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NO. 5.

### LUMBER LOGIC.

The United States census bureau having set at rest with its reports of the amount of standing timber the fears of a pine famine which have been excited of late by ill-advised calculations, the trade may settle down to a practical consideration of the situation and calmly determine at what rate of consumption the best results may be secured from their investments. We have, occasionally, in a facetious way, expressed the right of the present generation to cut and slash away at the forests while they could, as the only means of securing the greatest return for their investments, well knowing that would be the course pursued, whatever advice may be given. At the same time we have always believed and tried to teach that the utmost economy in the use of the timber should prevail. It is a fact, more readily recognized by others than by themselves, that the American people are careless and extravagant in the use of timber. Knowing that, although there is yet standing in the forests of this country a vast amount of timber, there is none too much, and that the future welfare of mankind on this continent depends greatly upon the amount of desirable timber this generation shall be able to leave, and the amount of new growth that shall be started, an intelligent and practical system of forestry should be inaugurated by the state and national governments, while at the same time a more economical and considerate use of the product of the forests is entered upon by the people themselves, and tree culture is encouraged and pursued.

What of the winter, is a question started by the reports which come in from nearly all quarters. To the extent that snow and ice are relied on to facilitate the movement of logs, it may be said that the conclusions are not very favorable for a large stock of logs. The general testimony of those in the woods is, that the crop of logs banked this winter will fall a good way below the crop of last winter in quantity. The lumber producing regions which have been blessed with snow and ice are an exception, and the logs banked have been got to the grounds by real hard tugging. The consequence is, that the cost has been increased to a considerable extent. Advices from Wisconsin are to the effect that the indications are decidedly unfavorable for a full cut of logs, and the same can with certainty be said in Michigan.

As to the markets, it may be said that the firmness which marked the closing weeks of the season of 1881 has been projected into the new year, and from every direction favorable reports are received. The eastern markets are steady and the movement of timber and lumber is decidedly active. In Chicago, too, a good deal of stability is felt, and the Lumbermen's Exchange has decided to allow the January list to stand for February, with the exception of advancing

common boards fifty cents to one dollar per thousand. The prospects of the log crop excited a good deal of attention, and a divided opinion prevailed. On the Saginaw River there is no special change to note, but prices remain firm and transactions active.—*Lumberman's Gazette.*

### OUR FORESTS.

These, with our mines, are the chief, indeed the only, sources which we have to rely upon for an increase of Provincial revenue. It is therefore a matter of great importance that they should be carefully looked after with a view to their protection and development.

By "looking after," in the case of our forests, we mean by the active out door supervision of some competent man, who should be able to point out the different kinds of land, namely, that which is fit and proper for settlement purposes and that which should be reserved for the uses of the lumberman alone.

It seems to be very generally conceded by those best qualified to judge, that a vast amount of damage has been done to the public demerit by forest fires started by settlers in clearings made in or in the neighbourhood of spruce or pine lands, and it is in land of that character that fires have proved to be the most destructive. We have talked with a person well conversant with our timber lands, and he informs us that many, very many, of our settlements which have had much public money spent on the roads and bridges leading to them would have been to-day of much more value and the settlers themselves would in all probability have been in better circumstances if no attempt had ever been made to clear an acre of lands in them.

In order to determine the character of land for settlement purposes, a considerable amount of knowledge is requisite, and it is certainly unwise for the Province to spend money as it does yearly in opening up roads for the purpose of bringing in settlers to burn up and destroy its very best property, while these very settlers themselves are injured by the act of placing them upon poor lands. There must be certainly yet a sufficient quantity of good land in the Province upon which we can place intending settlers. The present system of settlement without proper supervision, our informant tells us, costs the Province yearly many thousands of dollars which, he says, might just as well be saved to the country.

Another matter in connection with our forests also demands attention—it is the rewooding and protection of burnt districts which are growing up in young timber. Although nothing can perhaps be done in this matter at present, it is well that, looking to the future, we should begin to collect information about the growth of young woods, and ascertain the length of time which they require to attain a size which will render them of marketable value, and also as

to how these growing woods can best be protected from the destructive effects of forest fires, either by leasing at low rates to individuals who shall be bound to protect them under certain penalties, or by some other methods which investigation may prove to be most necessary and proper.

We daily hear of manufactories being started for the preparation of pulp from small woods, for the making of spools, etc. It is well that the public should be kept accurately informed as to where these small woods can be found sufficiently near the sea or railroad to be made use of. This information might be embodied in a yearly report, which being circulated abroad would offer a ready means of acquiring knowledge to such as may be desirous of obtaining information about our woods.—*St. John, N. B., Sun.*

### CAN IT BE ACCOMPLISHED?

The reproduction of the timber which is being consumed in this country and in Europe is a subject which is engrossing the attention of not only the statesmen, but the press of the United States, and in fact the whole world. The subject is fraught with momentous consequences, not only to the people of the present day, but to the generations which shall succeed us. It is a very knotty problem, however, the satisfactory solution of which has not yet been accomplished. Many suggestions have been presented, which may be considered good, bad and indifferent. Conventions have been called and meetings held to take into consideration this important question and endeavor to devise some remedy for the evil which is presenting itself with so much force—the rapid destruction of our forests. Not only is this destruction being accomplished by the removal of the timber which is utilized for the requirements of the people, but the forest fires are also aiding in the work. If the loss of timber were the only loss in this direction it would be less serious, but it affects the climate, agriculture, rainfall and much else, as has been amply demonstrated, not only theoretically and scientifically, but practically. But the important question is not the destruction of timber, but its reproduction. Of course much can be accomplished in adopting measures to prevent its destruction, either wantonly or by the numerous forest fires by which it has been devastated heretofore; but its reproduction is a vast and gigantic undertaking, from which those engaged cannot hope or expect to receive any benefit, and their reward lies solely in the satisfaction and knowledge that by their efforts provision has been made for the prospective wants of future generations. This reproductive work is not to be accomplished in a day or a year, but it takes nearly a century to produce a forest; and hence the difficulty surrounding the question. Suggestions have been as numerous as blackberries, but many of them have been

fallacious and not susceptible of accomplishment. Bonuses have been suggested in the shape of remittances of taxes for tree planting, which is a good idea so far as it goes; but it will require some systematized endeavor and action on the part of the people, the state and the nation, for the accomplishment of so vast an undertaking as even to reproduce the present consumption of timber by the actual demands of the mechanical requirements of the age. If some of the conventions which have been called, therefore, shall succeed in the development of some plan which shall be productive of such great and grand results, an inestimable boon will have been conferred on future generations which is almost beyond the scope of comprehension. The task seems almost a hopeless one, however, because of the disposition evinced on the part of the people to take advantage of present chances and allow the future to take care of itself. United action, however, and the concentrated thought of the writers and statesmen of the country whose attention is being brought to the consideration of this momentous and important subject may yet succeed in devising some method which shall result in the accomplishment of the object sought, but like all subjects which are completely void of selfish considerations, it is likely to be a movement of slow growth.—*Lumberman's Gazette.*

### MAMMOTH BELTING.

We were yesterday shown some mammoth leather belting which is being manufactured by Messrs. Rubin & Sadler, 594, 596 and 598 St. Joseph street, for the Stormont Cotton Company, the Quebec Lumber Company and Messrs. A. W. Ogilvie & Co., of Winnipeg, Manitoba. The order from the Stormont Cotton Company amounts to about \$7,000, and includes a 36 inch double driving belt, 143 feet in length, and weighing about 1,000 pounds, and two 24 inch driving belts, 151 feet in length, which are intended to run side by side on a 50 inch pulley, besides 18, 15 and 12 inch and a large number of smaller belts. The order from Messrs. A. W. Ogilvie & Co., is for their new mill in Winnipeg, Manitoba, and is for nearly \$5,000 worth of belting. The order includes a 36 inch double driving belt, 112 feet in length, a 24 inch double driving belt over 100 feet long, and a large number of smaller ones, both single and double. The belts that are being manufactured for the Quebec Lumber Company, Etchemin, Que., include a very fine 28 inch double driving belt for the main driving wheel of the Company's saw mill. Six of the largest of these belts were weighed, when it was found that they were nearly two tons in weight. The general appearance of the workmanship of these belts reflects the greatest credit on the firm, who are doing a large and thriving business in leather belting.—*Montreal Herald.*

## RIVER IMPROVEMENTS.

A Bill has been introduced in the Ontario Legislature by Mr. Boulter to authorize Messrs. Gilmour & Co. to make certain improvements in the River Moira, to enable them to bring saw logs to their mills at Trenton. It is as follows:—

1. "The said Gilmour & Company shall, in the said River Moira, where it passes through the said townships and lands above in the preamble to this Act mentioned, have the right and full power to erect and maintain piers, dams and works such as may be requisite to enable them and all others using the said river for the navigation of saw logs, timber and other material, to float the said logs and material down the said river: Provided always that each of the said dams respectively shall be provided with a slide and the appliances now required by law in the case of mill dams on streams used for the purpose of floating down logs and timber."

2. "Provides for detailed plans and specifications, and for the consent of the municipalities."

3. "Provides for filing the plans with the Commissioner of Public Works and advertising, one month after which the works may be proceeded with."

4. "Gives power to make surveys."

5. "For all lands flooded or injured by reason of the said dams or works and which have been patented or agreed to be sold by the Crown, the said Gilmour & Company, their heirs or their assigns, shall, to the owners, tenants and lawful occupiers thereof, make compensation for the injury, if any, done to said lands, such compensation to be ascertained as hereinafter provided; but in cases where the patents hereafter to be issued by the Crown provide that no compensation shall be made for such injury, the patentees shall have no claim on said parties owning said dams and works, or any of them, their heirs or assigns."

6. "Provides that there shall be no compensation as to lands now vested in the Crown."

7. 8. 9. 10. "Provides for arbitration for compensation for damages to land owners, etc."

11. "No such dams or works shall be maintained, and no powers hereby given shall be exercised, in such a manner as to injure any millowner or manufacturer in respect of any mill or manufactory lawfully existing either below or above any such dam, and using the said river as a water power: Provided, however, that all statutory rights, if any, acquired under the Statute of Limitations or otherwise against any such manufacturer or millowner to use the said river shall not be prejudiced, interfered with, or taken away by anything in this Act contained: Provided always that any powers or rights conferred by this Act shall be subject to and not interfere with the powers vested in the Commissioner of Public Works, under chapter thirty of the Revised Statutes of Ontario, and shall also be subject to sections nine, ten, eleven and twelve, of chapter one hundred and thirteen of the said revised Statutes of Ontario: Provided, moreover, that the Lieutenant-Governor in Council may, whenever it is deemed expedient in the public interest, cause said dams or any of them to be taken down and removed."

12. "Any person or persons floating logs or timber or such like material down the said river, and using the said works, or any of them, shall pay a reasonable sum or compensation for such use; a schedule of charges for such use shall be prepared and submitted to the Lieutenant-Governor in Council, and shall be subject to his approval, and upon the same being approved the said Gilmour & Company, or their assigns, may charge and collect the said tolls or fees for the use of the said works."

13. "It shall be lawful for the said Gilmour & Company to alter, increase or decrease the said charges, but no such increase or change shall be made until the approval of the Lieutenant-Governor in Council has been obtained thereto."

## P. JEWELL &amp; SONS' BELT FACTORY.

One of the three largest belt-making firms in the world, and perhaps the largest of all, is that of P. Jewell & Sons, on Trumbull street. The daily production of belting is about three miles, and a reckoning up of the orders on the books within a few days showed that the concern,

although running day and night, was still seventy-three miles and 1,010 feet behind its orders. Three orders aggregated thirty miles. There are belts large and small, and some of the most important do not get their value chiefly from their length. For instance, there were a few days ago on the floor of the factory the following large belts, either complete or in course of construction:—A 48-inch belt 100 feet long is among the widest belts ever made without lapping two hides to secure the necessary width. Four 36-inch belts each of 100 feet, and one 24-inch of 110 feet, make part of a single order. One 36-inch of 100 feet, one 24-inch of 100 feet, and two 24-inch of 200 feet are included in another order. Another 36-inch of 100 feet is for Hubbard, Bakewell & Co., of Pittsburgh, Pa. There is a 30-inch of 110 feet for use in a Providence cotton mill, and another of the same width and 100 feet long, laced instead of riveted, for a cotton mill in Maine. One of the largest belts ever shipped is a 28-inch 275 feet long, for Walter A. Wood, Hoosic Falls, N.Y., the maker of the Woods reapers and binders. The weight is over 1,500 pounds. A 24-inch laced belt of 100 feet is for the American Zylonite Company at North Adams, Mass. All the above belts are double thickness. An immense quantity of smaller belts are turned out constantly. All, large and small, are made from hides tanned by the Company at their tanneries in Michigan. Various machines are used to facilitate and improve the manufacture.—*Hartford Post.*

## THE ENGLISH TRADE.

Messrs. Robert Coltart & Co.'s annual wood circular, dated Liverpool, Jan. 31, 1887, says:—Business in the wood trade at the commencement of the past year was in an unsatisfactory state, as stocks for several months had been accumulating, while the consumptive demand continued on a limited scale, and prices continued to droop until the month of July. Much of the depression was, no doubt, attributable to the extreme severity of the weather during that period, which interfered with out-door work and building operations, and thus had the effect of curtailing the consumption, but the trade was also still suffering, to some extent, from the natural reaction which followed the buoyancy and speculative excitement at the commencement of the previous year. In the summer of 1881, however, a better tone was observable in the trade, which was still further developed during the succeeding months, the import being on a moderate scale, and prices consequently more than recovered the fall that had occurred during the early part of the year, while for some articles, notably Quebec goods, much better prices were obtainable. A further improvement would, no doubt, have been established but for the deficient harvest and the continued depression in the agricultural districts.

The import during the past year was 21 per cent. less than in 1880, while the consumption shows an increase of about 3 per cent., which although only a moderate increase, still follows an increase of 15 per cent. on that of 1879. Present stocks, which are very moderate, are 35 per cent. less than those held at the same time last year, and 35 per cent. less than the average of the five preceding years. It may be noted that in consequence of the unusually open weather which has so far prevailed in Europe and America this winter, it will be difficult, in the absence of sufficient snow, to get down the usual supplies of logs to the shipping ports, therefore, the wood goods available for shipment during the spring will probably be much curtailed, while the very mild weather in this country will also tend, by favoring out-door work, to increase the consumption of wood as compared with the early part of the past year; but, on the other hand, it should be borne in mind that the introduction of steamers in the wood-carrying trade, which is increasing every year, will, if such supplies are obtainable, speedily remedy any falling off that may take place in the stock of any particular kind of wood.

There has been very little variation in wood freights during the past year, and on the whole they have been very favorable to importers, from the Baltic as well as from the United States and Canadian ports.

The general trade of the country is at present in a sound condition, and the prospect for the current year is very hopeful. The present statistics of the wood trade, to which we have already made reference, also point to a very satisfactory business during the coming year, provided production is not unduly stimulated and all chance of a remunerative business destroyed by an over-supply.

The following is a statement of the cargoes of timber imported from British America, the pitch pine ports, and the Baltic for the last fifteen years:—

Year ending the import season of	BRITISH AMERICA.		PITCH PINE.
	Vessels.	Tonnage.	Estimated Tons.
1867.....	371	307,387	27,113
1868.....	332	258,007	37,206
1869.....	317	259,693	36,488
1870.....	340	206,763	41,765
1871.....	303	262,725	47,239
1872.....	337	272,309	60,065
1873.....	430	327,396	50,297
1874.....	408	367,377	85,200
1875.....	418	307,134	74,196
1876.....	621	504,007	60,360
1877.....	408	391,052	80,006
1878.....	359	260,313	48,005
1879.....	296	229,334	41,044
1880.....	424	332,376	58,972
1881.....	318	242,169	60,834

## FOREST TREE CULTURE.

The following letter appears in the *Winnipeg Times* of Feb. 13:—

Sir,—The necessity and practicability of clothing at least a portion of our treeless prairies with plantations of timber has been so fully demonstrated that any discussion of the subject in abstract or general terms would be a waste of time.

To break the force of the cruel prairie winds; to check destructive fires; to provide a supply of fuel and fencing timber for the future, and to adorn our magnificent country, we must plant trees, and do so on a large scale. The question is, how?

The bonus formerly offered by Government in the shape of tree claims has been discontinued, a tacit acknowledgement of the failure of that plan. Many attempts have been made to promote tree planting by individual effort, but these again have failed, because few pioneer settlers have either time or means to spare from their more pressing needs. Such efforts would at best be feeble and isolated, while the work requires a vigorous and general movement embracing large areas.

Government aid having been withdrawn, and private enterprise having proved wholly inadequate, municipal authority may now be fairly invoked to deal with the matter.

County Councils have an ownership expressed or implied in road allowances. They can preserve, cut down or sell any timber growing thereon; and to this power in the County Councils, coupled with the fact that our road allowances comprise so large an area of land, we must look for a solution of the tree-planting problem.

Starting, then, with the assumption that local municipalities are the best qualified bodies to deal with such an undertaking, and that the road allowances on open prairies furnish the best field on which to operate, I throw out the following suggestions, believing that they indicate a basis on which a satisfactory scheme can be perfected.

Of the 99 feet road allowance plow 33 feet on either side, and 16½ feet in the middle, leaving two strips of unbroken sod 6 feet 3 inches wide, equidistant from the middle, for temporary travel pending the completion of the roadway proper. Backset in the fall, and then, leaving a fire break five feet wide outside, sow or plant with tree seeds or cuttings the remainder of the two outside 33 feet spaces. In reploughing the middle or 16½ feet strip, it should be turned inwards in order that repeated ploughing may throw it up to a proper curve for a roadway.

The cost of the ploughing, backsetting and seeding would be about \$120 per mile, or in a township of bare prairie containing 72 miles of road allowance, say \$8,000. An average township, however, would not require more than half the road allowance to be improved, there being sloughs, ravines, etc., to prevent it. Therefore, the roads of a county containing twelve townships would probably cost fifty thousand dollars, the interest on which, at 6 per cent.,

would constitute an annual charge upon the land of one cent and one-tenth of a cent per acre, viz., \$1.80 per section.

The ways and means could be provided either by a special levy on all the land, graduated according to the proportion of broken land in the district, or the work could be done on the local option principle, on a petition signed by a majority of the owners of property to be immediately benefited; and the cost charged as a special rate over and above all other rates against that property.

After the seventh year, however, the improvement should be self-sustaining, as the right to thin out the young timber would lot for a sufficient sum to pay interest on the outlay.

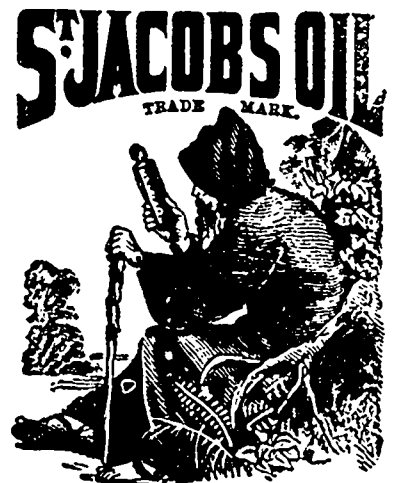
From the completion of the first ploughing, destructive prairie fires would be a thing of the past. From the same date, no man in his senses could lose himself on the prairie, therefore travel would be rendered safe at any season of the year, and at any hour of the day or night. An ample supply of timber for farm purposes would be assured, and for all time. Gradually the growth of timber would mitigate the keen blasts of winter, inducing other climatic changes of a beneficial character. And lastly, by enclosing each square mile of prairie with those gigantic hedgerows our country would be beautiful beyond description.

Yours truly,  
JAMES LANG.

Langvale, January, 1882.

A CANADIAN Frenchman named Proculo Cadieux, was killed at John Dudgeon's camp, Alcona county, by the butt of a tree which he was chopping, falling on him and crushing and mangling him in a terrible manner.

THE St. John, N.B., *Freeman* says that there were shipped from the port of St. John, for trans-Atlantic ports, during the month of January, 1882, 6,177,225 sup. ft. of deals, battens and ends; 84,748 sup. ft. of scantling and boards; 33,000 pkgs. of palings; 524 tons of pine timber, and 333 tons of birch timber. The lumber was shipped in 10 vessels of 8,699 tons.



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### RAILROAD TREE PLANTING.

The *Railway Review* states that the Northern Pacific Railroad Company, a year or more ago, decided upon a policy of fostering tree culture, and appointed Leonard Hodges to take charge of the matter. The latter, with General Manager Haupt, recently passed over the entire line investigating the needs of the sections through which it passed for increased areas of woods. As a result it is decided to prepare the ground this spring for an extensive system of tree planting, soon to follow, along the Missouri and Dakota divisions. Primarily a row of trees will be planted along the line some 100 feet from the track. Inside of that will be planted yellow cottonwood, which matures in about six years, and which is intended for ties. There will also be planting of numerous other varieties to furnish timber for construction purposes and fuel. Not only does the Company intend thus to obtain an abundance of timber and fuel, but it will have in a short time the very best kind of a snow fence, and, moreover, its lands will acquire a new value to settlers.

The recent gales made sad havoc in Scotland. On Lord Breadalbane's Perthshire estates some 12,000 trees have been blown down in a circuit of a few miles, and on the Dunes Castle property in Berwickshire, it is estimated that 50,000 have fallen. Some of the oldest and finest trees at Glamis Castle were uprooted, and timber to the value of nearly £100,000 was floating about in the Firth of Clyde.

The *Chippewa Herald* says that E. H. Everett, who is logging on Dry Wood, is stealing a march on the weather. He has divided his men up into two crews, one crew skids the logs, and snow the roads during the afternoon and evening, and the other commences hauling at midnight, and works until next noon. This may seem like logging under difficulties, but Mr. E. says he is doing good work, and is satisfied if the nights only remain cold.

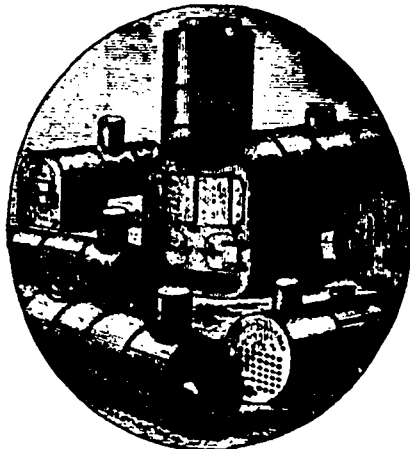
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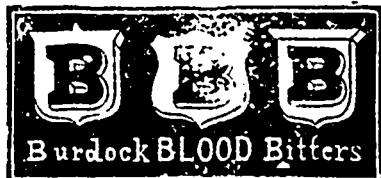
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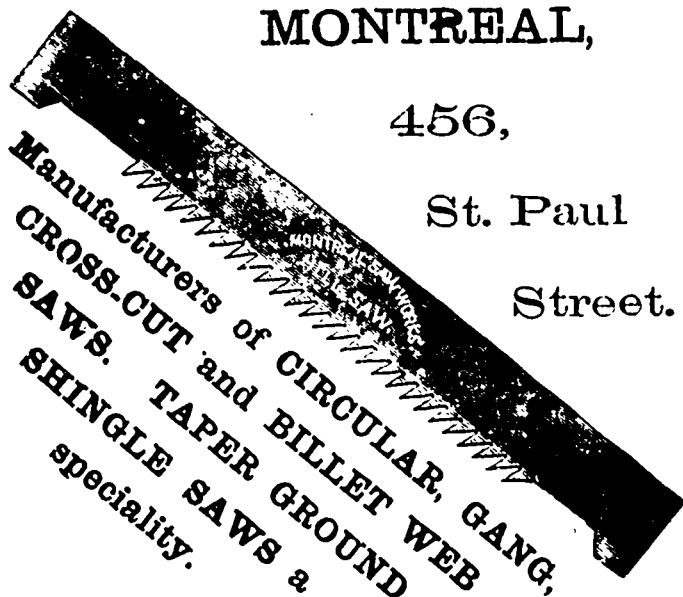
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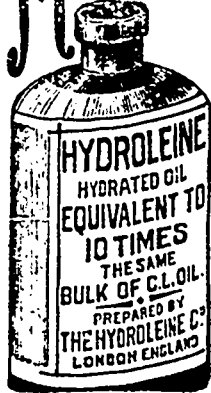
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## FORESTRY AND ARBORICULTURE.

The following essay by A. Eby, M.B., Sebringville, Ont., appears in the report for 1881 of the Agricultural and Arts Association, of Ontario, and was highly commended by that body:—

It was lately asserted that in thirty years from the present time the natural forests of this continent would be exhausted, and that we should be compelled to draw on Europe for our supplies of building material. It is probable that this assertion is a pessimist view of the resources of this continent, yet it is an undeniable fact that the destruction of our forests goes on far too rapidly for the future welfare of our people.

Until a very recent period forests were considered an encumbrance rather than a source of wealth in most parts, not only of this Province, but of this continent. On account of its abundance, and the want of facilities for bringing it into the market, each valuable timber was destroyed, or at best burned, for the potash it contained, within the lifetime of the present generation. It is but a few years since our timber has become valuable, and in the lifetime of many it will yet become precious.

Even should steps be at once taken for the restoration of our forests, our natural wood, and consequently our home supply of timber, will long be exhausted before we can hope to have a supply of our own growth. The time is not far distant when we shall have to draw our supply of building material from Europe instead of sending it there ourselves, as is now the case. The European nations, having long since turned their attention to forest culture, will have abundant supplies of valuable timbers when our own will be completely exhausted. While Europe is husbanding and restoring its supplies of timber, we on this continent are putting forth all our power to wipe all forests from the face of it. This is more especially the case in this Province, in which we have no mountain lands inaccessible to the plough. Though arid, sandy districts, too sterile for profitable cultivation, are not uncommon, yet, with few exceptions, they can all be tilled, and are consequently cleared and settled; whereas, had we had mountainous regions, unfit for cultivation, it is likely they would have remained unsettled in the hands of the Government, and could at once be utilized for growing forests, even if the natural timber had been removed.

It is well known that forests exercise an important influence on the climate. Forests retain much more moisture than cleared lands, and it is well known that moisture in the soil attracts rain much quicker than parched lands. It has also been observed that thunder-showers are apt to follow streams and water-courses.

It is also a well established fact that the more a country becomes cleared up and denuded of its forests, the more subject it becomes to long-continued drouths and violent storms. It is well known that districts of Europe once denuded of forest, but in which they have been restored, support a far larger population now than when denuded of trees. When the well-known Black Forest Mountains of Germany were derobed of their abundant growth of trees, it was found that streams arising in them, that were formerly navigable, gradually dwindled down to shallow brooks; whereas, since the restoration of the woods on these mountains, the streams have also again increased in size.

Spain at one time supported a population of thirty millions, but now that its mountains have been shorn of their forest coverings, it can barely support half that number.

It was well known that it never rained in Egypt. For centuries rain was unknown in that country, but since the Government has gone extensively into tree-growing, copious showers are by no means uncommon.

Mr. George P. Marsh says:—"There are parts of Asia Minor, of Northern Africa, of Greece, and even of Alpine Europe, where causes set in action by man have brought the surface of the earth to a desolation as complete as that of the moon, and yet they are known to have once been covered with luxuriant woods, verdant pastures and fertile meadows; and a dense population formerly inhabited those now lonely districts."

"Hummel attributes the desolation of the Karst, the high plateau lying north of Trieste—

until recently one of the most parched and barren districts of Europe—to the falling of its wood centuries ago to build the navies of Venice."—Northrop.

Dr. Piper, in *Trees of America*, says:—"Near my residence (Woburn, Massachusetts) there is a pond upon which mills have been standing since the early settlement of the town. These have been in constant operation until within thirty years, when the supply of water began to fail. The pond owes its existence to a stream which has its source in the hills stretching some miles to the south. Within the time mentioned these hills, which were formerly clothed with a dense forest, have been stripped of trees, and, what was never known before, the stream itself has been entirely dry. Within the last ten years a new growth of wood has sprung up on the land formerly occupied by the old forest, and now the water runs throughout the year."

"Our summers are becoming dryer and our streams smaller. Take the Cayahoga as an illustration. Fifty years ago barges loaded with goods went up and down that river. Now, in an ordinary stage of water, a canoe or skiff can hardly pass down the stream. And from the same cause—the destruction of our forests—other streams are drying up in summer."—Wm. Cullen Bryant.

Northrop says:—"Almost every work on forestry abounds in evidence that extensive forest denudation has everywhere diminished the flow of springs. The case of the famous springs in the Island of Ascension is often cited, which dried up when the adjacent mountain was cleared, but reappeared a few years after the wood was replanted. Several lakes in Switzerland showed a depression of their level after a general devastation of forests."

Siemoni says:—"In a rocky nook in the Tuscan Apennines there flowed a perennial stream from three adjacent springs. On the disappearance of the woods around and above the springs, the stream ceased, except in rainy weather, but when a new growth of wood again shaded the soil, the spring began to flow."

Marchand says:—"The river that, from time immemorial, furnished ample water power for the factory at St. Ursanne, dwindled down so much when the surrounding woods were cut away that the factory was obliged to stop altogether."

Captain Campbell Walker, who was long employed in the forest service in India, says:—"He observed the drying up of springs and decrease of the average amount of water in some of the mountain forests of India, in which extensive clearing had taken place, and that such clearing had unquestionably lessened the regular supply for springs and permanent flow in the streams and rivers."

Foresters of note, like Captain Walker and Dr. J. C. Brown, claim that the recent famine in India was due to the extensive and reckless destruction of the forests of that country by the East India Company, thus lessening the supply of water from the springs, the former source of supply for artificial irrigation. The English Government is now actively engaged in restoring the forests on the mountains of that country.

Since the settlement of Utah by the Mormons, who engaged extensively in tree-planting, Salt Lake, instead of becoming shallower by evaporation year by year, as was the case before the settlement of that territory, has actually risen ten feet in the last twenty years, from the increased amount of water received through the streams supplying it. This increased size of the streams is said to be due rather to a decrease of evaporation, on account of the large groves now covering that country, than to an increase of the rainfall.

It is a well known fact that many water-powers in the older settled counties of this Province, that were considered valuable even thirty years ago, are now that the country is fully cleared up, almost worthless, being available only for two or three months during the spring freshets.

It is not proved that the total rainfall of a country is lessened by denuding it of its forests, but in a well-wooded country there is a more general distribution of the deposition of moisture throughout the year. Observations in France have established that the rainfall in the forests

is six per cent. more during the year than in the open country; that ten per cent. of the total rainfall in the forests is caught up by the leaves and reaches the earth but very gradually, if at all, and that the evaporation in the open fields is five times greater than in the forests.

That forests exercise an important influence on the climate and the permanent water supply, is the almost unanimous opinion of the foresters of Europe. This opinion is not only sustained by theory, but is in accordance with observations made in different countries and by different observers.

"These investigations show that the general destruction of forests has rendered the climate dryer, more changeable and trying, and that forests, on the one hand, tend to lower the general temperature of a country and promote the fall of rain at more regular intervals, and, on the other hand, they ward off sudden meteorological changes which result in heavy falls of rain and disastrous floods."—Northrop.

Mr. Marsh says:—"One important conclusion, at least, is certain and undisputed, that within their own limits and near their borders forests maintain a more uniform degree of humidity in the atmosphere than is observed in the cleared grounds." Speaking of this continent, he says:—"With the disappearance of the forests all is changed. At one season the earth parts with its warmth by radiation to an open sky, and at another receives heat from the unobstructed rays of the sun; hence the climate becomes excessive, and the soil is alternately parched by the fervor of summer and seared by the rigours of winter."

Commissioners appointed by several learned societies of Europe to investigate this subject reported that "Forests exercise a beneficial influence which can hardly be estimated too highly, in an increased humidity of the air, a reduction of the extremes of temperature, a diminution of evaporation, and a more regular distribution of the rainfall, while the injurious effects of their destruction is seen in an alternation of periods of drouths at one time with wasting floods at another."

Northrop says:—"The forests serve as store houses of moisture, both from their leafy canopy, which shuts out the sun, and the myriads of rather millions of leaves covering the soil and acting like a sponge, soaking up and retaining the rain and regulating its distribution, while the roots act as vertical drains, favoring infiltration and promoting the descent of the water into the lower strata of the earth, there to nourish the springs."

In our own country it has recently been observed that seasons of long-continued drouths are much more common now than when it was first settled; but not only are drouths more common, but so also are violent storms. Twenty-five years ago the firing of a building by lightning was a rare occurrence, whereas, of late years such losses are by no means uncommon; in fact, I have known such losses to occur within a few miles of each other from the same storm in this county (Perth). In the neighboring County of Waterloo such a thing as the firing of a building by lightning was almost unknown while the noble pine forests, so common there, remained intact, but since their destruction such disasters are as common there as in other countries.

Dr. Brown, the most voluminous writer on this subject in the English language, has clearly proven, from different official documents, that fearful inundations resulted from the clearing of the forests on the mountains of France. So great have been the losses from this source, that the Government has adopted vigorous measures for replanting the denuded mountains.

That such should be the case is quite natural. Forests not only retain moisture longer than the open country, and thus attract rain from passing clouds, but the trees act as conductors of electricity between the earth and the clouds or the air. The positive electricity of the clouds is constantly neutralized by a flow of negative electricity from the earth. The foliage of the trees act as so many distributing points, thus preventing, by gradual neutralization, those violent discharges with which we are so well acquainted. The safety to farm buildings from lightning, when surrounded by tall trees, should alone induce farmers to surround their premises

with so beautiful, yet effective, lightning conductors.

From what is stated above, it must be abundantly evident that forests are a necessity to the agricultural interests and welfare of a country, not so much on account of the timber they produce as on account of their moderating influence on the climate. But while this is the case in all countries, it is especially the case in one so level as Southern Ontario. Most parts of this Province are still sufficiently wooded not to feel the effects of a treeless country, but the time is fast approaching when the rockless destruction of our forests will be deplored by our people. A country subject to the long and severe winters we have in Canada, needs the shelter afforded by trees against the blasts and storms with which we all are so well acquainted. The more a country becomes cleared up, the worse will the wintry blasts become. Even the frightful blizzards of the Western States and Manitoba will reach us at no distant day if the wasteful destruction of the forests of this Province and of the adjoining States of Michigan and Wisconsin is permitted to go on unchecked for a few years longer.

Even now, fall wheat, the great staple of the Province, has in many sections become an uncertain crop, on account of the want of proper shelter during the winter and spring. The winds sweep uninterrupted over the fields, and drift the snow from them to the fences and roads, instead of lying it as a covering to the tender plants. On the approach of sun in the spring, the thin covering of snow is melted off, and the plants lie exposed to alternate frosts and thaws. Thus, instead of a larger clearing giving a larger yield to the farmer, as he expects, his crops become more precarious and uncertain as his clearing increases. This, I believe, has been the experience of the great majority of those who settled on a bush farm. The great majority of our farmers would have larger returns from their farms if they had only three-fourths, instead of nine-tenths or the whole of it, cleared and under cultivation. The same labour put on a smaller acreage would bring a much larger return.

In order to spread a proper knowledge of so important a subject as Arboriculture, our Provincial Government should at once appoint a Professor of Forestry in the Ontario College of Agriculture at Guelph. Such a professor should deliver lectures on this important subject, and thus awaken our people from their lethargy to the importance of providing a supply of timber for future generations, and leaving them a wealth far greater than gold—a rich, beautiful, productive country, instead of a sterile, treeless, unproductive desert, as this Province will become if the present destruction of our forests, and the exhaustive and unscientific system of agricultural, now so extensively prevalent, is continued. It is highly necessary that a knowledge of a subject of so great importance to the agricultural interests of the country should be extensively spread while it is yet time to stop the rapid and often wasteful destruction of our forests. This object cannot be better attained than by the establishment of a Professorship of Forestry in our Provincial School of Agriculture, where the leading agriculturalists of the future are receiving their training.

There are many tracts of land in all parts of the country totally unfit for cultivation—barren, sandy, or stony hills, or low, marshy, boggy flats, that would make splendid forests. Many of the former are too barren to produce even sheep pasture, while the latter are too wet to make it safe for cattle to venture into them. In fact, neither the one or the other should ever have been cleared, but should have been retained as woodlands; as such they would have been valuable not only for their timber, but for the influence they would have had on the climate. Encouragement should be given to the holders of such lands to replant them with such forest trees as promise to be of most value for the future, or which may be especially adapted for the soil and climate. This could be done by exempting such lands from taxation, provided they are properly planted and attended as forest lands. But no land should be considered worthy of exemption on which cattle or sheep are allowed to pasture and destroy the young plants as they spring up. Nor should such

woods be exempted from which the young and growing trees are cut, while only those that have reached their maturity, or stunted, ill-shaped young trees, are allowed to stand; such woods do not increase in value from year to year, as is the case where saplings and small trees are allowed to grow.

I have seen woodlands from which cattle were shut out, literally covered by young plants of one, two, or more years of growth that had sprung up from the seeds fallen from the mature trees. This shows that our forests only need to be preserved in order to keep them growing; but most of our natural forests could be made more valuable by a little care and attention from an experienced forester.

The first care in preserving our natural forests is to protect them against the depredations of cattle; it is just as necessary to keep cattle out of a forest to be preserved as it is to keep them out of a grain field. Cattle, if allowed to run in a forest, will cut off and destroy the young plants that are constantly springing up, and thus prevent the growth of new trees. No forest is worth preserving in which there are no young and growing trees. Forests must be replenished by young and growing trees, just as in the human family the place of the old and decayed is taken by the young and vigorous.

Fire is as dangerous to a forest at certain seasons of the year as to a building; a fire running through a forest may destroy in an hour the growth of half a century, or even a longer time. To prevent these bush fires, now unfortunately so common, we require, besides a more stringent law on the subject, a more enlightened public opinion as to the value of our forests—not only as sources of supply for timber, but, what is greater importance, their moderating influence on the climate. The man that sets fire to a forest should be punished as severely as if he had set fire to a building; the latter can be restored in a short time by a little expense, whereas it takes years to restore a forest.

Old and decayed trees should be removed from a forest intended for preservation; so should all stunted and crippled trees, in order to make room for those that are young and growing. Care should also be taken that any vacant space is planted with young trees. In planting, consideration should always be taken of future demands. If a forest is intended only for fuel, such trees should be planted as will yield the most and best fuel, as the beech, maple, and oak; but as the future generation will probably need wood for other purposes than fuel, it will be wiser to plant such varieties as will yield valuable timber for other purposes, while the refuse wood can be used for fuel. This brings us to the question of the kind of trees to be planted.

At the head of the list of native trees for forest culture I would place the pine. It is peculiarly adapted for our climate; it is a hardy, vigorous grower, and satisfied with the lightest of soils. The different species of it grow either on the most arid, sandy soil, or on the moist, rich soil of our swamps. Pine requires somewhat more care in starting than some other trees do, but when they have once taken root they become hardy, and will thrive on almost any soil, except, perhaps, a heavy clay. Care should also be taken in planting to select the kind most suitable for the soil to be planted. The white pine found in our swamps will not grow so well on light, sandy soil as the yellow and red varieties do; but while it is not suited for uplands, it is the best kind for planting on the rich, mucky soil of the swamps that are to be found in all parts of the Province. For uplands and sandy soils, the red and yellow, and especially the Weymouth pine, will be found the best varieties.

For very light soils, there is probably no tree equal to the Scotch pine (*Pinus Sitchensis*). Large numbers of this variety are planted on Cape Cod, and in other parts of the state of Massachusetts. While it will grow on almost any soil, this variety is especially adapted for the barren driftsands that are found in many places along our lakes. The seeds of it are easily obtainable from some reliable seedsmen.

For general economical purposes there is probably no timber superior to pine. As a building material it has no superior. It is extensively

used in the manufacture of cabinet ware and household furniture, as also in shipbuilding. Its rapid growth will make it a valuable timber to grow for railway ties, for which purpose large supplies will soon be required, as our natural forests are rapidly becoming exhausted, and in a very few years will be inadequate to supply the immense demands made on them by our railways.

There is another reason why the pine should be extensively planted. Its innumerable needle shaped foliage act as so many points for the distribution of the negative electricity of the earth, and the neutralization of the positive electricity of the atmosphere and clouds, thus preventing their violent discharge in the form of a thunder storm. Of all trees there are, perhaps, none so valuable in this respect as the pines and firs, to which belongs the European larch (*Larix Communis*), presently to be described. The height to which they grow, and their pointed, needle-shaped foliage, make them especially valuable in this respect; and all isolated dwellings and outhouses would be much safer by being surrounded by a cordou of thrifty pines, not to speak of the shelter they afford against the cold blasts of our long winters, and their value in an aesthetic point of view. Fuller says:—"A belt of these surrounding a farm, or such portions as are occupied by the buildings, give a cheerful, comfortable appearance, and both man and beast will live longer and be more happy under such circumstances, than when exposed to every gale, and for six months of the twelve with nothing life-like to look upon." He goes on to say: "If a man goes into the country to buy a farm, he will seldom call where he sees beautiful trees surrounding the house and outbuildings, for he knows instinctively that such places are not for sale, for the owner generally thinks more of his home than of money; but it is the bleak, uninhabited farms that are usually for sale."

Perhaps a more valuable tree for many purposes than even the pine, is the European larch, of which large forests are planted in Scotland and on the continent of Europe. It is also extensively planted in some of the Northern States of the neighbouring Republic. It is a native of Southern Europe, but will thrive in colder climates, even to the limit of perpetual snow. It is a tree very similar to our tamarack, but much more valuable. It grows very rapidly on almost any dry soil, but will not thrive in damp grounds, and cannot bear stagnant water. Its timber is used largely in shipbuilding, and is very valuable for piles and railway ties. For posts and planks it is inferior to pine, as it is very apt to warp. Fuller says:—"It will last for ages when covered with water, or driven in wet ground. . . . Larch spiles have been taken up in Europe, where it is positively known that they were driven more than a thousand years ago, and yet they were sound and uninjured." Northrop says:—"When raised under right conditions, it combines the two qualities of rapidity of growth and durability of wood more than any other tree. . . . Julius Cæsar spoke strongly of its strength and durability." Monville says:—"In Switzerland the larch, as the most durable of woods, is preferred for shingles, fences, and vine props. These vine props remain fixed for years, and see crop after crop of vines bear their fruit and perish, without showing any symptoms of decay. Props of silver fir would not last more than ten years." Evelyn says:—"It makes everlasting spouts and pent-houses, which need neither pitch nor painting to preserve them." "For out-door work it is the most durable of all descriptions of wood. I have known larch posts that have stood for nearly fifty years," says Michie; while Professor Sargent believes that "For posts it will equal in durability our red cedar, while in the power to hold nails it is greatly its superior." "The larch, while it holds iron as firmly as oak, unlike the latter, does not corrode iron," says Northrop. It is said to have no equal for railway ties. Ties in use for sixteen years on the Boston and Albany Railway were found to be still sound. It has also been largely used for this purpose in England. Ten acres of larch, it is said, will yield as much ship timber as seventy-five acres of oak. Its bark can be used for tanning purposes, though probably not equal to oak bark or our

hemlock. Containing a large amount of resinous substance, it makes good fuel, though it is not equal to our maple in this respect. As it grows very rapidly, it is much more valuable than oak for planting. Trees thirty years old are said to have been sold for \$15 a piece, while oak at that age were not worth over \$3. I have spoken thus freely of this tree, because from the description given of it, I believe it is one of the most, if not the most, valuable tree available for forest culture.

The most valuable of our native deciduous trees for cultivation are the ash, elm, hickory, oak, maple, beech, birch, basswood, butternut, black walnut, chestnut, willow, etc. Of these the white ash (*Fraxinus Americana*) is one of the most valuable. Its wood is highly valued by carriage makers and the manufacturers of agricultural implements. It grows very rapidly, but prefers a moist, deep soil. As it is a very ornamental tree, forming a splendid head, it should become popular for wayside planting. It is also one of the best to grow for its timber. For low, wet soils, the black ash will be found preferable, though its wood is not very valuable except for basket-making. It will also make good flooring and fencing. Of the elms, the white elm (*Ulmus Americana*) is the most valuable. It is a rapid grower, and its timber is valuable for many manufacturing purposes, where strength and durability are required. It grows to a very large size, and is a most beautiful tree. It is suitable not only for forest culture, but as an ornamental tree or for wayside growing. The elm prefers a deep, rich, moist soil. There are several varieties of the hickory that may be planted. The kind most suitable for the soil to be planted must be selected. They are rather slow growers, but yield valuable timber. By repeated transplanting when young, they form better roots than they do when growing in a natural state, and will consequently grow more rapidly.

The oak is a very valuable tree, but a slow grower. It takes many years before it attains a size large enough to make it valuable. When planting it for its timber, I would advise planting it in alternate rows with some rapidly growing tree, like the ash or the elm, which will reach maturity long before the oak, and can be removed, and thus permit the latter to expand and grow to maturity.

The maple is a slow grower, but valuable for timber and for fuel. Some varieties, like the red or soft maple, grow more rapidly than the better-known sugar maple, but their wood is not nearly as valuable. The maple makes very fine ornamental trees, and are consequently valuable for wayside planting. The sugar maple prefers a rich, loamy soil, while the red maple delights in low, moist situations, though it always grows on dry ground.

Though the beech is by no means a slow-growing tree, yet it takes many years before it attains a size to be of much value as fuel, for which purpose it is principally used. It is also to a slight extent used in manufacturing, especially for making planes and saw handles. It is a fine tree, and grows in almost any dry soil. It should not be overlooked for wayside planting. Its nuts are highly prized for the young, especially in sections where the chestnut and the walnut are not to be found.

Basswood grows very rapidly, and is valuable for many manufacturing purposes, on account of its toughness and the ease with which it receives a high polish. As an ornamental tree it has few superiors. It is highly valued by apurians, as the honey extracted from its flowers is classed as equal to that made from white clover. For wayside growing the linden should not be overlooked.

The butternut thrives best in moist, rich soils. It seldom grows very large, and though its timber is used by cabinet makers, it would hardly be a valuable to plant it for that purpose. But on account of its splendid nuts it deserves to be found on every farm or orchard.

The black walnut will grow rapidly on a good, rich soil. It is a larger tree than the butternut and is much more valuable for its timber, though its nuts are much inferior. Its wood is probably the most valuable that grows in our climate. It should find a place in all tree plantations in southern Ontario, and more especially along the shores of Lake Erie.

The chestnut requires a dry, sandy or gravelly soil, upon which it grows rapidly. It will thrive well in most parts of southern Ontario if it is planted in a suitable soil. This tree is valuable not only as a nut bearing tree, but for its timber. Fuller says:—"There are other kinds of timber which may be more durable than chestnut, but I know of none that is more rapidly and easily grown." He also says:—"One crop of the nuts from a twenty year-old tree will more than pay for the original cost of the land and planting them." While young the chestnut makes good rails, stakes, hop poles, etc., or it can be used for fuel. When the trees become large they make valuable timber for cabinet-work and house finishing. As an ornamental tree it always deserves attention, and is worthy of a place in even small gardens, where a suitable soil can be found. When intended for forest plantation it should be sown rather thickly, and thinned out when the plants become from four to six inches in diameter.

Willow loves a rich, moist soil, but will grow on poorer soil if not too dry. It is a fine ornamental tree, but is not greatly valued for its timber in this country, though in England it is extensively grown for that purpose. As it bears beating better than any other wood, it is used for making cricket bats, floats for paddle-wheels in steamers, brake-blocks for cars, shoe lasts, etc. It is also used for furniture making, plank-ing vessels, etc. Mr Sargent says:—"As willow timber could be produced far more cheaply than that of any of our native trees, it should soon come into general use here for purposes requiring lightness, pliancy, elasticity and toughness—qualities which it possesses in an eminent degree, and for which more valuable woods are now employed."

For low, wet soils the white cedar (*Cupressus thyoides*) will be most valuable. It grows rapidly, and is valuable for many purposes even while yet small. For swamps that it is desired to plant with trees, a mixture of pine, cedar, and black ash will be found desirable. The cedar can be cut for useful purposes long before it begins to creep the pine.

In districts convenient to paper mills, the growing of poplars for wood-pulp will be found profitable. It is also in some places on the prairies grown for fuel, but is worth very little for that purpose.

Nearly all the forest trees can be grown with ease, if the proper time for seeding is observed. No special skill is required, nor do they demand any greater care than is devoted to ordinary farm crops. Nor yet is it a matter of expense. Fuller says he has grown many thousands, and that the expense, taking one kind with another, does not exceed two dollars per thousand, though the expense will vary, according to the price of the seeds. Nearly all forest trees can be readily grown from the seed. Except when but a small number is required, it will be found cheaper and more convenient to grow them at home. Where seeds cannot be collected at home, it is best to obtain them from some reliable seedsmen. As a rule, the seeds of forest trees should be sown soon after they become ripe—this is the natural order—and many of the seeds are spoilt by keeping. It should also be remembered that many forest trees ripen their seeds in the spring or early summer, and that such should be sown at once after ripening.

SEEDING.—The seeding may be done directly on the soil to be occupied by the trees, or in a nursery. For many kinds of trees direct seeding will be found the best, but the foresters of Europe prefer seeding the pine and the larch in nurseries, from which they are transplanted in the second and third years. By transplanting they are made to form better roots, and will consequently grow more rapidly after they are started. Evergreens also require shading during the first year from the heat of the sun, and some protection against cold during the first winter. This can be more easily provided in a nursery than in an open field.

DRILLS.—The seeding should be done in drills. For most kinds a drill, or trench, about a foot wide and half an inch to an inch deep, is the best. The seeds should be sown pretty thickly over the trench, which is then levelled in even with the other ground. Where a cultivator is

(Continued on next page)

## Traveling Agent.

MR. A. L. W. BEGG has been appointed agent for the CANADA LUMBERMAN, and is authorized to collect subscriptions and grant receipts therefor and to make contracts for advertisements appearing in its columns.



DEVOTED TO THE LUMBER AND TIMBER INTERESTS OF THE DOMINION.

PUBLISHED SEMI-MONTHLY BY  
TOKER & Co. PETERBOROUGH.

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Special rates will be made for page, half page and column advertisements.

Advertisements intended for insertion in any particular issue should reach the office of publication at least three clear days before the day of publication, to insure insertion.

All communications, orders and remittances should be addressed and made payable to TOKER & Co., Peterborough, Ont.

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.

PETERBOROUGH, Ont. MAR. 1, 1882.

HEMLOCK bark brings \$6 a cord at Malone, N. Y., and some teams carry \$15 worth at a load. One man thus realizes \$30 a day for bark.

We would call the attention of manufacturers of broom handles, clothes pins, &c., to the advertisement of Messrs. W. H. Samus & Co., of Liverpool, Eng., which will be found in another column.

The Northern Pacific management is making arrangements for planting trees along its track over the prairies this spring. Yellow cotton wood and other trees adapted to the soil and climate will be selected. The cottonwood will come, they assert, in play for ties. The idea is a good one and might be improved anywhere. Poplar wood is valuable for paper making. Why should not farmers and others, who have the opportunity, plant it as a crop? It would pay well.

We have received from the publishers, the Lumberman Publishing Company, of Chicago "The Standard Moulding Book," an illustrated catalogue of mouldings, brackets, architraves, balusters, post ends, stair railings, door and window frames, &c., &c., arranged by Mr. W. B. Judson, editor of the *Northwestern Lumberman*. It contains a great number of clear and well executed drawings, with a price list appended, and will undoubtedly be valuable to the trade, to builders, architects, and others.

The *Timber Trades Journal* says we have received a circular from Messrs. Holland, Mc Connell & Co., from which we learn that the importation of doors from America to London last year was no less than 125,848, while Sweden, which is so much nearer to us, and where labour is cheaper, sent only 37,672 to London. Allowing forty doors to an average house, the quantity above mentioned (125,848) would supply the wants in that department of 3,146 houses, while those from Sweden would supply only 939 houses. It would appear from this comparison that American doors, either from material or workmanship, find more favor among householders than those from Sweden.

A WHOLE cargo of petroleum was lately shipped from New York in paper casks. These casks are made by a company at Hartford, at Cleveland and at Toledo. They are painted blue, and have iron hoops, and they are \$1.35 apiece.

A CORRESPONDENT from Lancaster, Ont., writes us as a matter of information for the LUMBERMAN from the "Eastern District," that not more than 40 to 50 per cent of last season's cut of basswood and ash will be got out for market this season.

MESSRS. THOMSON & BAKER are now constructing three of Goldie's Patent Solid Shaved Shingle Machines, at the foundry of Copp Bros. & Barry, Hamilton, Ont. These machines cut a perfectly solid and smooth shingle, and each one turns out a car load per day, 80 to 90 M. The patentee, Mr. Wm. Goldie, of W. Bay City, Mich., is superintending the work. Shingles need not be scarce where these are running.

EXTENSIVE repairs are being made in the Chaudiere booms, on the Ottawa, Canada, by the construction of new piers. A novel feature in the construction of one of these piers is that instead of being built of the usually heavy timber, stout planks are fastened together to give the required thickness, and the pieces thus made are used in the ordinary manner. Should this "built" timber prove of equal strength and durability with the ordinary logs used in such works, there seems no doubt but that good heavy plank will supersede in many cases the unwieldy masses of solid timber now used in the construction of dams and piers.

## Highly Pleased.

Messrs. J. & R. Miller, of Mount Elgin, while remitting their subscription, say:—

"We are highly pleased with the LUMBERMAN and consider that it has much more than paid us. We would recommend it to all engaged in the lumber business."

## Complimentary.

The *Detroit Marine News* says:—"We are pleased to put the CANADA LUMBERMAN on our exchange list. The lumber and shipping interests are most intimately connected, and among the representatives of the mighty lumber interests the CANADA LUMBERMAN has high rank."

## UTILIZING THE WATER POWER.

About one year ago steps were taken as a preliminary in the organization of what is now known as the St. Louis Water Power Company, and last month the corporation was perfected in accordance with a plan originally devised by Jay Cooke, and including the utilization of the fine water power on the St. Louis River, justly considered one of the best in the northwest. In the distance of nine miles between Thomson and Fond du Lac there is a fall of 600 feet in the river mentioned, and the new company proposes to use this vast power for lumbering and manufacturing purposes—the fee of 5,000 acres of land on the Wisconsin and Minnesota shores of the stream now being vested in the Company. Its capital stock has been placed at \$1,000,000, three-fourths of which has been subscribed, and valuable boom charters in Wisconsin and Minnesota are held—covering all the available boom ground on the St. Louis River.

The Company will at once proceed with the construction of a new boom costing \$12,000, and with a capacity of 40,000,000 feet, which will be increased to 100,000,000 next year.

The officers of the new company are as follows:—

President—James Smith, Jr., St. Paul.  
Vice-President—E. L. Craw, Grand Haven, Mich.  
Secretary—G. B. Kirkbride, Minneapolis.  
Treasurer—L. Mendenhall, Duluth.  
General Manager—James Barden, Superior.  
Offices will be opened at St. Paul, Duluth, and Superior City, the principal being located at the latter point. The first booming ground will hold over 2,000,000 feet of timber, and two extensive mills will be built by the Company this year.—*Lumberman's Gazette*.

## FORESTRY AND ARBORICULTURE.

(Continued from page 69.)

to be used in keeping down the weeds—which has to be done during the first two years at least—the drills should be at least four feet apart, but where the hoe or spade only is to be used, the drills may be made much closer together. The smaller seeds should not be as thickly covered as the larger. In starting a nursery, care should be taken to have the soil well cultivated, and free as possible from weeds; it should also be well manured, so as to give the young plants a good start. If the soil is heavy it should be well under-drained, so as to make it as loose and porous as possible.

When the trees have reached their second or third years they should be transplanted to their permanent locations. They should at first be planted three or four feet apart, in drills four feet apart. After a few years' growth the trees will require thinning out; a second and a third thinning out may be required before the trees have room enough for full development. When the seedling is done directly on the soil to be occupied by the trees, much the same course is pursued as when the seedling is done in a nursery, but attention must sooner be paid to the thinning out of the plants. Care must be taken to carefully weed the field or nursery, lest the growth of the young plants become stunted. In very dry seasons the seeds may require sprinkling to get them to sprout, but care should be taken not to drown them—in transplanting, the young trees may also require a little watering. In transplanting, care should be taken that the roots are not long exposed to the sun or cold winds. If possible, a damp, cloudy day should be taken for transplanting, which should be done early in the spring. When trees are to be taken some distance before replanting, care should be taken not to let the roots become dry. Most deciduous trees can be taken up in the fall, and the roots pruned, tied in bundles, and then well covered until the spring, when they will be ready for transshipment so soon as the season is far enough advanced for planting.

While on this subject, I cannot pass without speaking of a branch of arboriculture which, though not strictly forestry, is so closely allied to it that it deserves more than a passing notice—I refer to the planting of trees along the roadsides. By a little trouble both sides of our public roads could be planted with some kind of forest trees, valuable for their timber. By planting them twenty-five feet apart it would require 420 trees for each mile, to plant both sides of the road—equal to several acres of closely planted forest. This would add immensely to the beauty of our country, and would have an important influence on our climate, not to speak of the comfort it would be to travellers on a hot summer day, as also to the cattle grazing in the adjoining fields, or the shelter such trees would afford in a storm.

For this purpose such varieties of trees should be selected as not only grow rapidly, but produce valuable timber when grown up. For this purpose pine, larch, oak, elm, ash, basswood, maple, beech, walnut, chestnut, etc., according to the nature of the soil to be planted and the climate, should be selected. The planting should be done by the owner of the adjoining land, whose property the trees should be. The planting of the trees might be done under the superintendency of the pathmasters, under whose care and inspection they should also be placed. He should not only superintend the planting, but the removal of mature trees, and the replanting of the space occupied by the removed trees. For this purpose it would be necessary for the Legislature to pass an Act relating to this matter. I think it would not be a very difficult task to form a generally acceptable Act on this subject. Much has already been done in some sections in the way of planting trees along the roadsides, but to make it at all general will require an Act making it compulsory, and appointing inspectors or overseers under whose superintendence the work should be done. The immensely favorable influence such general tree-planting along our roads and highways would have on the climate would justify the Legislature in passing an act of the kind, and I hope some one of our many mem-

bers will find time enough to draw out a Bill of so general a benefit.

The Government should have a careful survey made of the extensive territory still in its possession, and set aside all parts not suitable for agricultural settlement as forest lands, and put them in charge of thoroughly competent inspectors, whose duty it would be to preserve as much as possible the existing growing timber and replant such tracts from which the timber has been removed. In that way large tracts that are practically worthless for agricultural purposes would become a source of no small revenue to the Province by the time the next generation will have to grapple with the important question of ways and means. By timely action in this matter large forests of valuable timber might be prepared for future generations, who will not be able to draw their supplies from our natural forests, which will be exhausted long before such new growths would be fit for use. By replanting such otherwise worthless lands with valuable trees, and putting them in charge of thoroughly trained foresters, they would in a few generations become more valuable than agricultural lands, and prove a far greater source of wealth to the country than if allowed to become private property or permitted to remain barren wastes, destitute of valuable timber and unfit for cultivation.

Finally, I would recommend the formation of a society that would devote itself to the spreading of a knowledge of arboriculture and forestry, and the collection of information as to the state of our natural forests, the kind of trees most suitable for the different sections of the Province, and the encouragement of tree planting. Such a society should prove a great benefit to the Province. It should meet at least once a year, either at the time of holding the Provincial Exhibition, or at some other convenient time and place.

## A GOOD THING FROM THE STATES.

(Montreal (Canada) Post.)

In this age of quackery it is consoling to discover that there is something solid in existence, and that, though there are vendors who lie most cheerfully about their wares, there are others who tell the truth and allow time to test the merits of what they offer for sale. As year after year rolls over, the frauds and the shams sink away out of sight in the pools and morasses of obscurity, while that which is really good and true stands boldly forth all the grander for its age and solidity. Thus while within the present decade thousands of patent medicines, puffed at one time to inflation, have shrunk before the test of analysis, St. Jacobs Oil has bravely borne the strain, and is to-day renowned all over the world for its famous curative powers. It is truly one of the phenomena of the age we live in. The sale of this article is incredible. It is to be found all over the civilized world, and in a good many places that are not civilized—for, unfortunately, the bones of sorrowing man are racked and ache with pain no matter what region he inhabits—and we believe it is yet destined to be found in every house, and to supersede the many nostrums which still remain abroad to defraud humanity of its money and its health. The firm of A. Vogeler & Co., Baltimore, Md., spend half a million dollars yearly in advertising St. Jacobs Oil, and hence we may guess at the full extent of their enormous business. It is truly marvellous, or would be, did we not know the circulation of this inestimable blessing.

**SUREW AS EVER.**—In an extended article in the *Washington (D. C.) Star*, we notice that, among others, Senator James G. Blaine who has suffered in the past with rheumatism now keeps St. Jacobs Oil on hand in case of any future attack.

**CHILBLAINS.**—These troublesome complaints may be speedily cured by Haggard's Yellow Oil, the great Rheumatic remedy, which, as an external application and an internal remedy has a wider range of usefulness than any similar preparation in the world. All druggists sell it. Price 25c.

**A CURE FOR HEADACHE.**—What physician has ever discovered a cure for headache? Echo answers none. But Burdock Blood Bitters by their purifying, invigorating, nerve properties afford a cure in nearly every case. The health-giving principles of this remedy are unequalled by any similar preparation in the world.

**Caledonian Hotel,**  
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JOHN SHARPE, Proprietor. This Hotel has been newly opened out, pleasantly situated on Main Street, within five minutes walk of North Railway Station. Bar kept with best assorted Wines, Liquors and Cigars. Every attention paid to guests. Good Stabling 1110

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Best accommodation in the City. TERMS \$1.50 and \$1.00 per day, according to location of Rooms. The Most Convenient House to all Trains. GREEN & SON, Proprietor. 1121

**The American Hotel,**  
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Collier Street, Adjoining the Market. RATES REASONABLE, CENTRAL LOCATION, FREE BUSES TO AND FROM ALL TRAINS. Every accommodation for Commercial and LUMBERMEN. W. D. McDONALD, Proprietor. 1111

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MILL PICKS DRESSED in a first class style. Those shipped by rail will be returned promptly. Lanco Tooth Saws Gummed. AXES WARRANTED. 3121  
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OFFICES, 32 KING STREET EAST,  
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All legitimate Detective business attended to for Banks, Fire and Life Insurance Co's, also for private parties. This agency does not operate for reward. 1115

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**LUMBER MERCHANTS**  
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Manufacturer of SURGICAL and DENTAL MEDICAL  
INSTRUMENTS. ARTIFICIAL LIMBS and to order.  
INDIA RUBBER GOODS of every description. 1114  
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All sizes. American Lath Yarn. Onkum  
9-16 and 5-8 inch Proved Chain. Wrought  
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**Messrs. W. H. SAMUEL & Co.,**  
LIVERPOOL, ENGLAND,  
Among the oldest established importers of American  
manufactures being open to place large orders for  
**BROOM HANDLES,**  
**CLOTHES PINS,**  
**VENETIAN LATHS,**  
Etc., Etc.  
Manufacturers of the same will please state stock on  
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months, with lowest cash prices. Freight paid to any  
seaport in the United Kingdom.  
Address at once as above with full particulars. 215

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Dealers in all kinds of  
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**S. S. MUTTON & Co.,**  
**Wholesale Lumber Dealers**  
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We have for Sale a large quantity of PINE, OAK,  
WHITEWOOD, ASH, CHESTNUT, CHERRY, BUT  
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A SET OF TUB MACHINERY FOR SALE,  
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**BELTING, FILES, BRASS BIT METAL,  
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**LUMBERING SUPPLIES.**

**WANTED.**

Cherry, White Ash, Black Ash, and  
Dry White Pine Lumber.

Quote Price delivered, and Carefully  
Describe:—Quality, Widths, Length,  
Thickness, and how long Sawed.

**ROBERT C. LOWRY,**  
Wholesale Lumber,  
55 Pine Street, New York. 1112

**J. T. LAMBERT,**  
Lumber and Commission Agent.

**FOR SALE.**

160	Mils. White Pine,	1 x 10	Stock.
175	"	do	1 x 12 "
11	"	do	2 x 10 "
20	"	do	2 x 12 "
140	"	do	1 inch Siding
20	"	do	1 1/2 "
40	"	do	2 x 10 Joists.
16	"	Cedar,	3 x 0 "
19	"	Basswood,	1 1/2 inch.

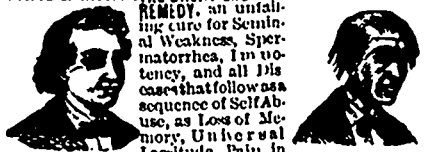
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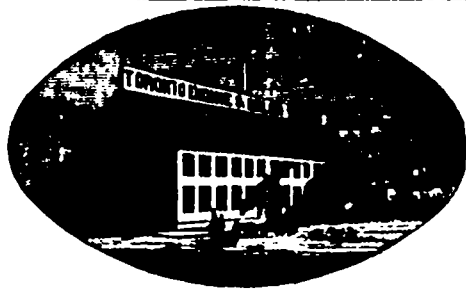
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TRADE MARK THE GREAT ENGLISH TRADE MARK



REMEDY, an unfail-  
ing cure for Seminal  
Weakness, Sper-  
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mory, Universal  
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Grave. Full particulars in our pamphlet, which we  
desire to send free by mail to every one. Ad The Spec-  
ific Medicine is sold by all druggists at \$1 per package,  
or six packages for \$5, or will be sent free by mail on  
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**THE GRAY MEDICINE CO.,**  
Toronto, Ont. 1112



ALL KINDS OF  
**Machinery, Marine, Portable  
and Stationary Boilers.**  
Pump Boilers for Stationary Mills  
153 & 155 Front Street, TORONTO.  
**J. PERKINS, PROPRIETOR** 1111

**CURRIE BOILER WORKS**

ESTABLISHED 1862

MANUFACTURERS OF

**STEAM BOILERS.**

NEW and SECOND HAND ENGINES and other Machinery  
on Hand and for Sale.

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**AMERICAN HEAVY**

**Oak Tanned Leather Belting**

Rubber Belting, Rubber Packing,  
Rubber Hose, Linen Hose,  
And Cotton Hose.

A Full and Complete Stock always on hand.  
Write for Prices and Discounts.

**T. McILROY, JR.**

WAREHOUSE—10 & 12 King Street East,  
P.O. BOX 556. TORONTO.

**JAMES ROBERTSON & Co.**

TORONTO, ONTARIO,

Manufacturers of Every Variety of

**Circular, Mill and Gang Saws**

INSERTED TOOTH SAWS A SPECIALTY.

**Emerson Pattern & Lumberman's Clipper.**

**SAWS REPAIRED**  
Every Saw Warranted.

SEND FOR PRICES.



## A POET ON FOREST FIRES.

If Mr. Joaquin Miller's poetry did not entitle him to the fame of an original genius, a scheme that he has for preserving the forests of America would. In the *New York Independent* he proposes to run fire through the woods every autumn by way of keeping them safe from fire in the summer. This, it appears, has been the practice from time immemorial of the Western Indians, from whom in his youth Mr. Miller obtained much of the knowledge by which he shines before white men. As the Indians in question lived on great treeless plains when the poet knew them, and long before we may believe that their ancestors did run fires through primeval forests in those regions, perhaps with the intention of preserving them, but not exactly with that result.

In Mr. Miller's day the Indians of his acquaintance had, it appears, but small patches of deciduous trees, bordering on the prairie, to preserve, and it is quite likely that their practice of running fire through and around them every fall was a good one. The accumulation of easily ignited grass, leaves, etc., was thus prevented and the light annual fire would not injure leafless hardwood trees.

But the poet proposes to deal with all the forests of the continent on the Indian plan. He says:—

"An annual fire is as natural, and necessary too, as is a rain fall at seed-time for the health and long life of any forest. When the leaves have fallen and all the nuts and fruit are ripened; when the bark of the tree is hard and sapless, and the new bushes and new branches are denuded and are made sound and hard, then the dry and indolent Indian summer possesses the land. The winds are still then, and there is no peril at all in turning the fire loose. This is the time the Indian takes to clear of his fields for the grasses of the coming spring, and to purify them of the malaria, burning leaves, and mosses that otherwise would lie rotting on the ground, harbouring insects, reptiles, fevers, death, and smothering out the new grasses, flowers, roots, and ground fruits for the coming year. The borer, the caterpillar, Colorado beetle, grasshopper, and bull cricket—these are some of the beautiful fruits borne from the white man's management, of our plains and forests."

After appealing to the history of Palestine, Assyria, Babylon, and ancient Germany, old Gaul, Italy, and Tyre, to support his argument, he says:—

"But to return to our own forests. I know it might at first be dangerous and difficult to burn out our forests now, and get them back to a state of nature, as it were. Yet it must be done. The old briar bound and moss-grown worm fence that winds about the hill to mark the limit of some settler's domain must go. Better the old fence should be burned now than the barn, house, cattle, and perhaps babies and all, in the end. However, these are details that must adjust and fit in themselves.

"The one special idea is to have the forests all burned over and burned out every autumn. These natural annual fires are so light that even the smallest and frailest little bush will not perish. See how nature has ordered this.

"Of course, all this will have to be regulated, by law; but here again I come to detail, which I shall not touch now. I should say, however, that every State ought to have its Forest Commissioners, and every part of each State be made to keep its forests clean, as certainly and exactly as any division of a city is made to keep its streets clean or in repair."

Mr. Miller hit the blot on his plan in the second sentence of the last quoted extract. It would at first be difficult and dangerous to run fire through pine forests in Indian summer, but never difficult or dangerous or necessary again, because there would probably be no forests left.

Though the poet's plan would not work, the idea that underlies it is good one. It would be well to keep the forests free from accumulated rubbish. Every year vast quantities of inflammable material pine needles, branches, chips, etc.—are left in the woods by lumbermen to assist in the spread of the fire. There is no reason why all this stuff should not be burned as soon as made in the winter, when the fire

would not run. The Government could commission bushrangers to see this done, and thus the great necessity which Mr. Miller perceives for burning the forests in order to keep them from being burned would be somewhat lessened.—*Globe*.

## STOPPING THE WATER SUPPLY.

In a paper of reminiscences by the Rev. W. Wyo Smith, published in the *Canadian Monthly*, we find the following paragraph, which deserves attention as a striking illustration of the mischief that is being done by overclearing:—

"It will seem odd to the younger inhabitants of Brantford to state that near where the two railways cross, on the north edge of the city, was a mill-pond, supplying power to a mill some distance below. I once, when a boy, wandered out there, and had an exciting engagement with a snapping turtle that was sunning himself on the bank. And in 1852 I remember getting on board a queer flat-bottomed steamer—a regular old tea pot—to go to Buffalo. I was very glad to find that we changed boats at Dunnville, for I did not think much of the seaworthiness of "The Queen;" which I believe was the name of the old scow I made the passage in. Probably the navigation of the Grand River (Lord Dorchester, the 'Sir Guy Carleton' of history, called it, in 1789, the 'Ouse'; but the name did not appear to stick), will never be revived. For one thing, the volume of water is immensely less than it was. I spent three months on its banks in 1837; and when a three days rain storm came, the river became swollen and dark coloured, and remained so for a month. Now, with the upper forests cleared away, it has hardly more water than will turn a mill on a dry summer. I was much interested in seeing, in the summer of 1837, some men who were running a pail factory in Galt pass down the rapids above Gloumoris, on a raft, with several hundred gaily painted pails, bound for Brantford. This could not be done now, except on the dangerous odds of a great freshet. The same may be said of other streams; old mills are found with not a drop of water running past them in a dry summer."

## THE SCIENTIFIC AMERICAN OFFICES.

We are glad to announce that the *Scientific American* came out of the late fire in New York like the fabled Phoenix, with renewed life. The subscription lists, account books, patent records, patent drawings, and correspondences were preserved in massive fire-proof safes. The printing of the *Scientific American* and *Supplement* was done in another building; consequently the types, plates, presses, paper, etc., were unharmed, and no interruption of business was occasioned.

The new *Scientific American* offices are located at 216 Broadway, corner of Warren Street, a very central and excellent situation. Here, in addition to the issuing of their interesting publications, Messrs. Munn & Co., aided by trained examiners and draughtsmen, prepare specifications and drawings for American and Foreign patents. If any of our readers should happen to make a new discovery (we hope every one of them may do so, and gain a fortune), they have only to drop a line to Munn & Co., 261 Broadway, New York, who will reply at once, without charge, stating whether the invention is probably novel and patentable. A handbook of instruction, with full particulars, will also be sent, free. Messrs. Munn & Co., have had over thirty-five years' experience in the business.

## DESTRUCTION OF TIMBER.

The *Chicago Tribune* says that while the need of legal restrictions to prevent the total destruction of our forests is so apparent, it is not often that they are imposed by State authority. The National Government is powerless to interfere, except for the protection of the public lands, and the laws enacted for this purpose are liberally interpreted and feebly enforced, if at all. Settlers on timber lands have not always been informed that the regulations imposed upon them were different from those established for prairie settlers. The law forbids persons who have acquired timber lands under the Homestead or Pre-emption acts to remove more of the timber than may be necessary for purposes of cultivation. This provision has been

flagrantly violated by persons who have acquired the title to Government timber merely for the purpose of selling it to speculators. The new commissioner of the Land-Office has undertaken to stop this abuse. He has caused the provisions of the law in this respect to be stamped in red ink upon the blank receipts issued to timberland settlers; and has enjoined upon local agents the duty of watching and reporting cases of depreciation and violation of the laws. These orders may be a partial remedy. But it is evident the waste of timber cannot be stopped or repaired until the State Governments take an active interest in the subject. They may not be able to prevent the destruction of forests which have actually passed into private ownership; but they may protect such as still belong to the State, and, by offering bonuses, encourage new growth of timber to take the place of those destroyed.

HENRY STEVENS & Co., of St. Helen, Roscommon county, Mich., write that they have banked some logs this season that deserve to be rolled on the skidway of fame for the lumber world to gaze at. On January 31, at their camp No. 5, Leonard Coulter, foreman, were banked ten pine logs that scaled 6,316 feet. On February 2, at camp No. 3, David Murdock, foreman, fifteen pine logs were banked that scaled 8,197 feet. These logs were banked at two hauls, partially up hill.

*Land and Water* says:—"It is stated that from the forests belonging to M. Bismark are cut the greater portion of the blocks used for the wood pavement in London, and that an English company is going to use it in Paris for the Boulevard Montmartre. Query, if it will be paved with good intentions!"

"WOMEN NEVER THINK."—If the crabbed old bachelor who uttered this sentiment could but witness the intense thought, deep study and thorough investigation of women in determining the best medicines to keep their families well, and would note their sagacity and wisdom in selecting Hop Bitters as the best, and demonstrating it by keeping their families in perpetual health, and at a mere nominal expense, he would be first to acknowledge that such sentiments are baseless and false.—*Picayune*.

IS IT A HUMBBUG? Some people think all proprietary medicines humbugs. In this they must be mistaken. A cough medicine like N. H. Down's Elixir that has stood the racket of 52 years must have some virtue, and must cure the diseases for which it is recommended, or people would not continue to buy and use it as they do. It seems to us that even if we knew nothing of its merits, the fact of its large and continually increasing sale justifies us in recommending Down's Elixir to all who may need a reliable cough medicine.

A healthy man never thinks of his stomach. The dyspeptic thinks of nothing else. Indigestion is a constant reminder. The wise man who finds himself suffering will spend a few cents for a bottle of Zoposa, from Brazil, the now and remarkable compound for cleansing and toning the system, for assisting the digestive apparatus and the liver to properly perform their duties in assimilating the food. Get a ton cent sample of Zoposa, the new remedy, of your druggist. A few doses will surprise you.

A GOOD FILTER.—To have pure water is the house every family should have a filter, the health and comfort depends largely upon the use of properly filtered water. The liver is the true filter for the blood, and Burdock Blood Bitters keeps the liver and all the secretory organs in a healthy condition. It is the grand blood purifying, liver regulating tonic.

THE SECRET OF BEAUTY.—No Cosmetic in the world can impart beauty to a face that is disfigured by unsightly blotches arising from impure blood. Burdock Blood Bitters is the grand purifying medicine for all humors of the blood. It makes good blood and imparts the bloom of health to the most sallow complexion.

"AND fools who came to scoff remained to pray."—We receive many letters from those having tried while doubting, yet were entirely cured of dyspepsia and liver troubles with Zoposa. Clergymen write us earnestly to it wonderful effects.

BURNS AND SCALDS are promptly cured as all flesh wounds, sprains, bruises, callous lumps, soreness, pain, inflammation and all painful diseases; by the great Rheumatic Remedy, Raggard's Yellow Oil. For external and internal use. Price 25c.

THE lost arts did not include steel pen making, an invention of the nineteenth century, Esterbrook's being superior, standard and reliable.

TEABERRY whitens the teeth like chastened pearls. A five cent sample settles it.

## Chips.

THE Northern Pacific Railway Company, in order to encourage tree planting, will during the season of 1882 transport, free of charge, fruit and ornamental young trees for the actual use of settlers along its line.

ALLEGED pinkeys has become so prevalent in the Upper Ottawa district that lumbermen say they will be unable to get out so much timber as they expected on account of the scarcity of teams. Some veterinary surgeons say that the disease is not pinkeys at all, but only an acute influenza.

THE *Northwestern Lumberman* says the export of lumber from the States to Mexico, though not yet an immense factor of their commerce, is increasing under the late stimulus given to their relations with that country by railroad building, mining schemes, etc. In 1880 they exported to Mexico lumber to the value of \$130,000, and in 1881 the value increased to \$183,430.

THE steamship *Maas*, which arrived on Feb. 6 at New York, from Rotterdam, reports, Jan. 22, lat. 50 13, long. 13 40, passed a large ship on fire, water-logged, probably loaded with lumber. The ship was almost totally burned out. Steamers twice around the vessel, but could not perceive any name on her. Held a sharp look out for boats during the whole day, but saw none.

J. & G. K. WENTWORTH are now lumbermen in Mecosta county, Mich., but come prominently to the front on account of having purchased the Eldred railroad, which they removed to their present location. Their present job is estimated at 15,000,000 feet, which goes into the Chippewa River over their railroad, which is about five miles long, and is in course of construction, and nearly completed.

CAMPS have been established at Little Quinnesec Falls, Wis., and the work of making a cut around the falls on the Michigan side of the river has commenced. The cut will be 488 feet long, 40 feet deep in the deepest place, from 30 to 40 feet wide at the bottom, and 6,000 cubic yards of rock will be taken out of it. The work will cost in the neighbourhood of \$15,000, and is expected to be completed before the logs come down in the spring. Logs are so badly damaged in coming over the falls that it will take but a few years for the cut to pay for itself.

THE *Northwestern Lumberman* says that Senator Flint has introduced a bill into the Wisconsin legislature to provide for levying a tax of fifteen cents a thousand on all logs shipped out of the State. The object is to protect home manufactures on Wisconsin streams, and possibly to check the wholesale running of logs down the Mississippi to the Iowa, Illinois and Missouri mills. It would also affect the interests of Michigan lumbermen who operate in Wisconsin. The bill, however, will have to fight an enormous capital before it becomes a law.

THE *Calais Times* says that an unusually large stock of logs was held over on the St. Croix this winter. With the exception of F. H. Todd & Sons, and Chas. F. Todd, all of the manufacturers will have an abundant supply of logs with which to start in the spring. Murchio & Sons have the largest stock on hand, followed in the order named by H. F. Eaton, Eaton Bros., and Gates & Wentworth. Most of these logs are separated in side booms, and in the main and Baring logs enough are left for a month's rafting. Alexander Milligan says he has not seen for thirty years so many logs left over in the side booms.

A SIXTH of France (including Corsica) is under wood, but, notwithstanding this, an immense amount of timber is annually imported into the country from the United States and the north of Europe. In 1824 the Nancy School of Forestry was instituted, and a new code of forest laws was adopted in 1827. The fact has of late years been recognized that the floods which have proved so terribly disastrous to France have been largely due to the absence of trees on mountain sides. A forest acts both mechanically and hydrographically; in the former case by preventing any large body of water from collecting, and as a sort of permanent floodgate; in the latter by the trees themselves absorbing a vast deal of moisture.

**A NATIONAL BLESSING.**

(Philadelphia Record.)

The Nineteenth Century, above all other ages, has been noted for its many inventions. It has given us the steam power in its thousand-fold applications, the telegraph, the telephone, the electric light, and innumerable other discoveries, all blessings to humanity; each day bringing us new surprises until we have become so accustomed to the exhibitions of the genius of our century that any new development is at once received as a matter of natural consequence, and most people will simply remark, "I told you so." As an instance of this fact we would only call attention to the wonderful discovery, St. Jacobs Oil. A few years ago this Great German Remedy had never been heard of before in this country; to-day you can hardly find a man, woman or child in the United States who has not used the remedy for some pain or ache, or at least has witnessed its use and seen its wonderful effects on a fellow-being. St. Jacobs Oil has become a national remedy, for it is known in every city, town, village and hamlet in the country. It is a cosmopolitan preparation, for it is praised by the Americans, Germans, Italians, Bohemians, Danes, Swedes, Portuguese, Spaniards, French,—yes, even the "Heathen Chinese." It may be termed the universal blessing, for it is endorsed by the rich and poor, the clergyman and the physician, the merchant and the laborer, in fact by all classes of the community. St. Jacobs Oil, by its almost marvellous properties, can be employed for a simple cut or sprain, or the worst case of inflammatory rheumatism. Persons who have been confined to their bed for years with that terrible disease, rheumatism, have been completely cured by the use of a single bottle. Such cases have been quoted by the leading journals of our country; for instance, the St. Louis Post-Dispatch says:—Under the title of Old Probabilities, one of the most useful and valuable officers of the United States Government is most widely known. But quite as well known is Prof. J. H. Tice, the meteorologist of the Mississippi Valley, whose contributions to his favorite study have given him an almost national reputation. On a recent tour through the Northwest the Professor had a narrow escape from the serious consequences of a sudden and very dangerous illness, the particulars of which he thus refers:—"The day after concluding my course of lectures at Burlington, Iowa, on the 21st of December last, I was seized with a sudden attack of neuralgia in the chest, almost roventing breathing. My pulse, usually eighty, fell to thirty-five; intense nausea of the stomach succeeded, and a cold clammy sweat covered my entire body. The attending physician could do nothing to relieve me; after suffering three years, I thought, as I had been using St. Jacobs Oil with good effect for rheumatic pains, I would try it. I saturated a piece of flannel, large enough to cover my chest, with the Oil, and applied it. The relief was almost instantaneous. In one hour I was almost free from pain, and would have taken the train to fill an appointment in a neighbouring town, had not my friends dissuaded me. As it was, I took the night train for my home, St. Louis, and have not been troubled since."

The Boston Globe says:—"Charles S. Strickland, Esq., builder, No. 9 Boylston street and 106 Harrison avenue, Boston, thus speaks:—"The pleasure which I hereby attempt to express can only be half conveyed by words. Physicians of very high character and notoriety have heretofore declared my rheumatism incurable. Specifics, almost numberless, have failed to cure, or even alleviate the intensity of the pain, which has frequently confined me to my room for three months at a time. One week ago I was seized with an attack of acute rheumatism of the knee. In a few hours the entire knee joint became swollen to enormous proportions, and walking was rendered impossible. Nothing remained for me, and I intended to resign myself, as best I might, to another month's agonies. By chance I learned of the wonderful curative properties of St. Jacobs Oil. I clutched it as a straw, and in a few hours was free from pain in the knee, arm and shoulder. As before stated, I cannot find words to convey my praise and gratitude to the discoverer of this king of rheumatism."

The Chicago Times says:—"Everybody on the South Side knows J. D. L. Harvey, Esq., who has been a resident of Chicago for over twenty years. Mr. Harvey expressed himself on the "Oil subject" as follows:—"I have spent over \$2,000 to cure my wife of rheumatism. Two bottles of St. Jacobs Oil accomplished what all the medical treatment failed to bring about. I regard it as a greater discovery than electricity. It is a boon to the human race, and I am very glad to have this opportunity of testifying as to its remarkable efficacy. I cannot speak too highly of it, and I would be recreant to my duty to those afflicted did I not lift my voice in its praise."

The Philadelphia Ledger says:—"Mr. George I. Graham, 820 Nineteenth street, Philadelphia, is a journalist of many years experience, and is actively connected with the Philadelphia Sunday Mirror, a leading theatrical and musical journal. During the "late unpleasantness" Mr. Graham was Captain of Company K, One hundred and eighty-third Pennsylvania regiment, and through exposure in the field he contracted a variety of ills, and he says a very troublesome case of rheumatism in the right leg and foot was a war inheritance that he had in vain tried to get rid of, until he was recommended to try St. Jacobs Oil. He states that he felt a slight relief even on the first application of the Oil. Before the first bottle he purchased had been used up he had but few traces of his rheumatism, and at this time he says the disease has entirely left him, which he attributes entirely to the use of St. Jacobs Oil. He remarks:—"No person need suffer with rheumatism if St. Jacobs Oil can be obtained; to those who are afflicted with that complaint it is worth its weight in gold."

The Chicago Inter-Ocean says:—"Captain Paul Boynton, the world-renowned swimmer, thus speaks of the old German Remedy: "From constant exposure I am somewhat subject to rheumatic pains, and nothing would ever benefit me until I got hold of this old German Remedy. Why, on my travels I have met people who had been suffering with rheumatism for years; by my advice they tried the Oil, and it cured them. I would sooner do without food for days than be without this remedy for one hour. In fact I would not attempt a trip without St. Jacobs Oil, as I do not see how I can get along without it."

St. Jacobs Oil has been endorsed by persons of national reputation, who would not lend their names if they were not convinced that it was a duty they owed to suffering humanity; they have experienced the wonderful effect of the Great German Remedy, and they want their fellow creatures to know the result. We would only mention in this connection the Rt. Rev. Bishop Gilmour, of Cleveland, Ohio: "Excellent for rheumatism and kindred diseases; it has benefited me greatly." Mme. Maria Salvotti, prima donna, Wilhelmj Concert Troupe:—"Nothing can compare with it as a prompt, reliable cure for the ailment named." William H. Wareing, Esq., Assistant General Superintendent, New York Post Office: "Proved all that is claimed for the Oil, and found efficacious ready relief for rheumatic complaints." Hon. Thomas L. James, Postmaster, New York, referring to Superintendent Wareing's report concerning St. Jacobs Oil, "I concur." Prof. C. O. Duplessis, Manager Chicago Gymnasium, Chicago, Ill.: "Our professionals and amateurs use it in preference to everything they have ever tried." George W. Walling, Esq., Superintendent Police, New York City: "Members of this department relieved of rheumatism by its use." Stacy Hill, Esq., Mount Auburn Inclined Plane Railroad, Cincinnati, Ohio: "Undoubtedly it is a remarkable medicine." Captain Henry M. Holzwarth, Chief Detective Force, Cleveland, Ohio: "Surprising relief; a world of good." Prof. Edward Holst, pianist and composer, Chicago, Ill.: "Its effects are in harmony with its claims." In conclusion we would say that it is the imperative duty of every family to have a bottle of St. Jacobs Oil on hand for all emergencies; for the remedy is a true friend in need, and the occasion for its immediate use may come when it is least expected. Follow this advice, and it will not be long before you will join with us in calling St. Jacobs Oil "A National Blessing."

**P. PAYETT'S NEW IMPROVED Adjustable Saw Guide!**

Can be adjusted without danger. You can take your saw off without taking the guide off the frame.

All kinds of Brass & Iron Casting  
PLAINING and TURNING done with Despatch. For particulars address:  
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LUBRICATING OILS, COTTON WASTE

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And all Articles used in the Application of Steam to Machinery.

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**EPPS'S COCOA**

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"By a thorough knowledge of the natural laws which govern the operations of digestion and nutrition, and by a careful application of the fine properties of well-selected Cocoa, Mr. Epps has provided our breakfast tables with a delicately flavored beverage which may save us many heavy doctors' bills. It is by the judicious use of such articles of diet that a constitution may be gradually built up until strong enough to resist every tendency to disease. Hundreds of subtle maladies are floating around us ready to attack wherever there is a weak point. We may escape many a fatal shaft by keeping ourselves well fortified with pure blood and a properly nourished frame."—Civil Service Gazette.

Made simply with boiling water or milk. Sold in packets and tins only (4-lb. and 1-lb.) labelled

**JAMES EPPS & CO.,** Homoeopathic Chemists,  
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**THE KEY TO HEALTH.**



Unlocks all the clogged avenues of the Bowels, Kidneys and Liver, carrying off gradually without weakening the system, all the impurities and foul humors, of the secretions; at the same time Correcting Acidity of the Stomach, curing Bileousness, Dyspepsia, Headaches, Dizziness, Heartburn, Constipation, Dryness of the Skin, Dropsy, Dimness of Vision, Jaundice, Salt Rheum, Erysipelas, Scrofula, Fluttering of the Heart, Nervousness and General Debility; all these and many other similar Complaints yield to the happy influence of BURDOCK BLOOD BITTERS.

Sample Bottles 10c; Regular size \$1.

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Lead Scuppers & Water Closets & all goods in my line for Ships' use.

Work done to Order with Qu' Despatch.

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**Agricultural Implements.**

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Tin, Sheet Iron and Copper Ware for SHIP and HOUSE use. 1118

# Market Reports.

## TORONTO.

From our own Correspondent.

Feb. 20th.—Lumber shipments to this city are extremely small at present, and likely to continue so for some time to come, if the railway companies continue to fleece shippers in the same style as at present adopted by them. The freight department of the G. T. R. here has a new manager in charge, and so far as lumbermen are concerned, at least, the change has not been a happy one. The stringent measures now in operation, in regard to the weighing of all cars of lumber, certainly commenced under his instructions, and to make the shippers' position still more hazardous, this model of a freight agent has just now issued a circular notifying all lumber shippers that on and after the 1st of March, all cars not unloaded within forty-eight hours after their arrival in Toronto, will be shunted down to the Don, and there unloaded at the risk of the owner, and \$3 collected for shunting, as well as cost for unloading. It is really surprising that he contents himself with merely sending the cars only about three miles back on the same route by which they came here; why not send them down, say to Port Hope, as the lumber might be shipped by water from there on the opening of navigation?

In my last letter I stated that the G. T. R. Co. only charged single rates on all excess weight over 24,000 lbs., but this is done away with, and the same rates are now charged as by the N. & N. W. R. Co., that is to say, on the first ton over 24,000 lbs. single rates, all over that, double. It is said, by those who profess to know, that the traffic agent of the N. & N. W. R. has interviewed the G. T. agent, and (to use a rather vulgar phrase) has said, "now, you scratch my back and I will scratch yours," and between them both they claw the pockets of their customers quite lively. Now, there is doubtless a distinction to be made between the highwaymen who coolly orders a man to stand and deliver, and a company that forces from their patrons money which they have not honestly earned, but I must confess that, so far as I can view it, it is a distinction without a difference; however, to close it up, I would say that if the lumbermen stand and merely groan at this kind of treatment, they deserve all they get, and more.

Since writing my last letter, sawn lath has taken a sudden jump upward in price, and may now be quoted at \$2.50 per M., from the yards; and few to be got at that. The yards have a fair stock of most kinds of lumber except 2x8 and 2x4. This kind of stock is extremely small in quantity at all the yards.

In a former letter I promised to give you a description of the wood working and planing factories in this city, and I will now endeavor to redeem that promise, to the best of my ability, in this: a future letter, taking them in the order which their importance merits.—The firm of J. P. Wagner & Co., situated on Adelaide street west, between Bay and York Streets, is doubtless the most complete of its kind in the Dominion. Their new factory has only been erected two years, and is a most imposing structure, covering a space of 62 feet on Adelaide street, by 186 feet in depth, to Boulton street; it is five stories high, and the total number of superficial feet in this building is 26,848, and all taken up fully by machinery and workmen. The total number of men now employed is about 125, to be largely increased in the coming spring. Everything new in the way of labor saving machinery is to be found in this building, and the quality of work turned out by this firm cannot be surpassed on this continent. Sashes, doors, blinds, stairs of the most elaborate designs, all ready to be put in their proper places, meet the eye at every turn. Wood turning, carved work, and scroll work, in neat designs, are here to be seen, and last, but not least, piano key boards, of the most durable and costly finish. This branch of their business is fast increasing, as they have now 25 men constantly employed in this department alone, and expect shortly to double that number. Previous to the N. P. coming in force, nearly all of this kind of work was imported, but now this firm are turning out piano key boards, equal in

finish, durability and elasticity to the touch, to any heretofore imported from the United States. At least so say those who should know whereof they speak; and in fact the entire factory is carefully conducted under trained foremen, and the careful supervision of the members of the firm, and should any of your readers, on a visit to this city, desire to see for themselves, they will find the senior member of this firm ever ready to extend the same courtesy to them as shown to your correspondent, by showing them through their factory.

## MONTREAL.

From Our Own Correspondent.

Feb. 23.—Work in the shanties is progressing favorably, and if there is sufficient water in the spring to float down all that has been cut, the stock of lumber this season will be large. Prospects for shipping on the opening of navigation are fair, but the quantity may probably not reach the figures of 1881. There is no likelihood of higher rates of freight to South America, any advance would enable shippers to export as cheaply via New York. The demand for lumber here for the past two weeks has been very quiet, but no change has taken place in quotations since our last report, but as stock here are light, holders are very firm in their views. We continue to quote:—

Pine, 1st quality, 1/2 M.....	\$35 00	40 00
Pine, 2nd " " " ".....	30 00	34 00
Pine, shipping culls, 1/2 M.....	18 00	15 00
Pine, mill deals, 1/2 M.....	8 00	12 00
Pine, cull culls, 1/2 M.....	5 00	8 00
Spruce, 1/2 M.....	8 00	10 00
Hemlock, 1/2 M.....	8 00	10 00
Ash, run of long culls out, 1/2 M.....	16 00	18 00
Bass, " " " ".....	10 00	17 00
Oak, 1/2 M.....	35 00	45 00
Birch, 1/2 M.....	17 00	20 00
Hard Maple, 1/2 M.....	18 00	25 00
Lath, 1/2 M.....	1 50	0 00
Shingles, 1st, 1/2 M.....	3 00	0 00
Shingles, 2nd, 1/2 M.....	2 00	0 00

Advices just received by mail from Liverpool state that trade during January was quiet, but business is in a healthier state than it has been for years. Some considerable sales of Quebec waxy board pine, averaging 20 inches, have been made at 2s. 6d. per foot, yarded. At auction there have been sales of

St. John Spruce deals, at £7 15 9 per standard.	
Halifax, " " " ".....	7 15 0
Dalhousie, " " " ".....	7 9 2
Ship Harbor, " " " ".....	7 8 9
Quebec waxy board pine, 2 6 per ft.	

The following are the wholesale quotations in Liverpool for Canadian woods:—

Quebec Square White Pine, cub. ft.....	0 1 6	0 10 2 3
Quebec Waxy Board Pine.....	0 2 2	0 2 9
St. John Pine, 18 inch av.....	0 1 9	0 1 11
Lower Ports Pine.....	0 1 2	0 1 5
Quebec Red Pine.....	0 1 4	0 1 9
Quebec Oak, 1st quality.....	0 2 9	0 3 2
Quebec Oak, 2nd quality.....	0 2 3	0 2 6
Ash.....	0 1 4	0 2 0
Elm.....	0 1 9	0 2 0
Hickory.....	0 2 3	0 2 6
Quebec Birch.....	0 1 4	0 1 8
St. John Birch.....	0 1 4	0 1 6
Spruce Spars.....	0 0 11	0 1 2

CORNWOOD.—The very heavy fall of snow which we have had the past week has rather delayed importations. The demand here keeps pretty good. There is, however, no change to note in wholesale prices, which keeps steady at the late reduction. We quote prices at the railway depot, ex cartage:—

Long Maple.....	\$5 00
Short " " " ".....	5 30
Long Birch.....	5 50
Short " " " ".....	5 00
Long Beech.....	5 00
Short " " " ".....	4 50
Long Tamarack.....	4 50
Short " " " ".....	4 00

## OTTAWA.

From Our Own Correspondent.

Feb. 23rd.—The past few days' snow falls have revived the drooping spirits of the lumbermen of the Ottawa Valley. The previous ominous soft weather was on a fair way of proving disastrous to the carrying on of operations for the balance of the season. Disheartened contractors in many cases completely suspended work, and broke up their shanties, having found it impossible to procure supplies, the bad roads not permitting their conveyance to the shanties.

Not only those engaged in hauling, but also the choppers and square timber makers were compelled to suspend. Fortunately sufficient snow has fallen to allow operations to be commenced again.

The cut, it is thought, owing to the many drawbacks, will fall short of what was anticipated earlier in the season. It will be short in the average size and also in the quality and quantity. In square timber, however, there will be no loss.

Logs are now quoted at 65 to \$2.00 per standard, duty paid. As in other seasons, there will be a large number of cks this year in the streams, while quantities will be left in the woods. The following are the principal firms taking out logs in the localities mentioned:—On the Black River—Bronson & Weston, J. R. Booth, Grant & Miller, John Rochester, and McEachern & Fraser. On the Kippawa—Sherman, Lord & Hurdman, Booth J. Gordon, Oliver, atour, J. & G. Bryson, and the British Canadian Lumbering Co. On the Tomisamiquic—Ball & Hickey, Fraser & Screenoy, and Taggart. There are besides the foregoing quite a number of smaller jobbers.

Pink eye is playing havoc among the horses in the majority of the up river shanties. It is remarkable that the disease does not effect in such a serious degree the animals in the inland shanties. It is principally those of the concerns along the main river and larger streams that are afflicted. A person travelling one day recently from Fort Eddy to Mattawa, a distance of ten miles, counted sixteen carcasses of horses that had succumbed to the disease. Some firms have engaged the services of competent persons in order that they may be on hand to work when fit. The outbreak of this disease is attributed by some to the unbroken weather this winter. It is known for a fact that during the cold spell that preceded the late thaw the disease died out considerably, but it appeared again when the soft weather set in. Some shanties have as many as twenty-five or thirty horses laid up just now with the disease. This will also tend to diminish the production of logs.

The concerns here report no sales lately, but next month will tell a different tale, as spring orders will then begin to be received.

J. R. Booth's mills are undergoing extensive repairs this season, as are also a number of the other mills.

Baldwin & Co.'s and Almer's mills, recently damaged by fire, are being reconstructed rapidly, and will soon be in operation again.

## BRACEBRIDGE.

From Our Own Correspondent.

Feb. 25.—The hauling for the two weeks previous to this one has been almost at a standstill for want of snow, but the recent fall has made things more lively for the present week, but it was impossible to get all the hired teams back again into the woods. For this reason there will probably not be as much got out as was anticipated in the earlier part of the season.

David McLelland, a jobber for the Georgian Bay Lumber Company, who is well known here and has been in the business for many years, was thrown from his cutter on Feb. 14th by his horse running away, and was killed.

A company to be known as the Midland and North Shore Lumber Co., some of the members of which are Messrs. D. Ulyott, G. A. Cox and J. Bertram, of Peterborough, has been recently formed. They have purchased the Guelph Lumber Co.'s property in the Parry Sound District. It is said that they have paid \$140,000 for the mill and limits. The limits are well timbered, and there is no doubt that it is a good purchase.

## MIDLAND.

From Our Own Correspondent.

Feb. 23.—The British Canadian Lumber and Timber Co. is erecting here another large mill with a capacity of about 100,000 feet a day, to be ready by the first of May. They are also making extensive improvements in their other two mills, and expect to cut about 36,000,000 feet in the coming season.

The other mills are all fitting up ready for a start as soon as navigation opens.

The B. C. L. & T. Co. are also rebuilding their tug, the *Minnie Hall*.

## ST. JOHN, N. B.

From Our Own Correspondent.

Feb. 20th.—It is quite safe to assert that that remarkable personage "the oldest inhabitant," cannot call to remembrance the time during the history of the deal trade at this port, when the stock was so completely "cleaned out." For the next month or so, therefore, little can be said in connection with the trade here that will be of interest to your readers.

In our last report reference was made to the probable over-supply of snow for carrying on logging operations; a heavy thaw has since somewhat changed the position of matters in this respect, and from all we can learn there is little to complain of now regarding the conditions for hauling in the lumber woods. Some localities, of course, have more snow than others, but the presumption is that the work can now be carried on with vigour throughout the country generally, with a fair prospect of a good supply of water in the spring for bringing the logs out of the streams.

## FRIGHTS.

In consequence of the exhaustion of our stock of deals there is no demand for shipping, hence our freight market is for the time virtually closed. The only charter we hear of since last report is the *Buteshire*, 967 tons, for Barrow, Liverpool, Bristol Channel, Dublin or Glasgow, at 61s. 3d.

## SHIPMENTS.

The shipments of deals and other sawn lumber are as follows:—

For Europe.....	1,211,000 Sup. feet.
" United States.....	847,000 "
" Australia.....	847,000 "

No shipments of sugar box shooks for Cuba this term.

## SHIPPING.

The following is a list of the vessels in port, with their tonnage and destinations:—

Fidella, 450, Cuba.
Buteshire, 967, United Kingdom.
Altarin, 446, —
Grace E. Conn, 633, E. C. Ireland.

## BOSTON.

Feb. 18.—The *Journal of Commerce* says reports coming in are of the most encouraging character. Even at present there is a remarkably good demand, and it would probably be larger were it not for the very uncertain weather which prevents indulging in future operations to any great extent. The export demand is reported better than for many years at the same period. From all the western trade centres the most flattering reports continue. In Chicago, during the last two weeks, the shipments show an increase of £20 per cent. over the same period of last year. On all sides it seems to be agreed that the prospects for a good spring trade were never better. In this market, at present, there is a dull feeling in birch and maple. Aside from this there seem to be no weak points. With this state of things it seems probable that values will increase materially before spring has well advanced. Hard woods continue firm and strong. Our quotations are for carload logs:—

## CANADA PINE.

Selects, Dressed.....	\$18 00	25 00
Shelving, Dressed, 1st.....	40 00	42 00
" " " " 2nds.....	33 00	35 00
Dressed Shippers.....	27 00	29 00
Dressed Box.....	18 00	20 00
Sheathing, 1st quality.....	42 00	45 00
" " " " 2nd.....	34 00	35 00

## CHICAGO.

Feb. 15.—The *Northwestern Lumberman* says: If the wholesale lumber dealers of the city are not satisfied with the present condition of trade, and the outlook of business, they should give up the vain and illusory things of earth and retire to the cloister, for nothing material could satisfy them. Inquiry at the leading yards convinces one that for the time of the year trade is heavy. One familiar with the lumber district can see by walking through it that the outward movement of stocks is brisk and continuous, without making any inquiry. As an evidence of how large the shipments are, it is noted that from one of the principal yards is daily run out from 40 to 45 cars. The same concern will, if trade maintains its present volume, ship 5,000,000 feet of lumber the present month. Other yards are doing proportionately well. The continuance of this remarkable spring-like weather, and the improvement of country roads,

will tend to still further increase the volume of trade. The prospect is that before navigation opens there will be a lively scurrambling after lumber to re-supply the broken stocks of common boards, piece stuff, strips, etc., such as was never before seen at the close of the winter season. Of course under the circumstances prices are exceedingly unyielding.

The prospect for higher prices in the spring has set the farmers to buying barn stocks in advance of the time of building. Many are purchasing lumber that they do not intend to use till next fall.

Two vessels arrived at the port of Chicago on the 16th of February, one being loaded with lumber from Muskegon, and the other with railroad ties. It now looks as though forest products would reach Chicago during each month of 1882.

Receipts and shipments of lumber and shingles for the week ending February 16, 1882:—

	RECEIPTS.		SHIPMENTS.	
	Lumber.	Shingles.	Lumber.	Shingles.
1882.....	6,960,000	1,150,000	37,123,000	6,390,000
1881.....	2,610,000	1,040,000	15,913,000	9,492,000

Receipts and shipments of lumber and shingles from January 1 to and including February 16:—

	RECEIPTS.		SHIPMENTS.	
	Lumber.	Shingles.	Lumber.	Shingles.
1882.....	31,798,000	8,702,000	157,504,000	48,035,000
1881.....	27,907,000	8,831,000	95,253,000	46,772,000
Inc.....	3,991,000	129,000	62,246,000	1,613,000
Dec.....				

STOCK ON HAND FEBRUARY 1.

	1882.	1881.	1880.
Lumber.....	471,350,108	444,922,272	403,981,900
Shingles.....	200,500,347	186,700,000	171,495,000
Lath.....	46,691,923	47,292,560	44,710,105
Pickets.....	3,082,323	2,426,482	2,041,351
Cedar posts.....	183,469	90,700	326,731

ALBANY.

FEB. 16.—Quotations at the yards are as follows:—

Pine, clear, 2 M.....	83 00@65 00
Pine, fourths.....	43 00@58 00
Pine, select.....	43 00@53 00
Pine, good box.....	10 00@31 00
Pine, 10-in. plank, each.....	00 18@00 22
Pine, 10-in. boards, culls, each.....	00 18@00 22
Pine, 10-in. boards, 16 ft., 2 M.....	25 00@30 00
Pine, 12-in. boards, 16 ft., 2 M.....	25 00@30 00
Pine, 12-in. boards, 13 ft.....	20 00@25 00
Pine, 11-in. siding, select.....	33 00@40 00
Pine, 11-in. siding, common.....	15 00@18 00
Pine, 1-in. siding, select.....	40 00@42 00
Pine, 1-in. siding, common.....	16 00@19 00
Spruce, boards, each.....	00 00@00 19
Spruce, plank, 11-in., each.....	00 00@00 20
Spruce, plank, 2-in., each.....	00 00@00 30
Spruce, wall strips, each.....	00 11@00 12
Hemlock, boards, each.....	00 00@00 13
Hemlock, joist, 4x8, each.....	00 00@00 31
Hemlock, joist, 2x4, each.....	00 00@00 13
Hemlock, wall strips, 2x4, each.....	00 00@00 10
Ash, good, 2 M.....	35 00@40 00
Ash, second quality, 2 M.....	25 00@30 00
Cherry, good, 2 M.....	00 00@70 00
Cherry, common, 2 M.....	25 00@35 00
Oak, good, 2 M.....	38 00@43 00
Oak, second quality, 2 M.....	20 00@25 00
Hickory, 2 M.....	22 00@25 00
Hickory, 2 M.....	36 00@40 00
Maple, Canada, 2 M.....	28 00@30 00
Maple, American, per M.....	25 00@28 00
Chestnut, 2 M.....	35 00@40 00
Shingles, shaved, pine, 2 M.....	0 00@0 00
2nd quality.....	0 00@0 40
extra, sawed, pine.....	0 00@0 45
clear.....	0 00@0 30
cedar, mixed.....	0 00@0 25
cedar, XXX.....	0 00@0 40
hemlock.....	0 00@0 25
Lath, hemlock, 2 M.....	0 00@0 12
Lath, spruce.....	0 00@0 18
Lath, pine.....	0 00@0 20

OSWEGO, N.Y.

FEB. 20th.—The following are the quotations:—

Three uppers.....	42 00@45 00
Pickings.....	32 00@35 00
Fine, common.....	20 00@25 00
Common.....	14 00@18 00
Culls.....	11 00@13 00
Mill run lots.....	17 00@22 00
Sidings, selected, 1 inch.....	30 00@33 00
1 1/2 inch.....	30 00@33 00
Mill run, 1x10, 13 to 16 feet.....	16 00@20 00
selected.....	29 00@32 00
uppers.....	15 00@16 00
Culls, selected.....	22 00@30 00
Culls.....	10 00@13 00
1x6 selected for clapboards.....	25 00@40 00
Shingles, XXX, 13 inch, pine.....	3 75@0 30
XXX, 13 inch, cedar.....	3 00@0 25
Lath.....	1 40@0 15

BUFFALO.

We quote cargo lots:—

Uppers.....	46 00@49 00
Common.....	19 00@19 00
Culls.....	13 00@14 00

TONAWANDA.

CARGO LOTS—SAGINAW INSPECTION.

Three uppers.....	40 00@45 00
Common.....	17 50@20 00
Culls.....	11 50@12 50

GLASGOW.

The *Timber Trades Journal*, of February 4th, says.—Little has been added to stock during the first month of the year. It is well known that a considerable consumption is going on here at present, but purchases, as a rule, are seldom made freely until the spring reveals the position of buyers more clearly.

An auction sale was held at Greenock on the 26th ult., prices realized at which are noted below. There was a good attendance, and transactions were to a moderate extent, about 600 logs, besides various parcels of deals, changing hands.

The collection of the strayed timber carried away in the late gale is being vigorously prosecuted, with fair success. The recovery of so much wood, however, and especially of the hardwood, is necessarily tedious and expensive.

This market at present has a good opening for spruce deals, of which there are very few on hand, and recent prices have ruled high.

Statistics of shipbuilding on the Clyde continue to be of a cheering character; fourteen vessels, summing up to 24,880 tons, have been launched during the month of January, an output more than double that of January, 1881; and it is reported that a number of new contracts have recently been booked.

On the 26th ult., at Greenock, Messrs. Edmiston & Mitchell, brokers:—

Quebec waney boardwood, 35 c. ft. av. per log, 23d. 2 ft.	
Michigan do., 57 ft. av. per log, 20d. to 30d. c. ft.	
Quebec yellow pine, 35 to 65 c. ft. av. per log, 20d. to 22d. c. ft.	
Do., 22 & 25 c. ft. av. per log, 16d. c. ft.	
Quebec Red Pine, 35 c. ft. av. per log, 15d. c. ft.	
Quebec Ash, 40 c. ft. av. per log, 18d. to 20d. c. ft.	
Quebec 1st pine deals—	
12 ft. 11x3 27d.	per cub. ft.
Quebec 3rd pine deals—	
16 ft. 11x3 13d.	
13 to 15 " 11x3 13d.	
9 & 10 " 9/13x3 12d.	
Quebec 3rd pine ends—	
7 & 8 " 9/22x3 12d. to 12 1/2d.	
Quebec unclassified pine deals—	
13 ft. 11x3 12 1/2d.	
12 & 13 " 7/10x3 11 1/2d.	

The Australian Trade.

Messrs. Gemmill, Tuckett & Co.'s timber report, dated Melbourne, December 20th, says that a considerable amount of business has been carried through, both privately and at auction.

AMERICAN LUMBER.—Sales comprise parcels ex *Grace Deering, David Brown, Olustee, Wylo,* and ex *Melrose, Michigan* clear pine being quoted at £18 7s. 6d. to £18; Canada do., £15 10s. to £17 17s. 6d.; w. p. shelving, £14 15s. to £15 5s.; w. p. t. and g. ceiling, £12 17s. 6d. to £12 15s.; whitewood slitches, £16 5s. per M. ft. super.; the trade holding light stock.

WASTE OF TIMBER.

To the Editor of the *Canada Lumberman*:  
SIR,—Enclosed you will find amount of my subscription. I like your paper very much, as I am interested in the timber business, and I fully agree with you and others concerning or referring to the wholesale slaughter of timber practiced at present all over the Dominion. In fact I have quite a sympathetic feeling for timber, and grieve to see it wasted, and I am afraid timber can never be planted to make it grow as nature plants it.

I am encouraging others to take your paper.

Yours truly,

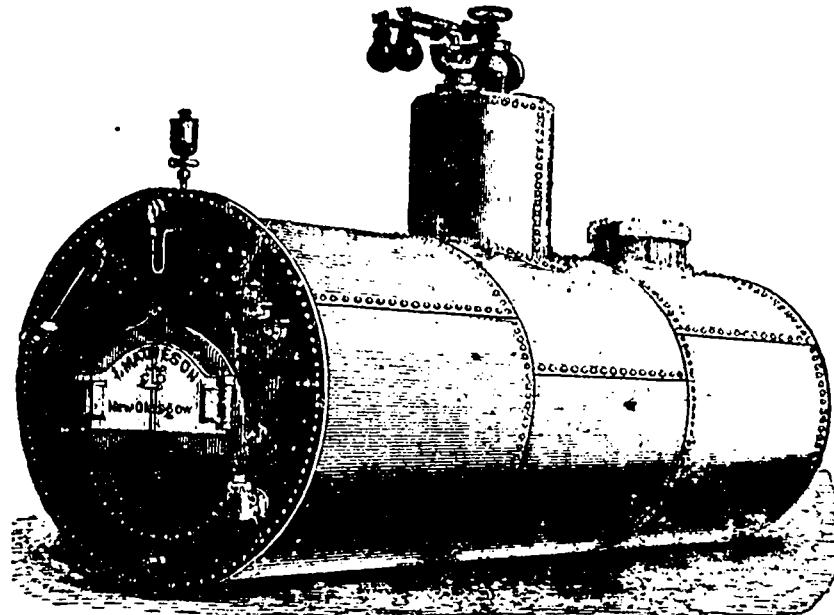
A. BURROWS.

Woodstock, Feb. 16, 1882.

It is stated that Oakkosh planing-mill men are to have a depot in Chicago to which surplus stocks of sash, doors, blinds and mouldings will be shipped for sale.

"I DON'T WANT THAT STUFF," is what a lady of Boston said to her husband when he brought home some medicine to cure her of sick headache and neuralgia which had made her miserable for fourteen years. At the first attack thereafter, it was administered to her with such good results, that she continued to use it until cured, and was made so enthusiastic in its praise, that she induced twenty-two of the best families in her circle to adopt it as their regular family medicine. That "stuff" is *Hop Bitters*,—Standard.

MACK'S MAGNETIC MEDICINE—the great brain and nerve food—will restore lost nature to young, middle-aged and old. Life is too short to waste away. Read the advertisement in another column, and if you are afflicted make no delay in procuring the cheapest and best medicine ever sold.



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J. MATHESON & CO. ENGINEERS & BOILER MAKERS, NEW GLASGOW, N.S.

J. DAVIES & Co. A. L. UNDERWOOD

46 Church Street, Toronto.  
Sells all sort of Lumber on Commission. Advances on Commissions. Prices given on application. Whole Stocks disposed on very low Commission. 1111

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*The Patent Lever Feed Shingle,*  
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IN FOUR SIZES, and other  
**MACHINERY for SAW and GRIST MILLS.**  
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**N. H. DOWNS' Vegetable Balsamic ELIXIR!**  
This valuable medicine is purely vegetable, the discovery of which was the result of many years' close study, in order to discover the cause, the symptoms and the cure—viz.:  
**Consumption, Coughs, Colds, Catarrh, Croup, Asthma, Influenza, Pleurisy, Hoarseness, Spitting Blood, Bronchitis,** and every species of oppression of the Chest and Lungs. In all cases where this Elixir has been duly administered its efficacy has been invariably manifested, convincing the most incredulous that  
**CONSUMPTION** is not incurable, if properly attended to.—Consumption, at its commencement, is but a slight irritation of the membrane which covers the lungs; then an inflammation, when the cough is more observable, but rather dry; then becomes moist and the pulmonary frequent, the cheeks flushed and colds are common. This Elixir cures these various ailments, operates so as to remove all morbid irritations and inflammation from the lungs to the surface, and finally expels them from the system. It facilitates expectoration.  
**IT HEALS THE ULCERATED SURFACES** and relieves the cough and makes the breathing easy. It supports the strength and at the same time reduces the fever. It is a most strong opiate and astringent article, which acts as drying a nature so to be in great danger of destroying the patient; whereas this medicine never dries or stops the cough, but by removing the cause, generally destroys the hectic before the cough is entirely gone. Consequently, when the cough is cured the patient is well. Send address for pamphlet giving full directions for cure of pulmonary disease. Price 25cts. and \$1 per bottle. Sold every where.  
**HENRY, JOHNSONS & LORD, Props. MONTREAL, P. Q.**

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**AUCTIONEER AND COMMISSION MERCHANT**  
 81 SANDS BUILDING, PRINCE WILLIAM STREET.

Cash advanced on Goods put in for sale. **No Storage charged.** All kinds of Merchandise Bought and Sold. New and Second-hand Furniture always on hand. Agent for Hazellurst & Co's WINTHROP COOKING RANGES, WATERLOO WOOD STOVES, FRANKLIN, &c., &c., &c.  
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Fire-Engine

**HOSE,**

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Mill Supplies, &c.

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*The Best Article ever offered to the Trade.*

I have much pleasure in drawing attention to my **WROUGHT IRON COOKING STOVE**, for Shanty, Hotel and Boarding House use. These Stoves are made of Heavy Sheet Iron, the top and lining of the fire-box being of Heavy Cast Metal and all the connecting parts of substantial Wrought Iron Work. The dimensions of these Stoves are as follows:—

**SINGLE OVEN STOVE**

Top surface contains six 10-inch holes, with ample room between, and one oven 10 x 21 x 26.

**DOUBLE OVEN STOVE**

The Double Oven has a top surface containing twelve 10-inch pot holes, with two ovens, each 10 x 21 x 26. One fire-box of suitable size for area to be heated. Below will be found Testimonials from some of the leading Lumbermen, who have used my Wrought Iron Cook Stoves since I commenced manufacturing them. They are the names of gentlemen who are well known and reliable, and will carry more weight than any recommendation of my own could do.

**The Best Stove I have ever Used.**

PETERBOROUGH, May 31, 1880.

ADAM HALL, Esq., Peterborough. Dear Sir,—I have used your Wrought Iron Cooking Stove in our lumbering operations since its introduction here, and have no hesitation in saying that I prefer it to any other. For durability, economy and efficiency, where a large number of men are employed, it is the best stove I have ever used. You can, with confidence, offer it to hotels, boarding houses and lumbermen.  
 Yours truly, THOS. GEO. HAZLITT.

**The Stove for Lumbermen.**

PETERBOROUGH, June 1st, 1880.

ADAM HALL, Esq., Peterborough. My Dear Sir,—We have used your Wrought Iron Cooking Stove and find it is very satisfactory for lumber operations, especially so on drives. We can recommend it highly.  
 Yours truly, IRWIN & BOYD,

**Gives the Greatest Satisfaction.**

PETERBOROUGH, June 3rd, 1880.

A. HALL, Peterborough. Dear Sir,—I have had the Wrought Iron Cook Stove, purchased from you, in constant use ever since last fall, and it gives the greatest satisfaction in every respect. I can recommend them highly to any one who is in the lumber business.  
 Very truly yours, GEO. HILLIARD, M.P.

**EVERY STOVE GUARANTEED**

All the necessary **TINWARE** and **CUTLERY** for Shanties supplied at the **Lowest Prices.**

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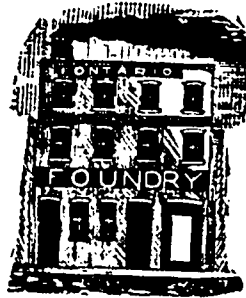
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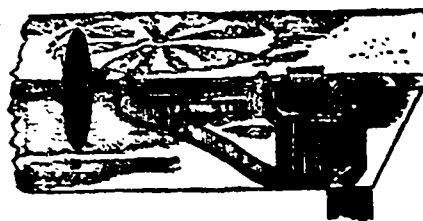
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**HODGSON'S Patent Saw Grinder**

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**Hodgson's Patent Monitor Shingle Machine**

combines, at a moderate price, more points of excellence than any other. Jointer is built in machine, a few inches from the saw. The cast steel feed rolls are opened by a foot lever, and grip the block like a vice. Traverser of carriage to suit large or small stock, is under control of operator when running. Will run for days without cutting a shim. Warranted to cut, with one attendant, three thousand in an hour, under forfeiture of \$100. Send for circulars to

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SHIPS' WATER-TANKS. Repairing Punctually Attended to.

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# ADAM McKAY,

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Locomotives, Stationary and Marine Engines and Boilers, Girders, Heaters, Radiators, and all kinds of Steam and Brass Fittings and Sheet Iron Work; and dealer in all classes of Railway, Steamboat and MILL SUPPLIES. <sup>1119</sup>

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Steam Engines, Rotary Pumps, of all sizes, for Paper and Pulp Mills, Steam Pumps, and a Variety of other Pumps, Propeller Engines for Yachts & Tow Boats.

Iron Railings, Hoisting Machines for Stores, Jack Screws, Park Mills, all kinds of Machinery for Mines, Saw Mills, Flour Mills. <sup>1119</sup>

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Patented 5th March, 1877.

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It is perfectly harmless to Iron, and emits a clear pure Steam.

In ordering, mention the CANADA LUMBERMAN. <sup>1119</sup>

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A. NORMAN, Esq.,

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Dear Sir,—Please send me a waist belt. Enclosed find price. Head band I got for my wife has almost cured her of neuralgia. Yours truly, C. I. TILLEY.

Numerous of such testimonials can be seen at my office, proving that they are doing a good work and worthy the attention of all sufferers. Circulars free. No charge for consultation.

A. NORMAN, 4, Queen Street East, Toronto.

N.B.—Trusses for Rupture, best in America, and Electric Batteries always on hand at reasonable prices. <sup>1112</sup>

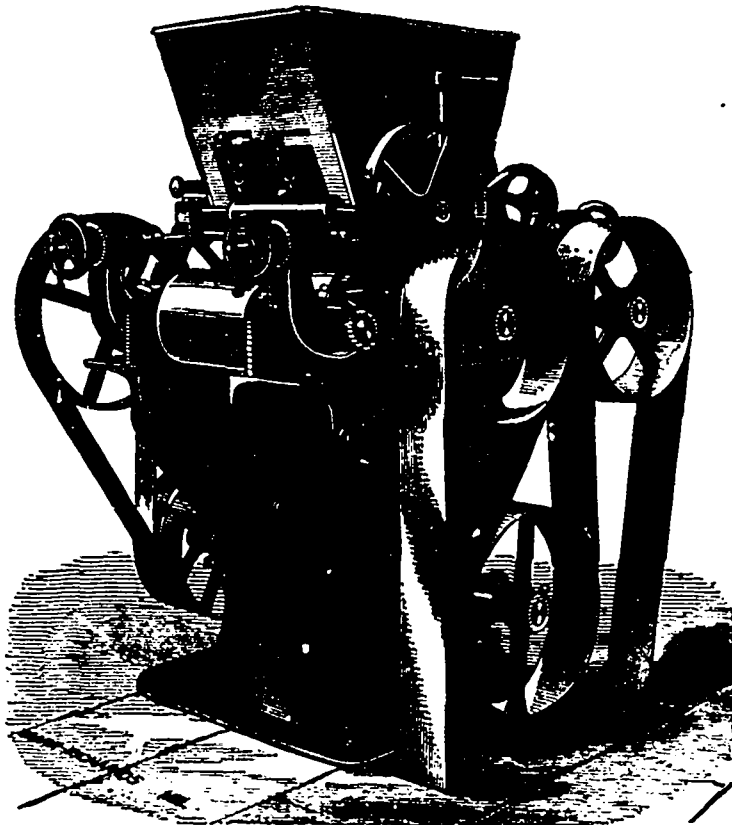
# Flour Making by the New Process

GRAY'S PATENT

# NOISELESS ROLLER MILL

*A Model of Perfection!*

*Every Mill a Success!*



CORRUGATIONS of all Descriptions. Smooth Iron or Porcelain ROLLS.

These Roller Mills are used by all the Representative Mills of the United States.

The Machine is Perfect in all its adjustments, and RUNS WITHOUT NOISE.

It is doing Better Work than any other Machine in use.

Automatic Lubrication of Principal Bearings.

Driven entirely by BELTS.

Differential Speed always insured.

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# Porcelain Rolls

The BEST ROLL FOR MIDLINGS in the world. Over 6000 in use in this country and Europe. Send for particulars.

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SOLE LICENSEES FOR DOMINION.

Manufacturers of Improved Hoisting Machinery, MINING and CONTRACTORS' PLANT. Importers of BEST STEEL WIRE ROPE. Mention this Paper. <sup>1119</sup>

# Northey's Steam Pump Works

BOILER FEED PUMPS, MINING PUMPS,  
 AIR AND CIRCULATING PUMPS, PUMPS SPECIALLY ADAPTED for  
 STEAM FIRE PUMPS, and OIL PIPE LINES,  
 WRECKING PUMPS. And CITY WATER WORKS.

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SEND FOR CIRCULAR.

ESTABLISHED 1820.

# EAGLE FOUNDRY!

## GEORGE BRUSH

14 to 34 King and Queen Streets, MONTREAL,

MAKER OF

Steam Engines, Steam Boilers, Hoisting Engines, Steam Pumps,

CIRCULAR SAW MILLS, BARK MILLS, SHINGLE MILLS,

Ore Crushers, Mill Gearing, Shafting, Hangers and Pullies, Hand and Power Hoists for Warehouses, &c., &c.,

AND AGENT FOR

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"Water's" Perfect Steam Engine Governor, and "Herald & Sisco's" Centrifugal Pumps

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MANUFACTURERS OF

Steam Engines, Mill Gearing, Rotary Mills, Shafting, Planers, Hangers, Pulleys, Variety Moulders.

### SPECIAL MACHINERY MADE TO ORDER

Latest Improved Spool and Bobbin Machinery.  
Every Variety of Heavy and Light Casting.

1119

Foundry and Machine Shop on City Road,  
ST. JOHN, NEW BRUNSWICK.

# OAK HALL

Nos. 115, 117, 119, 121, King St. East, Toronto.

We are the most Extensive CLOTHIERS in Canada.

We carry a STOCK of FIFTY THOUSAND DOLLARS to choose from.

We watch the interest of our Customers. Our stock is FULL of the very best goods in Scotch, English and Canadian Tweeds.

We BUY and SELL for Cash, therefore it enables us to do business on very SMALL PROFITS.

NOTE THE PRICES.

We give a Good Tweed Suit for.....\$6 00

We give a Good Tweed Pants for..... 1 50

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## LUMBERMEN!

When you visit Toronto, come direct to OAK HALL and fit yourselves out with a Good Suit. Remember the address:-OAK HALL, the Great One Price Clothing House, Toronto, opposite St. James's Cathedral.

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# MILL SUPPLIES.

Extra Stretched and Patent Smooth Surface

RUBBER BELTING—in Stock, 2, 3, 4, 5, and 6 Plies.  
HOYT'S CELEBRATED LEATHER BELTING.  
COTTON BELTING, for Flour Mills. &c., Superior Quality.

DISSTON'S CELEBRATED MILL SAWS.

Steam Packing of all kinds, Rubber and Linen Hose, Silk Bolting Cloth, Emery Wheels, Lacing Leather (Page's Genuine), Lard, Seal, Cylinder, Spindle, West Virginia and Wool Oils. Our Stock includes Mill Supplies and Rubber Goods of all kinds. Quotations furnished for any part of Canada.

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ESTEY, ALLWOOD & CO., SAINT JOHN, NEW BRUNSWICK.

# THE GOLDEN LION



IS THE RIGHT HOUSE FOR

# CLOTHING

No Shoddy Cloths used. All Goods Manufactured on the Premises.  
EVERY GARMENT WARRANTED.  
Men's Flannel Shirts and Durable Underclothing.

ORDERS SENT WITH MONEY PROMPTLY ATTENDED TO.

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HEADQUARTERS FOR INSERTED TOOTH SAWS!

**THE BROOKE BITT SAW,**  
With interchangeable Trenton Teeth.

**THE HOE BIT SAW.**

**FLANGE TOOTH SAWS.**

Write McLachlan Bros., Amherst, as to how they like 2-66 inch Brooke Bitt, and 2-50 inch Hoe Saws—turning 800 revolutions per minute on 10 to 16 inch feet. Also, 2-1/2" Patent, turning 60 on Brooke Bitt on 6 inch feet—600 revolutions per minute; cut 500,000 feet with two sets of Bitts, costing less than \$10.00.

ORDER BY THIS GAUGE.

FOR SAWDUST CARRIERS, LIVE ROLLS, TRIMMERS and REFUSE CARRIERS.  
BROWN'S PATENT SPALT MACHINE  
Cuts three perfect Stingles out of inch board. Cuts Shingles out of slabs and all manner of refuse. Will soon pay for itself around any large Mill.

**EWART'S PATENT DRIVE CHAIN**  
AUTOMATIC GANG TRIMMERS, SIX SAW EDGERS, and the most improved Saw Mill Machinery. PORTABLE SAW MILLS OUR SPECIALTY.

Address, WATERLOO ENGINE WORKS CO., Brantford, Canada.

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# HART EMERY WHEEL COMPANY, Limited

## HAMILTON, CANADA.

GILBERT HART, Detroit,  
President.

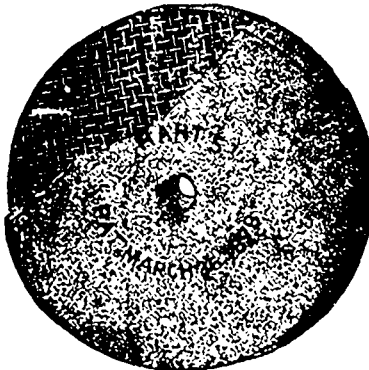
JAMES T. BARNARD, Hamilton,  
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MANUFACTURERS OF THE CELEBRATED  
**DETROIT**

# EMERY and CORUNDUM WHEELS

These Wheels are  
Wire Strengthened



And Specially Adapted  
For Saw Gumming

Neither Animal nor Vegetable Glue or Gum being used in their composition, they are NOT LIABLE TO HEAT, and give out no Odors, while

*They Surpass All Other Wheels for Free Cutting and Durability.*

We refer to the following well known Saw Manufacturers for Opinions as to the Quality of our Wheels :

Messrs. SHURLEY & DIETRICH,  
GALT.

Messrs. R. H. SMITH & CO.,  
ST. CATHERINES.

JAMES ROBERTSON, ESQ.,  
MONTREAL.

Messrs. JAMES ROBERTSON & CO.,  
TORONTO.

WE ALSO REFER TO

WILLIAM HAMILTON, ESQ.,  
PETERBOROUGH,  
Manufacturer of the Covell Saw Sharpeners.

Messrs. H. B. RATHBUN & SON,  
DESERONTO,  
Lumber Merchants.



# EMERY WHEELS FOR SAW GUMMING!



Solid Emery Wheels are now almost in universal use for the purpose of gulletting and gumming saws. Statistics show from 25,000 to 30,000 saw-mills in the United States. Many of these run only a single saw each. A one-saw mill would use one or two wheels in a year, costing \$3 to \$1 each, and when such small mills order single Emery Wheels from the factory, the express charges often equal the cost of the wheel. There was a time when the quality of Emery Wheels was so uncertain, and the demand so flukie, that storekeepers could not afford to carry them in stock. Now, however, Saw Gumming Wheels have become as staple an article as Files, and every dealer in saws, Hardware and Mill Supplies can afford to carry a few dozen standard sizes in stock. Large dealers order stocks of \$500 to \$750 worth at a time. Saw Gumming Wheels are used with the edge (or face) square, round or beveled. Probably seven-eighths of all in use are beveled.

The principal sizes are:

8x $\frac{1}{2}$	} 3 in. hole.	10x $\frac{1}{2}$	} 3 in. hole.	12x $\frac{1}{2}$	} Holes, 3, 3 and 1 inch.
8x $\frac{3}{4}$		10x $\frac{3}{4}$		12x $\frac{3}{4}$	
8x $\frac{7}{8}$		10x $\frac{7}{8}$		12x $\frac{7}{8}$	
		12x $\frac{1}{2}$			
		12x $\frac{3}{4}$			
		12x $\frac{7}{8}$			

Probably more wheels 12x $\frac{1}{2}$ , 12x $\frac{3}{4}$  and 12x $\frac{7}{8}$  are used than all the other sizes together. Saw Gumming Wheels are used, however, of all sizes up to 24x1 $\frac{1}{2}$ . The most frequent complaint is that Emery Wheels harden the saw so that a file won't touch it. The answer is that you don't want a file to touch it. An expert workman will shape and sharpen the teeth with an Emery Wheel, leaving the teeth case hardened, in which condition the saw will cut about 33 per cent. more lumber than a soft saw will. Those who want to use the file, however, have only to touch the saw *lightly* a second time (after going all over it once), and this second touch will cut through the case-hardened scale.

## A QUESTION OF QUALITY.

Thirteen years of experience as makers of, dealers in, and actual users of Emery Wheels, have led us to a decided opinion as to what quality is the best. We prefer for almost every use an "Extra Soft" wheel like the "Pocono." We believe that money lost through the rapid wear of the wheel is more than made up by the money saved on wages. As we cannot get every one to adopt our views, we make several qualities, so as to meet their views. We say to those who think they can only be satisfied with some other make of wheels (not Tanite), that we can furnish qualities to match any and every other make. If you have got used to some special quality of wheel, let us know what it is, and we can send you a Tanite Wheel of similar quality. Our regular classification of Saw Gumming Wheels is as follows:

**CLASS 2 MEDIUM-HARD.** This Wheel is THE STANDARD Saw Gumming Wheel all over the world. Probably seven-eighths of all the Saw Gumming Wheels used are "Class 2." It cuts fast and keeps its shape well. Some think it too hard, some too soft. We prefer the "Pocono."

**CLASS 3. MEDIUM-SOFT.**—The same as to coarseness and fineness as "Class 2," but a *softer*, and therefore freer cutting wheel.

**CLASS "POCONO." EXTRA SOFT.**—This Wheel we prefer to all others. It is both *finer* in grain and *softer* than either of the above. As a Saw Gumming Wheel, Class "Pocono" is specially suited to those practical and experienced Sawyers who know how to grind with a light touch, and who want a free cutting wheel that will not create much heat.

Illustrated Circulars and Catalogue, showing Cuts of Saw Gumming Machines, and Shapes, Sizes and Prices of Wheels, sent free on application. 118

# The Tanite Co. Stroudsburg, Monroe Co. Pennsylvania

## CANADIAN TRADE SPECIALLY SOLICITED.

# M. Covel's Latest Improved Automatic Saw Sharpener!

is the Most Perfect Machine that has ever been Introduced into Mills for that purpose.

**CIRCULAR SAW  
STEAM FEED!**

I would also call special attention to my  
**Heavy Circular Saw Mills**

and for STEAM MILLS, would recommend the Steam Feed, having put in several which are giving the best of satisfaction, as will be seen by the following testimonials:—

GRAVENHURST, August 20th, 1880.  
WM. HAMILTON, "Sq., Peterborough.

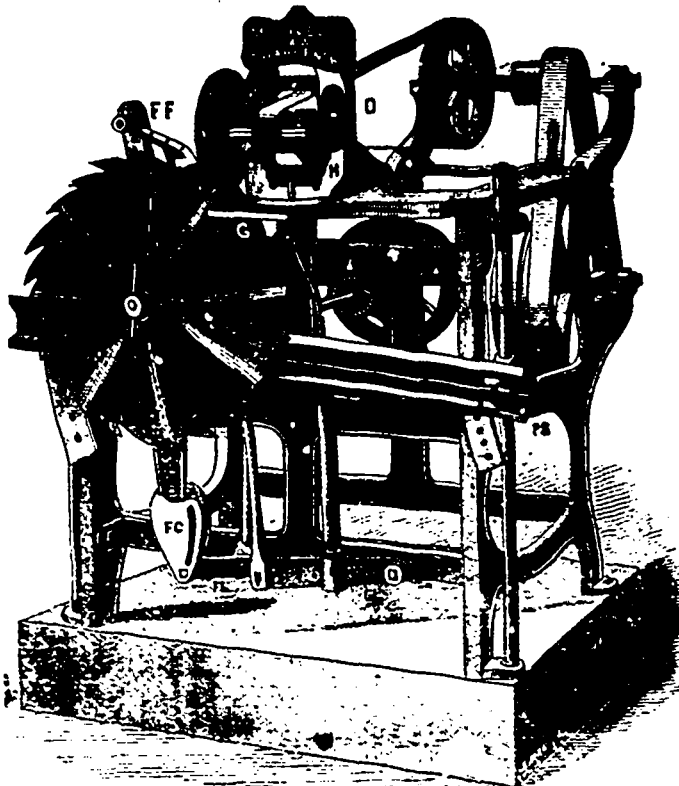
DEAR SIR:—I have used your Steam Feed for near four months, and it has given me perfect satisfaction in every way; it is admitted by every person who has seen it work to be the best feed ever invented. Since I put it into my mill, I have not lost ten minutes time fixing anything belonging to it. I can cut 18 boards 13 ft. long in one minute. It can do much smoother and better work than the pinion feed. It is easily governed and reverses the carriages instantly. I am thoroughly satisfied with it and can recommend it to any person who has a Circular Saw Mill for cutting long or short logs. I consider I have cut more lumber than will pay for the Steam Feed since I got it than I would have cut had I not put it in.

Yours respectfully,  
WILLIAM TAIT,  
Lumberman, Gravenhurst.

TORONTO, August 11th, 1880.

WM. HAMILTON, Peterborough, Ont.  
DEAR SIR:—The Steam Feed you put in is working splendidly.

Yours, &c.,  
THOMPSON, SMITH & SON.



## MILL MACHINERY!

I am also manufacturing Saw Mill Machinery, for all sizes of Gang or Circular Mills, Span or Double Circulars for Slabbing Small Logs. My Patent Jack Chain for drawing logs into Saw Mills, acknowledged by all to be the Cheapest and best ever got up; also, my Patent Lumber Markers, different sizes of Edgers, Gang Lath Mills, Trimmers, Power Gummers, and all Machinery used in a first class Gang or Circular Saw Mill; also, small Hand Gummers for use in the woods, for Cross-cut saws. Rotary Pumps of different sizes, for Fire Protection in Mills, &c.

## HORIZONTAL ENGINES and BOILERS



Where economy of fuel is the great consideration, along with uniformity of speed, such as is required in Grist and Flouring Mills, Woollen and Cotton Factories, or large Factories of any kind, I supply the Corliss Engine. I feel justified in saying that our Style, Workmanship and Finish on this Engine will be no discredit to its renown, and certainly is not equalled in this country for economy of fuel. I have them working at 2 1/2 pounds of coal per horse-power per hour.

# WILLIAM HAMILTON, PETERBOROUGH, ONT.