

fresh beef, potatoes and some kind of pudding, or perhaps codfish or soup awaits them on their return to the camp in the evening. The evening hours are spent in various ways, some of the men grinding axes, others mending socks, mocassins or snowshoes, others reading a book or a late paper sent them by their friends at home, while another plays the fiddle or entertains the company with a song. No card playing is ever seen in a well regulated lumber camp. A bundle of papers or books from the regions of civilization is looked upon as a great treat, and goes the rounds of all the men, who read everything, even to the advertisements. The old method of driving is improved on, the men being well fed and sleeping in tents each night. Taking everything into consideration the life of the lumbermen of the present day is a comfortable and healthy life."

SAWDUST--A CURIOUS PHENOMENA.

When the ice was moving down the river a couple of days ago, says the *Ottawa Journal*, a curiosity was visible on the surface of one of the big floes. An archaeologist strange to the neighborhood would have pondered long and curiously over the thing, and if depending wholly on his own conjectures as to its cause, he would have been as wise at the end as at the beginning. It was a huge oval excrescence or ring of sawdust on the surface of the ice, from fifty to one hundred yards in diameter. The ring was perfectly clean cut, the sawdust marking it being several feet in depth. Several thousand loads of sawdust were there. The archaeologist would ask himself in vain how the sawdust came there on top of a thick field of ice in mid-water, laid out so beautifully but with no apparent reason whatever for its being. He would have to turn to one of the natives for an explanation. Then he would be informed that during the winter, when the ice was sound and strong, half a foot in thickness, and at a spot where scores of persons had a few hours before been skating and amusing themselves, there came an upheaval from the depths of the Ottawa, a crashing explosion, a shattering of the solid ice over a considerable area, and a foul geyser of rotten eruption throwing a tremendous ring of sodden sawdust on the ice around. Then the river froze over again at leisure, but with the huge sawdust ring reposing on its white surface to commemorate until spring the bondage of the river to the saw mills at the Chaudiere.

Is it possible that this foul gas exploding from the sawdust deposit on the bed of the river could be generated in fresh sawdust? The argument of the sawdust apologists is that each spring the freshets clean out from the channel the sawdust deposit of the previous season. Yet here in the channel we have a foul eruption indicating the presence beneath of thousands of fermenting tons of sawdust. Did all the sawdust get there in the previous season only, or if it did, could it so soon become rotten enough to furnish such an explosion? An explosion which is stated to have broken some windows on shore.

WOOD AS FOOD.

Probably no modern science presents a wider field for speculation than that of chemistry, and more especially, perhaps, that branch of the science which treats organic compounds, says the *Lancet*. Since the day when Wohler overthrew forever the notion that organic substances were exclusively the products of the operation of a so-called vital force by his discovery of the synthesis of urea, a great number of bodies, hitherto obtained only in Nature's laboratory, have successfully been built up, as the result of a careful and most minute study of their exact nature.

The discovery of the preparation of substances by artifice, more particularly the dyes, has as a matter of course influenced very considerably home and foreign industries. What shall be said, then, when chemistry promises to solve hard problems of political and social economy? In an address delivered at Heidelberg, by no less eminent an authority than Victor Meyer, it is announced "that we may reasonably hope that chemistry will teach us to make the fibre of wood the source of human food. What an enormous stock of food, then, will be found if this becomes possible in

the wood of our forests or even in grass and straw. The fibre of wood consists essentially of cellulose, C₆H₁₀O₅. Can this be made to change into starch? Starch has exactly the same percentage composition, but as everyone knows it differs very much in its properties and the nature of its molecule is probably much more complex. Cellulose is of little or no dietetic value and it is not altered, like starch, in boiling water. It really gives glucose when treated with sulphuric acid, as is easily shown when cotton-wool, which is practically pure cellulose, is merely immersed in it. Starch gives the same product when boiled with weak acid. The author further quotes the researches of Hellriegel, which go to show beyond dispute that certain plants transform atmospheric nitrogen into albumen, and that this process can be improved by suitable treatment. The production, therefore, of starch from cellulose, together with the enforced increase of albumen in of plants would, he adds, in reality signify the abolition of the bread question. It must be borne in mind, however, that theory, fascinating and promising though it may be, is not always capable of being followed up by a practical result.

BRITISH BOARD OF TRADE RETURNS.

The Board of Trade returns for the month of March, show the imports to be £36,140,000 being a decrease of £125,000, or about 1/4 per cent. The exports to £20,067,000, a decrease of £1,392,000, or about 6 1/4 per cent. The total value of the imports for the three months is £105,282,000, a decrease of £1,334,000, and that of the exports £62,738,000, an increase of £2,081,000.

The imports of hewn and sawn wood of all descriptions for the month were almost identical with those of March, 1889, the figures showing only two loads in favor of the present year, the excess of 23,935 loads of hewn being counterbalanced by a similar falling off of sawn.

The first three months show a falling off in the imports of all descriptions of wood goods of 21,106 loads. The same discrepancy between hewn and sawn timber is very noticeable the former showing an increase of 30,526 loads, and the latter a decrease of 51,632 loads. In the hewn timber the imports from every country, with the exception of British North America show an increase, whilst in the sawn, the falling off is noticeable, particularly in the cases of Sweden and Norway and British North America, where it amounts to 33,159 and 10,351 loads respectively.

CANADIAN TIMBER LIMIT GRANTS.

A Washington correspondent of the *Mississippi Valley Lumberman*, writing from that city under date of March 31st, says, "Unofficial reports find their way to this city of investigations which have been started by the Canadian parliament on the subject of grants of timber limits by the Dominion government to its supporters. The statements made by Mr. Charlton, M. P., are startling and connect members of the government of corrupt practices. Mr. Charlton quoted grants of timber limits to seventeen members amounting to 850 square miles. The speech was made on a motion to impeach a member of corrupt practices. The limit which was the subject of impeachment was given the hoodlers for \$500 and was sold to Louis Sands, a lumberman of Manistee, Michigan, for \$200,000. He complained of being swindled, and made a long affidavit on the situation. In connection with this affidavit it was stated that thirty-four members of the two houses of parliament had been given timber tracts at merely nominal figures. The total number of square miles so granted was 25,000, or 16,192,000 acres.

Sands in his affidavit said that a Winnipeg broker induced him to pay \$10,000 for the refusal of the Cypress hills timber limit, at \$200,000, provided that the limit turned out as represented, and contained 100,000,000 feet of good timber. The limit lay in the Northwest territory. He had it surveyed by a man in Manistee in whom he always had confidence, and he reported that it was as represented. He believes his surveyor was bribed. He paid the price and at a cost of \$40,000 bought a saw mill and moved it to the limit.

On his arrival he found that he had been made the victim of misrepresentation. Instead of 100,000,000 feet, the timber would not scale more than 20,000,000 and it was small stuff at that, and would cost more to manufacture than it could be sold for in that part of the country. In addition he found that the Canadian Pacific railway company was entitled to every odd section in the tract and he was obliged to purchase this from the company before he could do any work on one half of his tract. Altogether he made a strong case.

Complete figures of the amount of timber tracts disposed of in this way are not given in, except that there were 550 orders in the council, five years ago. With this method of disposing of government timber, it is not strange if lumber can be manufactured cheaper on the Canadian side of the line than on this."

Ontario Crown Lands.

The report of Hon. A. S. Hardy, commissioner of crown lands for Ontario for 1889, shows that 1,279 acres of clergy lands, realizing \$1,262, were sold last year, and the collections on account of former sales of the same class of lands reached \$3,972. The area of crown lands sold in 1889 was 53,640 acres, valued at \$71,765, and the collections were \$66,888. On account of common and grammar school lands \$16,000 were collected. The total revenue from crown lands for the year was \$1,204,639 and the cost of the department was \$236,336. The fire ranging service was satisfactorily performed, very few forest fires occurring during the year. The total cost of the service was \$15,468, one half of which will be collected from the holders of timber limits. 858 locations on free grant lands were made, covering an area of 114,050 acres. 386 patents were issued to settlers in free grant townships. A number of new townships were surveyed into farm lots during the year; and the outlines of eight townships at the head of Lake Temiscamingue, on the Upper Ottawa, have been run. From mineral lands the department derived \$36,829 of revenue, 138 miles of colonization roads were constructed and 404 miles repaired. Eighteen new bridges were built and the total expenditure upon colonization roads and bridges was \$103,666. The total receipts on account of land sales reached \$114,913; timber dues, \$947,883; ground rents, \$64,767; bonuses, \$66,058; fees, \$980; refunds, \$10,147. The total collections at the Ottawa agency of the Ontario crown lands department during 1889 amounted to \$336,397, and the collections at Quebec an account of timber cut in the Ottawa district were \$43,714. The areas covered by timber licenses in Ontario are. In the Ottawa division, 6,547 square miles; Belleville division, 1,489 square miles, and Western division, 9,190 square miles. The quantities cut in the Ottawa district last year are shown by the following table:—

	Pieces.	Feet.
White pine logs	1,922,874	237,695,827
Other logs	24,445	1,426,666
White pine square timber	33,368	1,714,382
Red pine do	9,866	566,787
Boom and dimension	63,855	10,880,521

The total number of white pine logs cut in the province last year was 6,802,308, measuring 725,727,633 feet; 86,231 pieces of white and 10,890 pieces of red pine square timber were cut.

THE owners of portable saw mills, says an exchange, working at a distance from transportation, so that they can market only the upper grades of lumber, should try their hand at sawing quartered oak. The demand is always active, and the prices paid for quartered oak are fully thirty per cent. more than for plain sawed oak. Most of the owners of portable saw mills with whom we have talked are afraid to undertake to saw quartered oak. They claim that they have never cut this class of lumber and are afraid they can not do it. Quarter-sawed oak is almost as easily sawed as plain oak, and requires but little more skill. There are various design and drawings showing just how a log should be sawed to produce the greatest amount of quartered lumber, which are safe guides to beginners. Any practical sawyer can cut quartered oak to advantage, in fact, in sawing oak in the ordinary way, the product will be at least 25 per cent., quarter sawed