with average yields in wild woods. Officially the average feet per acre in Prussia to 9,000 cubic feet in the Saxon state forests. The yield has been steadily increasing since the beginning of this century, and in some states it has been nearly doubled through better management. At that earlier time much land was badly stunted or devoid of any cover, much timber was injured by continual removal of the litter and consequent impoverishment of the soil, and in most forests the timber occupied much more than its share of ground, thus less timber grew. In every one of the states and districts these conditions have been changed much for the better, the cut was increased from year to year, the wood capital or standing timber grew in total area, and the productive capacity of the forest soils has generally improved.

The present total annual cut of the entire empire is about 1,910,000,000 cubic feet, 710,000,000 cubic feet coming from the state forests, 370,000,000 cubic feet from the corporation forests, and 830,000,000 cubic feet from forests belonging to individuals. Thus Germany has a steady and increasing supply of over 1,900,000,000 cubic feet of timber per year from the lands which in most other countries remain barren wastes. Of this 1,900,000,000 there are nearly 600,000,000 cubic feet of saw timber and the like, the rest being cordwood, mostly firewood. From this it would appear that Germany produces about 40 cubic feet of wood per capita per year, and that of this about 12 cubic feet are of saw timber, etc. But in spite of the great economy of this amount of home raised material does not satisfy the demand of the home markets, and Germany today is the second greatest importer of wood, particularly of saw timber, in the world.

The consumption of wood per capita of population (in cubic feet) in four leading countries is as follows.

	Total.	Produced at home.	Import over export.	Long timber (in millions of cubic feet)
England.....	15	3.6	11.5	11
Germany.....	44	40.5	3.8	15
France.....	32	30	2	8.3
United States.....	350	349.7	0.3	50

* This refers to lumber or sawed material alone.

Since the consumption by saw mills of large quantities of particularly coniferous material, is still increasing, it is clear that Germany has not nearly as much forest as it needs, or else must still improve greatly its methods of production. At present 26 per cent. of its saw timber, etc., is imported.

The prices paid by Germany have so far been very reasonable. Thus her imported lumber cost in 1905 \$18.30 per thousand feet, firewood only \$6.30 per thousand feet, mostly hard pine in long pieces (10 to 12 thousand feet, etc.).

With the enormous resources in European Russia, Sweden, part of which are not even organized yet, there is no apprehension of rapid advances in prices or likelihood of scarcity of supply.

Concerning the financial results of forest management only, the records of the state forests are

It is clear that the income depends on the amount of timber cut and the prices obtained. If, therefore, the yearly cut has been increased, in some cases doubled, by good management since the beginning of this century, the income naturally is doubled. To this increase in the amount of salable material there has been added a general advance in prices, partly due to the depreciation of money in general, but vastly increased by the improvements in transportation, for which large sums have been expended, especially during the last fifty years.

The financial results of the various government forest administrations vary considerably, as is natural, since market conditions vary much. It is believed that all these administrations are less profitable than they might be, being managed with great conservatism, and less for the greatest financial result than for desirable economic results.

The following table exhibits in a brief manner the results of this kind of management, the figures relating to conditions in 1890 or thereabout. The record for the city of Zurich is added to show how an intensively managed small forest property under favorable conditions,

YEARLY INCOME AND EXPENSES PER ACRE OF FORESTED AREA.

State Forests.	Cut of wood per acre. Cubic feet.	Gross Income.	Expenses.			Net Revenue
			Total	As a per cent of gross income.	Revenue	
*Germany	62	\$3.47	\$1.66	48	\$1.81	
Prussia	72	2.16	1.38	64	1.28	
Bavaria	71	3.21	1.78	55	1.91	
Wurtemberg	51	3.30	2.14	65	3.85	
Saxony	90	6.00	2.38	40	4.54	
Haden	73	5.82	2.19	38	3.13	
Alsace-Lorraine	37	4.24	2.09	49	2.12	
Hesse	75	4.95	2.37	48	2.58	
Mecklenburg-Schwern.	61	2.52	1.47	58	1.05	

*This figure represents the average for 90 per cent of all state forests, and would be little changed if data for the other 10 per cent were available.

From these figures it appears that the several governments expend on an average about \$1.66 per acre per year on their forest property, and that they obtain thereby a gross income of \$3.47 per acre and a net revenue of \$1.81, or 52 per cent. of the gross income per acre per year. Considering the \$1.81 as the interest on the values of the forest lands, and using the 3 per cent. interest rate as customary for large investments, these figures show that by proper management the German states keep their poorest lands at a capital value of over \$60 per acre; in

the case of all state forests, whether of large or small territories, the enterprise was successful; that it proved of great advantage to the country, furnished a handsome revenue where otherwise no returns could be expected, led to the establishment of permanent woodworking industries, and thus gave opportunity for labor and capital to be active, not spasmodically, not speculative, but continuous and with assurance of success. This rule has, fortunately, not a single exception. To be sure, isolated tracts away from railroad or water, sand dunes, and and rocky promontories exist in every state, and the management of these poor forest areas costs all the tract can bring and often more; but the wood is needed, the dune or waste is a nuisance, and the state has found it profitable to convert it into forest, even though the direct revenue falls short of the expense.

PROPORTION OF EXPENSES TO INCOME.

State forest of	Total expenses Per cent.	Administration and protection (mostly salaries)		Planting, sowing, drainage, wood roads, etc. Per cent.
		Per cent.	Per cent.	
Prussia	52	21	14.8	7.5
Bavaria	48	24	20	6.0
Wurtemberg	40.5	12	14.0	8.0
Saxony	34	12	14.5	6.4
Haden	46.2	9.4	17.7	10.4
Alsace-Lorraine	49.4	17	15.2	8.4
Hesse	48	10	21	9.7
Mecklenburg-Schwern	47	17	17.5	9.2

FORESTRY STATISTICS OF CERTAIN GERMAN FOREST ADMINISTRATIONS, SHOWING AVERAGE COST OF ADMINISTRATION, GROSS AND NET INCOME PER ACRE, 1890.

States.	Forest Area. Acres.	Total Expenditure.	Revenue.		Expenditures and Revenues per Acre of Forest.						
			Gross.	Net.	Expenditures.					Net Revenue.	
					Total.	Per cent. of Gross Income.	Administration and Protection.	Marketing crop.	Cultivation.		Roads.
Prussia	6,000,000	\$8,000,000	\$14,000,000	\$6,000,000	\$1.33	58	\$0.48	\$0.30	\$0.14	\$0.06	\$0.96
Bavaria	2,300,000	3,150,000	5,880,000	2,730,000	1.37	51	.64	.37	.11	.11	1.19
Wurtemberg	470,000	1,025,000	2,260,000	1,235,000	2.17	45	.87	.92	.22	.33	2.63
Saxony	416,000	1,010,000	2,750,000	1,710,000	2.50	37	.65	.81	.11	.21	4.11
Haden	235,000	404,000	1,000,000	686,000	1.54	40	.32	.83	.15	.12	2.90
City of Zurich	2,760	14,000	26,000	12,000	5.00	54	1.14	2.10	.16	1.14	4.40

market compares with the more extensively managed larger forest areas:

The latest figures (1897) show a considerable increase in all directions, expenditures, gross and net income, over those prevailing ten years ago, and, as we will see further on in the discussion of the conditions in the single states, these increases have been steady for a long period.

The following figures represent the income and expense for state forests of the entire empire and for the principal states as at present:

FINANCIAL RESULTS, 1897.

State forests.	Gross Income.	Total expenses.	Net revenue.
Germany	\$39,361,000	\$18,833,000	\$20,528,000
Prussia	17,445,000	9,079,000	8,366,000
Bavaria	8,100,000	3,881,000	4,219,000
Wurtemberg	3,019,000	1,224,000	1,795,000
Saxony	2,865,000	1,032,000	1,833,000
Haden	1,337,000	618,000	719,000
Alsace-Lorraine	1,522,000	752,000	770,000
Hesse	840,000	405,000	435,000
Mecklenburg-Schwern	609,000	356,000	253,000

*This item is a trifle below the truth, as the small municipalities are here assumed to have no larger income than the average of the larger states.

From this statement it appears that Germany has a yearly gross income of nearly \$40,000,000 from its state forests, i.e., from one-third of its total forest area alone, while the value of its forest products from the entire forest area (35,000,000 acres) may be estimated to sum up the handsome total of over \$107,000,000, or roundly \$3.07 per acre for every acre under forest cover.

The following table illustrates the results of forest management in the several states. For comparison the figures represent the yearly income and outlay per acre of total forest area, so that for instance, the gross income of \$3.47 per acre for Germany means that the German state forests yield each year about that sum for every acre of state forest, or \$39,300,000 on the whole:

other words, that the German state forests pay \$19,000,000 for labor and taxes, and in addition pay interest at 3 per cent. on a capital of \$60 per acre. A large part of this land if deforested would not support a farmer and would rapidly degenerate into mountain pasture and heath, which at best could not be sold at over \$5 per acre, and even then would prove more a detriment than advantage to the community. It also appears from the above figures that the revenue is largely in proportion to the expenses, that the forest which is best cared for also pays the best. The same conclusion is reached by a study of the past. In 1850, when the total expenses per acre in the Prussian forests were only 37 cents, the net income was only 46 cents; to-day it is \$1.38 and the net income \$1.28, and the same holds for other states. Thus Saxony expended 80 cents an acre per year in the beginning of this century and received 95 cents net income; to-day she spends \$2.36 and receives \$4.54, or nearly fivefold. That these advantages are not merely the expression of higher prices for wood is clear from the fact that the average price of wood for the Prussian cut (300,000,000 cubic feet) has advanced since 1850 from \$3.27 per 100 cubic feet to only \$4.40, or 37 per cent., while the net income rose from 46 cents to \$1.28, or 176 per cent.

Since so much has been argued as to the impossibilities and impracticability of employing these better forestry methods elsewhere, and especially since the idea of sowing or planting forests has at all times been ridiculed in the United States, it may be of interest to note just how Germany spends her money in the woods.

The figures of the table at the end of this article present the various large items as per cent. of the gross income. Thus the total expenses in the Prussian forest use up 50 per cent. of the gross income, the logging alone 14.8 per cent., etc.

The figures that conclude this article are doubly interesting, since they show that in Saxony, the very state where the timber is usually cut clean and the land restocked entirely by planting it with nursery stock, the item of planting, etc., uses up the smallest per cent. of the total income—6.4 per cent.

From this brief outline it will be apparent that forestry in its modern sense is not a new, untried experiment in Germany; that the accurate official records of several states for the last 100 years prove conclusively that wherever a systematic, continuous effort has been made, as in

PERSONAL.

Mr. Angus McLean, of the lumber firm of Hugh McLean & Co., Buffalo, left a fortnight ago on a trip to Europe.

The sympathy of many friends is extended to Mr. John Bradley, of the Bradley Lumber Co., Hamilton, who was recently bereaved of an only daughter.

Mr. John A. Bertram, lumber inspector, has recently removed from Toronto to Little Current, Ont., and will be pleased to show the lumber in that district to prospective buyers.

Miss Edith Julia White, daughter of Mr. Aubrey White, Assistant Commissioner of Crown Lands of Ontario, was recently married at Holy Trinity church, Toronto, to Mr. Frank Baillie.

Mr. David Ward a pioneer Michigan lumberer, who was reckoned to have accumulated riches to the amount of \$25,000,000 died last month at his home in Pontiac. Mr. Ward owned some limits in Ontario.

Mr. M. M. Wall, of the Buffalo Hardwood Lumber Company, has been appointed surveyor-general for the National Hardwood Association of the United States, and has taken up the duties pertaining to that office.

Mr. J. W. Munro, the well known lumberman of Pembroke, Ont., has been elected by acclamation to represent the riding of North Renfrew in the Ontario Legislature. The seat was made vacant by the death of Mr. A. J. White. Mr. Munro is a liberal.

The news of the recent death by drowning of Mr. James King, of the well-known lumber firm of King Bros., Quebec, has caused a feeling of widespread regret throughout the trade. A more extended reference to the life of the deceased will appear in our August issue.

Mr. John Grant, who for a number of years had been general superintendent of Mr. C. P. Holton's lumber business at Belleville, Ont., died recently of heart failure. Deceased was 52 years of age, and had been for the greater portion of his life identified with lumbering operations.

Mr. J. A. Duff, of the School of Practical Science, Toronto, has been commissioned by the Ontario Government to proceed to Algonquin Park to study the location of timber there. This will be followed by scientific tests as to the strength and durability of the pine and other woods for building purposes.

Mr. R. H. Campbell, assistant secretary of the Canadian Forestry Association, was a welcome visitor recently at the office of the CANADA LUMBERMAN. Mr. Campbell was in Toronto on business in connection with the association, and had a conference with Mr. Thomas Southworth, chief of the Ontario Forestry Department.

Mr. Aubrey White, assistant commissioner of crown lands, Toronto, has lately recovered from illness, and left on June the 14th for a trip to England. Upon the eve of his departure he was presented with a very handsome gold watch by the staff of the Crown Lands Department. The presentation was made by the Commissioner, Hon. E. J. Davis, and was suitably acknowledged by Mr. White.

Mr. E. Stewart, chief inspector of timber and forestry for Canada, left early in June for Western Canada. He will visit Winnipeg, Calgary, New Westminster, B.C., and other points in connection with the question of protecting the timber and providing for the perpetuation of the supply. Mr. Stewart expects to arrange for a system of ranging, which will guard as far as possible against the danger of fire.

The death of Mr. G. White, of Albany, N.Y., will be learned with deep regret by his numerous friends in Canada as well as the United States. He was identified with the well known lumber firm of Douglas L. White & Company, of Albany. For several years he represented this firm in Canada, and later became their New York representative. He was recognized as one of the leading salesmen of the wholesale lumber trade, and as an expert in all branches of the business. Mr. Douglas L. White, jr., of Midland, Ont., is a brother of the deceased.



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

Special pains are taken to secure the latest and most trustworthy market quotations from various points throughout the world, so as to afford to the 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 anyway 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 15 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.

EXPORT NUMBER.

It has been decided to issue the proposed export number of the CANADA LUMBERMAN on August 1st. Already a liberal advertising patronage has been accorded to this number, which will contain the announcements of many of the leading Canadian manufacturers and exporters of timber products. The contents of the number will be of such a character as to give persons in foreign countries an intelligent conception of our timber resources, as well as of our facilities for manufacturing the timber. As considerable time and labor will be involved in the production of this number, persons who have in view the placing of an advertisement are requested to forward copy immediately.

LOSS FROM DROUGHT.

The absence of rain has been one of the features of the past spring, and as a result the lumber industry of the country has suffered heavy loss. Towards the end of May forest fires were reported to be in progress in certain districts of Ontario and New Brunswick. The greatest damage seems to have resulted in New Ontario, where it is said large tracts of timber were swept by fire, and in some instances the logs lying on the banks of the streams were burned. The Ontario Government, immediately upon receipt of the news, increased its staff of forest rangers, but little could be accomplished until the fires were finally quenched by rain.

The lumbermen have been seriously affected by the drought, inasmuch as the water in the streams has not been sufficiently high to permit of the driving of logs. Recent rains have somewhat brightened the outlook, although there will no doubt be a considerable quantity of logs hung up. One firm in northern Ontario is reported to have 20,000,000 feet hopelessly stranded.

The logging situation is becoming a more perplexing one each year. As the timber becomes cut away, lumbermen are compelled to drive their logs a greater distance, which carries with it an increased risk of having them hung up. It may be that in the near future some of the lumbermen will have to wrestle with the question of building their mills nearer to the source of timber supply.

THE CANADIAN EXHIBIT AT THE IMPERIAL INSTITUTE.

The resources of Canada, and particularly of the province of Ontario, are by no means properly or creditably represented by the exhibit at the Imperial Institute in London. The visitor would be much more favourably impressed if the exhibits of the various provinces were placed side by side, instead of on different floors. The present arrangement does not give the idea that Canada is one Dominion, but rather that it consists of a number of separate provinces having little or no connection with one another. The exhibit should be arranged in compact form like that of Australia. As to the character of the exhibit, and more particularly that of the province of Ontario, the richest and most important of the provinces, there is good ground for complaint. One would suppose from the numerous views of Niagara Falls placed about the walls, that this great natural phenomenon was the one distinguishing characteristic of the province of Ontario, while the specimens of Indian work are well calculated to confirm the idea, already too prevalent in the minds of some of the people of Great Britain, that Canada is a wild and uncivilized country. Ontario is known on this side of the Atlantic as a fruit-growing province, and the quality of its productions in this line is not excelled by those of any other country. In view of this fact, it is extremely humiliating to a Canadian to observe that the jars containing samples of Canadian fruit shown in this exhibit have apparently not been refilled during the last decade. What was once fruit might now, judging from appearances, be almost any other substance under the sun.

There is also displayed a view of the Toronto Industrial Exhibition of date the year 1885, which, of course, conveys a totally inadequate idea of the character and extent of the Exhibition of to-day. We would suggest that all relics such as this and the photograph of the ruins of Fort Erie, might well be thrown out of the exhibit, and modern views of our principal cities and industries substituted, so that visitors would be given an approximately fair idea of the kind of country Canada is, the extent of its development, and its advantages as a place of residence and business enterprise. The Canadian Pacific Railway show some excellent views of harvesting operations in Manitoba. These are well calculated to make a favorable impression upon intending emigrants. There is also an excellent geological map of Ontario containing a large

amount of information with regard to the population and resources of the province. There is a fairly good exhibit of building stones, marbles, also of hardwoods. Other less equally valuable might be added, so as to convey to visitors a proper idea of the country's resources. The entire exhibit should be rearranged, improved, and brought up to date, or entirely done away with.

VALUE OF HEMLOCK.

A FEW years ago hemlock lumber was regarded as of little value, but recently it has steadily gained in favor until its commercial value almost reached that of white pine. The scarcity of white pine is in part responsible for the greater attention given to hemlock. It is remarkable that in the North-Western States production of hemlock lumber increased during the year 1899 over 200,000,000 feet. This indicates that hemlock is gradually occupying a stronger position as a staple article. In Pennsylvania and the east hemlock has for some time been used for the cheaper classes of building and now that it has come into more general use in the west, the question has arisen as to its value in relation to white pine. The opinion seems to be gaining ground among the hemlock manufacturers that there is no reason why it should not command a price equally as high as white pine; in fact, the North-Western Manufacturers' Association have established a list of prices \$1.50 below the pine quotations. This, it may be said, is the highest relative price yet obtained for hemlock piece stuff.

It is not only for building purposes that hemlock has a value. As is well-known, hemlock bark is greatly in demand for tanning purposes and to such an extent that a considerable quantity has been imported from Canada by United States tanners. This, however, will not be the case in respect to the province of Ontario as an act recently passed by the legislature prevents its future exportation.

Hemlock has also been called into requisition in the United States for the manufacture of pulp and in certain districts there is no other available suitable material. But hemlock is only adapted for making the lower grades of pulp, and probably never be very extensively used for any other purpose. Notwithstanding, the demand for this quarter will be sufficient, in some districts at least, to materially enhance the value of hemlock stumpage.

What has been said regarding the hemlock of the United States is equally true of the Canadian product. There are, in Canada, two varieties of hemlock. The timber commonly known as hemlock is found more or less abundantly in the provinces of Ontario, Quebec, New Brunswick and Nova Scotia, while the western hemlock is common to British Columbia only. The quality of the western hemlock is superior to the eastern article. It is likewise shown by tests that the hemlock of eastern Canada is of better quality than that of the United States. The specific gravity, elasticity, transverse strength, and resistance to induration are higher in the Canadian article, while only in the United States article shown to be superior. It is also worthy of note that tests of hemlock

that material to be superior in some qualities to white pine, but, of course, it is generally inferior to that timber, and is not capable of being as good finish.

There is, we believe, a promising future for hemlock timber of Canada, and although it may never become as generally used as the white pine, its value will no doubt advance as the prices of the timber become more generally known.

THE PROPOSED DOMINION EXHIBITION.

The Executive of the Canadian Manufacturers' Association have been considering the question of the advisability of holding a Dominion Exhibition in Toronto next year. The opinion of the members of the Association has been asked as to whether the Association should go beyond its present limits and make an exhibit at the Pan-American Exhibition to be held in Buffalo. The consensus of opinion seems to be that, if the project for a Dominion Exhibition is gone on with, no attempt should be made to exhibit at Buffalo. This opinion seems to be well founded. If a Dominion exhibition is undertaken and carried out on a creditable scale, it will sufficiently employ the energies of the Association. It must also be borne in mind that the possibility of finding a market in the United States for Canadian manufactures is extremely small, seeing that the United States have now an over-production of almost all lines of manufacture, and are looking for outlets in foreign markets for their surplus goods. We have felt for several years past that the holding of an Exhibition in Toronto, on such a scale as to attract visitors from all parts of the Dominion should be productive of much good, and if the attempt is to be made next year as well as next year as any other time. The Exhibition at Buffalo would not be likely to interfere with its success, but on the contrary might lead to it, as some of the visitors to the larger exhibition might be disposed to visit Toronto. Speaking generally, it would seem as though the Exhibition idea is likely to be carried out to an extent which will eventually deprive it of its novelty or usefulness. We observe that the heels of the Buffalo Exhibition is to come rather than the one at St. Louis, preparations for which are already in progress. There is also to be one next year in Glasgow. If Canada is to have an Exhibition on a national scale, it would be as well to launch the enterprise at once, so that we may not come in at the tail of the procession.

EDITORIAL NOTES.

Great things are predicted in some quarters for a new commodity known as artificial lumber, although it has been on the market for some time, it does not seem to have diminished the demand for ordinary lumber. This artificial lumber is produced from straw by means of compression, and as the raw material will be reproduced each year, there is little danger of the supply becoming exhausted. It is four times the weight of ordinary lumber, and it is claimed to be produced at one-half the cost—a claim which seems open to question.

Suggestions are frequently offered to Canadian lumbermen by our British contemporaries, and usually they can be recommended to the "serious consideration" of our manufacturers. It is the

lack of knowledge of the requirements of the British markets that has prevented a greater share of the timber trade of Great Britain from being supplied by Canada. A recent issue of the Timber Trades Journal says: "It is somewhat surprising that Canadian lumbermen have not yet followed in the footsteps of their brethren across the frontier and sawed their oak into special sizes, shipping it in that form. The import from Quebec during 1900 was 2,500,000 feet, but the demand has been dull throughout the year, and prices have barely brought out the cost. Elm, once an important factor in the days of shipbuilding, is now but a minor one. The increasing amount of trade in United States ash has almost run the Canadian squared logs out of the market." These remarks reflect the sentiment existing in Great Britain in favor of importing manufactured lumber instead of logs, and it is along this line that Canadian manufacturers should direct their efforts.

THE MODERN SAW MILL.

The fundamental idea of the modern saw mill is organization, the combining and correlating of parts so that all the different machines composing it work together as one. It was not very long ago, says the American Lumberman, that the saw mill was an aggregation of independent machines, but that time has passed, and now a live roll or a transfer is as essential a part as the cutting mechanism itself. It is this organization of the saw mill that chiefly distinguishes present methods from the past.

The chief sawing machine stands just where it has stood for fifty years, with improvements, of course, which have replaced the circular or the more primitive mulay saw by the great fast band. The edger occupies the same place in the mill that it has for a generation, and so with the trimmer, but now they are strongly linked together; and it is within ten years or so that the saw mill could properly be considered one complicated machine rather than a juxtaposition of several.

This is not to say that there have been no improvements in the individual parts of the mill. The band when it was first introduced was distinctly a slow machine; the wheels were light, the saw narrow, and there was much to be learned in regard to adjustment; but now the band is a most efficient tool and in its latest form is the greatest lumber producer of any sawing tool devised. The edger has seen some improvements within the last quarter of a century, but not many. The trimmer is also substantially the same machine it was twenty-five or thirty or forty years ago, though it has been much improved in effectiveness and convenience of operation. In mills of large capacity the most improvements to this tool are to be seen. There the latest practice is to place a man above and in front of the machine where he can see every board passing through it and whence, by manipulating a series of levers in front of him, he can trim an enormous output of lumber.

Notwithstanding these improvements of late years, the chief attention, beyond the improvements in the band mill, has been devoted to the secondary devices. Note the means used in the modern mill for handling the material from the log pond to the sorting shed, so that little if any

strength is required on the part of the operators, leaving them more free to the exercise of skill and care in handling the stock. Guided onto the haulup in the pond, the log is drawn by an endless chain from the water up onto the floor of the mill. There a log flip or unloader, worked from a foot or a hand lever, throws the log on to the deck, or to either deck if it be a double mill. The logs lying on the sloping deck are held in place by the lower one coming against the log stop and loader. This device, also operated by steam, throws the log onto the carriage and holds the next one in check. As the log rolls onto the carriage, the steam nigger adjusts it to place and during the process of manufacture turns it as the sawyer wishes.

As the lumber or other material drops from the carriage it falls on live rolls which carry it on in the process of manufacture. The slabs move on to a point where they are automatically transferred to the slab slasher, which cuts them into lath, picket or cordwood lengths. Not a hand has touched anything so far except as the off bearers may have pulled the boards or cant down onto the live rolls.

The lumber is automatically transferred from live rolls to cross chains which take it to the edger. There all the edger man has to do is to straighten out the lumber for the edger and send it on its way, all the strength of any account that is required being furnished by machinery. If a gang saw is used, the cants are also transferred from the live rolls by a cant lifter and then by transfer chains. From the edger the lumber drops on another set of cross chains by which it is carried to the trimmer, where for the second time a hand is placed upon it so that it may enter the trimmer properly; but here again little strength is required. Leaving the trimmer the boards drop on a continuation of the trimmer chains which carry it to the sorters and here for the first time in the average large modern mill is there any real handling of the stock. The result is a saving of man power, a saving in the number of men required and a premium to brains rather than muscle.

Altogether a saw mill is one of the most highly organized manufacturing establishments there is to be found in this country. The material is rough, operations are on a large scale, and there is a roar and tumult about it which blinds the ordinary observer to the real intricacy and delicacy of the process and to the exact organization which characterizes it; but as a matter of fact there is no manufacturing establishment which shows perfection in the application of mechanism on a large scale and covering an extensive series of operations in a higher degree than the saw mill. It is worthy the study of anyone interested in mechanics.

WORDS OF APPRECIATION.

The president of the Auger Lumber Company said of the CANADA LUMBERMAN: "I enjoy reading it. There are papers and papers; some publications are prepared to publish anything that there is money in. The CANADA LUMBERMAN takes higher ground, and seeks to give the truth, presenting questions affecting the trade in a fair manner. For this the LUMBERMAN deserves the loyal support of all who are interested in the trade."

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

THE LATE JAMES MURCHIE.

James Murchie, head of the lumber firm of James Murchie & Sons, died on May 29th at his residence in Milltown, N. B., at the age of 87 years. Mr. Murchie was one of the most extensive lumbermen in the Maritime Provinces.

The subject of this sketch was born in St. Stephen, N. B., on August 13th, 1813, of Scottish descent. He received a common school education, and at the age of 23 years purchased a farm, on which he lived for 18 years, cultivating his farm in summer and cutting and hauling logs in winter. This was the first step in the direction of building up the extensive lumber business of which he was the head. At that time a permit to cut timber on the Crown Lands of the province of New Brunswick could be purchased for a small sum per square mile, and Mr. Murchie soon became the largest operator in the district, selling his logs to the mill owners.

After having accumulated some wealth, he engaged, in 1853, in the manufacture of lumber, and as the business increased his sons, one by one, became partners with their father, and thus was established the firm of James Murchie & Sons. The firm is at present operating mills at Calais and Princeton, in Maine, and at Benton, Deer Lake, Fredericton, and Edmundston, in New Brunswick. The mill at Princeton is used almost exclusively for the manufacture of orange boxes for the Florida and Sicily markets, and will ship during the present season



THE LATE JAMES MURCHIE.

three cargoes, or about six hundred thousand boxes, to Sicily, having contracts for these already booked. They are also large owners of timber lands in Maine, New Brunswick and Quebec, own quite a fleet of vessels, and have large investments in real estate in Maine and New Brunswick.

While the firm of James Murchie & Sons has been eminently successful, few have had more serious losses. At different times fire destroyed their large milling property at Mageguadadic, mills at Benton, N. B. and at Calais, Maine, also wharves and a large quantity of lumber at St. Stephen. In the great fire at Calais their loss amounted to \$50,000. But with undaunted courage these obstacles were overcome, and the business continued to expand until it reached its present large proportions.

The late Mr. Murchie was one of the original stock holders of the New Brunswick and Canada Railway, in connection with which project he encountered, and speedily overcame, many difficulties.

In public life Mr. Murchie was as successful as in his business enterprises. He represented Charlotte county in the provincial legislature and filled many other positions of trust and honor. He was trustee of the St. Croix and Penobscot railways, president of the St. Croix Cotton Mills Company, and a director of the St. Stephen Bank for over twenty years, and at the time of his death was president of the New Brunswick and Canada Railroad Company, Frontier Steamboat Company, and St. Croix Lloyds Insurance Company, and a director of the Calais Tug Boat Company.

A writer has said of his private life: "In any sketch of a life such as Mr. Murchie's, it is but the salient points

that can be presented, but the kind deed, the pleasant word, the sound, practical advice, and the many little things that go to make up and round off such a life, are all unknown, except to those who have his personal friendship. And this friendship is prized by those who are so fortunate for more than the tinsel honors on which the world puts so much store."

It is said of the sons of Mr. Murchie that, like their father they possess sterling characters and are an honor to the community in which they live. One of the sons is Mayor of the village of Milltown, N. B., and two have established a very successful lumber business in New York City, while others are associated in the management of their extensive lumbering and shipping interests.

DOMINION TIMBER LANDS.

THE annual report of the Department of Interior for the year 1899 contains the usual information regarding the timber lands under the control of the Dominion government, also the first report of Mr. E. Stewart, Inspector of Timber and Forestry, which forms a very interesting part of the report.

The timber dues received during the year amounted to \$155,765.25, being an increase of \$39,996.22 as compared with the previous fiscal year. Of the revenue from timber \$41,405.40 was for bonuses, ground rents, royalties and dues on timber cut from lands in the railway belt in the Province of British Columbia, being an increase of \$20,324.14 as compared with the previous year. The total revenue received from timber in Manitoba and the North-West Territories and the Yukon Territory up to July 1, 1899, was \$1,734,933.86, and the total revenue from timber within the railway belt in British Columbia up to the same date \$367,591.59. The total revenue from the Yukon Territory for timber was \$98,009.35. During the year 52,359,740 feet of lumber were manufactured from timber cut under license in Manitoba, the North-West Territories, and in the railway belt in British Columbia.

In Manitoba, it is stated, the saw mills were run to their fullest capacity, the output being about 20,000,000 feet B. M., an increase of 10,000,000 feet over that of the previous year. The output in the Territories was 7,547,218 feet B. M., in the railway belt in British Columbia 27,076,624 feet B. M., and in the Yukon Territory 8,494,963 feet B. M..

The following is a comparative statement of the average price of lumber within the several Crown Timber Agencies during the past fifteen years:

Agency.	1885.	1894.	1897.	1899.
	Per M.	Per M.	Per M.	Per M.
Winnipeg.....	\$13 50 to \$ 5	\$ 7	\$17 10 to \$19	\$13 10 to \$15 50
Brandon.....	20 10 27	15	15	13 10 15 00
Whittemouth.....	11 10 17	.....	10	10 10 11 00
Calgary.....	25 10 0	\$ 10 16	8 10 16	8 10 16 00
Fort McLeod.....	30	10	10 10 16	7 10 16 10
Lethbridge.....	.....	9 10 14	.....	.....
Prince Albert.....	30 10 45	10 10 25	8 10 25	16 10 17 50
Edmonton.....	25 10 30	18	13 10 16	10 10 12 00
British Columbia.....	.....	10	7 10 9	9 50

The number of timber berths licensed or authorized to be licensed in the Province of Manitoba and the Territories is 120, and within the railway belt in British Columbia, 117. Fifty-eight berths have been granted in the Yukon Territory, covering a total area of 123 square miles.

The regulations of July 1, 1898, governing the granting of yearly licenses and permits to cut timber on Dominion lands in Manitoba and the North-West Territories and within twenty miles on either side of the Canadian Pacific Railway, were amended by an Order in Council dated February 17, 1899, by adding to section 20, which provides for the issue of a free permit to a homesteader to cut a certain quantity of timber on his land, a clause giving him the right to cut 2,000 fence rails; also rescinding the provision of the section for payment, by actual settlers, of dues at the rate of 12½ cents per cord for cordwood and rails made from dry standing timber, and giving the settlers free permits to cut dry timber for their own use.

By an Order in Council dated January 19, 1899, the regulations were amended so as to permit the owners of timber berths in the railway belt in British Columbia to sell the timber thereon to mill-owners and not be required to manufacture the timber taken from their berths.

The regulations were also amended on January 17,

1899, by rescinding clause 17 thereof, which was the granting of permits to cut timber without cost to saw-mill owners.

Mr. E. F. Stephenson, Crown Timber Agent at Winnipeg, reports to the Department as follows:

"The saw mills in Manitoba, of which there are 100 operating under license, have been run to their full capacity the past season, many of them working shifts to meet the demands for lumber. It is the belief that the timber in Manitoba suitable for manufacturing purposes has become about exhausted, but it would not appear to be the case, as this year the total at the mills reached 25,000,000 feet; an increase of 10,000,000 feet over that of the previous year. The spruce forests on the Winnipeg river and to the west on Lake Winnipeg remain as yet almost untouched. The construction of the Great Northern Railway through the Dauphin district and further north has opened up a new timber region, and considerable valuable timber has been reached by the building of the South-eastern Railway.

"While, as has been said, the sales of spruce in this district amounted to 25,000,000 feet during the year, that is but a small proportion of the total quantity of lumber that during the year no less than 149,813,531 feet was sold in Manitoba and at points as far west as Regina; while the total sales in Manitoba and the Territories would raise that quantity to 170,000,000 feet. The bulk of this lumber, as you will perceive, comes from the United States; shipped in as rough lumber and from northern Minnesota, floated to Rat Portage, Keewatin, and manufactured at Canadian mills."

"Each year shows a decided increase in the quantity of lumber in Manitoba and the North-west. The quantity for the present year exceeded in quantity those of 1898 by 25,000,000 feet, and of 1897 by nearly 60,000,000 feet. The fact is, the country is making great material advancement, and there is no better proof of this than the figures given above and also hereinunder.

Following is a statement showing the amount of lumber sold in the Province of Manitoba, and in the North-West Territories, West of Regina, and where manufactured:

	1897.	1898.
Red and White Pine from the State of Minnesota and from Crown Lands in Lake of the Woods District, manufactured at Rat Portage and Keewatin.....	45,000,000	53,000,000
Red and White Pine logs manufactured from logs brought from the State of Minnesota.....	.....	.....
Red and White Pine manufactured from logs on Ontario Crown Lands Lake of the Woods District.....	.....	.....
Red and White Pine manufactured from Canadian logs at mills between Rat Portage and Lake Superior.....	10,000,000	11,000,000
Canadian Spruce manufactured from timber cut on Crown Lands in the Province of Manitoba.....	24,741,969	25,267,041
United States Pine (manufactured) shipped in from Northern Minnesota and Wisconsin.....	16,321,164	35,751,960
Cedar and Fir lumber brought in from British Columbia.....	6,000,000	9,000,000
Total.....	92,071,013	126,020,001

From October 31, 1897, to October 31, 1898, 1,215,000 feet of dressed lumber and 31,532,322 feet of undressed lumber. Last year there was imported 4,703,750 feet of dressed lumber, and 28,114,228 feet of undressed lumber, and 553,827 feet of undressed oak. There was also imported in last year 108,400 laths, 1,185,704 shingles, 25,000 way ties, and 2,535 cords of wood.

Mr. James Leamy, Crown timber agent at New Westminster, B.C., reports that during the year the price of lumber increased about 25 per cent. over the previous year, and that the price of lumber was 10.50 per M. The shingle business also increased, the price of shingles advanced about 25 per cent.

NOVEL PLAN FOR CLEANING BOILERS.—For the incrustation of boilers, a French engineer, M. aux, now announces an improved method. After this, after extinguishing the fires the boiler is blown off very gradually, at the same time adding an equal volume of cold water, so that the water shows no change of level. As soon as the water has been sufficiently cooled down, it is blown off; it is this latter operation which removes the major part of any incrustation which may be present. What remains being very easily detached by scrubbing is necessary, however, that the cleaning of the boiler be taken in hand immediately upon completion of the blowing-off operation, as otherwise the fur-stone will adhere again to the boiler plates.

POUNDING IN STEAM PIPES.

Length of pipes, valves and fittings is a vital importance at all times, one in special interest has been revived of late by accidents which have called attention to the importance of providing a wide margin for all steam connections. There should be a safety in providing for all the regular stresses upon pipe connections, but in fact it is found that there are shocks and hammer blows, the full force of which it is difficult to measure or estimate. This particular subject has been carefully investigated by M. Walckenaer, and his conclusions have been published in Annales des Points de Pression, and are now receiving careful consideration by engineers.

Conditions that obtain in a pipe containing water of condensation are not always understood. When a pipe contains air or gas, there is an elastic cushion formed, in the case of a sudden arrest of flow of steam, it absorbs the shock, and acts like a spring at any serious hammer-blow. When the pipe is closed at the end, the projection into it of a volume of water causes a sudden condensation, entirely removing the elastic cushion, and permitting the occurrence of a violent shock.

It is hardly practicable to compute the magnitude of the blows which are thus produced, but it is known that they may cause serious stresses in connections amply strong for all working pressures. M. Walckenaer has obtained experiments made in the German steam boiler which pressure gauges placed upon the boiler showed sudden impact pressures ranging from 1,000 to 2,000 pounds per square inch. A number of accidents were investigated, and it was found that stop-valves between boilers were ruptured when communication was established too suddenly between connections of different pressure. There appears to be little or no doubt that in most if not all cases the hammer blow which caused the rupture far exceeded any normal working pressure.

Accidents may generally be avoided by care in making such communication, as valves should be opened gradually, thus preventing a sudden rush of water and steam together. In many instances, however, it is not possible to avoid shock. The connections between engines and boilers are sometimes so made that very serious water-hammer impacts are produced.

In the accidents described the connections were so arranged that an accumulation of water of condensation in the pipes could occur. In one instance the ruptured valve formed a porous connection to a boiler which was out of service and cold while others in the same battery were in service. The opening of a valve permitted steam from a live boiler to flow into the steam main caused a violent water hammer against the valve on the cold boiler, the rupture of the valve body with serious damage to the attendant. This system of connecting a number of boilers in battery to one steam main is a very general practice, and while it possesses numerous advantages it has the disadvantage of providing space for the collection of water at various points. Steam traps for the

drainage of all places of accumulation of water should be provided, and such traps ought to be of liberal capacity, in order that the drainage may be prompt and effective. Even when a system of piping is altogether free from water at the time of starting, the rapid condensation of steam which at first occurs may provide sufficient water to cause violent pounding, and this can only be prevented by a gradual warming up of the whole system, the admission of steam being so gradual that the traps can take care of the water of condensation as rapidly as it is produced; the full volume of steam being admitted only after the pipes have become hot.

AN EASTERN MACHINERY FIRM.

PROMINENT among the large machinery manufacturers in the Maritime provinces is the firm of Alex. Dunbar & Sons, of Woodstock, N. B., who do an extensive business in saw mill and tanning machinery. This firm are the inventors of the original and the new improved Dunbar shingle machine so extensively used in the eastern provinces and throughout Canada. This machine has held its place among the leading machines of the kind for the last seventeen years, and as it has now been improved, leading millmen say that it has no equal. The popularity of the machine will probably be best shown by giving a few of the recent shipments: Eight for the new mill of Donald Fraser & Sons at Cabano, Que.; five for new mill for George McKean at Bolitlee, Que.; three for the Port Daniel Lumber Co., Port Daniel, Que.; two for Hilyard Bros., of St. John, for their Tobique mill, and one each for the following: W. Robinson, Notre Dame Du Lac; McNair Bros., Vancouver, B.C.; Hastings Shingle Co., Vancouver, B.C.; John Fair, Black Cape, Que.; Wm. Currie & Co., Eel River Crossing, N. B.; Mr. Dowell, Black Brook, N. B., and Russell & McDougall, Black Brook, N. B., and others.

But the fame of the Dunbar shingle machine is not confined to Canada, as several have been shipped to the United States. One was lately installed in the mill of F. C. Robinson at Robinson's Mills, Maine. It may be stated that Mr. Robinson is a shingle manufacturer of long experience, and that he has now in operation in his mill the second Dunbar shingle machine that was built. It has been in constant operation for seventeen years, and is said to be in good condition, without having had any repairs except to the saws. Mr. Robinson experimented with American machines, but decided to install the second Dunbar machine, notwithstanding that he was obliged to pay a duty of 45 per cent. He has also in his mill the first upright Dunbar clapboard machine ever built, also a clapboard planer by the same manufacturers.

Messrs. Dunbar & Sons have just shipped to William Richards & Co., for their mill at Campbellton, N.B., three shingle machines, one upright clapboard machine, improved jump-up cut-off machinery, clapboard planer, trimmers, etc., as well as a new rotary saw mill of large capacity. This rotary embodies several new features. The feed, which is by wire rope, can be instantly changed from 3 1/2 inches to 9 inches per revolution of saw by simply moving a lever. The feed works are extremely heavy, having frictions of 30 in. diameter and 17 in. face. The carriage is fitted with a new style of receding works, by which the setter can instantly place the beam in proper place automatically. It is also fitted with an offset from saw when running back, thus saving the saw teeth. There are three champion log dogs in the carriage, which have no superior for holding the logs on the carriage. They have the taper attachment on same frame. The carriage runs on trucks of 12 in. diameter, and is guided in alignment to saw by having guide rail and large trucks. The whole is extremely heavy, the saw arbor being of steel, 4 1/2 in., and the weight of the mill being about 10 tons. It has a capacity of 60,000 feet per day.

Allan Hayden, of Woodstock, N. B., has a rotary mill of about the same style, made by Dunbar & Sons, and which has been run very successfully for the last four years. He has also Dunbar shingle machines, and an upright clapboard machine and planer, built by the same firm.

In the works of Dunbar & Sons at Woodstock, N. B., there is now under construction a large rotary mill for the

Burgess mill at Grand Falls, also a rotary mill of smaller size for Mr. McDowell, of Penfield Ridge, N. B., four shingle machines which will be shipped in a few days, for John Mair, Campbellton, N. B., and three to the order of W. R. Rawlings, of Campbellton. In the last week of April a carload of machinery was shipped to B. Davis, Grand Falls, N. B., including steam engine and boiler, shafting, shingle machines, etc. A steam engine and boiler is now being rebuilt in the shop for Shaw, Cassels & Co., tanners, of Hawkshaw, N. B. They have also recently shipped to this firm two boilers of 100 h. p. each, and they are also having built in Boston a 200 h. p. engine for an American customer.

The firm have as customers the principal millmen and tanners in their locality, beside their outside work. Among these firms are: Donald Fraser & Sons, W. Richards & Company, Ltd., A. H. Sawyer, Jas. Burgess & Sons, O. Shaw, Cassels & Company, J. D. Dickinson & Sons, C. D. Dickinson, and S. Ascott & Company, the last four being well-known names. The works are equipped with the most modern tools that could be procured. Among these is a large lathe, made by John Bertram & Sons, one of the best in the country. It swings 60 inches, has all up-to-date attachments, and weighs 6 1/2 tons. There is a large drill, an iron planer, a bolt-cutting machine, and a 24 inch lathe, all of Bertram & Son's make, also a 24-inch engine lathe, made by McGregor, Gourlay & Co., of Galt, a key-setting machine, and all labor-saving machines, including the best American made twist drills, reamers, etc. In the foundry there is a crane of five tons capacity, and an oscillating engine for driving the fan, which was made by the American Champion Blower Co. The wood shop has band and circular saws, boring machines, etc. The shops are lighted throughout by electricity, supplied by a dynamo in the engine room. The engine is of 20 horse-power, and was built upon the premises.

The firm state that their work is only limited by their capacity, and that they contemplate enlarging their works shortly, to enable them to fill new orders, which at present they are unable to do. Although having worked 15 hours daily for several months past, they were forced to send outside some orders which they were unable to supply in time.

MR. ALEX. DUNBAR.

Mr. Alex. Dunbar, sr., came from Aberdeen, Scotland, in 1873. He served his apprenticeship with Jas. Abernethy & Co., Ferryhill Foundry, Aberdeen, commencing his apprenticeship in 1854. He has had a large and varied experience in the construction of machinery for various purposes. Before leaving Scotland he had charge of the steam plowing and traction engines and interests in Scotland of the celebrated firm of John Fowler & Co., Leeds, England, his residence being in Kincaidshure. After coming to Canada he was foreman for nine years for the well known manufacturers, Connell Bros., of Woodstock, N. B. He has now associated with him in his business his sons, Alexander, Andrew and William, while two other younger sons, Harry and John, are engaged in the factory.

MARKET FOR BOX BOARDS.

The Department of Trade and Commerce at Ottawa has received a communication from Mr. Harrison Watson, Curator for Canadian Section, Imperial Institute, London, England, regarding an inquiry from a large firm, Belfast, Ireland, who requests quotations from Canadian manufacturers of box boards as per specifications below. It is not possible to quote a price from Belfast, give quotations f. o. b. ship, say at Montreal:

SPECIFICATION OF BUTTER BOXES.

56 Lb. Size.	
Top	13 1/2 x 17 1/2 x 3/4
Bottom	12 x 12 x 3/4
Sides	13 1/2 x 13 x 3/4
Ends	12 1/2 x 13 x 3/4
28 Lb. Size.	
Top	12 x 10 1/2 x 3/4
Bottom	11 x 10 x 3/4
Sides	12 x 8 1/2 x 3/4
Ends	10 x 8 1/2 x 3/4

TRADE NOTES.

The Magnolia Metal Company have recently appointed Charles E. Moore & Company, engineers, as their agents at San Francisco. This firm have the exclusive agency for Magnolia Metal in the states of California, Oregon, Washington, Montana, Nevada, Idaho, Arizona, Utah, New Mexico, and the Hawaiian Islands.

The attention of lumbermen is directed to the advertisement of Dr. A. A. McCann & Company, of Mattawa, Ont., which appears for the first time in this number. This company are manufacturers of veterinary remedies, which have achieved a good reputation among leading lumber firms in the Ottawa Valley. Lumbermen will do well to enquire into the merits of these medicines, full particulars regarding which may be obtained from the manufacturers.

THE NEWS.

An American company have purchased Watson's stove factory at Kinmount, Ont.

—The Canadian Veneer & Lumber Company are building a factory in London, Ont.

—C. T. White, of Apple River, N. S., intends to build a saw mill to replace the one destroyed by fire.

—W. Hill, of Benmiller, has manufactured several thousand maple rollers for the British markets.

A new planing mill and sash and door factory have been built at Sudbury, Ont., by Thos. Evans & Sons.

—It is said to be the intention of Laing, Richie & Company of Essex, Ontario, to erect a saw and stove mill at Windsor.

—The Gash Point Lumber Company has been incorporated, with a capital of \$40,000, and head office at Fort Francis, Ont.

—The Fred. Robinson Company, of Revelstoke, B. C., have made a proposition to purchase the business of the Kootenay Lumber Company.

We understand that the Imperial Lumber Company intend to close down their mill at Warren, Ont. their limits having become almost exhausted.

—J. Bell, of Beeton, Ont., has asked the council of Toronto Junction, Ont., for exemption from taxation in the event of establishing a saw mill there.

—The Orillia Export Lumber Co. are adding a shingle making plant to their saw mill in Orillia, and in a few days will be making pine and cedar shingles.

—The Parry Sound Lumber Company have just installed in their mill and yards a new electric light plant, from the factory of the Canadian General Electric Company, Peterborough.

—Holmes & Stevens, eastern sales agents for the Swan-Donogh Lumber Company, of North Tonawanda, N. Y., have removed their office from 38th Street to 18 Broadway, New York.

Ker & Harcourt have leased the saw mill at Shebashecong, owned by Dillon & Thompson, and have put it in operation cutting lumber for their spool and bobbin factory at Parry Sound.

—Work is in progress on the new mill of the Edmund Hall Lumber Company at Sarnia, Ont., but is doubtful if the mill will be completed in time to manufacture any quantity of lumber this season.

—The saw mill of the Harrison River Mill, Timber and Trading Company, on the Harrison river, near Westminster, B. C., is nearing completion. This company own extensive limits on Harrison Lake.

—Neibergall & Reaume, of Essex, Ont., have purchased timber property in Anderton township, west of McGregor, and the Michigan Central railway are building a spur line from the property to their mill at Essex.

—Brown & Rutherford's new planing mill and sash and door factory in Winnipeg is nearing completion. It is 60 x 150 feet, two stories and basement, with large dry kilns, warehouses, and veneering rooms.

—J. Robertson, manager of the Robertson Raft Company, has lately returned to Vancouver, B. C., from the Orient, whither he went to arrange, if possible, for the sending of several rafts of lumber across the Pacific to China and Japan.

By the destruction of the large saw mill of Price Bro. & Company at St. Etienne, Que., a large number of persons were thrown out of employment. A number of houses were burned, including that of Mr. Charlton, the manager of the mill.

—John Levey, of Lindsay, Ont., has purchased the fine water power known as Elliott's Falls, in North Victoria, and has now in course of erection saw, shingle and chopping mills. The power is a good one, and Mr. Levey is evidently an ardent expansionist.

—In 1890, 2,000,000 tons of logs were imported into Germany. In 1895, 2,600,000 tons were imported, an increase of 30 per cent. During this same period, sawed lumber increased from 1,200,000 tons to 2,200,000 tons, or an increase of about 100 per cent.

—Shurley & Dietrich, saw and tool manufacturers, of Galt, Ont., have made a proposition to the city council of Ottawa to establish saw works at that place. It is understood that the Ottawa Saw Works, whose factory was burned in the recent fire, are not likely to rebuild.

—The directors of the Eighteen Mile Railroads, which connect Racquet Lake with the New York Central system, will in future burn oil instead of coal. The line runs through the Adirondack preserve, and the State authorities refused permission to run engines that emitted sparks.

—A new company has been formed at Alexandria, Ont., to be known as the Alexandria Wood Export Company, the object being to manufacture lumber and wood products for home and foreign markets. The directors are Messrs. J. T. Schell, D. M. MacPherson, Hugh Monto, John McIntosh, and Donald Lothian.

—Arrangements have been completed for the building to be built at the Winnipeg Exhibition by the lumbermen of British Columbia. The lumber will be supplied by the lumber manufacturers and will be transported free by the C. P. R., while the Dominion Government has made an appropriation to cover the cost of erection.

—A statement of the winter trade of St. John, N. B., shows that during the season of 1899-1900 there were exported by the regular lines of steamships to Great Britain 25,000,000 feet of lumber and 38,384 bales of pulp. This shows an increase in the exports of lumber as compared with the previous season of over 7,000,000 feet.

—It is reported that a company which manufactures harvesters in Chicago has applied to the Division of Forestry for a working plan for a 54,000 acre tract of hardwood timber in Missouri. This is believed to be the first effort of an American manufacturing concern to employ scientific forest methods for the production of hardwood for its own use.

—The town of Brunswick, Maine, has shown a commendable example of municipal enterprise by setting out forest trees in a tract of 1000 acres of what was once pine lands, but which has been allowed to run waste. The council appropriated a sum of money to improve the land by planting white pine trees. Seeds will be purchased and a nursery established to raise the young trees.

—An unfortunate occurrence was the destruction by fire, on June 10th, of the Kings' saw mill at Kingsville, near St. John, N. B. The mill was built about 40 years ago, but had been closed down since 1898. On May 1st it was purchased for \$13,000 by Stetson, Cuttler & Company, who made repairs thereto and had started sawing operations a few days previous to the fire. It contained gang and rotary saws, four shingle machines, planer, patent haul-up, and burner. The owners have not yet decided as to rebuilding.

—The value of the different kinds of wood for street paving has been demonstrated by an experiment at the King street subway, Toronto, where in November, 1894, blocks were laid in maple, beech, rock elm, soft elm, spruce, red pine, white pine, and cedar. An examination demonstrated the fact that hardwood was the least serviceable, the softer woods being more durable, and cedar the best of all, the latter still being in a comparatively good state of repair, while the hardwoods are badly worn.

—The lake freight situation at the head of the lakes is in rather a mixed state. Lumber rates have been weak-

ening and have finally reached bottom for the \$2.25 per thousand, about half what they were close of navigation last year. The lumber is demanding 60 cents per hour for loading and men are not willing to pay more than 50 cents, the vessel owners are withdrawing their boats from lumber trade and will carry ore. But the ore is also low. One dollar is offered, but the boats

—In Austria a new method of utilizing sawdust has been invented and seems to promise admirably. At a certain saw mill the experiment has been making brickettes of the sawdust for domestic purposes. The dust is heated to dryness and at a point where the tarry elements begin to exude are used as the consolidating matter, the sawdust being on steam heated tables to a press which forms into brickettes. These it is said give 4 per cent and their heating power is equivalent to that of coal. The experiment has shown that the cost of making is 16 cents per thousand, while the selling price is a thousand.

—The experiment of attempting to drive logs by painting the ends in order to prevent water soaking, which was recently referred to under consideration in Maine, has been tried and proved a failure. The logs were in addition sealed and plugged in order to create a small cavity which it was thought would help some in the logs; but the logs which were not treated through the drive fully as well as those which were about two-thirds of the logs coming through fully. The experiment is to be tried next year on logs which are to be cut at once and which it will by that time be seasoned sufficiently for a drive.

CASUALTIES.

—While bringing in logs at Merritt's mill, Tazewell, B., Norval Snovgrass was drowned.

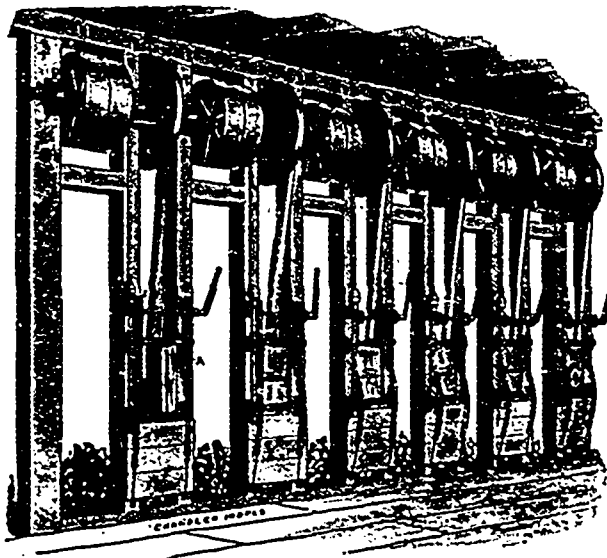
—Thos. Dube was killed in the Papiueauville Company's mill, at St. Angelique, Que., by being hurled from the edger.

—John Gagnon, in the employ of Henry Maréchal, Calendar, Ont., slipped into the water while working on a boom of logs.

"WANTED AND FOR SALE"

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

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When two or more knives are cut with one belt, all must stop when the belt is stopped to set bits or for any other cause. Our Machine has a separate belt for each knife, hence but one stops at a time. This great advantage should not be overlooked by purchasers. Time is money. Our Machine cuts more excelsior in a given time than any other machine. Get our circulars and prices.

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WHEN TO STOP ADVERTISING.

English journal requested a number of its largest advertisers to give their opinions concerning the best way to stop advertising, and the following replies were received: When the population ceases to multiply, and the general standard of living is so low that you and never heard you, stop advertising. When you have convinced everybody whose life will be better if you have better goods and lower prices than they can get any where else. When you perceive it to be the rule that men who never advertise are outstripping their neighbors in the same line of business. When men stop making fortunes right in your sight through the direct use of the mighty agent.

When you can forget the words of the shrewdest and most successful men concerning the main cause of their prosperity. When every man has become so thoroughly a creature of habit that he will certainly buy this year where he bought last year. When younger and fresher houses in your line cease starting up and using trade journals in telling the people how much better they can do for them than you can.

CANADA'S COMMERCIAL AGENTS.

FOLLOWING is the official list of Canada's Commercial Agents in Great Britain, British possessions and foreign countries: J. S. Larke, Sydney, N.S.W., agent for Australasia. G. Eustace Burke, Kingston, Jamaica, agent for Jamaica. Robert Bryson, St. John, Antigua, agent for Antigua, Montserrat and Dominica.

S. L. Horsford, St. Kitts, agent for St. Kitts, Nevis and Virgin Islands. Edgar Tripp, Port of Spain, Trinidad, agent for Trinidad and Tobago. C. E. Sontum, Christiania, Norway, agent for Sweden and Denmark. D. M. Rennie, Buenos Ayres, Argentine Republic agent for Argentine Republic and Uruguay. In addition to their other duties, the undermentioned will answer inquiries relative to trade matters, and their services are available in furthering the interests of Canadian traders. J. G. Colmer, 17 Victoria street, London, S.W., England. Thomas Moffat, 16 Church street, Cape Town, South Africa. G. H. Mitchell, 15 Water street, Liverpool, England. H. M. Murray, 40 St. Enoch Square, Glasgow, Scotland. Harrison Watson, Curator, Imperial Institute, London, England.

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N.B.—Lumbermen and others owning a number of horses say, since putting in an assortment of these tablets, they are able to dispense with the services of a veterinary, except in cases of surgery, the tablets meeting all requirements, and the directions being so simple and complete that a child can administer them.

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WOOD PULP DEPARTMENT

THE PULP MARKET.

The following pertinent remarks concerning the general market for pulp are found in the last issue Paper and Pulp, of London, England.

It is evident that the market for all classes of pulp is in a very unsettled state at present, and it is difficult to say exactly how it stands to-day, or what the prospects are for next year. There can be no doubt that recent prices are still being quoted, but that there are buyers at these figures is open to doubt. As regards sulphite we have received very conflicting reports, one stating that there are no buyers, and the other that several mills are uncovered for the second half of the year.

For next year it is reported that some sales have been made at high prices, but on the other hand a correspondent who is in the best position to know, writes: "I cannot see how sulphite and soda pulps can be much longer maintained at their present high prices. The war is practically over now, and the buyers who pay more than £8 15s. to £9 5s. for 1901 deliveries of sulphite, and £8 10s. to £8 17s. 6d. for sulphates, will probably live to rue the day they paid more." Another authority writes: "In my humble opinion chemical pulps are likely to be scarce for all

this year and well into next spring, and I do not expect the market for next year to go below £9 10s. c.i.f. for bleaching sulphite, and £9 for other qualities, and the average may even rule above these figures. As the production of soda pulp is below the consumption, prices ought to be maintained at from £9 10s. to £10." It is reported, but with what truth we cannot say, that some makers, although quoting high prices, are quietly accepting comparatively low ones. There is, so far as we are aware, very little soda offering for prompt delivery, and what little there is, is being quoted at prohibitive figures. We have not heard of any sales for next year having taken place yet, as buyers and sellers evidently are so wide apart in their idea that they will not talk business. Mechanical is still scarce for prompt shipment, and it is expected that prices will reach 70s. c.i.f. for the latter half of the year. Farman reports that sales have been freely made for next year at 49s. and 50s. f.o.b., and as mentioned in our last issue the Scandinavian Mechanical Association stated that over 100,000 tons had already been sold. Reports from both America and Scandinavia state that fears are already entertained of the drought during the coming summer and autumn curtailing the pro-

duction, and there can be no doubt that to look for mechanical is more serious than chemical.

Average current prices c.i.f. U. K. ports

Moist pine.....	£ 3 7 1/2
Dry ".....	7 1/2
Moist brown.....	3 1/2
Dry ".....	6
Sulphite, ordinary.....	10 1/2
" best.....	11 1/2
Soda.....	10 1/2

THE WOOD PULP OF CANADA

The above is the title of an attractive pamphlet issued by the Dominion government descriptive of the pulp wood resources and powers of Canada. It was compiled by George Johnson, Dominion Statistician, intended for distribution at the Paris Exposition. The work outlines briefly the steps that have been taken in the past five centuries in the evolution of pulp and paper making, and besides contains much information as to the natural resources of the country, and the location of pulp and water falls. Mr. Johnson says:

In 1891 there were in Canada 24 pulp mills, representing \$3,000,000 capital and employing 1,025 persons, and having a total capacity of 1100 tons a day. To-day there are 35 pulp mills with a total capacity of 1100 tons a day. The largest has a capacity of 250 tons a day and amount of capital invested is between \$1,000,000 and \$20,000,000. This development attests the fact that Canada is the possessor of the largest spruce forests in the world. The United States imported \$1,500,000 worth of pulp from Canada. Britain imported

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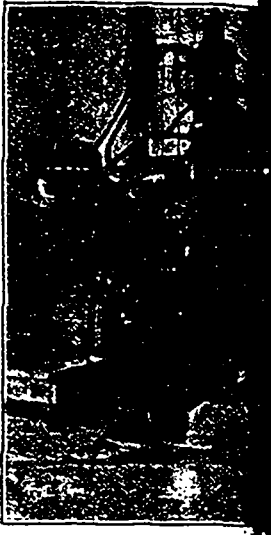
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SHERBROOK

It is estimated that this year England will use 500,000 tons of Canadian pulp. It has "undoubted pre-eminence for the production of paper." What of Canada's supply of suitable for pulp of the highest character? practically unlimited. Where Canada's growth is coterminous with her geographical variety. Far east spruce grows along the Alton Inlet and north shores of the gulf. North around Ungava bay, northwest in the Mackenzie gulf, and to the mouth of the Mackenzie river spruce matures. Far west in British Columbia the Douglas fir, a good pulp wood, growing 250 feet in height and 50 feet around, is used. Besides the acknowledged superiority of Canadian spruce for pulp has made spruce the king of pine in the estimation of commerce and

Mr. Johnson calculates that about 40 per cent. of Canada consists of woodland and forests. That is about 1,400,000 square miles. If one-half of this is spruce there will be 450,000,000 acres of spruce area in the Dominion. The manufacturer of newspaper wood pulp makes from a cord of spruce, or 50 feet of board measure, half a ton of sulphite pulp, or one ton of ground wood pulp. Newspaper stock is made up with 20 per cent. of sulphite pulp and 80 per cent. of ground wood pulp. An acre of spruce land yields a stand of 7,000 feet. This is equal to 6 tons of sulphite and 11½ tons of ground wood pulp per acre. Hence, taking ground wood pulp as the basis, and 10 tons per acre as the product, there are 4,500,000,000 tons of wood pulp in sight in Canada.

calculates Canada's area would yield 16,500,000,000 cords of spruce, so that Mr. Johnson's estimate is a conservative one.

The Weymouth Free Press says that the foundations are being put in for the new pulp mill of the Sissiboo Pulp & Paper Company at Weymouth Bridge, N.S.

The following table, showing the exports of wood pulp by the countries mentioned during 1897-98-99, has been compiled by the Philadelphia Commercial Museum.

	1897	1898	1899
United States....	\$ 242,186	\$ 585,563	\$ 626,716
Canada	741,959	1,210,923	1,274,376
Norway	4,835,001	5,453,001	5,636,334
Sweden.....	3,601,813	4,163,228	4,680,000
Finland	380,369	501,960	595,000
Austria-Hungary.	2,215,750	2,011,615	2,092,956
Germany.....	3,409,100	3,329,858	3,402,448
Belgium.....	1,719,000	1,418,300	1,368,300
France	7,873	8,406	7,359
Switzerland.....	269,283	225,016	186,350

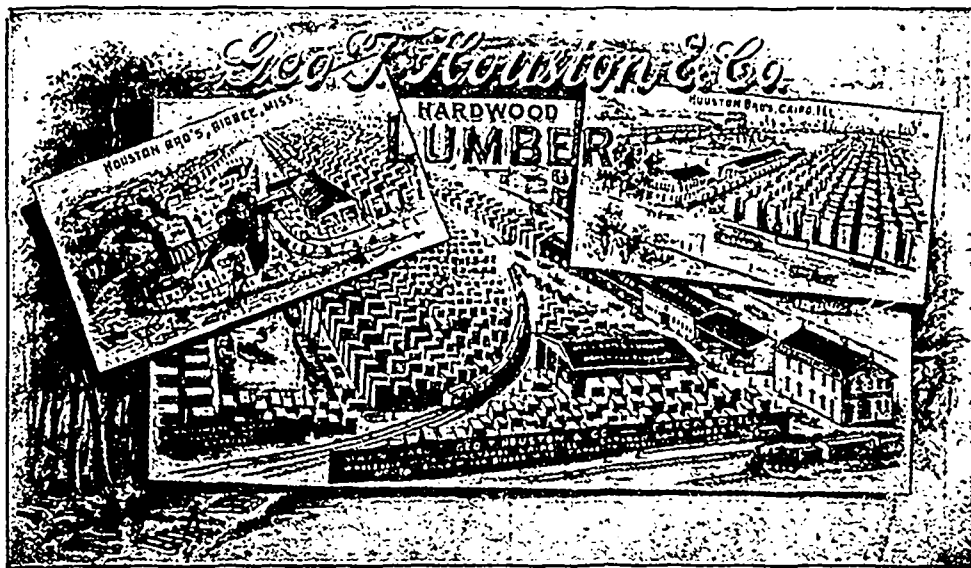
Totals ... \$17,452,234 \$18,907,870 \$19,809,839
* Estimated.

Dr. Bell, of the Geological survey, however,

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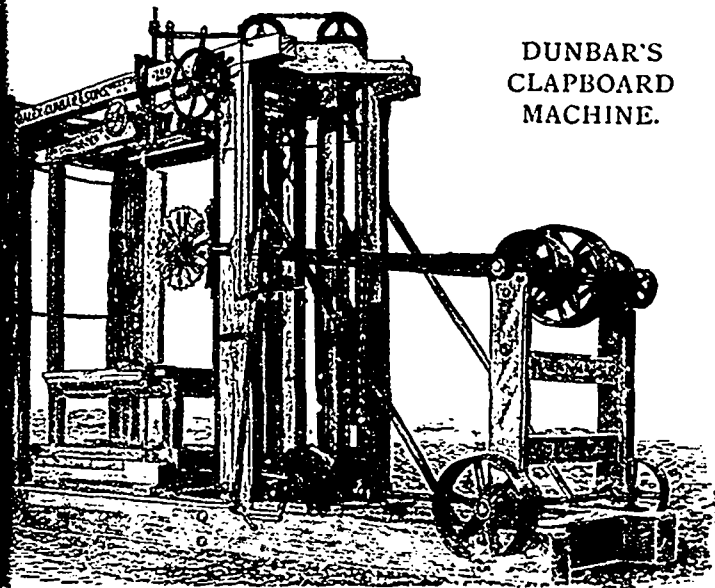
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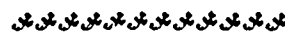
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PULP NOTES.

It is rumored that the Sheet Harbor Lumber Company, of Sheet Harbor, N.S., are considering the erection of a pulp mill.

It is announced that the International Paper Company will establish mills at Brompton Falls, Que., provided the municipality will give a bonus of \$10,000.

It is said that W. C. Edwards, M.P.P., of Ottawa, intends engaging in the pulp manufacturing business. Mr. Edwards owns extensive spruce limits.

It is said that J. C. Wilson & Company, whose pulp mill at St. Jerome, Que., was burned recently, will build a more modern mill, to cost about \$100,000.

The last issue of The Paper Mill, New York, says: "The demand for wood pulp is strong, but there is none to be had. The nominal price is better than \$25 a ton."

It is rumored that a company of Toronto capitalists is being formed to establish a large pulp mill on Jackfish Bay, on the Ontario side of Lake Superior. No names have been made public in connection with the project.

Mr. Philip Grosset, managing director of the Mispec pulp mill, has recently been in St. John, N.B., inspecting the mill. Mr. Grosset expressed himself as well pleased with its operation, and stated that the pulp had been very favorably received on the British market.

The National Pulp & Paper Company, of Montreal, has been incorporated, with a capital of \$200,000. The incorporators are James Reid, Quebec; George S. Wilson, Montreal; William Robert Bond Reid, papermaker, Indian, Lorett; Hon. Charles Fitzpatrick, Robert A. Becket, Montreal; Dr. Frederick A. L. Lockhart, Montreal; Seth P. Leet, Montreal; Michael P. Davis, contractor, of Ottawa.

The E. B. Eddy Company, of Hull, Que., placed an order with the Pusey & Jones Company, Wilmington, Delaware, for two large larders machines.

Mackenzie & Mann are reported to have made application to the Ontario government for the right to use the water power at Couchiching Falls, near Fort Erie, Ont., the intention being to secure the erection of more large pulp mills.

It is again stated that the building of what is to be the largest pulp and paper mill in the world is to be commenced at Grand Falls, N.B., by American and British capitalists. The complete work, it is said, will cost \$7,000,000. The capacity of the mill will be 300 tons of white newspaper, 225 tons of ground pulp, and 175 tons of sulphite pulp daily. The power at the falls is said to be immense.

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MANUFACTURERS OF
EMBOSSED AND TURNED MOULDINGS
WOOD GRILLES,



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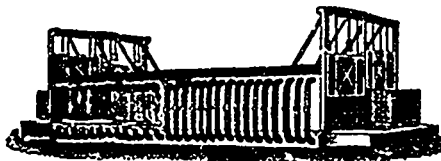
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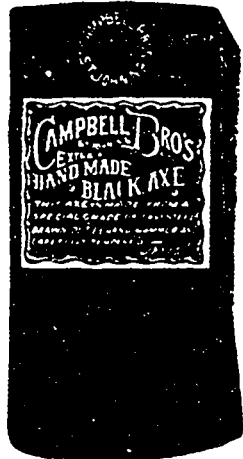
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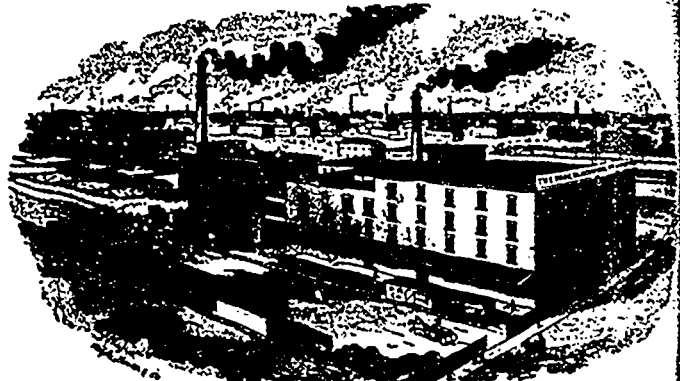
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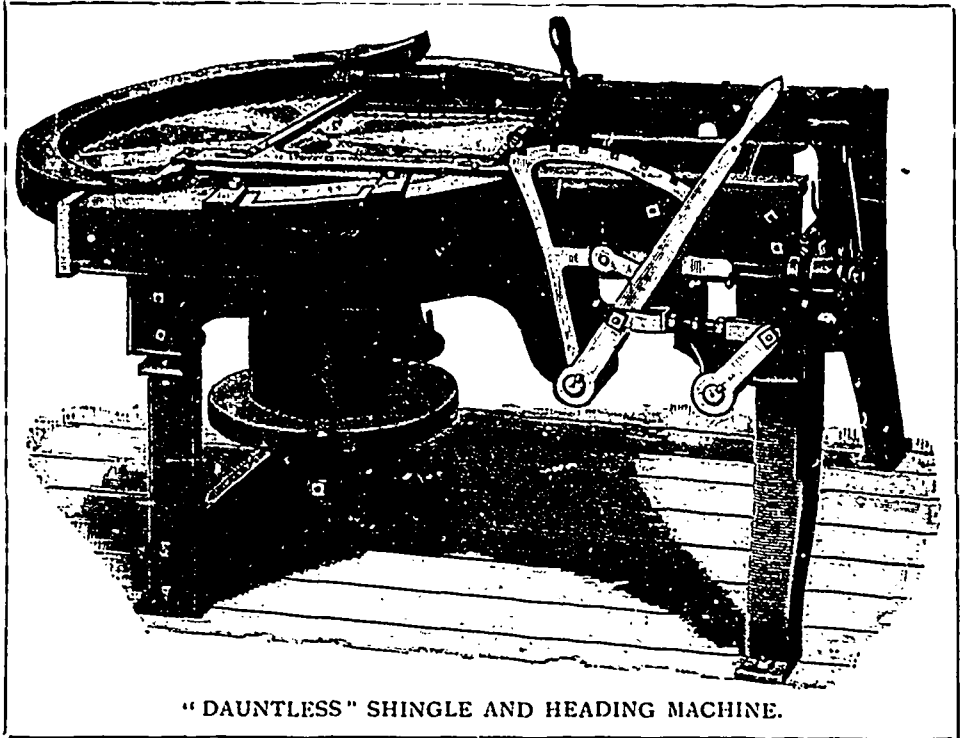
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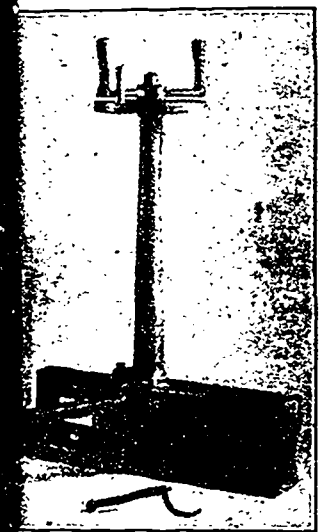
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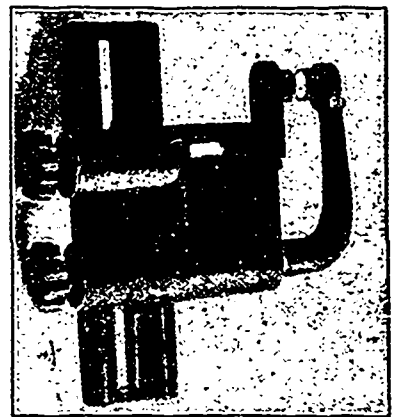
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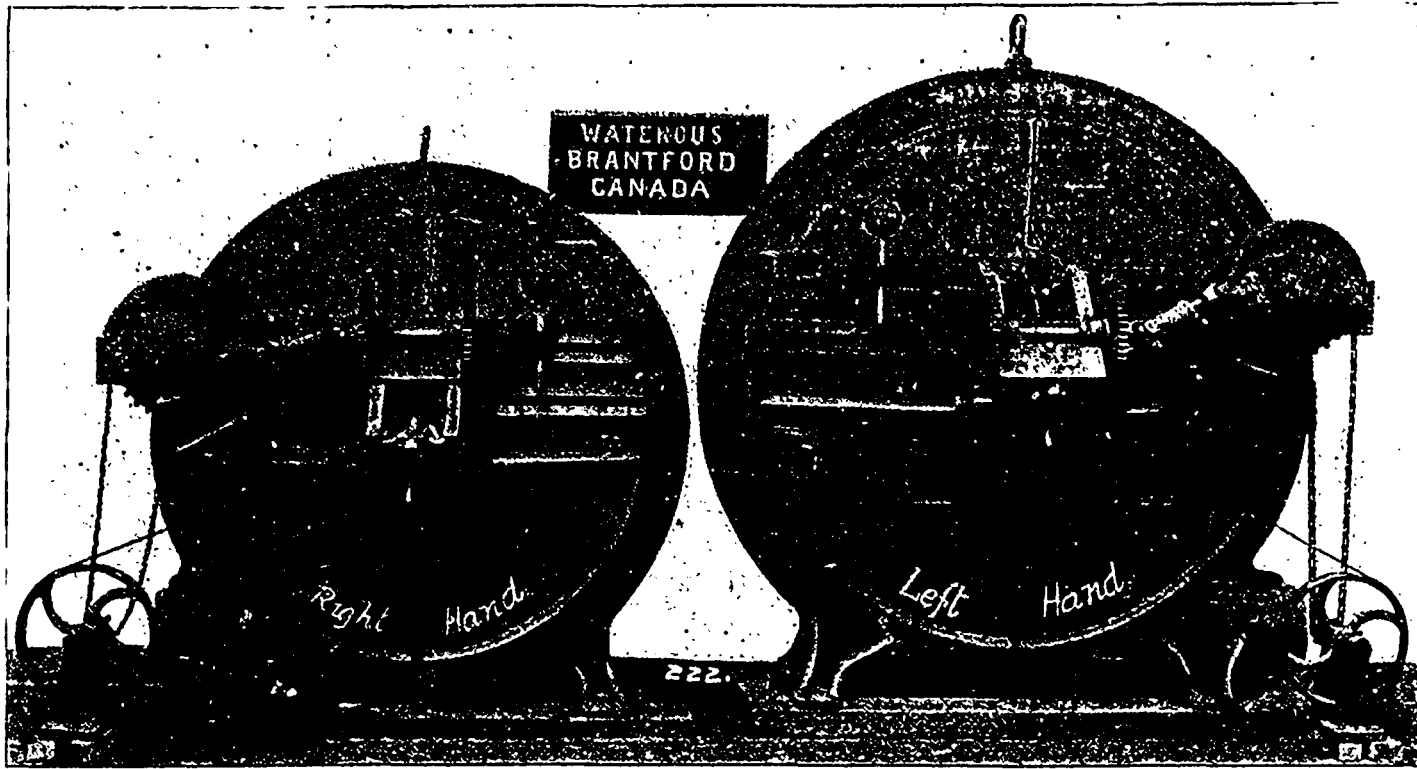
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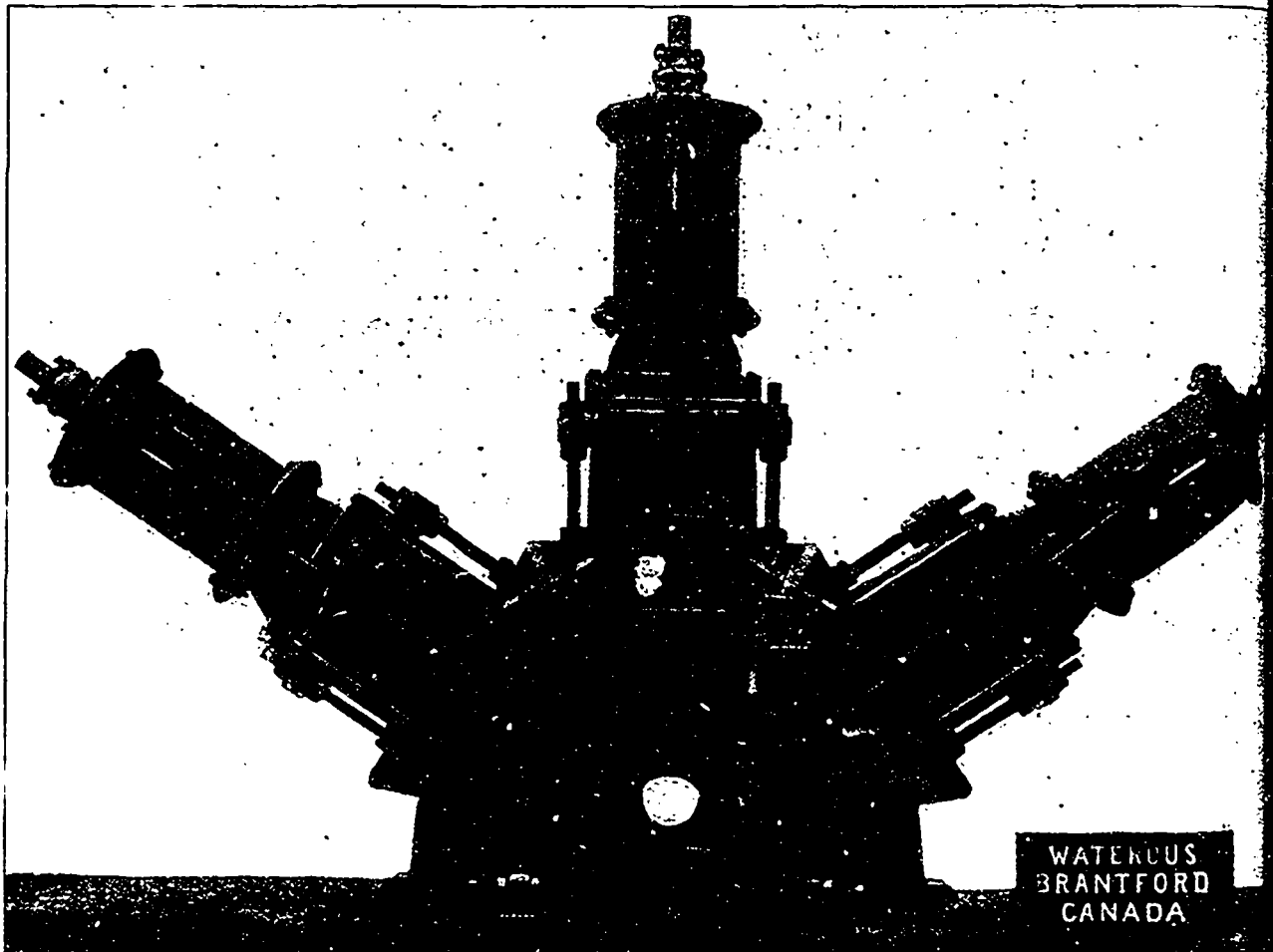
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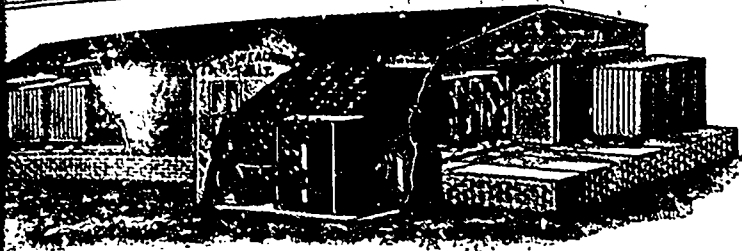


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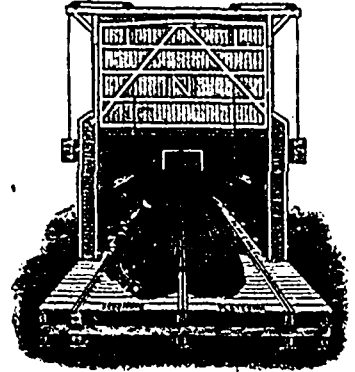
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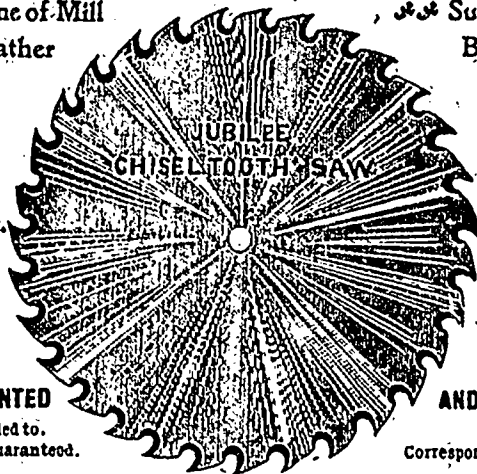
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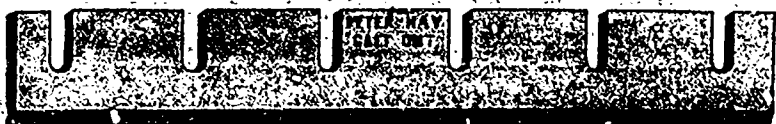
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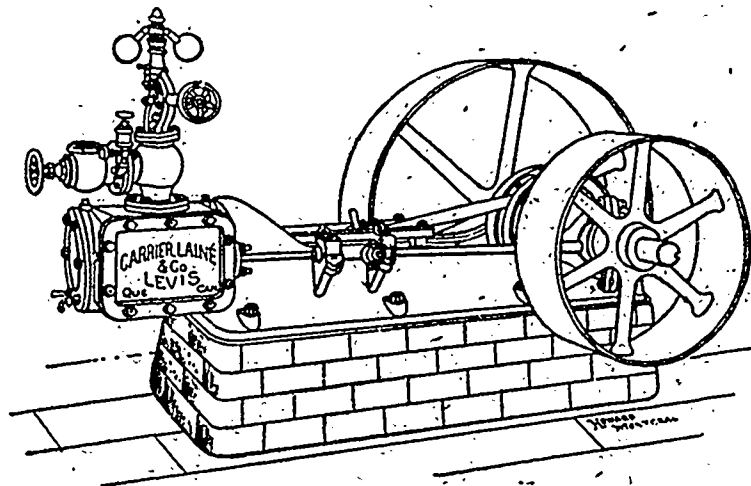
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