

million feet of dimension timber were taken out last year. The greater portion of the vast area of limits before mentioned is worked by firms with head quarters in Ottawa city. The following statement shows the principal licensees and workers of limits on the Quebec side of the Ottawa river, and the total area of square miles worked by each:—

Gilmour & Co., 2,600, Gatineau, Keppawa, and McManock.
Hamilton Bros., 1,680, Gatineau, Keppawa and Pikanook.
J. H. Booth, 1,423, Coulange, Black and Keppawa.
James McLaren, 985, Gatineau, Deser, Black, Coulange and Pikanook.
Ross & Co., 855, Gatineau, Deser, Black, Coulange and Pikanook.
Alec. Fraser, 842, Ottawa, Black and Dunlop.
Bronson & Grier, 605, Gatineau and Jean de Terre.
Bronson & Weston, 604, Dumoline, Black and Deser.
Hon. George Bryson, 632, Coulange, Keppawa and Ottawa.
Gilles Bros., 744, Coulange, Keppawa and Ottawa.
Perley & Patten, 700, Keppawa, Dumoline and Coulange.
E. B. Eddy, 715, Ottawa and Keppawa.
Hurdman & Co., 650, Coulange and Magniwhip.
W. O. Edwards, 414, Gatineau, Keppawa and Deser.
Bronson, Weston & Edwards, 303, River Ottawa.

Block A.
David Moore, 350, Keppawa river.
McLaughlin Bros., 240, Coulange.
Latour Ltd., 200, Ottawa and Keppawa.
John Ross, 200, Keppawa.
Bryson & Charlton, 450, River Ottawa.
Thomas Grier, 350, Keppawa and Dumoline.
Thompson & Mackay, 400, Gatineau.
Grier & Co., 134, Coulange and Teu-Canungue.
Folke & McRae, 101, River Ottawa.
T. & W. Murray, 100, Dumoline and Black.
Jas. Findlay, 100, B. C. river.
W. R. Oswald, 222, River Ottawa.
William Mackay, 124, River Dumoline.
R. White, 101, Black river.
Peter McLaren, 251, Coulange river.
Martineau Estate, 100, Jean de Terre river.
Rochester & Doherty, 91, Ottawa river.
McLaren & Edwards, 80, Dumoline river.
James Cotton, 60, Dumoline river.
D. Murphy, 60, Coulange river.
J. B. Dickson, 51, Keppawa and Ottawa.
John Roche, 60, Le Peche, Gatineau.
H. V. Noel, 65, Gatineau river.
John Smith, 60, Coulange river.
Est. Sir P. Hinks, 60, Coulange river.
Capt. Allan Grant, 55, Black and Dumoline.
R. White, 71, River Ottawa.
Small holders, 630, rivers before named.

The following statement shows the names of the principal holders of limits in the Ottawa agency of the province of Ontario:—

J. R. Booth, 1,203, Ottawa, Lake Temiscaming, Indian, Petawawa and Bonnechere rivers.
Perley & Patten, 955, Ottawa, Chalk, Montreal, Madawaska, and Petawawa rivers.
Bronson & Weston, and Grier & Co., 600, Mattawa, Petawawa and Amable du Ford.
McLaughlin Bros., 676, Madawaska and Bonnechere.
Bronson & Weston, 334, Madawaska and Chalk.
Gilles & McLaren, 283, River Mississippi.
Barnet & McKay, 258, River Bonnechere.
E. B. Eddy, 229, River Madawaska.
Wm. McKay, 174, River Madawaska and Amable du Ford.
McClyment & Co., 118, River Petawawa.
James McLaren, 284, Indian river.
Alex. Fraser, 310, Nipissing, Mattawa and Madawaska.
Thistle, Carwell & Co., 318, Petawawa and Madawaska.
Boyd, Caldwell & Son, 135, Madawaska and Mississippi.
R. Kock, 100, River Ottawa.
Hurdman & Co., 120, Petawawa river.
R. Ryan, 100, Montreal river.
N. E. Cormier, 89, Petawawa river.
Gilles Bros., 60, Mississippi and Montreal rivers.
O. Latour, 76, Ottawa and Temiscaming.
A. Barnet, 50, River Petawawa.
A. & P. White, 50, Ottawa river.
H. M. McLean, 61, River Bonnechere.
Small holders under fifty miles, 600, on streams before mentioned.

THE SQUARE TIMBER TRADE.

The following is an approximate estimate of the quantity of square timber made in the Ottawa and Nipissing district during the season of 1885-86:—

Name of Manufacturer	Cubic feet.
Fraser, Schenly & Co.	355,000
David Moore	600,000
E. Moore	160,000
Timmons & Gorman	175,000
Klock & Son	225,000
McCool & Doran	177,000
J. & G. Bryson	160,000
J. R. Booth	245,000
William Mackay	175,000
McLaughlin Bros.	350,000
Thistle & Carwell	200,000
Barnet & Mackie	300,000
A. & W. Mohr	100,000
Robert Grant	180,000
John Lamb	75,000
Francis & McCray	55,000
Total	4,042,000

The square timber business has declined in recent years. In 1882-83 the estimated output was 8,760,000 feet, and in 1883-84 6,230,000 feet. The output of 1886 was made principally on lake Nipissing and the Keppawa, Colonge, Quinze, Ottawa, Sturgeon, Bonnechere, Madawaska, Missisquoi, Black, Petawawa and Amable du Ford rivers. During recent years the production of square timber has fallen off considerably, but that of sawn lumber has increased with the improved facilities for taking out logs, river driving and shipping the lumber. The

square timber produced in this district is taken to Quebec in rafts and there sold for shipment to Europe. Quebec is the great timber market of Canada.

THE SAWN LUMBER.

cut at the mills on the Ottawa and its tributaries is shipped principally to the United States and to other points in Canada. The manner of shipping to the United States is chiefly by means of barges, which are towed down the Ottawa and St. Lawrence and through the canals to Sorel, thence up the Richelieu river and lake Champlain to Whitehall, and down the Hudson to Albany and New York. Considerable quantities of lumber are also shipped by the Rideau canal and Canadian Pacific and Canada Atlantic railways, and latterly some large shipments of square timber have been made over the Canadian Pacific from the lake Nipissing region. The entire annual output of sawn lumber in the Ottawa district is estimated at from 700,000,000 feet to 800,000,000. It is all white pine excepting a small percentage of red and Norway pine. Of the exports to the United States from the Ottawa consular district for the year ending June 30th, 1886, 97.03 per cent. was made up of lumber. In 1885 the percentage was 97.65, and in 1884, 98.22.

THE TOTAL VALUE

of sawn and manufactured lumber exported from this district to the United States in the three years named was:—

1884	1885	1886
\$2,413,576	\$2,254,501	\$2,170,814

The following statement shows the kinds and value of the lumber shipments from the Ottawa district to the United States in the year ending 20th June, 1886:—

Sawn pine lumber	\$2,045,500
Box shooks	46,423
Laths	20,450
Railroad ties	11,604
Pickets and curtain sticks	24,761
Match boards	8,459
Telegraph poles	2,433
Hemlock bark	728
Fence posts	521
Shingles	978
Doors and moulding	2,118

PROVINCIAL TIMBER REGULATIONS.

The timber limits of Ontario and Quebec are owned and controlled by the governments of the respective provinces. The Ottawa Crown Land agency collect crown timber dues for the Ontario and Quebec governments as well as slide dues for the inland revenue department of the Dominion government. The rates of dues charged upon limits in Quebec is somewhat higher than those charged in Ontario. In each province the limits are disposed of at public auction, at so much bonus per square mile, subject to the payment of the regular annual ground rent or dues. The purchaser receives his title in the form of a license for the territory, each birth or limit comprising so many square miles of 640 acres. The license conveys simply the right to cut the timber on the territory therein described for one year, with the prior right to renewal annually in accordance with the prescribed regulations. The purchaser or licensee of a timber limit obtains no rights in fee to the lands covered by his license, but after securing his license at public auction pays a yearly tax for the privilege of cutting timber, and settlers who take up lands within the area mentioned in any license are not liable to be disturbed or prevented from clearing or cultivating land by the holder of such license. The yearly ground rent payable by limit holders is two dollars per square mile, and the transfer bonus one dollar per square mile.

DUES IN ONTARIO AND QUEBEC.

As before stated the timber dues in Quebec province are generally speaking slightly higher than in Ontario. For oak and walnut the dues are four cents per cubic foot in Quebec and three cents in Ontario; red and white pine, cedar and other square timber, two cents in Quebec, 1½ cents in Ontario; five logs 13½ feet long, 17 inches, 22 cents each in Quebec, 15 cents each in Ontario; pine logs, 13½ feet long, less than 17 inches, 11 cents in Quebec, 15 cents in Ontario; spruce logs, 1½ cents each in Quebec, 1 cent in Ontario; pipe staves \$7 per 1,000 in each province; West India staves, \$2.25 per 1,000 each province; boom timber, round or sided, pine or tamarac, 1 cent per lineal foot in Quebec, 1½ cents in Ontario; pine for shingles 20 cents per cord in Quebec, 12½ cents in Ontario; cedar for shingles, 16 cents per cord in Quebec, 12½ cents in Ontario; red rails per hundred, 25

cents in Quebec, one cent in Ontario; cedar telegraph poles, 6 cents each in Quebec, one cent in Ontario; railway ties, 2 cents each in Quebec, 15 per cent ad valorem in Ontario; hemlock logs 6 cents each in Quebec, and 10 cents in Ontario; hemlock bark, 32 cents in Quebec and 30 cents in Ontario; hardwood logs and tamarac, 22 cents each in Quebec, 25 cents in Ontario; floors or birch (23 feet long) 25 to 30 cents in Quebec, 1 cent per cubic foot in Ontario. In addition to the foregoing provincial dues, export duties are imposed by the Dominion government upon the following classes of lumber when exported:—White and Norway pine saw logs, per 1,000 feet, board measure, \$2.00; spruce and hemlock logs, per same measurement, \$1.00; shingle bolts, per cord of 123 feet, \$1.50.

LUMBERING OPERATIONS.

Large amounts of ready cash are required by all operators in lumber. In the early autumn months men and horses are engaged "to go to the shanties," that is to go and work cutting timber and logs upon the various limits.

The men and horses must be well housed and fed, in the woods, and all wages must be paid promptly. Immense quantities of provisions, flour, pork, potatoes, beans, tea, oats, hay, etc., must be purchased and shipped to the shanties, the cost of transportation to the distant limits being one of the principal items of expenditure. The construction of the Canadian Pacific railway has greatly reduced the cost of sending men and supplies to the shanties on the Upper Ottawa and tributary streams. A small army of shantymen are kept in the woods every winter by the Ottawa "lumber kings." The shanties in which the men live are usually built of logs, and are made as comfortable as circumstances will permit. In the spring when the snow melts the men usually come down the streams "on the drive," that is with the logs that they have cut during the winter, and are paid off, and go to work in the mills or seek other employment. The logs which are cut 13½ and 16½ feet in length are floated down the various streams to the mills. The regulation length of logs is 13 and 16 feet, but in running the rapids, the ends get "broomed," and so six inches additional length are allowed at each, and these ends are sawn off leaving each log smooth and square and proper length.

SAWING THE LUMBER.

Generally the best of the logs are cut into deals for the English market. These deals are three inches thick, ten feet and upwards in length and any width from nine inches upward. They are assorted into firsts, seconds, thirds and fourths, each class having its respective market value, and these grades only are exported, leaving an amount of inferior stock to be disposed of in the most profitable way possible. The balance of the logs are sawed into 10, 12 and 14 inch boards, which are generally exported to the United States. These stocks are culled and piled, according to the various grades. Great care is given to piling, the stacks being arranged in square blocks, single courses, very open. The immense piles of lumber on both sides of the Chaudiere never fail to attract the attention of strangers visiting Ottawa.

THE OTTAWA MILLS.

The immense water power furnished by the Chaudiere and Rideau Falls has been utilized to run a great number of lumber mills as well as some flour mills and cloth factories. The saw mills in this district are generally of large capacity, and are equipped with all the modern appliances for rapid, smooth and economical work. They are all "gang," and contain from four to eight gangs of from thirty-six to forty two saws each, with all the necessary edging tables, all lumber being made parallel and passed over chain butting tables. The lumber manufacturers of Ottawa are fully alive to the necessity of keeping abreast of the times and the necessities of the industry. The mills are run night and day through the short season if not over seven months. They are generally lighted by electricity, which aids materially in night sawing. About two-thirds of the sawn lumber of this district is produced at the Chaudiere and Rideau Falls Mills. Eleven hours a day constitute a day's work for mill hands and others connected with the manufacture and handling of lumber, and wages are paid weekly to mill hands and to men in the woods

as their necessities and those of their families require it.

RATES OF WAGES.

The number of men who find employment in connection with the lumbering business in the Ottawa district is very large, being variously estimated at from ten to twelve thousand. There is of course no fixed rate of wages for any class of workmen, but the following statement as published by the U. S. consul here may be regarded as approximately correct.

Foremen in woods	\$40 to \$60 per month.
Choppers and skidders	15 to 20
Road Cutters	12 to 15
Teamsters and loaders	16 to 18
Cooks	30 to 40
Log measurers	45 to 50
Horse team and teamster	35 to 40
Mill foreman	40 to 100
Lead sawyer for gangs	40 to 45
" " for circulars	40 to 50
Tail sawyers	20 to 35
Edgers and trimmers	25 to 40
Boys	60 to 60
General help, teamsters &c.	30 to 35

The wages paid to men in the woods are in addition to board, but men employed in and about the mills board themselves. The principal lumber mills of the city and district are those of Messrs. Bronson & Weston, Perley & Patten, J. R. Booth, Grier & Company, E. B. Eddy, Hurdman Bros., at the Chaudiere Falls; Messrs. James McLaren and McClymont & Co., at Rideau Falls; W. O. Edwards & Co., at Rockland; Gilmour & Co., on the Gatineau; James McLaren and Ross Bros., at Buckingham; Hamilton Bros., Hawkesbury; Peter McLaren, Carleton Place; Boyd, Caldwell & Son, at Almonte, and other points on the Mississippi; W. J. Conroy, and E. B. Eddy at Dechenes rapids; W. R. Thistle, Pembroke; McLaughlin Bros., Arnprior; Gilles Bros. Braside. There are also a number of smaller mills cutting chiefly for home consumption.

The Biggest Book in the World.

"Just outside of London they are at work on the biggest book in the world," said a New York publisher, the other day, who has recently returned from a trip to England. "It will be more than four times as large as Webster's Dictionary, and will contain something like eight thousand pages. It is to be the ideal dictionary of the English language, and will supersede all pre-existing authorities. It has long been realized by scholars that the English language is deficient in this respect. The French have two dictionaries, that of M. Littré and of the academy, that are far superior to our own. The Worterbuch, of the German Brothers Grimm, is still more exhaustive and authoritative. Even the Portuguese dictionary, by Vieira, decidedly surpasses anything in English. But the British Philological Society proposes to fill this yawning gap in our reference books. They hold that a dictionary should be an inventory of the language, and that its doors should be opened to all words—good, bad and indifferent. This new work will not be confined to definitions and cross references. The life history of each word will be fully given, with a quotation from some standard writer, showing its shade of meaning and the variations in its usage from one generation to another."—New York World.

In Vancouver there is said to be a land office established in a hollow tree forty-four feet in circumference. In the same section there is a table forty one feet long and four or five feet wide, made out of a solid board.

Fort William Echo.—Fort William is the centre from which radiate all the great lumbering enterprises of Algoma West. Each winter camps are established in every direction, and from the almost boundless timber limits which surround it the products of the forest are culled and prepared for their voyage to the Fort in the spring. Most of the timber employed by the C. P. R. Company in their many and vast enterprises is procured by companies having their headquarters here. From the mills of Messrs. Carpenter and Graham, and Horne & Co., it is an almost daily occurrence to see carloads of timber and lumber of all descriptions and dimensions proceeding east and west, intended either for the repair of old works or the construction of new ones. Customers for the manufactured material are found as far west as Calgary, and as far east as Sudbury.