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VOL. 6.

PETERBOROUGH, ONT., MAY 1, 1886.

NO. 9.

A SHORT line of railway from Broad street Ottawa, to the Chaudiere lumber yards, is to be constructed at once by the Canada Atlantic Railway Company.

It is said that the Ontario Lumber Company have sold their last year's stock, about 6,000,000 feet, cut at G. W. Taylor & Co.'s mill, for \$13 a thousand.

THE schooner Jessie Drummond, loaded with lumber, and bound from Toronto, Ont., to Oswego, New York, was caught in the storm of April 6th, and lost 50,000 feet of her cargo.

GEORGE M. BROWN and S. S. Wilhelm are said to have purchased 320 acres of pine land in town 18-5 west Michigan, estimated to cut 8,000,000 feet of logs. Consideration \$35,000.

THE schooner Lynx, of St. John, N. B., for New York, lumber laden, was wrecked off Milk island, Mass., April 8th. The crew was saved. The vessel and cargo were partly insured.

It is reported that Judd & Goddard, of East Saginaw, Mich., have sold to the Eddys and Averbs of Bay City, 2,000 acres of pine land on Toquamenon river, upper Michigan, estimated to cut 30,000,000 feet of logs, for \$75,000.

THE Berlin Mills Lumber Company, at Berlin Mills, Me., will save the sawdust at their mills the coming season, for use in the pulp furnaces of the Glenn Manufacturing Company and the Forest Fibre Company. That is one way of working sawdust into paper.

THE new dock and flour warehouse, at West Superior, opposite Duluth, will have a total length of 1,800 feet. Timber will be sunk 18 feet under water, dredging for that purpose to begin as soon as the ice goes out. The Manitoba railroad is behind the enterprise.

MR. J. WHITESIDE, in addition to the 700,000 taken out for the Muskoka Mill & Lumber Co., reported a few weeks ago, has also taken out for himself, in Chaffey township, 1,000,000 feet which he has arranged to have manufactured at Gravenhurst.

A MAN named George Southerland was recently engaged at Noxon Bros' establishment, Ingersoll, in operating a circular saw, when the piece of wood which he was sawing was thrown from the saw and struck him upon the face with such fearful violence as to cleave it open from forehead to chin.

MR. ISAAC SCOTT is taking out a second cargo, 260 cords, of poplar, at Point Aux Pins

for an eastern paper mill. Eastern paper manufacturers would do well to turn their attention in this direction, where there are immense forests of soft woods suitable for their purposes.—*Algoma Pioneer.*

THOMAS McCORMACK, of Deep River, lost a valuable team of horses in Deep river, on April 14th. They were drawing in Maason's shanty, and one of the concern teams broke through the ice. Mr. McCormack's team was near then and was going to the assistance of the other team when he broke through. The team was worth \$300.

AN employee in Walker's saw mill, Calgary N. W. T., named John Monahan, was caught by a belt and hurled directly on one of the saws. His left arm was terribly lacerated, and the saw penetrated the left breast almost through the ribs. The arm was amputated above the elbow and he may recover.

THE Eastern Lumber Company has been incorporated by Jacob Reidler, F. Ferguson and Francis Beidler, all of Chicago, and connected with the South Branch Lumber Co. The object of the new company is to carry on a lumber business at the East with headquarters at Tonawanda, N. Y. Capital stock, \$100,000.

ONE of the schooners engaged in the lumber trade of the lakes is the Harriet Rose, an old craft that was in "Perry's victory" naval engagement on Lake Erie. She is now in dry dock, Chicago, undergoing repairs. It is claimed that shot have been dug out of some of the old timbers of the vessel, and this is adduced as evidence that she was really in the famous fight of 1813.

FROM recent observations, Captain Pillsbury finds that the strength of current of the Gulf Stream is invariably on the Florida, instead of the Bahama, side of the stream. He has found the temperature of the stream to range from 42 to 81 degrees. The greatest velocity of the stream at the surface is about four and a half knots, but the fluctuations are frequent and great.

THE Belleville Ontario of a recent date says: Mr. James Buck has been rafting timber here for the Quebec market. A large gang of men are employed getting the timber in shape for the rafts. Two train loads have already arrived. The timber is loaded along the line at Hastings, Sterling, Hoard's and Birdsall. The load this time came from Hoard's station. One tram load a day will be brought in for a couple of weeks.

THE Yukon, the great river of Alaska, stands seventh among the rivers of the world. It

takes its water from an area of 200,000 square miles, and its total length is 2,044. For 1,000 miles it flows through a country very little known; an expedition under the direction of Lieutenant Schwatka set out from San Francisco in 1883, and thus much valuable information about the geography of the country through which the Yukon flows has been obtained. The severity of the extreme north latitude in many parts of Alaska, as in British Columbia, is greatly modified by the warm ocean currents coming from the China Sea.

The Thorncliff correspondent of the Pembroke Observer says:—There has been a considerable amount of square timber taken out in this district during the past winter, and it may not be uninteresting to your readers to give them the following statement received from an official source:

	Cubic ft.
Fraser & Scrany, Chelmsford.....	125,000
" " " "	250,000
Wm. Allen, " "	100,000
David Moore, Sturgeon River.....	500,000
Barnet & Mackie, " "	500,000
R. H. Klock, Veveve River.....	200,000
Timmins & Gorman, Wahnapiita.....	175,000
McArthur Bros., " "	200,000
Hugh Coburn, Sudbury.....	100,000
	2150,000

These are about the figures they will amount to in Quebec. Besides this amount of square timber there was taken on about 260,000 saw logs. All the saw logs excepting Klock's will be carried over Mr. J. R. Booth's railroad. Besides this about 50,000 saw logs go to Bay City, Mich., belonging to the Emery Lumbering Co.

EDINBURGH INTERNATIONAL EXHIBITION.

Visitors to Scotland this year will find an additional attraction in the International Exhibition, which will shortly be opened in Edinburgh, the ancient and historic capital of the country. While the exhibition is open to the products and industries of all nations, and of these there will be a large display, the most prominent feature will naturally be illustrations of the industrial, scientific and artistic pursuits which occupy the time and energies of the Scottish people. Every industry throughout the length and breadth of the country will be adequately represented, and there will be many exhibits illustrative of the social life and habits of Scotsmen in their own homes. The exhibition has the patronage as well as the active support of Her Majesty Queen Victoria and selections from the treasures in the royal palaces will be included in the exhibition. Special arrangements are being made with various tourist agencies, for the cheap conveyance of

visitors to Scotland from nearly all parts of the world, and, doubtless, a large number of our countrymen will take advantage of this opportunity of visiting a country abounding in romantic scenery and full of historic associations. The exhibition grounds, which belong to the municipality, are in the centre of the city and extend over an area of twenty-nine acres. The buildings cover about eight acres and are divided into large courts illuminated by electric light. The length of the central corridor alone is 750 feet. In consequence of the great demand for space the exhibition authorities had to greatly increase the area for allotment. Four principal divisions have been made in the arrangement of the exhibits, namely, the General, the Fine Art, Artizan and Women's Industries,

IMPORTANT DECISION.

The Court of Appeal delivered judgment on April 20th in the case of the Queen v. The St. Catharines Milling and Lumber Company, dismissing the defendants' appeal from the judgment of Chancellor Boyd. The action is one brought by the Queen on the information of the Attorney-General of the Province of Ontario against the St. Catharines Milling and Lumber Company to have it declared that the Province of Ontario is entitled to 2,000,000 feet of pine timber cut by the defendants on property situated in the district of Algoma south of Wabroon lake and between Lake Eagle and Lake Superior, and for an injunction to restrain the defendants from trespassing on that property. The company claim title to the timber, setting up leave and license from the Dominion Government. They deny title in the Province, and contend that the land in question was formerly the property of the Indians, and was by them ceded to the Dominion in consideration of large payments of money to the tribes, and that the Indian title passed to the Dominion by purchase as well as by inherent right. Chancellor Boyd heard the case in the first instance, and found in favor of the Province, and the defendants appealed to the Court of Appeal. The four judges are now unanimous in dismissing the appeal maintaining the right of the Province to the property in question. Messrs. McCarthy, Q. C., A. R. Creelman and W. Creelman appeared for the Company, and the Attorney-General of Ontario and Mr. Walter Cassels, Q. C., for the Province.

THE Canadian patent office record for March announces the issuance of the following patent of interest to lumbermen: No. 23,301, to Geo. A. Haggart, Millbrook, Mich., for a drag saw No. 23,302, to T. W. Smirle, Norwood and James Chapman, Rockland, Ont., for a saw swage; No. 23,463, to T. S. Diaton, Philadelphia, Pa., for a shingle planing machine; No. 23,473, to S. P. Dresser, Pleasant Mount, Me., for a wood sawing machine.

Chips.

ALBANI, B. C., wants a saw mill to provide lumber for the settlers.

EXTENSIVE forest fires are raging in the vicinity of Tamaqua, Pa.

HALL & Co's barges will take about 5,000,000 feet of lumber this season between Toronto and Ogdensburg.

Messrs GILMOUR & Co. have commenced the season's operations at their Gatineau mills. Most of the Ottawa mills started on Monday.

An order for boxes to go to Honduras, Central America, is being filled by Hunter, Tilloston & Co., Muskegon, Michigan.

THERE was 42,000,000 feet of lumber shipped by rail from Saginaw valley between January 20 and March 31, of this year.

The input of logs on the Monominee and its tributaries, in Michigan and Wisconsin, this season, is 435,000,000 feet.

Messrs. Thompson and Baker have sold out the Brydon shingle mill at West Gravenhurst, to Mr. Joseph Tuer of Barrie, for \$2,300.

The Petrie Lumber Company, of Saginaw, has bought 13 500,000 feet of standing pine in Roscommon and Crawford counties, Mich., from Louis Huldebach, for \$33,000.

Mr. MERRON HARRIS will fill a contract to supply 200,000 ties to an American railroad this summer and will buy up all along the Rideau and Ottawa rivers.

PREPARATIONS are being made, says the Muskoka Herald, by various lumber companies throughout the District, to start their drives. The high water will make running a comparatively easy task this season.

THE Manitoba Government has designated May 12 as a public holiday, to be known as Arbor day, and the Lieut. Governor of the Northwest territories has designated May 1 for a similar purpose.

THE body of Mr. Charles Sereno, the Ottawa lumberman who was supposed to have fallen through a hole in the ice near Nippissing last December, has been found and taken to Portage du Fort for burial.

THE first four masted schooner ever built on the Pacific coast was recently launched at San Francisco to go into the lumber trade. Her name is Novelty, and she will carry 800,000 feet of lumber.

PINE land to the amount of 21,587 acres in Bayfield, county, Wis., was lately sold by the Omaha railroad company to the St. Croix Lumber Company and J. E. Glover for \$135,900.

THE planing mill of Mr. Thos. Orr, at Stratford, Ont., was totally destroyed by fire on April 12th. The fire broke out about 4 o'clock and originated in the drying kiln. Loss about \$10,000; no insurance.

THE log input on the Wisconsin and its tributaries for the season now closed, it is said, was 160,787,000 feet. Of this amount Wausau parties claim that 137,000,000 will go to that place for sawing.

BIG piles of white poplar wood, said to be largely used in the manufacture of paper, were drawn out in the winter, and deposited along side the Central Ontario railway track in many places, but the piles are very conspicuous in the vicinity of Big Springs and Central Ontario Junction.

DANIEL TAYLOR, over 80 years old, of Schroon Lake, N. Y., a year or two ago had his hand mangled by a circular saw. He got well of that and last winter he had his skull fractured while at work in his mill. He has fully recovered from that also, and is again ready to tackle a buzz saw or stand a crack on the head.

WILLIAM CARSON, president of the Valley Lumber Company, of Eau Claire, Wis., went to the Wisconsin Central to intercept the loggers as they came out of the woods, and distribute among them tracts, showing the folly of spending their wages in saloons and low resorts, and urging them to attend the meeting of the Y. M. C. A. at Eau Claire.

CANADIAN LOGS TO MAKE MICHIGAN LUMBER.

The following letter appears in the Montreal Gazette:

SIR,—If a doubt ever existed in the mind of any one, as to the propriety of our government adopting the suggestion of the Hon. Mr. Joly to increase the export duty on saw logs, it would be removed by knowing in what light existing arrangements are viewed by Michigan lumbermen. In the last issue of the *Lumberman's Gazette*, of Bay City, Michigan, Col. M. Jeffers, of East Saginaw, says:—"I have bought from parties in Canada 500,000 acres or twenty townships, of standing white pine on the Serpent, Spanish and Musasaga rivers, Georgian Bay." This tract contains 2,000,000,000 feet of pine timber with a saw mill at the mouth of Serpent river that cuts 40,000,000 feet a year, with an iron steamer and a tow of barges. The whole plant costing \$400,000." And after stating that Governor Alger of Michigan, and Col. Bliss, of Saginaw, are interested in the same region, he says: "We propose to bring the logs over and saw them in Michigan. We are Michigan men and hope to make our purchases inure to the benefit of our people here. Notwithstanding our investments in Canada, we still stand by protection for Michigan lumber."

In another part of the same paper the Hon. Isaac M. Weston, when criticising the Morrison Tariff bill, says:—"We now admit Canadian logs free of duty. On the north shore of Lake Erie Canadian saw mills are in ruins, but the mills at Tonawanda, N. Y., are employing thousands of American workmen, manufacturing Canadian logs towed from the Erie north shore. The Saginaw mills are running out of American stock and already they are looking to Georgian Bay for Canadian logs to cross the Huron lake and keep their mills and men at work."

So that the advantages Canada is to derive from sales of her timber lands to Col. Jeffers, the Governor of Michigan, Col. Bliss and others, is to have "her saw mills in ruins, her workmen out of employment and her timber towed over to Michigan, to be there made into lumber to compete with lumber manufactured in Canada, at a disadvantage of \$2 per thousand and U. S. duty—all in the interests of these gentlemen, who, not satisfied with their good investments in Canadian timber, boast of their hostility to Canadian interests. No, gentlemen, not quite so fast, as Canadians we are slightly interested in this matter and will try to have "our timber inure to our people here," and "still stand by the protection of Canadian lumber." We have no special desire that Canadian saw mills should be in ruins," in order that "New York (or Michigan) saw mills may employ thousands of American workmen manufacturing Canadian logs." If we cannot have free trade in lumber with you, let us have fair trade, cast in your lot with us, manufacture the lumber here, and enjoy equally with ourselves the privilege of contributing \$2 per M to the revenues of your country on any lumber sent there. It is bad enough to have our timber pass into the possession of strangers at a tithe of its value, but the country should at least be entitled to what little benefit it might derive from having the timber manufactured here. We have not such a superabundance of pine timber left that we can afford to part with it entirely in the interest of our cousins across the line, however much we may admire their disinterestedness in relieving us of it now that they acknowledge they have about used up their own.

The United States tariff on Canadian lumber is \$2 per M. The Canadian export duty on saw logs is \$1 per M. And since the United States Government admit logs free, there is a clear advantage of \$1 per M in favor of manufacturing Canadian logs in the United States. This discrimination against ourselves the Michigan lumbermen, who control the action of Congress by preventing the removal of duties from lumber, flatter themselves will be quietly submitted to by us, but it is well to let them know at once and distinctly that while we are now, and have at all times been, ready to remove the export duty on saw logs when the United States lumbermen permit their servants

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in Congress to remove duties from Canadian lumber, yet we are disposed to favor in any way by fiscal arrangements, the closing of Canadian saw mills in order that labor that should be employed in Canada should find employment in United States.

The question then is as to what would be a fair rate to fix for the export duty on saw logs? In order to foster Canadian manufactures it would, of course, be best to have a rate almost prohibitory, but I should not propose this, and think that \$4 per M would be reasonable. That is, \$2 to counterbalance the United States duty on lumber and \$2 more for national protection, a sum claimed to be very moderate for this purpose by all United States lumbermen.

Trusting that our Government may grant us, as our United States friends are so fond of saying, this moderate measure of protection,

I am, dear sir,

Your obt. servant,

WILLIAM LITTLE.

GLASGOW.

The *Timber Trades Journal* of April 17th says:—"The principal arrivals to note for the past week are a cargo of pitch pine and one of teak timber at Greenock. The arrivals of pitch pine since the beginning of this year are represented by a carrying tonnage of 11,000 tons; same period 1885, 5,178 tons, and 1884, 9,023 tons. In view of the ample stock of pitch pine on hand and moderate consumption, owing to quietness in shipbuilding, a light import will suffice for the wants of this market.

The arrivals of teak to Clyde this year have been by a carrying tonnage amounting to 3,927 tons, as against 4,376 tons corresponding date 1885, and 4,148 tons in 1884.

The yards at Yorkhill, Glasgow, for storage

of deals have now a very bare appearance. The stock of deals they at present contain is about 800 St. Petersburg standards under that of a year ago, the decrease this year being principally in lower port pine deals.

There has been one arrival at Grangemouth within the past week, a cargo of battens from Drontheim, consigned to Messrs. Brownlee & Co. The imports there up to this time of the year are never a large amount, but for the current year, so far, they have been unusually light.

No auction sales of timber or deals have been held by brokers at Clyde ports during the past week.

Some vessels forming a portion of the Quebec fleet left the Tail-of-the-Bank for the export this week. They carry coal at a freight, it is stated, of 2s. 9d. a ton, which will just pay for the loading and discharging. The fleet is later this year in leaving the Clyde. Freight, Quebec to Clyde, about 18s. per load.

On the 8th inst. there was launched from the shipyard of Messrs. J. & O. Thomson, Clydebank, H. M. S. Brisk, the third of the Scout class of cruisers contracted for last year. The Brisk, which resembles her predecessor in every particular, is expected by her builders to attain a speed of close upon eighteen knots an hour.

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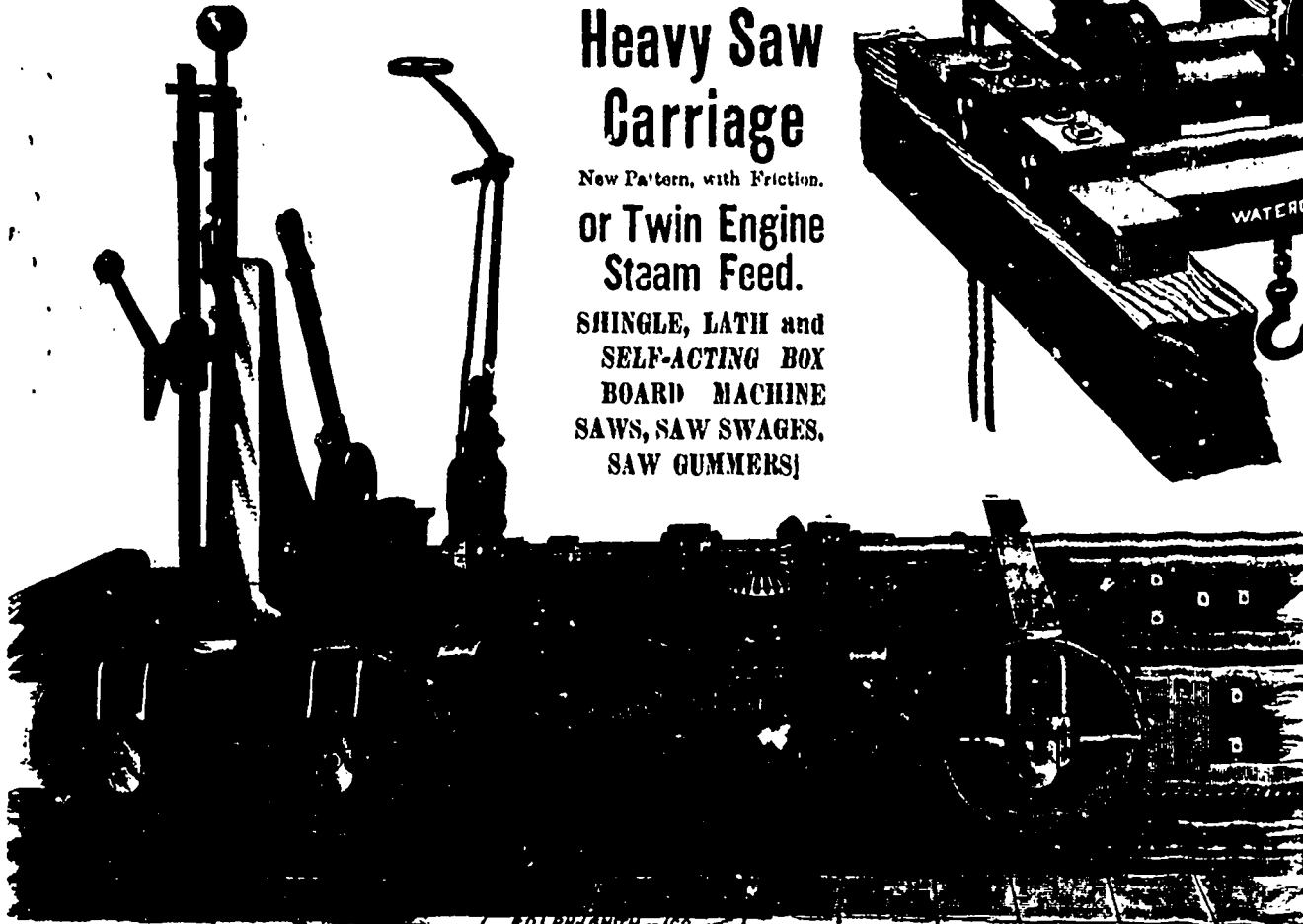
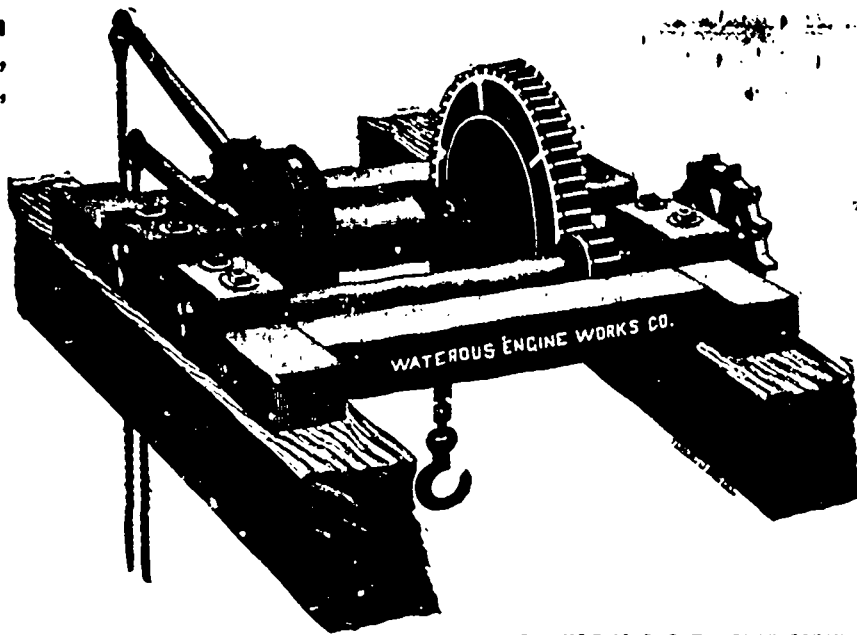
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THE CANADIAN PACIFIC RAILWAY.

It may be, and is, undoubtedly true that the primary objects of the road have been to connect the various Provinces of the Dominion, and open up her vast and fertile tracts of country to settlement and production; but if Canada had only these objects to depend on it would be questionable whether the enormous expense of so vast an undertaking would be ever remunerative or warrantable under the most exaggerated ideas of prospective growth either in population or trade. When, however, in addition to these considerations, which are the chief, if not the only ones, the other various American Pacific lines of railway can rely upon, there comes to be added the grand national and Imperial idea for a continuous all-British line of transportation around the world, of which the Canada Pacific railway is to form the main connecting link, then all doubts as to the warrant for its creation, and as to the unquestionable guarantees for its almost incalculable prospective remuneration, will kick the beam in the scale of pure financial reasoning or vanish like the mist of a midnight dream of apprehension in the morning.

It is an axiom in science that a chain is no stronger than its weakest link. The truth of the same principle holds good as to the connecting links that hold a nation together. If England should rely solely upon the Suez Canal, which the sinking of a single ship therein could effectually blockade, the tenure of her Asiatic and other eastern Colonial possessions would be held by a slender thread, and the vast sources for her wealth of commerce, both present and prospective, would be liable to evaporation. It is not for that end that she has girded the globe with guns, the sea with ships, and the whole world with the products of her labor. The Canadian Pacific railway not only completes but connects her national chain of communication which almost any human combination would find it difficult, if not impossible, to sever. The attempt, however, would prove like the terrible shock of the most highly-charged galvanic battery to the reckless grasp of an uncalculating hand.

But these may not, without justice, be said to be mere ideas. Give us facts.

It is a well-known fact, as has been authoritatively announced, that it is the intention of the directors of the Canadian Pacific Railway to place a line of fast steamers to ply between those countries and various ports of India, Australia and New Zealand. The early direct connection by steamers between British Columbia and those last named islands of the Pacific is also part of the Canadian Pacific Railway's programme.

Up till very recently the site for the western terminus on the Pacific has not been made publicly known. Within the past week, however, it is announced that the Canadian Pacific road has definitely selected the head of Burrard Inlet as the site for the western terminus. The port will be called Vancouver, and the construction of wharves and railway stations commenced forthwith. The track will be extended by the end of June next, twenty miles from Port Moody to Vancouver—the terminal port.

By or before that time it is expected that their line of steamers to Japan and China will be placed on the ocean route.

A recent despatch from Ottawa, by the correspondent of a leading Chicago journal, states that "The reason why the Pacific Mail Steamship Company, of San Francisco, manifested so much anxiety to conclude an arrangement with the Canadian Pacific railway for connecting the lines of the latter with San Francisco has leaked out, and, in consequence, ex-Governor Perkins' recent visit to Vice-President Van Horn, of the Canadian Pacific Railway, at Montreal, has a wider significance.

"It turns out that the Pacific Mail Steamship Company, which Mr. Perkins represents, receives a very large share of its earnings from the British Government for carrying the English mails; and that the company was notified a few months ago that such subsidy would cease in July next. This notification was sent out in pursuance of arrangements entered into between the English and Dominion Govern-

ments and the Canadian Pacific Railway for the transport of all English mail matter, now sent by way of San Francisco to Japan, China, and the New Zealand and the Australian Colonies, to go by the all-British route."

The same correspondent learned from a leading member of the House of Commons at Ottawa—Hon. J. J. O. Abbott—who is the chief solicitor of the Canadian Pacific Railway, that one of the most important measures to be submitted to the present session of the Dominion Parliament is the scheme settled upon by British and Dominion Governments and the Canadian Pacific Railway for a continuous all-British line of transportation from Great Britain via Montreal and Vancouver to Japan, China, New Zealand, Australia and the East Indies—a measure which must greatly change the course of trans-Pacific and trans-Continental trade. He adds:—

"Latest reports from San Francisco indicate that the mercantile community are greatly agitated over the possible results of the new arrangements."

I referred previously to the advantage which the more northerly position of the Canadian Pacific Railway gave it in a shorter distance from ocean to ocean over other and more southerly lines; but this land distance, so saved, is nothing as compared with the ocean distance saved by the water portion of the route of communication between Europe and Asia via the Canadian road over that between those continents via New York and San Francisco.

Vancouver, the Pacific terminus in British Columbia of the Canadian line, is 800 or 900 miles nearer Japan than is San Francisco; and the Atlantic terminus (as yet unfixed upon, but which must necessarily be in Nova Scotia,) will be about the same distance nearer England than is New York, as Vancouver is nearer Asia than San Francisco; so that we have nearly two thousand miles of ocean voyage saved in favor of the Canadian route. This in the transportation of cargoes of teas means a great deal more than the mere saving of time and expense, for, as every one knows, the ocean voyage is more or less destructive of the fine flavor and quality of teas—the chief reason why they are so carefully encased in tin to keep out the salie effects of the sea water. The overland transport of teas from China into Russia is the chief reason for the superior quality of the tea drunk in the latter country over every other out of China. Hence from both these causes—the great shortening of the sea distance in transportation, and consequent lessening of expense, with the additional superiority preserved in the commodity—the Canadian ocean and land line may yet carry all the importations of tea for the United States and America as well as for Great Britain and Europe.

While treating of the probable through international traffic over the Canadian route, I would by no means undervalue the great local traffic which its opening will necessarily and naturally create. To say nothing of the vast agricultural products, lumber, coal and other minerals, the, as yet, almost unavailed wealth with which the Canadian Pacific coast now teem—a wealth not generally known—will add a source of riches in their fisheries as great, if not greater, than that which the Dominion now possesses on her Atlantic shores. The inlets of the Pacific coast of British Columbia abound with the salmon, cod of several species, anchovy, sardines, dog-fish, sturgeon, that sometimes weigh 1,000 pounds, herring, whiting, trout, oysters, clams, and halibut. Whales are plentiful off the coast, and on the islands that fringe

There is a very general belief, especially in that city itself, that Halifax, Nova Scotia, will become the Atlantic terminus of this gigantic railway. But the tendency of the age is to select the nearest available points in all rail or steamship connections. For this ostensible reason, at least, the Canadian Government is pushing on its Intercolonial Railway to Louisburgh, in the Island of Cape Breton. To reach it, however, a very wide and dangerous strait of the sea, from currents and ice in winter, has to be crossed by ferry—for the expense of a bridge would be as colossal as the structure itself—and even when reached, Louisburgh, as a winter port, is for many weeks (sometimes

months) of that season closed to navigation by fields of packed and drift ice extending for miles around the entrance to its harbour, which itself is often solidly frozen up.

On the north-easterly point of Nova Scotia it fur seals are found in abundance.

I have stated that the port for the Atlantic terminus of the Canadian Pacific Railway has not yet been publicly announced. And I may add that, although its present arrangements with the International Railway, from Quebec to Halifax, connect it with the Atlantic at that port, its own shorter and more direct line from Montreal to such seaboard is not yet completed. When finished, as it soon will be, the distance between the two oceans, by rail, will be very considerably diminished. The great project now in hand by the Canadian Pacific Railway is the new gigantic railway bridge, across the St. Lawrence, which the company are building at Lachine—a work of equal magnitude with the Victoria bridge, of the Grand Trunk Railway, at Montreal. It is expected that the entire work will be completed in the spring of 1887.

It is stated that the bridge proper will be composed of three 80-foot deck-plate girders, eight spans of 243 feet each, two flanking spans of 279 feet each, four channel spans of 408 feet each, making the total length of the river portion of the bridge 3,550 feet. The steel for the superstructure is being imported from Scotland, and the bridge, when completed, will be one of the finest in the world. The trains of the Canadian Pacific will pass over it to the seaboard, and its traffic thus be rendered independent of the Grand Trunk.

is, however, a harbour as if created by Nature herself especially for this purpose, which is the nearest available port on the continent of America to that of Europe. It is the harbour of Whitehaven, pronounced by Admiral Bayfield, R. N., "to be the best harbour on the whole Atlantic American coast," as it is, so he says, "the nearest available one to Europe."

Admiral, then Captain, Bayfield—the author of the famous Admiralty charts—was commissioned by the British Government, many years ago, to survey the harbours of Halifax and Whitehaven, and report on their respective merits. He did so, and gave to Whitehaven the most unqualified preference. It is nearer Europe by 160 miles than Halifax is, thus saving that distance of dangerous coast navigation. It has the boldest and deepest water in its three magnificent entrances, and is immediately accessible from the sea, requiring but a mile or two of pilotage, while Halifax requires over twenty, and is surrounded by many dangerous sunken rocks and ledges, as its many ales of wrecks can testify. Whitehaven has never been known to be obstructed by ice, while Halifax harbour has been often frozen over, and the fogs about its entrance are so proverbial as to make it dreaded by mariners. For facilities in coaling, Whitehaven lies almost in the midst of the coal-fields of Nova Scotia and Cape Breton, and its expenses in other respects as a great ocean entrepot would be nearly nil.

However fast and magnificent are many of these ocean floating palaces for merchandise that now cross the sea, there are some respects in which, I believe, the ocean passenger traffic will, before many years, undergo a complete change—that is, in separating the passenger and mail traffic from the freight. The colossal hulks of 8,000 or 10,000 tons must be filled with freight or they eat their heads off, besides the danger any loss of speed from being too heavily handicapped. Pleasure or business passengers do not generally now take a cargo ship from Dover to Calais, or Folkestone to Boulogne, or Holyhead to Kingstown, nor do they prefer a heavy-laden freight train, by railway, to the Flying Dutchman or Lightning Express; and when a fast line of ocean steamers, built to carry only the mails and passengers, is put between Milford Haven, in Wales, and Whitehaven, in Nova Scotia, the directors of all other Atlantic lines of steamers which hope to carry passengers will discover the truth of these assertions about cargo ships and freight trains and passengers may reasonable expect to make an average journey and voyage between the great centres of business or pleasure in Europe

and America of but little over, if not even inside of, five or six days, with more comfort and far less apprehension of danger or disaster than they can at present.

QUEBEC FOREST.

The annual report of the Hon. W. W. Lynch, Commissioner of Crown Lands and Forests of the Province of Quebec has been presented to the Legislature.

A correspondent of the Montreal Gazette thus summarizes a portion of it:—

In the course of the year the Government decided, in view of the repeated applications which have been made to that effect, to offer to public competition a certain number of timber limits on the Ottawa river, north of Lake Temiscamingue, in a tract designated as block A, previously granted to the North Shore Railway Company. After publication of the proper notices, the sale took place on the 25th February, 1885. Twenty-three limits comprised within the tract in question, and containing a series of 1,044 square miles, were put up to auction at upset prices varying from \$70 to \$365 per square mile. A number of those present thought fit to refrain from offering any advance upon these prices. Consequently only four limits, comprising 204 miles, were disposed of for the sum of \$58,128, equivalent to an average bonus of \$282.95 per square mile. In regard to the prevention of forest fires, it is a matter for regret, at least in respect of this Province, that the project which was conceived some years ago has been allowed to be first carried out by Ontario. The success obtained there is such as to induce reflection on the part of our large limit holders, and the Minister is inclined to believe that after having taken communication of the remarks of the honorable Commissioner of Ontario, these gentlemen will not lend a deaf ear, as they have done hitherto, to the propositions which it is his intention shortly to address to them. The total cost of the service for 1885 was \$7,911, of which sum one-half has been refunded by licensees, leaving the net cost of this service to the department to be \$3,955.50. It has been disparagingly said, in certain circles especially devoted to the consideration of important questions connected with forestry, that the information we possess respecting the extent and character of those lands of our Province which still remain covered with timber, is very uncertain and almost useless. In order to meet this deficiency, it is proposed shortly to have all the information which can be collected upon this subject exhibited upon certain regional maps soon to be published. The careful explorations which have lately been undertaken and successfully carried out in the Gaspé territory, and in that comprising the counties of Rimouski and Temiscouata, will enable the work to be begun with those regions. It is proposed to have similar explorations made in other parts of the Province during the coming summer, so that we shall before long be in possession of a sufficient amount of detailed and precise information to enable us to form a correct idea of the forest resources remaining at our disposal.

The depressed condition of the lumber trade and the general uneasiness manifested in business circles during the fiscal year ended on the 30th of June last, as well as during that immediately preceding it, had, as was to be expected, a most unfavorable influence upon the revenue of my department. This situation seems to have reached its extreme limits, and from the signs of activity now everywhere apparent the Minister looks with confidence for the return of more prosperous years. The cut of timber during the winter of 1884-5 was a little larger than that of the preceding winter, and from information received from the different agencies of the Province he is led to believe that the number of logs made during the present season will exceed that of last year by at least 10 per cent. The manufacture of square timber will be small, which, from a certain point of view is not to be regretted; but that of other timber will be more than sufficient to make up for the deficiency. The statement of the receipts of the department shows a more favorable result than was expected, the total collections exceeding the estimates by \$21.

633.66. The Minister regrets to state that, notwithstanding the frequent appeals made to purchasers and the liberal offers of remission of interest, the receipts from Crown Lands were much less than they should have been. A considerable number, however, completed their payments, and the number of perfect titles granted in the form of letters patent during the twelve months ended on 30th June last was very little less than that of those issued during the similar period preceding.

ORIGIN OF WOOD TURNING LATHE.

The date of the invention of the wood saw and the turning lathe cannot be given, as they are older than our so-called civilization, or even the chronology of years by man. The saw is undoubtedly older than the lathe, the latter being a mechanical appliance denoting a considerable advance on the path of civilization. In the "Flint age" of the archaeologist, the earliest acquaintance we have with man, flint saws are found along with knives, scrapers, hammers, axes and arrow heads, the teeth of which are in some cases alternately chipped from contrary sides to give set to the teeth. Instruments with jagged edges for cutting wood would be amongst the first productions of man when the use of metals was discovered. Connected with the sawing of wood it is interesting to note that we have the old personal names of sager, jager, and jagger, from the Scandinavian or Teutonic sag, a saw. The wood turning lathe down to a century ago was a very different thing from the lathe of to-day. In its old form it represented a high antiquity; this was the pole or dead centre lathe. In this lathe the piece of wood required to be turned was secured in two centres fixed in two movable pieces of wood known as puppets, or poppets. The puppets were fastened at the distance from each other required by the size of the work in hand. When the piece of wood to be turned was fixed between the centres a cord was passed around it twice or thrice; one end of the cord was secured to the treadle, and the other to a spring pole affixed to the ceiling. By pressing the treadle a rotary motion was imparted by the cord to the wood it was desired to turn. When the pressure on the treadle was released the spring pole caused the wood to revolve in a contrary direction. Hence it was only possible to use the cutting tools half the time. This is the reason this form of lathe has dropped out of use except at High, Wycombe and other chair-making places where it is used along with the rotary lathe. An illustration of such an original lathe is given in the *Encyclopaedia Britannica*, ninth edition, xiv. 323.—*Timber Trades Journal*.

A PREP AT A PORTION OF THE OTTAWA VALLEY.

As the traveller proceeds on the C.P.R., from Mattawa westward, traversing the township of Papineau, Calvin, and Bonfield, he will not be very favorably impressed with the appearance of the land contiguous to the track. The railway, in passing through these townships, runs for a distance of 25 miles quite near the Mattawa River, whose banks are very rocky and rough, and if he should base his judgment of the quality of the land in the townships named, on the appearance of such parts as are visible from the train, he would carry away very erroneous opinions concerning its value. The south half of Papineau presents some good land, where, with ordinary industry, a large number of families could obtain an ample subsistence. A very good road runs from Mattawa to the western boundary of this township, along which are located already a considerable number of families who appear to be doing well. At the terminus of this road will be found a large farm in a high state of cultivation, on which is situated the depot of Messrs. Hurdman & Lloyd, lumbermen. Should the travellers alight at Mackey's mills and follow the Amable du Fond river and its tributaries westward and southward, through the townships of Calvin and Bonfield, he will discover a large tract of excellent land. The soil is generally composed of yellow loam of a very rich quality, which, when first sown, imparts to all kinds of grain a growth of straw so heavy as to fall by its

own weight. The second crop is generally regarded by the farmer as better than the first on this account. There are about 400 families settled in those two townships, and they generally express their entire satisfaction with the product of their farms. Clearing is comparatively easy in many parts of these townships, because the primitive forest has been destroyed by fire, but it is a question open to discussion, whether or not the bush fires which swept away the forest, leaving the land ready for seed at a trifling cost to the farmer, did not at the same time greatly reduce the fertility of the soil. On arriving at Calendar, a station on the C. P. R., situated not far from Nosbonsing lake, he may, on ascending a neighboring promontory command a magnificent view of that body of water, which is about twelve miles long and two wide, and which abounds in the finest quality of fish. The lands drained by Nosbonsing and its tributaries are embraced in three townships, Bonfield, Ferris and Chisholm. No finer land can be found in the district of Nipissing than that portion of those townships which surrounds the lake to a distance of several miles in the interior. A few farmers are located here and they are doing well. The soil is generally of a yellow loam with clay bottom in this locality. There is a large amount of land not located yet in the territory described, especially in the township of Chisholm and along the Wisawasa river, which rises twenty or thirty miles south of Lake Nosbonsing and falls into South East Bay on Lake Nipissing, where J. R. Booth's mills are located. This territory is regarded as most favorably situated for settlement on account of the fact that the Northern railway bounds it on the west and the C. P. R. on the north.—*Nipissing Times*.

INVESTING IN CANADA.

Col. M. Jeffers, of East Saginaw, was in the city yesterday, having just returned from an extended visit to Canada. Discussing business affairs in that country he said:—

"I have bought from parties in Canada 500,000 acres, or 20 townships of standing white pine. The land is situated on Georgian Bay, and upon the Serpent, Spanish and Missisquoi rivers. There is upwards of 2,000,000 of feet of timber upon the tract. It is all white pine. There is no Norway pine in that region. I have paid a large sum upon the purchase, and would not sell out for a big advance. I have been engaged in the business of buying pine lands for the most of my life and think that nothing outside of the Saginaw valley was ever seen like this whole Georgian Bay country, full of good pine. It is far superior to the Wisconsin or Lake Superior pine. I think this is the biggest transaction that has taken place in pine lands in Canada. Upon the property at the mouth of the Serpent river there is a saw mill that cuts 40 000,000 a year; it costs \$250,000, has gang saws and every convenience, including an iron steamer and a tow of barges. There is a good harbor at the mouth of the Serpent river, with wharves, etc. The barges take the lumber to Chicago, Buffalo or any other port on the chain of great lakes. It is delivered precisely as cheap as if from the mouth of the Saginaw river. The whole plant cost the former proprietors nearly \$400,000.

"The Canadian Pacific railroad is on the northern boundary of the tract. A spur runs down through it, built to afford rail shipping facilities from the mill itself. I think no land could lay better both for rail and water transportation. It is well cut up by lumbering streams. Gov. Alger has a large amount of timber in the middle of these limits south of us. Col. Bliss, of Saginaw, is also interested in the same region. We propose to bring the logs over and saw them in Michigan. We are Michigan men, and hope to make our purchases inure to the benefit of our people here. Notwithstanding our investments in Canada we still hold by protection for Michigan lumber, unless we have reciprocity or free trade applied to all articles of commerce between the two countries."—*Detroit Free Press*.

WOOD PRODUCTS IN CHEMISTRY

appears from the experiment of M. Jenff, that the yield of crude pyroligneous acid, tar,

charcoal, and gas is almost the same with the most different woods. But the richness of the acid waters in acetic acid, and consequently the yield of dehydrated acid, vary greatly. In this respect the wood of coniferous trees is the least valuable. The wood of the trunk furnishes more acid than that of the branches. The wood yields more acid than the bark, and sound wood more than dead wood. Rapid calcination yields more gas at the expense of the condensed products and of the charcoal; it yields also the weakest acid waters, and the charcoal is more hygroscopic than that furnished by a gradual action.—*Timber*.

Gold in the Rocky Mountains.

Reports from the Selkirk range of the Rocky Mountains in British Columbia state that gold has been found in the beds of all the streams running from the eastern slope of the Selkirks into the Columbia river. On Canyon Creek, lying a few miles south of junction of the Kicking Horse and Columbia rivers, several parties were to be seen washing gold from the bed of the creek, and making good wages. Further down the river were three mining camps, with men in each, preparing new flumes for placer mining. They acknowledged that two of their party had a few days previously washed out \$25 worth of the precious yellow metal in one day. Mineral prospects there, both placer and quartz, are said to be superior to anything seen before in those parts.



MAIL CONTRACT.

SEALED TENDERS, addressed to the Postmaster General, will be received at Ottawa until noon, on FRIDAY, 14th MAY, for the conveyance of Her Majesty's Mails, on a proposed contract for four years, six times per week each way, between

BOBCAYGEON & PETERBORO'

from the 1st JULY next. The conveyance to be made in a Wagon or Steamboat, via Bridgenorth and Ennismore.

The Mails to leave Bobcaygeon daily, Sundays excepted, at such an hour as will ensure arrival at Peterborough in time for the despatch of the mails by the afternoon train to Port Hope.

Leave Peterborough as soon as possible after the arrival of the morning train from Port Hope and to arrive at Bobcaygeon in four and a half hours afterwards.

Printed notices containing further information as to conditions of proposed contract may be seen, and blank forms of tender may be obtained, at the Post Office of Bobcaygeon, Bridgenorth, Ennismore and Peterborough, and at this office.

DAVID SPRY, Post Office Inspector.

Post Office Inspector's Office, Barrie, 8th April, 1885.



NOTICE.

SEALED TENDERS, addressed to the undersigned, and endorsed "Tender for Indian Supplies," will be received at this office up to noon on TUESDAY, 20th APRIL, 1885, for the delivery of Indian Supplies during the fiscal year ending 30th June, 1887, consisting of Flour, Bacon, Beef, Groceries, Ammunition, Twine, Oxen, Cows, Bulls, Agricultural Implements, Tools, &c. duty paid, at various points in Manitoba and the North West Territories.

Forms of tender, giving full particulars relative to the supplies required, dates of delivery, &c. may be had by applying to the undersigned, or to the Indian Commissioner at Regina, or to the Indian Office, Winnipeg.

Articles may tender for each description of goods (or for any portion of each description of goods) separately or for all the goods called for in the schedule.

Each tender must be accompanied by an accepted Cheque in favor of the Superintendent General of Indian Affairs on a Canadian Bank for at least five per cent of the amount of the tenders for Manitoba and the North-West Territories, which will be forfeited if the party tendering declines to enter into a contract when called upon to do so, or if he fails to complete the work contracted for. If the tender be not accepted the cheque will be returned.

Tenders must make up in the Money column in the Schedule the total money value of the goods they offer to supply, or their tender will not be entertained.

Each tender must in addition to the signature of the tenderer be signed by two sureties acceptable to the Department, for the proper performance of the contract.

In all cases where transportation may be only partial by rail, contractors must make proper arrangements for supplies to be forwarded at once from railway stations to their destination in the Government Warehouse at the point of delivery.

The lowest, or any tender, not necessarily accepted.

L. VANCOUERNET, Deputy of the Superintendent-General of Indian Affairs.

Department of Indian Affairs, Ottawa, 3rd March, 1885.

Perhaps the most extraordinary that success has been achieved in modern science has been attained by the Dixon treatment for Catarrh. Out of 2000 patients treated during the past six months, fully ninety per cent. have been cured of this stubborn malady. This is none the less startling when it is remembered that not five per cent. of the patients presenting themselves to the regular practitioner are benefited. While the patent medicines and other advertised cures never record a cure at all. Starting with the claim now generally believed by the most scientific men that the disease is due to the presence of living parasites in the tissues, Mr. Dixon at once adapted his cure to their extermination; this accomplished the Catarrh is practically cured, and the permanency is unquestioned, as cures effected by him four years ago are cures still. No one else has ever attempted to cure Catarrh in this manner, and no other treatment has ever cured Catarrh. The application of the remedy is simple and can be done at home, and the present season of the year is the most favorable for a speedy and permanent cure. The majority of cases being cured at one treatment. Sufferers should correspond with Messrs. A. H. DIXON & SON, 305 King Street West, Toronto, Canada, and enclose a stamp for their treatise on Catarrh.—*Montreal Star* 1y123.

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THE CANADA LUMBERMAN

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Communications intended for insertion in the CANADA LUMBERMAN, must be accompanied by the name of the writer, not necessarily for publication, but as a guarantee of good faith. Communications to insure insertion (if accepted) in the following number, should be in the hands of the publishers a week before the date of the next issue.

The CANADA LUMBERMAN is filed at the Offices of Messrs SAMUEL DRACON & Co., 154 Leadenhall Street, London, England, who also receive advertisements and subscriptions for this paper.

PETERBOROUGH, Ont, MAY 1, 1886.

SCIENTIFIC FORESTRY

In the report by Prof. Wm. Saunders, F.R.S.C., to the Dominion Minister of Agriculture, on agricultural colleges and experimental farms it is satisfactory to find that the important subject of forestry has not been neglected. In fact in the letter of instructions directing Prof. Saunders to make the investigations on which he founds his report he was especially required to pay attention to the subject of forestry, particularly in regard to tree-planting in the Western States.

As the result of his investigation Prof. Saunders has to report that in many of the States particular attention is given to practical and theoretical forestry in some cases with very beneficial results. The central government at Washington is also evidently alive to the importance of this matter, and makes a not unsubstantial provision for it. Very briefly he records, too, what different European countries are doing in this respect. Especially valuable is the communication which he embodies from Mr. B. E. Fernon.

In the suggestion which Prof. Saunders also makes as part of his duty, he utilizes the information thus obtained. Though the primary object in view is the promotion of scientific agriculture, he shows himself not unmindful of the forest wealth of Canada, or of the necessity for conserving it. In his suggestion for the staff of the proposed colleges and experimental stations he includes a Superintendent of Forestry with appropriate duties. At the stations in the Northwest especially he advises the reservation of blocks of land for forestry purposes.

It is to be hoped that these and other suggestions which have not been particularized, will be adopted, for they cannot fail to be useful. The Dominion Administration, not only as the central authority of our country, but also as having control of important timber tracts and of extensive prairies, part of which might well be devoted to forest, can very appropriately undertake this work.

UPPER END OF OTTAWA VALLEY.

In a second article on the upper end of the Ottawa valley the Nipissing Times says:—Twenty-four miles west of Northbay by the C. P. R., you approach the Sturgeon river. A large and turbulent stream which flows into Lake Nipissing, and whose banks, until recently, have been untroubled by the lumbermen. At a point situated four miles above its mouth that river presents some very picturesque scenery. There are the celebrated Sturgeon Cascades, which are an object of interest to both pleasure seekers and capitalists. There also is the singular gorge cut in the rock, as if done by art, through which the waters of a great river rush with terrific velocity, in a volume only thirty five feet wide. It is at the latter that the C. P. R. crosses the Sturgeon by means of an iron bridge, which, owing to the peculiar conformation of the river's banks, was erected at a comparatively trifling cost. There, likewise, is the basin below the last fall where the river spreads out into a lake surrounded by high banks and covering an area of a mile in circumference. An intelligent traveller will linger here to enjoy the pleasure arising from gazing on one of the loveliest scenes found on the shores of the Nipissing. This is the site of the village of Sturgeon Falls, whose commencement dates back to 1882. It possesses about three hundred inhabitants and is favored with the usual number of stores and public houses in a village of this size. There is erected on the basin described a steam saw mill owned by Mr. Clark, which is daily turning out a considerable quantity of sawed lumber; and there is also a water power saw mill built on the upper rapids and owned by Mr. Martin Russel, which is supplying a large amount of shingles and saved lumber for the use of settlers; and we are informed that Mr. Thomas Mackey is preparing to build a large steam saw mill on McLeod's Bay, a short distance from the village, where are annually shipped, by the C. P. R., large quantities of square timber and saw logs for the lower Ottawa. The township of Springer in which Sturgeon Falls is situated and the township of Caldwell, lying immediately west of the former, which is being rapidly located. Those townships are traversed by two other streams besides the Sturgeon, viz.,; Widow river and Cache creek, in the valleys of which lands of superior quality are found. On ascending the Sturgeon river ten miles, you reach the township of Field which, although reported to be one of the best townships in the district of Nipissing, has not a settler located at the present time.

THE MISSION TO LUMBERMAN

An important though unostentatious form of mission work to lumbermen has been carried on for several years by the Presbyterian Church. In order to make it as efficient as possible it has been trusted to the care and oversight of the Synod of Montreal and Ottawa, within whose bounds this field of effort chiefly lie. The importance of the work among those engaged in the lumber woods is at once apparent when their peculiar circumstances are taken into account. A large number of the men employed in lumbering shanties come from all parts of the Province of Quebec and others from Eastern Ontario. They are freed from all restraint of home influence. There are the long evenings when time hangs heavily on their hands. Sabbath is not a working day in the lumber camp, neither are its sacred hours devoted exclusively to religious worship. Much miscellaneous work is done on that day. It is almost inevitable that the moral atmosphere of the camps is not of any elevating kind, and those who while at home have been trained to better things receive evil impressions that linger in memory.

The committee having charge of the lumbermen's mission, as they have opportunity, send ministers and catechists to the shanties in winter. The missionaries are provided with religious and instructive literature, which is gratefully received and carefully read by all who receive it. At the recent meeting of the Synod of Montreal and Ottawa it was stated that in many cases the illustrated and other periodicals had passed from hand to hand and had been carried to distant regions where they continued to be read by many who could not have been reached otherwise.

Another encouraging feature connected with the mission is the kind and cordial welcome accorded the missionaries. They have to undergo arduous and sometimes dangerous journeys in travelling from camp to camp. They have literally to endure hardship as good soldiers of Jesus Christ, yet in few instances indeed do they meet with any thing approaching rude treatment from those they visit. The Old, Old Story is generally listened to with respectful interest. The door stands wide open to the missionary, and great good may confidently be expected from his labour of love among this too much neglected class.

Hitherto the work has to a large extent been sustained by members of the congregations in Ottawa, though others have given liberally to its maintenance. Under the judicious management of the Converter, the Rev. Dr. Moore, of the Bank Street Church, Ottawa, whose resignation of the office was unanimously regretted, the mission has prospered; but all who spoke in the Synod appeared to be impressed with the conviction that still more vigorous effort on the part of the Synod is required to make the mission what it ought to be.

It was resolved to apply both to the Home Mission Committee and the Board of French Evangelization for grants to aid in extending the operations carried on by the mission lumbermen, and also to appeal to the congregations with the bounds of the Synod for collections to help forward the work. There is no doubt that financially and in other respects the new Converter, the Rev. W. D. Armstrong, of Ottawa, will be able to present a still more encouraging report to the Synod next year.—Canada Presbyterian.

CHIMNEY DRAUGHTS.

In order to support the combustion means must be provided for supplying the furnace with a continuous supply of air and for removing the products of combustion. Both of these objects are usually accomplished by the chimney, the products of combustion in their heated state being lighter than the external air tend to rise through the flue, and drawing air through the furnace, supply the required oxygen, the remainder, with the products of combustion, passing off in their turn, and, by reason of their lightness, to maintain the draught.

It frequently happens that a draught which has been sufficient becomes impaired and unable to do what is required of it. The first and most natural cause which is looked to in this dilemma is obstruction, by the accumulation of soot in the flues and passages. If this soot is also deposited in the tubes and upon the heating surfaces of the boiler it diminishes the efficiency of the coal which is burned by interposing itself as a non-conducting coating between the fire and the water which it is designed to heat, rendering necessary the consumption of more coal requiring a stronger draught, which the passages in their choked condition are unable to supply.

Leaks in the chimney and masonry about the boiler have a decided and prejudicial effect upon the draught, not only from the fact that air enters at those places which would otherwise come through the grates, but the air so entering is cold and heavy, and increases the weight of the column of air in the chimney instead of reducing it as it would in a rarified condition after passing through the fire.

Care should be taken in making more than one connection to a flue, first to have the leading flues so conducted that one may not have a decided advantage over the other, and second, that they do not enter the stack in such a manner as to interfere with each other. When flues enter a stack directly opposite to each other, deflecting plates should be provided in order that the entering currents may not oppose each other. In large stacks with flues entering upon all sides a cone is sometimes built in the centre of sufficient height to serve as a deflector.

The draught of a chimney is, of course, affected by the character of a boiler which is attached to it, and of the flues or passages through which the heated gases are conveyed to it. A return tubular boiler of equal area of cross section in the tubes will require a stronger draught than a vertical tubular, and the vertical will require a stronger draught than a plain cylinder boiler.

In cases where, as it is frequently happens in city blocks, the boilers are situated in front and the chimney in the rear, a long and tortuous flue, sometimes descending, is used, allowance must be made not only for the increased friction of the flue itself, but for the heat which will be radiated from it, and which would otherwise assist in sustaining the chimney draught.

We have heard the statement made that the draught of a chimney was decreased by the sun shining upon it, and we have read the most profound arguments to the effect that it was retarded in some way by the actinic rays acting down upon it. If any such effect is produced by this circumstance we should be inclined to lay it to the lightening of the external column of air rather than any direct retardation of the inner one.—Boston Journal of Commerce.

RAISING OAK TREES.

During the last few years large quantities of acorns have been taken from this country for the purpose of planting. White oak acorns are preferred and they have been chiefly obtained in the State of Missouri. They are generally planted on sandy or broken land that is intended for pasturing sheep. In Great Britain sheep are accustomed to eat acorns, and it is considered profitable to raise them for sheep food. No variety of oak has received much attention at the hands of the planters of fruit trees. They state that the trees make a very low growth and for this reason they prefer to plant trees that grow rapidly and furnish fuel and timber in a shorter time. A foreign writer suggests the oaks may be raised to excellent advantage in connection with other varieties of trees that grow rapidly. He admits that oaks grow slowly while they are young, but states that they increase in size rapidly when they are fifteen or twenty years old. He, therefore, recommends planting a row of oaks between rows of quick growing trees. The latter will be large enough to use for various purposes when they are from fifteen to twenty years old. If care is exercised they may be cut down so as not to injure the young oaks. These trees being removed, the young oaks will grow rapidly and completely occupy the ground. Oaks are easy to propagate as the acorns can be obtained at small cost and are almost certain to germinate. Acorns are much easier to manage than large nuts like those produced on the hickory or pecan tree. They can be planted where it is desired to have them grow, or in nursery rows, from which the small trees may be taken up when they are at a suitable size to be transplanted. The wood is excellent for fuel, timber and post.—N. O. Times Democrat.

Seasoning Green Wood.

Green wood cannot be properly seasoned or dried in five days, any more than green cheese can be ripened in that time, yet each of the nine lumber-drying kilns at the Pullman Car Works has a capacity to turn out 300,000 feet supposed to be fit for car-building, in the above time. It is pretty generally acknowledged that kiln-dried timber must be injured in fibre, and so roasted on the outside as to be brittle and unfit for many purposes. At least this is what a Chicago carriage journal thinks.

A NEW department, says the Deseronto Tribune, was added to the ship yard during the past winter, viz. the manufacture of railway cars. Besides building a number of flat cars, Mr. Evans has repaired several passenger cars, and is now building a smoking and express car for the N. T. & Q. Railway. It is now well advanced towards completion and experts pronounce the workmanship in every respect superior both in strength and finish. A passenger coach will be next attempted and the work of building cars will then become one of the industries of Deseronto, and give additional employment to many workmen. Mr. Evans intends proceeding with the erection of a car shop which will be 85 feet long and 26 feet wide. There will be two tracks, one for framing, &c., and the other for painting &c.

A DISASTEROUS bush fire is now progressing in Canterbury, N. H. Five hundred acres have been burned over. Some of the land had some valuable standing timber, and the loss will be heavy. A large force of men is fighting the fire.

SEASONING TIMBER.

Though air drying is the best and most certain way of promoting durability in wood without impairing its strength, the time it takes is often a great drawback; hence the immersion of the newly-felled timber is resorted to in order to arrest any tendency to change, by washing out of the pores of the wood all sap and other substances which tend to promote fermentation, and hence decay. Moreover, the soaking in water makes the wood less liable to twist and warp in subsequent drying, and when it is cut up into scantlings for use, besides rendering it more proof against the attacks of worms, though its strength is supposed to be slightly diminished thereby, which seems to be borne out by the fact that the loss of weight is greater in waterseasoned wood than when it has been merely air seasoned. If placed in water it is better that it should be completely submerged, as nothing is so injurious to timber as being exposed to alternate wet and dry. The generally received opinion is, that for ordinary purposes a fortnight's immersion in running water is sufficient, though much must depend on the size of the bulks so treated. T. de Lapparent, one of the Government inspectors of timber in France, recommends for timber used in shipbuilding one year's immersion in river water, two years in fresh, or three in brackish water, constantly being changed, to be followed by two years of air-seasoning. The gradual processes of air and water seasoning are the only ones which can be safely applied to timber in large scantlings; still, artificial drying may often be successfully employed in the case of smaller scantlings, more especially in the preparation of timber for joinery, for which purpose it should be quite dry and free from any tendency to shrink.

Amongst such systems we may mention drying in ovens or hot chambers, exposed to currents of air ranging from 90° for hard woods and large sections, to 200° for soft woods in thin boards, the process being carried on until the wood has lost from one-fifth to one-third of its original weight, according to the purpose for which it is required to be used. Boiling and steaming wood for three or four hours are often resorted to, as the subsequent drying is thereby rendered very rapid, and the tendency to shrink and twist is reduced to a minimum, whilst the wood becomes so pliable that ribs and planks can be bent to any required curve, and, if confined until dry, will readily retain the form so given them. Smoke-drying may also be employed at times with advantage; but carbonizing or charring the outer surfaces of the wood, though very effectual in preserving it from the destructive influence of alternate wet and dry, such as the ends of posts let into the ground are so much exposed to, must never be regarded as a substitute for seasoning; for though keeping out external moisture, it effectually imprisons that which is in the pores of the wood, and so hastens internal decay. While on this subject it may be as well to observe that paint, tar, and all similar waterproof coatings are only preservatives so long as the timber is already seasoned and free from moisture, as then they keep it dry; but if not, they become the most certain agents of destruction. For imperfectly seasoned timber the best preservative against the weather is a rough-swan face, which forms a shield against both sun and rain, and at the same time offers no check to the evaporation of the moisture from the pores of the wood.—*Timber.*

A. Remembrance.

A strange tragedy, that took place twelve years ago in the lonely woods of the North Shore of Lake Huron, is told in the *Manitowlin Expositor* of April 10. Seven men in employ of Williams & Murray, lumbermen, of Blind River, while taking up a load of oats and provisions in a boat to an inland station camped one raw night in Spring on the banks of the river. To shelter them from the wind they piled the bags of oats in a dyke, behind which they lay down to sleep. The dyke toppled over during the night smothering them all. Mr. Murray found their dead bodies on the fatal spot three days after

The length of the short line to be constructed by the C. P. R. from Smith's Falls east is 121 miles.

NEW YORK.

The following is the official list of the prices obtained at the New York Lumber Auction Company's sale at New York on April 13th:—
 Lot 1—White pine shelving, 3/4 inch, 12,829 ft. \$18.
 Lot 2—Ash, 1 1/2 and 1 3/4 inch, firsts, 3,401 ft., seconds, 5,247 feet; culls, 434 feet. \$27.
 Lot 3—Hemlock joists, 2 1/2 x 13, 924 pieces, 13 cents each.
 Lot 4—Walnut and cherry, 1 inch, walnut firsts, 291 ft.; seconds, 2,113 ft.; culls, 4,017 ft.; cherry, 69 ft. \$47.
 Lot 5—White pine shelving, 3/4 inch s 2 s 3,615 ft. \$18.60.
 Lot 6—Chestnut, 1 inch, firsts 101 ft.; seconds, 3,100 ft.; culls, 982 ft. \$14.
 Lot 7—Chestnut, 1 inch, firsts, 389 ft.; seconds, 2,791 ft.; culls, 913. \$15.
 Lot 8—Chestnut, 1 inch, firsts, 340 ft.; seconds, 2,710 ft.; culls, 325 ft. \$15.
 Lot A—Chestnut, 1 inch, culls, 10,785 ft.; \$9.50.
 Lot 9—Whitewood, 1 1/2 and 1 3/4 inch, firsts 5,177 ft.; seconds, 3,541 ft., culls, 260 ft. \$20.
 Lot 10—Hemlock joist 2 1/2 x 13, 937 pieces. 13 1/2 cents each.
 Lot 11—Whitewood squares, firsts, 569 ft.; seconds, 1,072 ft.; culls, 978 ft. \$17.50.
 Lot 12—Cherry, 1 1/2 in., Ash, 1 1/2 and 3 in., Walnut 6 x 6 and 6 x 6 inch. Cherry culls 69 ft. Ash, firsts and seconds 114 ft., culls 31 ft. Walnut, firsts 111 ft.; seconds, 33 ft.; culls 64. \$33.
 Lot 13—Whitewood, 3/4 inch; firsts 145 ft.; seconds (planed) 1,607 ft.; culls (planed) 1,040 ft. \$11.
 Lot 14—Whitewood, 1 inch, firsts, 2,593 ft., seconds, 7,064 ft.; culls 935 ft. \$25.
 Lot 15—White pine, 2 inch, box pine 7,525 ft. \$15.50.
 Lot 16 1/2—White pine, 1 1/2 inch W.P. cutting up stock, 4,224 ft. \$23.
 Lot 16—Whitewood, 1 inch; firsts, 173 ft.; seconds, 1,413 ft.; culls, 4,503 ft. \$18.50.
 Lot 17—Whitewood, 2 in.; firsts, 5,268 ft., seconds, 3,796 ft.; culls, 437 ft. \$29.
 Lot 18—Whitewood, 3 inch; firsts, 1,590 ft.; seconds, 1,852 ft.; culls, 205 ft. \$23.
 Lot 19—Whitewood, 1 inch, culls, 13,084 ft. \$16.
 Lot 20—Walnut squares, 794 ft. \$31.
 Lot 21—Whitewood, 1 1/2 and 1 3/4 inch; firsts, 3,858 ft.; seconds, 2,528 ft.; culls, 30. \$28.
 Lot 22—Whitewood, 2 in., firsts, 3,405 ft.; seconds, 2,755 ft.; culls 62 ft. \$22.50.
 Lot 23—Hemlock boards, 1x12x13, 644 pieces. 13 1/2 cents each.
 Lot 24—Box pine, 2 inch, 8,182 ft. \$15.
 Lot 25—Ash flooring, 1 inch, T. & G. planed one side. 3/4 inch No 1 ash flooring, 11,133 ft. \$23.50.
 Lot 26—Hemlock boards, 1x10x13, 924 pieces. 12 1/2 cents each.
 Lot 27—Walnut, 1 and 2 in., firsts, 45 ft.; seconds 844 ft.; culls, 4,866. \$38.
 Lot 28—White pine 1 in. W. P. No. 2 cutting up stock, 12,208 ft. \$24.
 Lot 29—Whitewood, 4 in., firsts, 4,118 ft.; seconds, 2,494 ft.; culls, 275 ft. \$32.50.
 Lot 30—Hemlock boards, 1x10x13, 800 pieces. 13 cents each.
 Lot 31—Walnut, 1 inch, firsts 144 ft.; seconds, 1,333; culls, 1,855 ft. \$44.
 Lot 32—Walnut 1 in., firsts, 195 ft.; seconds, 1,757; culls, 2,363 ft. \$43.
 Lot 33—Whitewood, 2 in., firsts, 1,609 ft., seconds, 2,638 ft.; culls, 996 ft. \$22.
 Lot B—Walnut Planks, 2, 3, 3 1/2, 4 and 4 1/2 inch, firsts, 1,056 ft.; seconds, 1,802 ft.; culls, 785 ft. \$90.
 Lot C—Walnut squares, 4x4, 5x5, 6x6, 7x7 and 8x8 inch, firsts, 1,002 ft.; seconds, 1,227 ft., culls, 1,240 ft. \$75.
 Lot 34—Whitewood, 1 1/2 in., firsts, 2,029 ft.; seconds, 655 ft.; culls, 50 ft. \$30.50.
 Lot 35—Whitewood, 3 in., firsts, 3,508 ft., seconds, 2,764 ft. \$30.50.
 Lot 36—Whitewood, 1 1/2 and 1 3/4 in., firsts 3,265 ft.; seconds, 3,582 ft.; culls, 649 ft. \$38.50.
 Lot 37—Whitewood, 1 inch, culls, 15,478 ft. \$14.50.
 Lot 38—W. P. shelving, extra wide, planed 2 sides, 3 W. P. Shelving pl 2 S—10,751 ft. \$18.
 Lot 39—Walnut, 1 inch, seconds, 959 ft.; culls, 1,928 ft. \$44.50.
 Lot 40—Walnut, 1 inch, seconds, 1,042 ft., culls, 2,092 ft. \$46.
 Lot 41—Walnut, 1 inch, seconds, 1,498 ft., culls, 1,666 ft. \$50.50.
 Lot 42—Whitewood, 1 inch, culls, 4,151 ft. \$14.50.
 Lot 43—Whitewood, 1 inch, culls, 4,243 ft. \$14.50.
 Lot 44—Whitewood, 1 inch, culls, 4,106 ft. \$14.50.
 Lot 45—Whitewood, 1 inch, firsts, 1,283 ft., seconds, 3,580 ft., culls, 2,687 ft. \$26.
 Lot D—White pine shelving, extra wide, planed 2 sides, 3/4 inch, 18,159 ft. 2 M \$21.50, 2 M \$21.50, 1 M \$20, 5 M \$19.50 and 8,153 at \$19.00.
 Lot 46—Whitewood, 2 inch, firsts, 1,066 ft.; seconds, 1,744 ft.; culls, 634 ft. \$25.50.
 Lot 47—Whitewood, 3 inch firsts, 5,453 ft.; seconds, 1,909 ft.; culls, 313 ft. \$30.50.
 Lot 48—Walnut, 3/4 to 4 inch, culls, 2,312 ft. \$25.
 Lot E—Whitewood, 1 and 1 1/2 inch, seconds, 566 ft.; culls, 1,415 ft. \$23.
 Lot 49—Whitewood, 1 1/2, 1 3/4 inch, firsts, 1,121 ft.; seconds, 2,088 ft.; culls, 1,050 ft. \$24.
 Lot 50—Walnut, 1 1/2 and 1 3/4 inch, firsts, 32 ft.; seconds, 788 ft.; culls, 2,532 ft. \$40.
 Lot 51—Walnut, 3/4 inch, firsts, 993 ft.; seconds, 2,445 ft.; culls, 1,638 ft. \$27.50.
 Lot 52—Whitewood squares, firsts, 2,651 ft.; seconds, 978 ft.; culls, 628 ft. \$25.
 Lot 53—White pine shelving, planed two sides, 3/4 inch, 17,175 ft. \$17.
 Lot 54—Walnut, 1 and 2 inch, firsts, 2,062 ft., seconds, 4,245 ft.; culls, 524 ft. \$75.50.
 Lot 55—White pine flooring, T. & G. planed one side, 3/4 inch, 14,460 ft. \$16.
 Lot 56—Hemlock joist, 2 1/2 x 13, 660 pieces. 12 1/2 cents each.
 Lot 57—Whitewood, 1 inch, seconds, 792 ft., culls, 3,233 ft. \$18.50.
 Lot 58—Whitewood, 1 1/2 and 1 3/4 inch, firsts, 2,228 ft.; seconds, 1,930 ft.; culls, 144 ft. \$27.50.
 Lot F—White ash, 1 inch, firsts, 5,190 ft.; seconds, 2,595 ft.; culls, 56 ft. \$34.50.
 Lot 59—Whitewood, 1 1/2, 2, 2 1/2 inches, firsts, 9,815 ft.; seconds, 1,518 ft.; culls, 184 ft. \$31.
 Lot 60—Whitewood squares, firsts, 2,647 ft.; seconds, 531 ft.; culls, 72 ft. \$29.50.
 Lot 61—Whitewood, 1 to 2 inch, firsts, 3,000 ft.; seconds, 2,218 ft.; culls, 159 ft. \$20.
 Lot 62—Walnut, 1 and 2 inch, culls, 8,655 ft. \$38.50.
 Lot 63—Wide pine shelving, planed two sides, 3/4 inch, 10,905 ft. \$14.50.
 Lot 64—Quartered sycamore, 1, 1 1/2, 1 3/4 inch, firsts, 1,214 ft.; seconds, 627 ft.; culls, 162 ft. \$31.75.
 Lot 65—Whitewood, 1 inch, firsts, 2,331 ft.; seconds, 4,600 ft.; culls, 1,628 ft. \$26.
 Lot 65 1/2—Whitewood, 1, 1 1/2 and 1 3/4 inch, firsts, 5,658 ft.; seconds, 3,337 ft.; culls, 729 ft. \$27.75.
 Lot 66—Whitewood, 1 1/2 in., firsts, 9,747 ft., seconds, 1,600 ft., culls, 49 ft. \$31.
 Lot 67—Walnut, 1, 1 1/2 and 2 in., seconds, 261 ft.; culls, 1,178 ft. \$32.
 Lot 68—Whitewood, 3/4 inch, firsts, 2,871 ft.; seconds, 4,244 ft.; culls, 5,105 ft. \$17.50.
 Lot 69—Hemlock boards, 1x12x13, 624 pieces. 14 cents each.
 Lot 70—White pine, 1 inch, W. P. No. 2, cutting up stocks, 12,251 ft. \$18.50.
 Lot 71—Oak timber, 5x12 inch, firsts, 5,627 ft.; seconds, 2,745 ft.; culls, 665. \$27.60.
 Lot 72—Whitewood, 1 inch, culls, 14,499 ft. \$14.25.
 Lot 73—Roofing boards, 1x10 D. & M. 14,107 ft. \$14.50.
 Lot 74—Basswood, 3/4 inch, culls, 9,012 ft. \$7.00.
 Lot 75—Ash Balusters, 4 205 pieces 2x2, clear, and 1,323 do., 2 1/2 x 2, clear. 4 1/2 cents each.
 Lot G—Cherry Balusters, 831 pieces, 2x2, and 189 do., 3 1/2 x 2, clear. 5 cents each.
 Lot 76—Ash, 1 1/2 inch, firsts, 1,285 ft., seconds, 3,766; culls, 351. \$26.
 Lot 77—Whitewood, 1, 1 1/2 and 1 3/4 inch, firsts, 1,694 ft.; seconds, 2,194 ft.; culls, 964 ft. \$21.10.
 Lot 78—Whitewood, 1, 1 1/2 and 1 3/4 inch, firsts, 1,459 ft., seconds, 2,001 ft., culls, 770 ft. \$20.50.
 Lot 79—Whitewood 1 1/2 inch, firsts, 4,790 ft., seconds, 3,479 ft.; culls, 500 ft. \$26.
 Lot 80—Ash strips, 1 inch, clear, 2,618 ft. \$23.
 Lot 81—Ash strips, 1 inch, clear, 3,139 ft. \$23.50.
 Lot 82—Ash strips, 1 inch, clear, 4,187 ft. \$23.
 Lot 83—Walnut, 1 inch, firsts, 63 ft.; seconds, 813 ft.; culls, 697 ft. \$61.
 Lot 84—Cherry, 1 and 1 1/2 inch, seconds, 174 ft.; culls, 214 1/2 in., and 7,299 ft. 1 in. \$19.
 Lot H—Whitewood culls, 1 inch, 11,007 ft. \$14.25.
 Lot 85—White ash, 1 inch, firsts, 2,934 ft.; seconds, 1,629 ft.; culls, 165 ft. \$34.
 Lot 86—White ash, 1 inch, firsts, 2,197 ft.; seconds, 995 ft. \$34.
 Lot 87—Walnut, 1 inch, firsts, 2,400 ft., seconds, 5,459 ft.; culls, 223 ft. \$72.50.
 Lot 88—White ash, 2 inch, firsts, 6,762 ft., seconds, 3,637 ft., culls, 106 ft. \$32.75.
 Lot 89—Quartered white oak 1 inch, firsts, 6,654 ft.; seconds, 2,407 ft.; culls, 1,111 ft. \$44.
 Lot 90—Basswood, 1 1/2 inch, firsts, 378 ft., seconds, 1,692 ft.; culls, 1,030 ft. \$13.
 Lot 91—Basswood, 1 1/2 inch, firsts, 683 ft.; seconds, 1,425 ft.; culls, 932 ft. \$13.
 Lot 92—Basswood, 3/4 in., firsts, 780 ft.; seconds, 1,820 ft.; culls 932 ft. \$13.
 Lot 93—Whitewood, 1 inch, firsts 6,319 ft., seconds, 2,642 ft. \$13.50.
 Lot 94—Whitewood, 1 inch, firsts, 3,779 ft., seconds, 1,122 ft. \$32.
 Lot 95—Whitewood, 1 inch, firsts, 6,788 ft.; seconds, 2,834 ft.; culls, 343 ft. \$34.50.
 Lot 96—White pine 3/4 inch cutting up stock, 12,836 ft. \$17.
 Lot 97—Whitewood, 2 in., firsts, 4,433 ft., seconds, 4,216 ft.; culls, 1,858 ft. \$36.
 Lot 98—Whitewood, 1 in., firsts, 1,567 ft., seconds, 5,954 ft., culls, 3,220 ft. \$22.50.
 Lot 99—Hemlock boards, 1x10x13, 740 pieces. 12 1/2 cents each.
 Lot 100—White pine flooring, 3/4 in., T. & G. planed one side, 14,378 ft. \$16.
 Lot 101—Whitewood, 3/4 in., firsts, 1,942 ft., seconds, 8,930 ft.; culls, 6,245 ft. \$26.
 Lot 103—Whitewood, 3/4 in., firsts, 2,986 ft.; seconds, 4,496 ft.; culls, 282 ft. \$20.
 Lot 104—Walnut, 1, 1 1/2 and 2 1/2, firsts, 2,685 ft.; seconds, 4,625 ft. culls, 394 ft. \$70.50.
 Lot 105—Hemlock boards, 1x12x13, 600 pieces. 13 cents each.
 Lot 106—Ash, 1 inch, firsts, 5,103 ft.; seconds, 2,870 ft.; culls, 210 ft. \$34.50.

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An area of 137 square miles.

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& CO.

A CANADIAN SCHOOL OF FORESTRY.

The Toronto *Globe's* London correspondent says:—Some renewed discussion has taken place here recently of Prof. Fream's suggestion to the effect that an Anglo-Canadian Forest School might be established with advantage. Professor Fream's proposition, it may be remembered, was that with aid from the Imperial treasury the Canadian Government might establish a Forest School, which would not only be a great benefit in promoting forest preservation in Canada, but would also prove extremely serviceable as a means of training for English students in forestry. Several communications on the subject have appeared in *The Canada Gazette*, and these have now been supplemented by editorial reference in *Forestry*, the medium for the consideration of such matters in this country. The present time is in ways specially opportune for action on the part of the Dominion Government. The Select Committee, nominated last year by the House of Commons, report upon the desirability of establishing Imperial schools of forestry, will very shortly be re-appointed, and the whole subject will before long be brought prominently under the notice of the Imperial authorities. Prof. Fream proposes that the Canadian Government should take the matter in hand at once by securing the services of one or two thoroughly trained practical foresters who might act as inspectors in the suggested school, and to whose care the management of large areas of forest land might be entrusted. In this way the valuable efforts of the Ontario Government to promote forest preservation would be most usefully and fittingly supplemented, and Canada presents such exceptional advantages over the old country for silviculture that a very strong case could unquestionably be made out for Imperial support. *Forestry* commends the proposal, and expresses the hope that some action in this direction may shortly be taken. Cannot the matter be effectively brought under the notice of the Dominion authorities during the present session of Parliament? If their views were ascertained, and were found to be in any degree favorable to the suggestion, reports could then be made to the Imperial Government.

TIMBER FOR CAR BUILDING.

The effect of the increased activity in car building upon the prices of lumber used for sills, says an exchange, is significant as an indication of a future scarcity and a permanent advance in prices. It is true that during the past three years railroads have, as a matter of economy, made their old car equipments last as long as possible without incurring the expense of renewals. The time, however, has come when the old stock must be replenished to meet the requirements of existing traffic, to say nothing of any prospective increase of traffic which is likely to attend a general revival in business. The simultaneous demand for new cars for a large number of roads that have been starving their stock may give a stimulus to the lumber market that may turn out to be merely temporary, to be followed by easier prices as soon as the stock at the yards shall be increased to meet the demands.

This, however, remains to be seen. Certain it is that the sources of supply of the most desirable timber in the construction of cars are not becoming more abundant or nearer of consumption. White oak was once considered indispensable for sills, truck frames, any part of a car exposed to severe strains, but its growing scarcity and the demand for it and other lines of construction have led to the use of Norway southern yellow pine, of which there is a more abundant supply at less cost. These timbers have of late been extensively used for freight car sills of every kind, especially at the south, and stand the test for service, except for end sills, practically as well as oak. Southern pine that has not had its strength and solidity impaired by tapping, is very stiff and durable. The further south it grows the more resinous, heavy and serviceable it is, and along with Norway pine is likely to be a staple material for car sills as long as the supply lasts and prices are not prohibitive. But even should the increase cost exceed the limits of economy,

as it probably will in the course of time, there are other woods as yet but little used in car work that will become available. Spruce has already been tried, and if the testimony in its favor is reliable it makes excellent sills. Hickory is also spoken of by those who have used it, and there may be other woods, as yet untried, that may be found equally well adapted to the purpose.

Furthermore, there is no telling to what extent timber preserving processes may be developed under the spur of economy. Chemical treatment, it is true, might not add very much to the strength of a sill to resist strains, but moisture might be excluded and decay and rot prevented, which would, of course, prolong the service. Paint is now relied upon to do this and would do it more effectually than it does if it was applied more frequently and thoroughly.

As a last resource, when the forest shall be thinned to the point of extinction, we shall have the ore beds and smelting furnaces to fall back upon, and iron cars will at least become a necessity, their cheapness and durability will be recognized, and the weary waiting of their many sanguine advocates abundantly rewarded. But, we are sorry to say, both cars and advocates must bide their time, which is not yet.

MICHIGAN LUMBERMEN AND OUR FORESTS.

Canadians are not generally aware of the extent to which the Michigan lumbermen are securing the best timber limits in the Georgian Bay district. We reprint to-day from the *Detroit Free Press* an interview with Col. Jeffers, a Michigan lumber merchant, in which that gentleman mentions that he has purchased 500,000 acres of timber land in Canada. Col. Jeffers is only one of many Michigan lumbermen who are buying up as rapidly as possible our western forests in order to replace the disappearing Michigan ones.

Of course of Michigan lumbermen choose to pay the necessary price, they cannot be kept from acquiring our lands; but the Government has in its own hands the power of preventing the constant loss to Canada which accrues from the possession of these limits by the Michigan lumber merchants. They all have mills at Saginaw, and as the United States Government does not impose a tax on saw logs, they raft them across Lake Huron, and saw them in Michigan, thus giving to foreigners that employment which should in justice go to our own workmen. Col. Jeffers in his interview said:—

"We propose to bring the logs over and saw them in Michigan. We are Michigan men, and hope to make our purchases inure to the benefit of our people here."

We, in turn, propose that the Canadian Government should spoil the little game of Col. Jeffers and his compatriots by placing heavier export duties on logs. They would then be obliged to either utilize the present Canadian saw mills, or erect new ones. In either case they would have to expend in this country thousands of dollars which at present go towards building up Saginaw. Of course it would be rash to take any action pending the consideration by Congress of the Hewitt Bill, which provides for the removal of the present American duty on sawn lumber, but if that measure should be rejected, the Canadian Parliament should not for a moment hesitate about increasing the export duty on logs. Self-preservation is the first law of nature.—*Ottawa Journal*.

THE OTTAWA RIVER FLEET.

The first barge of the season to be loaded is one which commenced receiving a cargo of match blocks at Pattee & Perley's dock yesterday morning for Prince's splint factory at Buckingham Basin. The barge is the John Neville, commanded by Capt. Beaton.

Steamer Allen Gilmour, Capt. Bangs, and tow of six barges will likely load laths at the end of the week at Pronson and Weston's docks.

Steamer George A. Harris and tow of seven barges will take on a cargo of lumber early next week for American ports, at Eddy's, Booth's and Perley & Pattee's.

Steamer E. B. Eddy, Capt. Williamson, and tow of six barges will start to load at the end of the week at E. B. Eddy's wharf.

Messrs. D. Murphy & Co.'s large fleet of 67 barges will begin loading next week for Montreal, Quebec, Whitehall, N. Y., and Burlington.

Steamer Thousand Island Rambler is now being put in readiness and will start ferrying between Hull and Ottawa next Monday.

Steamer Gatineau, of the Merchants' Despatch Line, will load for Montreal at the beginning of next week on the Ottawa river, and proceed to Montreal, returning with a cargo of merchandise destined for this port.

Steamer Ida, Capt. Garrett, which has been being put to a large extent, will be launched from Miller's shipyard early next week, and will go through to Montreal, returning with merchandise and passengers for Ottawa and intermediate ports on the canal between this and Kingston.

Steamer Express, Capt. Mansfield, will commence the ferry service for the season between New Edinburgh and Gatineau Point early next week.

On Monday or Tuesday next the tug Sir John and tow of five barges will load lumber for Oswego.

Steamers Hiram Eaton and Resolute, and steam barges Welshman, Water Lily, and Col. By, with their respective tows of barges, will be ready to lock down light from the canal into the Ottawa river about the 5th of May.

The repairs to the Rideau Canal here are being rapidly pushed forward under the able supervision of Mr. Carrol. It is calculated that it will be ready for traffic the first week in May.—*Journal April 21st*.

A SAW MILL IN A QUEER PLACE

Among the old jokes that called in question (very absurdly) Mr. Jefferson's practical sense was one to the effect that he built a saw-mill on the top of a mountain, and had finished it before he thought where the power was to come from or how the logs were to be got to it. One is reminded of this when, in passing westward over the Chesapeake and Ohio Railway, just below Sewel, he casts his eye to the top of the mountain opposite, towering up five or six hundred feet, and sees a saw-mill perched up there, like an eagle upon its eyrie. As of the fly in the amber, he will ask, "how the devil did he get there?" Mr. A. M. Donelson, a Scotchman, conceived the idea. He moved a thirty or more horse power engine on the road to Cotton Hill, and thence around through Fayette, to its wonderful perch. With one or two other engines of less power he is sawing up a large quantity of fine oak and poplar, and transporting it to the Chesapeake and Ohio road. But in what way, is the funny part of it? Should your attention be called to it, otherwise you eye would hardly catch sight of an immense wire cable fastened at or near the mill, and the other end close to the Chesapeake and Ohio road, spanning the awful chasm. Then the timber enclosed in an iron frame is suspended by a swivel to the cable, with a big rope or cable fastened to one end of it and so played out as to regulate the descent, is somewhat the description an intelligent young man on the cars gave me. I should have deemed myself lucky to see a carload in transit. It reminded me of the picture in my geography when an urchin, of a man in Peru or Chili suspended over one of the awful cliffs by a rope hunting for birds eggs.—*Ex.*

SEASONING TIMBER.

Though air drying is the best and most certain way of promoting durability in wood without impairing its strength, the time it takes is often a great drawback; hence the immersion of the newly-felled timber is resorted to in order to arrest any tendency to change, by washing out of the pores of the wood all sap and other substances which tend to promote fermentation, and hence decay. Moreover, the soaking in water makes the wood less liable to twist and warp in subsequent drying, and when it is cut up into scantlings for use, besides rendering it more proof against the attacks of worms, though its strength is supposed to be slightly di-

minished thereby, which seems to be borne out by the fact that the loss of weight is greater in waterseasoned wood than when it has been merely air seasoned. If placed in water it is better that it should be completely submerged, as nothing is so injurious to timber as being exposed to alternate wet and dry. The generally received opinion is, that for ordinary purposes a fortnight's immersion in running water is sufficient, though much must depend on the size of the bulks so treated. T. de Lapparent, one of the Government inspectors of timber in France, recommends for timber used in shipbuilding one year's immersion in river water, two years in fresh, or three in brackish water, constantly being changed, to be followed by two years of air-seasoning. The gradual processes of air and water seasoning are the only ones which can be safely applied to timber in large scantlings; still, artificial drying may often be successfully employed in the case of smaller scantlings, more especially in the preparation of timber for joinery, for which purpose it should be quite dry and free from any tendency to shrink.

Amongst such systems we may mention drying in ovens or hot chambers, exposed to currents of air ranging from 90° for hard woods and large sections, to 200° for soft woods in thin boards, the process being carried on until the wood has lost from one-fifth to one-third of its original weight, according to the purpose for which it is required to be used. Boiling and steaming wood for three or four hours are often resorted to, as the subsequent drying is thereby rendered very rapid, and the tendency to shrink and twist is reduced to a minimum, whilst the wood becomes so pliable that ribs and planks can be bent to any required curve, and, if confined until dry, will readily retain the form so given them. Smoke-drying may also be employed at times with advantage; but carbonising or charring the outer surfaces of the wood, though very effectual in preserving it from the destructive influence of alternate wet and dry, such as the ends of posts let into the ground are so much exposed to, must never be regarded as a substitute for seasoning; for though keeping out external moisture, it effectually imprisons that which is in the pores of the wood, and so hastens internal decay. While on this subject it may be as well to observe that paint, tar, and all similar waterproof coatings are only preservatives so long as the timber is already seasoned and free from moisture, as then they keep it dry; but if not, they become the most certain agents of destruction. For imperfectly seasoned timber the best preservative against the weather is a rough-sawn face, which forms a shield against both sun and rain, and at the same time offers no check to the evaporation of the moisture from the pores of the wood.—*Timber*.

How to Skeletonize Leaves.

First dissolve four ounces of common washing soda in a quart of boiling water, then add two ounces of slaked lime, and boil about fifteen minutes. Allow this solution to cool; afterwards pour off all the clear liquid into a clean saucepan. When the solution is at a boiling point, place the leaves carefully into the pan and boil the whole for an hour. Boiling water ought to be added occasionally, but sufficient only to replace that lost by evaporation. The epidermis and parenchyma of some leaves will more readily separate than others. A good test is to try the leaves after they have been gently boiling for about an hour, and if the cellular matter does not easily rub off between the finger and thumb beneath cold water, boil them again for a short time. When the matter is found to be sufficiently softened, rub them separately, but very gently, beneath cold water until the perfect skeleton is exposed. The skeletons are at first of a dirty white color; to make them of a pure white, and, therefore, more beautiful, all that is necessary is to bleach them in a weak solution of chloride of lime.—*Timber Trades Journal*.

CHINA offers about as attractive a field for the work of professional explorers as any other country on the globe. It has recently been ascertained that the Chinese coal-fields occupy an area of four hundred thousand square miles.

POWER TRANSMISSION.

One of the most deplorable circumstances connected with practical mechanics, says the St. Louis Miller, is the wanton carelessness in the adjustment of shafting, gearing, belts and all means of transmitting power. As has been repeatedly stated in these columns but a mere fraction of the heat units represented in a ton of coal is utilized, by far the larger portion consumed in overcoming friction (some of which is more than useless), supplying the deficiency caused by petty leaks and the like. These of themselves appear to be and really are small matters of themselves, but taken in aggregate they amount to more, by a large majority, in the consumption of power than is represented by the force really utilized. The first practical idea to be impressed on an apprentice is the saving of patience, time, labor and profits by a neat adjustment of the minor parts of machinery, and more especially all knuckles, joints, oops, bolts and the like. If we take a new belt so cut and joined that it runs evenly over both pulleys, we will find that, so far as these two wheels are concerned, all the friction to be overcome is by the adhesion on the arc of the surface contact. Now if we unlace the belt and cut off a tapering, wedged piece from one end and draw together, we will find that the belt is of unequal lengths on each side, and, of course, it bears harder on one side of the pulleys than the other, so that one side has all the work to do, and, in accordance with the law governing this motion, the belt is attempting to adapt itself to these applied unequal forces, a side motion is introduced, begetting another, and the hardest kind of friction to come, viz., a sliding motion across the pulleys when in motion. This motion not only occurs on one pulley, but on both, and every inch of the belt, however long and wide, partakes of this motion, the friction of which in some cases amounts to nearly if not quite as much as that needed to propel the machine. As a consequence the boilers are put to extra work, the engine labors fearfully in doing half its estimated work, and the entire machinery drags, the belt shows early evidences rapidly, and innocent parties are blamed, when, in reality, the fault lies with the carelessness of the one who sewed the belt.

Again, a system of belt tighteners and idlers are rapidly coming into use, that not only increase the work demanded of the machinery, but of themselves are fearful consumers of power by being improperly hung, so that they augment the evil intended to be overcome. A tightener or idler should be so adjusted that the point of contact, friction and motion is as perfect for the service required as the drum pulley; but very often it is thought that any appliance, however crude and ungainly, will do for a tightener, and that they are placed in position with no regard to the proper distance from the drum or pulley, and with still less reference to the difference in size of the two. There is a wrong as well as right way of doing this, but we see the former oftener than the latter.

PROTECTION OF FORESTS.

The Forestry Commission, of New York, at a recent meeting in Albany, adopted some rules and regulations for the protection of the forests from destruction from fire. They are as follows:—

FIRST.—All persons having occasion to burn a fallow or bush at a fire in any old chopping, wind slash, start or berry lot, swamp, "viale," or beaver meadow, for the purpose of clearing or improving, shall give five days' notice of such intention to the nearest Fire Warden, Forester, or agent of the Forest Commission. He shall also give notice to any neighbors who may have fields or woodlands adjacent, and liable to injury, at least one day previous to the setting of such fires. Such fires will be permitted only when the wind is favorable, and competent persons must remain on guard until the fire is completely extinguished on the surface and in the "duff."

SECOND.—All hunters, fishermen, loggers, guides, tourists and others lighting fires, in or near the forest for cooking, warmth, insect smudges, or other purposes, must clear away all combustible material from within six feet of the place where the fire is to be kindled, and must

thoroughly stamp out, drench, or otherwise extinguish any such fire upon leaving it either temporarily or permanently; and hunters using firearms with inflammable wadding are hereby cautioned against allowing fires to start from such causes.

THIRD.—Smokers are cautioned in regard to fires arising from any carelessness of theirs, and their attention is called to the penalty for negligence in causing fires. Parents and teachers are respectfully requested to instruct children to avoid lighting fires in the forests or exposed places.

FOURTH.—Peeling standing trees of their bark for covering camps or shanties is hereby prohibited. For such purposes the tree must be felled, and all the available bark removed therefrom before another tree is cut down. The trees thus cut down must be utilized for firewood, and such fallen timber as lies in the vicinity of the camp must also be used for fire wood before any green standing timber is cut for that purpose.

THE COAL FIELDS OF NEW SOUTH WALES.

The coal-beds of New South Wales are of enormous extent. The mineral has been traced for hundreds of miles along the coast, and has been worked at various levels from 450 feet below to 1,600 feet above the sea. The lower beds are geographically older than any that have been yet worked in Europe, and the quality of the coal which is taken from these inferior strata is therefore unsurpassed. Not only so, but in certain districts immense seams of this mineral are found in immediate juxtaposition with an abundance of iron ores, limestone and fireclay. Hence nature seems to have indicated New South Wales as the great manufacturing colony of the Australian group. Up to the present time, coal has been ascertained to exist over an area of something like 25,000 square miles of country; and it is almost everywhere within easy reach of water and railway communication. Now, when it is remembered that the coal-fields of Britain only cover one-twentieth part of the area of the country, or about 4,000 miles, and that nevertheless the output of this mineral in the mother country is upwards of 120,000,000 tons per annum, it would be difficult to overestimate the magnitude of the proportions to which the coal trade of New South Wales may be expected to grow hereafter.

IMPERIAL FEDERATION.

A circular has been received at this office from the London, England, Chamber of Commerce, giving the conditions prescribed in connection with a prize of £50 offered for the best essay on Imperial Federation and how it can be practically carried into effect. The essay should treat only with practical suggestions, may be written by any British subject, should not exceed in length twenty-five pages of foolscap and have a margin of two inches on the left and be written on only one side of the paper, must be in the hands of the secretary of the chamber, at 84-85 King William street, London, E. C., by August 31st, 1886, and must have a motto or a distinctive character attached, and a sealed envelope must be sent having a similar motto on the exterior, but having the writer's name inside. "Imperial Federation Essay" should be marked in the left hand corner of each envelope. The judges are Sir Alex. Galt, G. C. M. G., Prof. J. R. Seeley, M. A., and Mr. James Anthony Froude, and their decision will be final. All essays will become the property of the Chamber and the writer of the best one will receive a prize of £50.

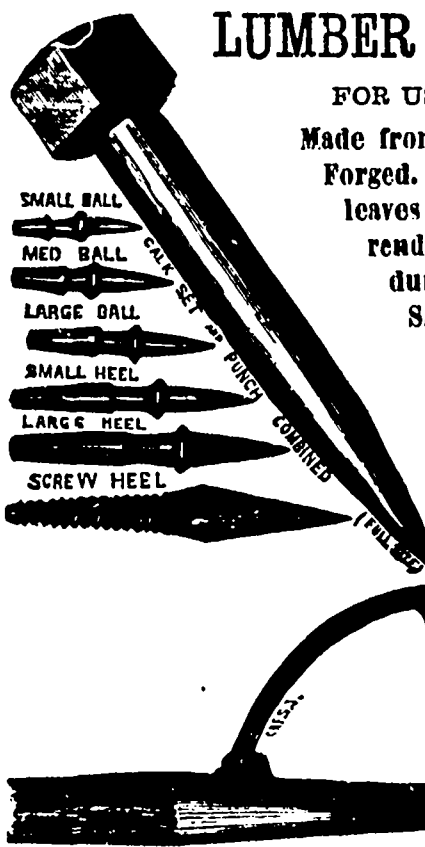
The South antagonizes the proposition to put lumber upon the free list because that section is now the possessor of the only great forests remaining in the Union. So long as the West had its forests, argue the Southerners, Canadian lumber was kept out, and it is only fair that the South should be similarly treated now. Canadians who look to the future do not covet an increased consumption of our lumber by our neighbors.—*Toronto World.*

Last year the Rathbun agency at Ottawa shipped 6,000,000 feet of lumber to Oswego.

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Market Reports.

TORONTO.

From Our Own Correspondent.

APRIL 23.—Sales from the yards continue fair and stocks have been kept up to a fair average. The only grades, or kinds, at all hard to obtain are 1 1/2 cut and better, and bills cut to order. The latter will soon be easier to fill as most mills will be running as soon as May comes in, and the cut for 1885 will be larger than for some years past. The cut of hemlock also will exceed that of former years. This class of lumber is now coming into more general use, the prejudice existing in the past against this kind of lumber is fast dying out, and if the railway companies would only take a common sense view of the matter, and make a special tariff to suit this class of lumber there could be a much larger amount placed on the local market, but as it stands now it is quite impossible to freight green cut hemlock by weight at 9 cents per hundred weight. There is large tracts of hemlock yet uncut in localities where the pine is all gone, which would find a ready market under an reduced rate of freight. It is to be hoped that the companies interested will shortly see their way clear to give their customers a reduction on this class of wood, of at least one-third, and they would still come out the gainers.

Vessels are rapidly moving away what dry lumber there was piled on docks here during the winter months. Messrs. Rathbun & Son, of Deseronto, hold a large portion of the lumber on the docks, so that a nearly clean sweep will take place when they have shipped out. The firm of Donogh & Oliver have also a large stock on their docks. A large portion of their operations are confined to this market so that they generally fill up as fast as sales are made.

A number of timber vessels have been loading here this week, the constant repetition of their shrill whistles connected with the engines on board have made things seem quite lively. A large amount of elm and ash timber will go to Quebec from here, and some fine line board timber, and had the P. J. Railway started running in time for this season's work, a much larger quantity would have found its way here.

Lath and shingles are now both in fair demand; figures are not, however, as satisfactory as could be wished for. The best paying figures now going on this market is for 18 and 20 ft. bill stuffs, which rules \$1.50 per M above 16 ft. lengths. Those prices will, doubtless, be modified when more mills start up.

Table listing lumber prices: Mill cull boards and scantling... \$10 00; Shipping cull boards, promiscuous widths... 12 00; Scantling and joist, up to 16 ft... 13 00; 18 ft... 14 00; 20 ft... 15 00; 22 ft... 16 00; 24 ft... 17 00; 26 ft... 18 00; 28 ft... 19 00; 30 ft... 20 00; 32 ft... 21 00; 34 ft... 22 00; 36 ft... 23 00; 38 ft... 24 00; 40 to 44 ft... 25 00.

Table listing lumber prices: Cutting up planks to dry... 20 00; Round dressing stocks... 16 00; Picks Am. inspection... 50 00; Three uppers, Am. inspection... 55 00; 1 1/2 inch flooring, dressed... 25 00; 1 1/2 inch rough... 14 00; 1 1/2 inch dressed... 23 00; 1 1/2 inch undressed... 14 00; 1 1/2 inch dressed... 10 00; 1 1/2 inch undressed... 12 00; Beaded Sheeting, dressed... 18 00; Clapboarding, dressed... 12 50; XXX sawn shingles, M... 2 75; Sawn lath... 20 00; Red oak... 20 00; White... 25 00; Haswood, No. 1 & 2... 18 00; Cherry, No. 1 & 2... 50 00; White ash 1 & 2... 25 00; Black ash 1 & 2... 20 00.

OTTAWA.

From Our Own Correspondent.

APRIL 24.—The unprecedented warm weather has had the effect of opening up all the streams in this neighborhood, and now the driving of logs and timber is in full blast on nearly all the creeks and small rivers of the Upper Ottawa. In conversation with Mr. D. A. Martin, man-

ager for Messrs. Bronson & Weston, he said that in his thirty years experience he never saw a more favorable season for getting the winter's cut to the market. He had been on an extensive tour through the firm's works on the Upper Ottawa, and while the small streams are all open and the driving is in full progress, yet in the green bush there is fully three feet of snow, and a very heavy coating of ice, so that a most bountiful supply of water is assured. This state of things is shared in all the vast territory of the Upper Ottawa over which the lumbermen have been operating for the past winter, so that the probability is that more logs will be brought to the Chaudiere booms this year than ever before, because all cut will be got safely down, and more left by low water, as is case in the average year past.

On the 26th the mills in this locality all open for the season, which is many days in advance of last year. The most ample preparations have been made for the event and nearly all the mills will run day and night to supply the large orders already booked. For the past few days barges have been loading up with their freights for the south and east, and the hum of the great lumber industry is once more a moving living factor in our midst.

The preliminary survey of the extension of the Canada Atlantic railway to the different lumber yards has been completed and now workmen are busily employed in the work of construction. When the road is completed it will be a great boon to the lumbermen, affording as it will the readiest means of shipment, and will greatly lessen the expense attendant on the handling of the lumber. It is expected that in about two months time the extension will be finished and in working order.

It is feared that our Government is altogether too apathetic in the matter of protecting our forests against the encroachments of the Michigan men, who are quietly getting possession of some of our best lands on the north shore of Lake Superior, as well as in the Nipissing district. They do not seem to realize that the pine growth of that vast region is its chief wealth, and should be protected by an increased export duty on logs. The argument that it is difficult to collect an export duty on logs does not apply to this region at all, for it would be utterly impossible to evade the duty, owing to the means the Americans will employ in transporting their logs to their Michigan mills. As I stated some months ago immense barges are to be employed for the purpose, and as the points at which logs can be shipped in this manner are limited in number the difficulty of appraising the export duty would be confined to the minimum, so that but a few dozen officials would be necessary to carry out the instructions of the Government satisfactorily. There can be no question but if the Government took the precautions which they should take in the matter of protecting our forests for the benefit of our own people, there would be a revolution in things and instead of those logs being sawed by Michigan saws the limit holders would find it advantageous to erect mills on this side of the boundary.

MONTREAL.

From Our Own Correspondent.

APRIL 26.—The lumber market since our last report, and especially during the past week, has been very quiet. It, in common with every other branch of trade, has felt the effects of our unprecedented spring flood. The water began to rise on Friday the 16th inst., and reached its greatest height on Monday; many of the streets in the lower part of the city being covered to a depth of from five to seven feet, some even eight feet. On Tuesday a shove took place, and after that the water quickly lowered.

The demand at the yards has been slight, but a good improvement is expected this week. Car load business, however, has been very fair. The total business done this month was much less than that of March.

Prices remain unchanged. The following are the quotations at the yards:— Pine, 1st quality, M... \$35 00; Pine 2nd... 25 00; Pine, shipping culls, M... 14 00; Pine 4th quality deals M... 10 00.

Table listing lumber prices: Pine, mill culls, M... 7 00; Spruce, M... 10 00; Hemlock, M... 9 00; Ash, run of log culls out, M... 20 00; Oak, M... 18 00; Walnut, M... 40 00; Cherry, M... 80 00; Butternut, M... 55 00; Birch, M... 20 00; Hard Maple, M... 25 00; Lath, M... 1 00; Shingles, 1st, M... 2 00; Shingles, 2nd, M... 2 50.

CORDWOOD.

The following are the quotations at the yards:— Long Maple, per cord... 6 00; Long Birch... 6 00; Long Beech... 5 00; Tamarack... 5 00.

OSWEGO, N.Y.

From Our Own Correspondent.

No change can be made in quotations. The demand has very materially slackened since the labor troubles commenced. We are not free from the evil of the operations of the K. of L. here, one of the M. W.'s appeared here last Sunday and organized a branch, initiated the longshoremen and sailors unions, put three to four hundred dollars in his pocket and left on Monday. This K. of L. business is supporting a few of the leaders in good style at the expense of the poor people from whom the money must come.

Table listing lumber prices: Three uppers... \$42 00; Picking... 32 00; Cutting up... 24 00; Fine Common... 22 00; Common... 14 00; Culls... 11 00; Mill run lots... 18 00; Siding, selected, 1 in... 30 00; Mill run, 1x10, 13 to 16 ft... 18 00; Selected... 21 00; Shippers... 14 00; Mill run, 1x10... 17 00; Selected... 21 00; Shippers... 14 00; Mill run, 1 & 1 1/2 in, strips... 15 00; Selected... 22 00; Culls... 11 00; 1x6 selected for clapboards... 25 00; Shingles, XXX, 19 in. pine... 3 10; Lath 1/2, No 1... 1 85; Lath No 2... 1 00; Ash, 1st & 2nd, 1 to 4 in... 16 00; Haswood, 1st & 2nd, 1 & 1 1/2 inch culls... 8 00.

CHICAGO.

BY THE CARGO.

The Northwestern Lumberman of April 24th says:—During the six days ending with Wednesday, April 21st, 51 cargoes of lumber arrived in port. This showing is sharply in contrast with that of last year for a corresponding week, when there were not half a dozen arrivals all told. During a like week in 1884 there were 98 arrivals.

The lumber that has come by lake thus far has mostly gone direct to the yards. This week one commission house sold two cargoes of Manistee and White Lake green dimension, the ordinary length going at \$9.75, and a quantity of 3x12-16 in each cargo selling for \$11 and \$11.50. A quantity of selects brought \$26 a thousand, according to report. Mill culls have been sold on the market, to the extent of several jags, at \$7.50 to \$8. A load or two of cedar shingles, considerably off grade, were sold, but at private terms. Medium stock has been sold to arrive at prices reported to be \$1 better than last year at the season's opening, \$14.50 being the price named on some sales.

As yet there have not been enough cargo transactions to make a market. The disposition of the yard dealers is to buy little or nothing for the present. May 1st is the time for taking inventories in the yards. It is now so near that date that few want to take on more stock until the inventories are complete. Besides it is plain that the jobbers and manufacturers are wide apart in their views. They usually are in the spring, but this year there seems to be less than the usual margin between cargo and yard prices. While this is the case, the yard men now have a strong motive for holding off about making purchases on account of the dubious condition of labor affairs. And, as a matter of fact, there is less dry lumber to be thrown on the market than there was last year. Green lumber will not come forward freely until the mills are all in full blast. Mills that have not already begun operations will not, in most instances, be started before May 1st. Lake freight rates are on a basis of \$1.25 a

thousand on dry lumber from Muskegon, \$1.37 1/2 from Ludington, and \$1.50 from Manistee.

AT THE YARDS.

Trade is but moderate. The urgency of demand that was a feature of March business has departed. The great yards that have to sell lumber or do worse are still sending out long trains, but the yards of smaller capacity are not now making any special effort to crowd sales. The present condition is peculiar. Stocks are so much broken, and values in the yard correspond so nearly with those at the mills that holders of medium size stocks have no motive to urge business. When they undertake to scalp for assortments they have to pay about as much for lumber as they can sell it for. The outlook is also a little uncertain. Merchants are not sure as to how serious labor disturbances are to be. They also begin to figure on crop prospects, and future prices for farm products. They are simply in a condition of "don't know," and see no loss in waiting until their minds are clearer. At the same time business is moving along in a steady fashion, a large amount of lumber in the aggregate going into distribution. Dry stocks all over the country being broken in assortment, there is a demand, as a matter of necessity, for lumber held in this city. It is going in all directions—often north, right into the heart of producing districts, to patch up assortments.

Receipts of lumber and shingles for the week ending April 22nd, as reported by the Lumberman's Exchange:—

Table showing receipts of lumber and shingles for the week ending April 22nd, including data for 1888 and 1885, and stock on hand for April 1st.

EASTERN FREIGHT RATES.

Table listing freight rates for various locations: To New York... 25c; Boston... 30c; Philadelphia... 25c; Baltimore... 25c; Washington... 25c; Albany... 25c; Troy... 25c; Buffalo and Pittsburgh... 25c; Shenectady... 25c; Wheeling... 15c; Suspension Bridge... 15c; Salamanca... 15c; Black Rock... 15c; Dunkirk... 15c; Erie... 15c; Toronto... 15c.

AUSTRALIA.

Messrs. Lord & Hughes' monthly circular, dated Melbourne, March 20th, says:—

Since our last, on 22nd ult., we have to advise the heaviest arrivals of every description of timber and building materials we have ever had in any one month, with the result of lower prices and greater difficulty of making sales, even at such lower prices; the fact is, the trade are so fully stocked that they purchase most reluctantly, their difficulty being enhanced by the inability of obtaining drayage and fire insurance. We can look for no improvement in prices until there is a great falling off in imports.

The trade from the timber yards continues good, with no evidence of any falling off. Builders are all actively employed, and with every prospect of continuing so for some time to come.

The Howard, from Saguenay, with cargo of Canadian lumber for this port, is stranded at Ringarooma Bay, N. E. coast of Tasmania.

RED DEALS.—Imports: 94,332 pieces from the Baltic, and 15,559 pieces from London. The arrivals have been Nanna, Jotun, and Aurora, from Gefle; Albert Ehrensvord, from Gothenburg; Ilos, from Arendal; Atlantic, from Skutskar (via Adelaide); Lorelei, from Frederickstad; Mauloden, Bankfields, Eusemere, and Marsala, from London. The Albert Ehrensvord's cargo came to the order of one of the trade and has gone direct into stock. The Atlantic's cargo was sold privately, to arrive,

some time ago, prices not transpired. Sales of various shipments were made, prices ranging for thirds, 4 1/2d. to 5d.; fourths, 3d. to 4 1/2d per foot 9x3.

SPRUCE DEALS.—Imports: 21,035 pieces. The arrivals have been Illos and India, from the Baltic; Sardome, from New York; and ex steamers, from Sydney. The Illos comes to the order of one of the trade, and has gone direct into stock. Sales have been, ex Wave King, General Butler and India, at 3d to 3 1/2d per foot 9x3.

OREGON TIMBER.—Imports: 2,814,816 feet super. The arrivals have been City of Brooklyn and Lakeside, from Burrard's Inlet; and Quickstep, from Tacoma. The City of Brooklyn and Quickstep's cargoes have been sold privately, prices withheld. The C. C. Funk's cargo was sold on 2nd inst., from £5 to £5 10s., average £5 3s 10d, per 1,000 feet super; and on the same date the General Butler's, at from £4 17s 6d to £5 12s 6d, average £5 4s 6d.

LUMBER.—Imports: Clear pine, 89,373 feet super. The arrivals have been, Sardome, and Lucy A. Nickels, from New York; and Albany, from Adelaide. Offerings by auction have been unusually heavy, and prices show a decline on last month's rates. We quote clear pine at £12 5s to £14 6s; shelving, £8 to £11 2s 6d; Canadian white pine, £6 7s 6d to £3 2s 6d.

REDWOOD.—Imports: 323,507 feet super. The only arrival during the month has been the Alice Muir, from San Francisco, which is now in course of landing. The parcel ex C. C. Funk, and balance ex Grace Roberts, were sold at £9 to £8 7s 6d.

FLOORING AND WEATHERBOARDS.—Imports: 12,670,698 feet lineal. The arrivals have been exceedingly heavy, and a considerable decline has to be recorded. We quote—Red, 6x1 1/2, 9s 3d to 9s 9d; 6x1 1/4, 7s 9d to 8s; 6x1 1/2, 6s 6d to 6s 9d; 6x1 1/4, 4s 8d to 4s 9d; 4-out red weatherboards, 4s 9d; white, 6x1 1/2, 9s 3d to 9s 6d; 6x1 1/4, 7s 6d; 6x1 1/2, 6s 6d; 6x1 1/4, 4s 8d to 4s 10d; 4 out weatherboards, 4s 10d to 5s

KAURI PINE.—Imports: 833,182 feet super. The arrivals have been—Ensign, Procto and Yolandi, from Kaipara. Sales by auction have been of shipments ex Noatum and Cabafeidh, prices showing a decline on last month's rates.

PITCH PINE.—Imports: Nil. A small parcel of 10 ip. T. & G., ex Beaconsfield, was offered at auction on 9th inst., but bidding not being up to limits it was withdrawn.

CEDAR.—Imports: 131,900 feet super. This parcel arrived ex Sydney steamers. Spec interest was manifested at the sale on the 2d. inst. of the first shipment of logs, ex Diamond, from New Guinea, which sold fairly well from 37s 6d to 11s according to size of logs.

DOORS.—Imports: 1,749. The arrivals have been the Ederside, from San Francisco, via Sydney, and Sardome, from New York. Both parcels have been placed privately, at satisfactory prices.

LATHS AND PICKETS.—Imports: Laths, 17,983 bundles; pickets, 5,890 bundles. Notwithstanding the heavy arrivals, prices show an advance on last month's rates.

SLATES.—Imports: 688,170. The arrivals have been—America, from Liverpool; Wellington, from Lunceston; Sardome and Lucy A. Nickels, from New York. Imports excessive, and prices have declined fully 10 per cent. on last month's rates.

PLASTER.—Imports: 2,260 barrels. This parcel arrived ex Sardome and Lucy A. Nickels, and has been sold privately. We quote best brands 12s to 13s.

CEMENT.—Imports: 9,930 barrels. Favorite brands have been sold at up to 13s.

GALVANIZED IRON.—Imports: 537 tons. We report a sale privately of an invoice of Davis' 26 gauge, 5-foot to 10-foot, at £16 10s. We quote Orb brand at £16 10s.

EXPLANATION.—Red deals and spruce deals are sold at per foot of 9x3; T. and G. Flooring at per 100 feet running; Oregon timber, redwood, clear pine, shelving, ceiling, per 1,000 ft. super; Kauri pine and cedar logs at per 100 ft. super; laths, pickets and slates at per 1,000 pieces. Shorts are all lengths under 12 feet.

BEADRY, CHAMPAIGN & Co's mill, at Muskegon lake expect this spring to allow up a log.

LONDON.

The Timber Trades Journal of April 17th says:—Messrs. Churchill & Sim's catalogue on Wednesday hardly drew such a big room as we expected. There was a fair gathering, but no crowding, and the stimulus to bidding, which the late opening of the Baltic ports engendered, had been palpably damped by the information conveyed in our Swedish correspondent's letter, published last week, that the ice was thawing rapidly, and the ports were likely to be open a month earlier than anticipated. This is not very cheering news to those who have been acquiring stock at the public sales in the expectation that the month would pass off without any fresh arrivals, and the announcement made that some of the first-open water steamers were already able to prosecute their voyage could hardly fail to operate unfavorably.

The cypress timber from Wilmington, ex Fidelio, with which Wednesday's sale was introduced, went apparently low. This timber is said to be in good repute in America, where, we understand, they use it, got a wonderful bargain.

The present lamentable cargo prices of pitch pine are partly due to the suicidal policy of Scandinavian shipowners in sending their vessels out seeking to the southern ports, when they must have known by past experience that the shippers would have them entirely at their mercy. Of course this was a great windfall to the shippers, who have no alternative but to look to the low freights to give them a chance of getting out at cost, and would, of course, take every advantage of those seekers being on the spot to regulate the rates.

The market here is completely glutted on all sides, and, unless the supply is curtailed some way or another, a greater fall in prices will assuredly take place.

When the pine and spruce parcels came under offer, buyers did not betray any more anxiety, and the reputed scarcity of some of the sizes evidently has not been felt in the market yet. As a matter of fact, everybody is full of everything, and we look in vain for the advance so confidently predicted at the nativity of the present year.

The most noticeable feature of the first day's sale was the absence of Petersburg goods, only a little lot of white representing that important wood-shipping place. The interest of the sale seemed to centre around the pine and spruce parcels. The goods ex Kalliope, of the latter description went very low for Quebec stuff; in fact all the 3rd appeared out of favor. The 9/10 ft. planks ex Betty falling at £5 15s. is a damper for those who are looking to see things improve. However the goods were not the best samples of the port they represented; and, though we do not wish to convey any false impression to the actual state of values, we doubt not but that if really prime sorts came under offer the result would be less discouraging.

The fact of the market being so overdone with white spruce will remain an incurable evil as long as trade continues at its present dead level, and the big cargo of lower port stuff now discharging in the Surrey Commercial docks could hardly have come to a worse market, unless the great Mersey city had been selected.

The stereotyped phrase—things going very quiet—was applicable to Messrs Churchill & Sim's second day's doings, and it was apparent from the feebleness of prices that the demand had not yet shown signs of improving. The bidding was slow.

The Quebec lots were better appreciated, and the lot of second broads ex Illos 12 feet which opened at £11, but eventually fell at £18 (1884 cutting), were not dear. Spruce, like the day before, appeared to hang fire considerably, but, as a buyer remarked, how can it be otherwise when nobody wants any? £6 10s for 3rd Quebec 3x11 is a not very satisfactory report, but, as we did not see the stuff, cannot pronounce it either cheap or dear. Like the rest of the public sales lately, the seller had to hold the worst end of the stick. It is a satisfaction that, if prices are no better, they recede only to a very slight degree, which is an implication that with a genuine inquiry any upward movement will take a solid form.

Stocks at the outports are heavy, and the

few sales yet effected to many places must leave a considerable quantity of unplaced stock yet to be dealt with. The leading brands are mostly placed, no doubt, and to secure their specifications the outports, and probably some of the London trade as well, have paid the full figures; but, having suited themselves in this way, they are unlikely to do more till the position of the market is more assured.

LIVERPOOL.

The Timber Trades Journal of April 17th says:—Beyond the interest involved in the public sales held during the latter portion of last week, there has been very little animation shown in the market. In the retail trade consumers are evidently still pursuing the same line of business they have followed for months past, and will only take what they want for pressing and immediate wants. In the wholesale branch a similar line of policy seems to be pursued, and therefore the sellers of goods to arrive on contract are having an extremely hard time of it at present, as buyers still continue to exercise the greatest amount of caution in entering into any engagements for the future. They are fortified in adopting this course by the continued depression in the freight market, which still rules extremely low from the St. Lawrence, New Brunswick and Nova Scotian ports, and also from pitch pine ports.

From St. John, N. B., we see that charters to Liverpool have been effected at about 43s 9d per standard for deals, and 18s and 19s per load for pine and birch timber, respectively, for London 40s. per standard, and the Bristol Channel 41s 3d to 42s 6d per std.

On Friday, the 9th inst. Messrs. Price & Pierce offered by public auction the cargo of hewn pitch pine timber, just arrived per Cleveland, from Mobile. The inclemency of the weather, perhaps, militated against a large attendance, yet the local trade was fairly well represented, and we venture to think as much was obtained for the cargo as its quality and the present depressed condition of business could have led any one to anticipate.

The parcels per Maracas and Baron Anderson failed to elicit a bid, and consequently were withdrawn.

Messrs. Farnworth & Jardine's sale of spruce deals on Thursday last was fairly attended by the local trade; but, from the apathy displayed by those present, it was evident that the company present was attracted more by curiosity than from any desire to buy. This was shown by the fact that lot after lot was passed without eliciting any bid whatever; the only sales made were:

Table with columns: St. John spruce deals, ex Nettie Murphy, Per Cent, £ s. d.

ALBANY.

Table with columns: Quotes at the yards are as follows:— Pine, clear, 4 M, 45 00/60 00; Pine, fourths, 50 00/45 00; Pine, selects, 42 00/47 00; Pine, good box, 22 00/23 00; Pine, common box, 13 00/15 00; Pine, 10-in. plank, each, 00 45/40 47; Pine, 10-in. plank, culls, each, 00 25/00 27; Pine, 10-in. boards, 10-in., 00 30/00 32; Pine, 10-in. boards, culls, 00 16/00 20; Pine, 10-in. boards, 10 ft., 23 00/22 00; Pine, 12-in. boards, 10 ft., 23 00/22 00; Pine, 14 in. siding, select, 40 00/43 00; Pine, 14 in. siding, common, 15 00/13 00; Pine, 14 in. siding, select, 40 00/42 00; Spruce, boards, each, 13 00/15 00; Spruce, plank, 4 in., each, 00 00/00 16; Spruce, plank, 2 in., each, 00 00/00 20; Spruce, wall strips, each, 00 00/00 30; Hemlock, boards, each, 00 12/00 12; Hemlock, joist, 4 in., each, 00 00/00 14; Hemlock, joist, 3 1/2 in., each, 00 00/00 32; Hemlock, joist, 2 1/2 in., each, 00 00/00 11; Hemlock, wall strips, 2 1/2 in., each, 00 00/00 14; Black walnut, roofing, 4 M, 100 00/120 00; Black walnut, 3 in., 80 00/100 00; Black walnut, 2 in., 50 00/75 00; Scaymore, 1-inch, 25 00/30 00; Scaymore, 1/2-inch, 25 00/30 00; White wood, 1-inch and thicker, 35 00/40 00; White wood, 1/2-inch, 30 00/35 00; Ash, good, 4 M, 25 00/30 00; Ash, second quality, 4 M, 20 00/25 00; Cherry, good, 4 M, 25 00/30 00; Cherry, common, 4 M, 20 00/25 00; Oak, good, 4 M, 20 00/25 00; Oak, second quality, 4 M, 15 00/20 00; Basswood, 4 M, 25 00/30 00; Hickory, 4 M, 40 00/40 00

Table with columns: Maple, Canada, 4 M, 28 00/30 00; Maple, American, per M, 26 00/28 00; Chestnut, 4 M, 33 00/40 00; Shingles, shaved, pine, 4 M, 0 00/0 50; 2nd quality, 0 00/0 50; extra, sawed, pine, 4 30/4 50; clear, 0 00/0 40; cedar, mixed, 0 00/0 25; cedar, XXX, 0 00/0 20; hemlock, 2 25/2 37; Lath, hemlock, 4 M, 0 00/0 13; Lath, spruce, 0 00/0 25

BUFFALO.

We quote cargo lots:— Uppers, 45 00/46 00; Common, 17 00/18 50; Culls, 12 50/13 00

TONAWANDA.

CARGO LOTS—MICHIGAN INSPECTION. Three uppers, 42 00/44 00; Common, 18 00/20 00; Culls, 10 00/13 00

WOOD-WORKING PATENTS.

- The following list of patents relating to the wood-working interests, granted by the United States Patent Office, April 18th, 1886, is specially reported by Franklyn H. Hough, solicitor of American and Foreign patents, 925 F. Street, N. W., Washington, D. C. 339,864—Log turner—W. W. Coyle, Springfield, Ohio. 339,872—Plano, bench—J. P. Gage, Vineland, N. J. 339,877—Planing machine—W. H. Gray, Brooklyn, N. Y. 339,728—Saw, band—E. C. Atkins, Indianapolis, Ind. 339,797—Saw mill, band—J. W. Maxwell, Louisville, Ky. 340,016—Saw swage—A. Storens, Wausau, Wis. 340,051—Saw tooth—A. Krieger, Columbus, Ohio. 339,608—Shingle machines, food mechanism for—W. L. Purves, Waddington, N. Y. PATENTS ISSUED APRIL 20. 340,207—Lathe—A. Gordon, Hamilton, Ohio. 340,335—Lathes, work supporter for—E. Zimmermann, New York, N. Y. 340,312—Log skidding and loading machine—H. N. Hewlett, Oscoda, Mich. 340,444—Resawing machine—I. R. Joel, New York, N. Y. 340,491—Saw mill dog—N. J. Cushman, North Paris, Me. 340,097—Sawing machine, scroll—E. Collins, New York, N. Y.

New Zealand Fungus.

A curious trade has sprung up of late years in a peculiar kind of fungus that grows on the trees in the North Island of New Zealand, and which is exported exclusively to China. The uses to which it is applied do not seem to be well known. In 1837 the British authorities at Hong Kong said it was "much prized by the Chinese community as a medicine administered in the shape of a decoction to purify the blood, and was also used on fast days with a mixture of vermicelli and bean-cured instead of animal food." Subsequent information shows that it is used in soups as ordinary food, and it is also used as a dye. The exports during the past ten years have grown from £1927 to £18,939, but the increase has not been uniform. The gathering of the fungus is probably one of the vagabond industries; if so the irregularity is easily accounted for. The exports in 1884 were 6357 cwt., valued at £11,079.

Wood Products in Chemistry.

It appears from the experiment of M. Senff, that the yield of crude pyrolygneous acid, tar, charcoal, and gas is almost the same with the most different woods. But the richness of the acid waters in acetic acid, and consequently the yield of dehydrated acid, vary greatly. In this respect the wood of coniferous trees is the least valuable. The wood of the trunk furnishes more acid than that of the branches. The wood yields more acid than the bark, and sound wood yields more than dead wood. Rapid calcination yields more gas at the expense of the condensed products and of the charcoal; it yields also the weakest acid waters, and the charcoal is more hygroscopic than that furnished by a gradual action.—Timber.

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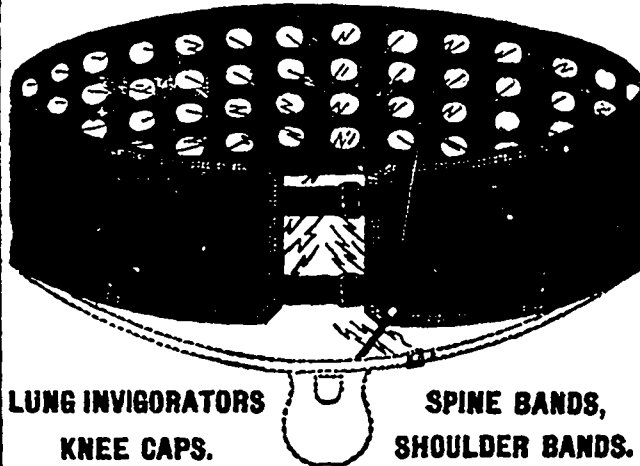
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Ohio, writes: "Ayer's Sarsaparilla has
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Kendall, 218 Tremont st., Boston, Mass.,
writes: "I have been troubled with Neu-
ralgia, pain in the side, and weakness, and
have found greater relief from Ayer's
Sarsaparilla than from any other remedy."
J. C. Tolman, 336 Merrimack st., Lowell,
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in use for the blood." B. Barnard Wair,
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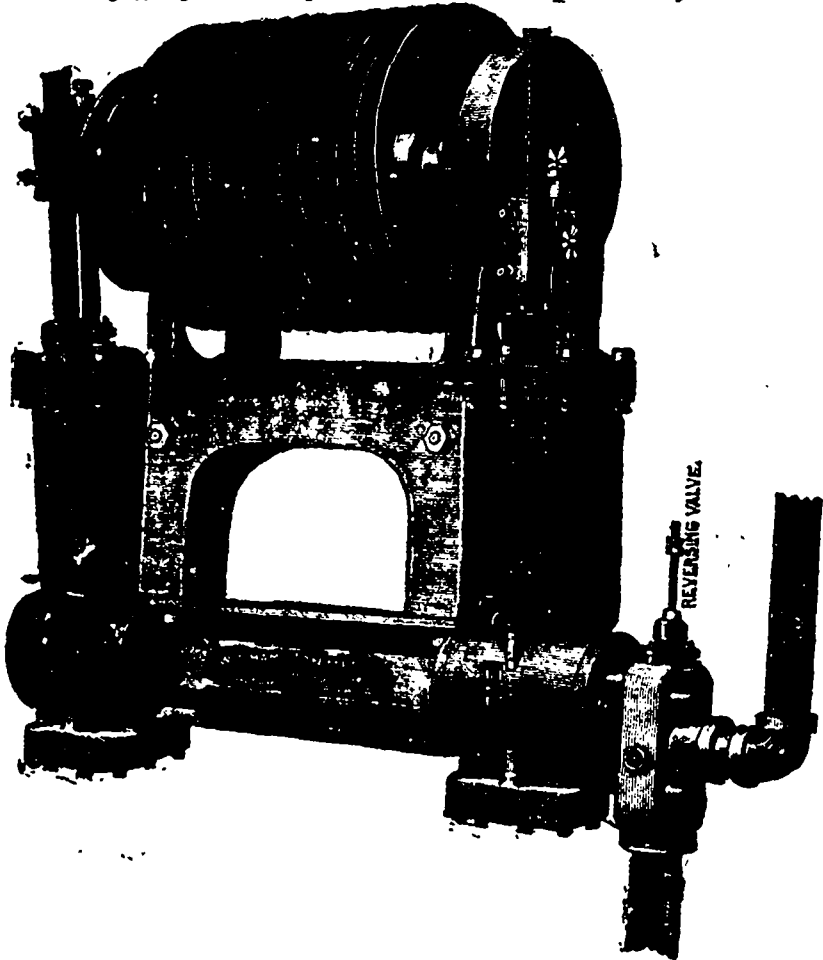
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CUNNINGHAM'S PATENT OSCILLATING TWIN ENGINE

FOR STEAM FEED IN CIRCULAR MILLS WITH RACK OR ROPE.

This Engine has practically but two moving parts, aside from cranks and shafts. The whole array of eccentrics, valves, valve rods, connecting rods, cross heads, slides, levers, rock shafts, bell cranks, etc., is done away with, and the very perfection of simplicity, compactness, durability and cheapness attained.



The above engraving illustrates the Twin Engine, 10x16, for Rope Feed, for Saw Mill Carriages. The spool is 27 in. diameter, 30 in. face, is grooved 2 in. pitch for 1½ in. rope. The shaft is steel, 4½ in. diameter, with disk cranks. No connecting rods, eccentrics or valve rods to get loose and out of order. The ports are in the trunions, and worked by an oscillation of the cylinders, and are held in their place in the downward motion by a steam cushion below. The Sawyer's valve is a perfect balance, and by moving this valve the engine can be reversed, stopped or started almost instantaneously if necessary, as the Sawyer has perfect control of it by his lever either to go fast or slow. Should the Sawyer let go of his lever either by mistake or any other cause, it is balanced so that the valve will come to the centre and cut the steam off both cylinders and stop the feed. When standing, the lever is locked or fastened, so that it is impossible for it to start off itself. The engine stands upright below the carriage, and bolted to two upright beams, placed on the mill for the purpose. When a rack is preferred in place of the rope, we put on a steel wheel 30 in. in diameter, and the engine placed high enough to work into the rack on carriage bar, or if the beams come in the way, an idler wheel can be used between engine and rack segs; or, the engine can be placed at a distance and have a shaft

from it to the carriage; or it can be placed in the engine room, where it is under the control of the engineer for oiling, thence by shaft and pinion to carriage rack bars. These engines are well adapted for cutting long logs, or where the logs are mixed, the advantage of this feed will be apparent to mill men. When the carriages are used in two or more sections, the coupling and uncoupling of each section is quick and simple.

There were two of these feeds working this summer and giving the best of satisfaction, one with rope feed at James Playfair & Co's Mill, Sturgeon Bay, near Waubesa, and one at the new mill furnished by us to Francis Carswell & Co., at Calabogie Lake, on the Kingston and Pembroke R. R. This mill is working with the Rack and Pinion feed, and drops from fifteen to seventeen stock boards per minute. We have also sent one to the Rathbun Company, Deseronto, to put in to feed their heavy Circular Mills. They will also commend themselves for various other cases, especially for running Elevators, hoisting Engines, and wherever a simple and easily reversible motion is required.

We would also call attention to our Improved Band Saw-Mill for cutting logs

We guarantee this to be the best Mill of its kind got up, and would ask any one wanting a good Band Saw-Mill to communicate with us. We would also call the attention of Mill Men to our new IRON GANGS, CIRCULAR MILLS and MILL MACHINERY. For further information, prices, &c., address the Manufacturers,

The Wm. Hamilton Manufacturing Co'y, Limited

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Pumps for Fire Protection a Specialty.

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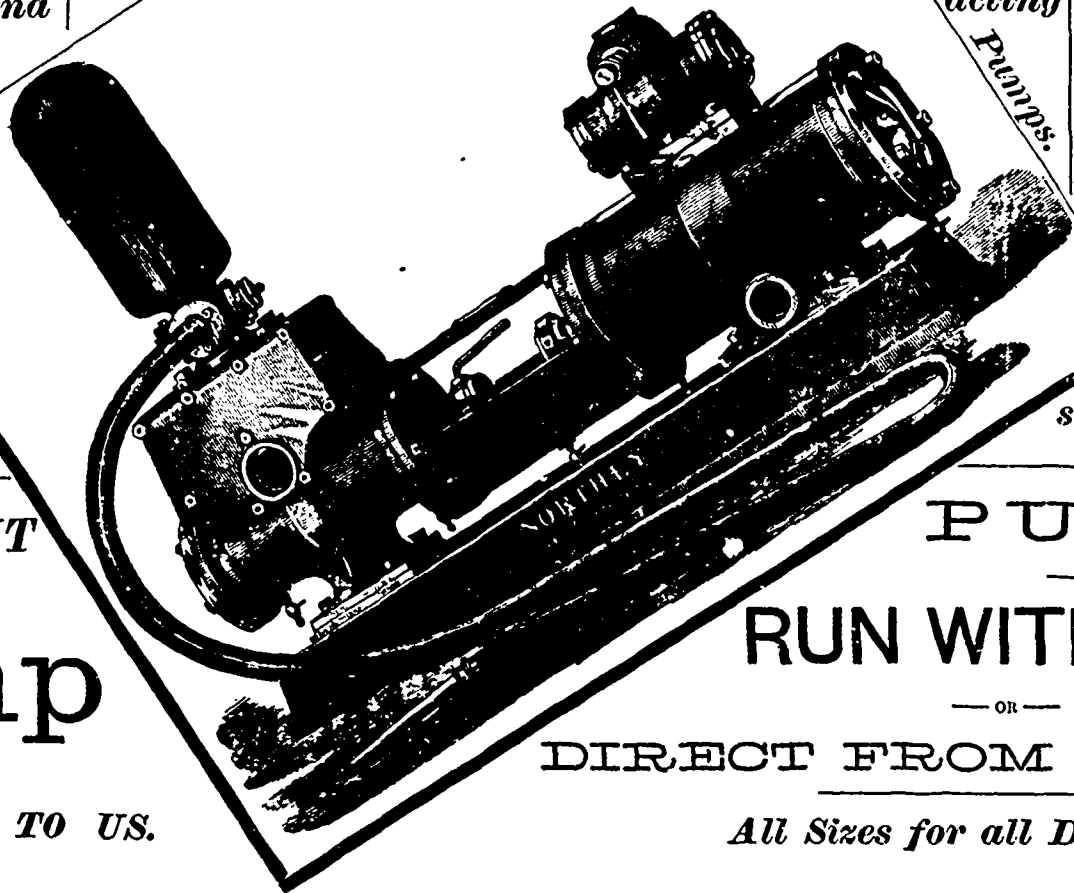
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