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VOL. 2.

PETERBOROUGH, ONT., APRIL 15, 1882.

NO. 8.

WHAT WE OWE TO THE TREES.

We continue our extracts from Mr. N. H. Egleston's paper in the April number of *Harper's Monthly Magazine*:—

DIMINISHED RAINFALL.

Humboldt is reported as saying: "Men in all climates seem to bring upon future generations two calamities at once—a want of fuel and a scarcity of water." The two come alike from the destruction of the forests, as a little consideration will show:—

The importance of water for successful agricultural operations has always been understood. It is only within a comparatively recent period, however, that the relations of the forests to the water supply and its distribution have been ascertained, and they are not understood even now. Enough is known, nevertheless, to warrant some very important conclusions. It is well established that the forest, except in winter, is cooler than the open ground. There will naturally, therefore, be more condensation and precipitation of the moisture of the atmosphere in a wooded region than in one destitute of trees. The lower temperature of the woods will also make itself felt for some distance above the trees, and tend to precipitate the moisture of the higher air. Then, also, without making anything of a somewhat extended popular belief that the forests, especially when situated upon hills and mountains, draw the clouds and the rain, we can see that elevated forests would act as an impediment to passing clouds, and by their very obstruction tend to condense their moisture and cause its precipitation. This effect of the forests will not be limited to their own area, but will extend more or less to the open ground beyond them, causing the rain to fall upon them for a considerable distance, when but for the vicinity of the forest they might not have been touched by it. An eminent scientific writer states that in a region near the Gulf of Guayaquil, which is covered with immense forests, the rains are almost continual. So on the island of St. Helena we have the double proofs of our problem in the ascertained fact, that with the cutting off, some time ago, of the forests with which it abounded, the rains were lessened, and certain crops greatly diminished, and now, in later years, as the woods have been allowed to grow again, the rains have increased in proportion. Sir John Herschel, speaking of this subject, says: "This is no doubt one of the reasons of the extreme aridity of Spain. The hatred of a Spaniard toward a tree is proverbial. Many districts in France have been materially injured by denudation, and, on the other hand, rain has been more frequent in Egypt since the more vigorous cultivation of the palm-tree." The Island of Santa Cruz, near Santa Barbara, was once heavily timbered, and sustained a dense population. Now it is almost destitute of trees, except on the highest summits. It has no water, and gives no return to the husbandman. "It is

impossible," says one, "to conceive a more dreary waste."

Near the close of the last century a lake in the valley of Araguay, in Venezuela, was observed to be lessening in area as the settlements in the valley and its cultivation increased. A civil war broke out in that region, which led to the neglect of agriculture, and allowed the forest-vegetation again to spring up. It was observed a quarter of a century later that the lake was resuming its former size. So it has been observed that since the settlement of Utah, and the reclaiming of the land by the Mormons, and the growth of trees, shrubs, and grasses, the water in Great Salt Lake and other lakes around has been very much increased, and the climate perceptibly changed.

We have few trust-worthy and exact observations on this point in our country. In Europe they are more abundant. The river Elbe between the years 1787 and 1837 was found to have lessened a depth of ten feet, as the result of the cutting off of the forests whose tributaries of that stream have their origin. A similar result has been found in the case of the Danube, the Oder, and other streams.

FLOODS AGGRAVATED.

In Europe and elsewhere in the Old World the most fearful losses from the removal of the forests are frequently incurred. Witness the flood which in 1880 desolated Szegedin, in Hungary, and that which last year took place in Spain—poor Spain, which long ago sunk in power because she had not timber enough in her wasted forests to keep alive her navy! So in France, and elsewhere along the Alps, in Germany, Austria, and Italy, they have learned by bitter experience that the trees are their best friends. In southeastern France whole cantons have been almost depopulated.

At Szegedin a population of 60,000 were overwhelmed by the waters of the Theiss. The Theiss district of Hungary is naturally one of the richest agricultural regions of the world. But it has long been known as a region of floods. The Theiss has its source in the Carpathian Mountains on the north. Formerly these were densely wooded, and they sent down their waters, whether rains or melting snows, into the valley of the Theiss with an even, steady flow. But the unrestrained greed and recklessness of man ravaged the forests, and opened those vast mountain flanks to sun and wind. The unimpeded waters first washed the soil of the mountains down into the stream below. Then wearing channels for themselves, they have cut these channels deeper and deeper from year to year, and as they have done so, they have torn the mountain-side with greater violence, and swept the rocks and gravel onward with resistless power for hundreds of miles. Thus the bed of the Theiss has been gradually filled up with the detritus of the upper country, until the river flows on a higher level than the adjacent land,

and the inhabitants have been obliged to dike the sides of the stream as the price of their own protection from ruin. But now and then the ruin comes, as at Szegedin, when the torrents which have hurled the debris of the mountain sides upon the fertile fields of the valleys below. In one district the population declined 5,000 in five years from this cause, the people being driven from their former homes and obliged to take up their residence elsewhere. But where this has not been the result, the almost yearly recurring floods have been attended with great loss of property and the sacrifice of many lives. In a recent flood in the valley of the Garonne it was estimated that 1,000 lives were lost, and a place of 30,000 inhabitants was almost blotted out of existence, while property to the value of 300,000,000 francs was destroyed. These destructive effects of floods and torrents had been experienced in some measure for a long time. But with the more rapid clearing away of the forests, which dates from the time of the French Revolution in 1789, these evil effects had become more frequent as well as more disastrous. So far had this work of destruction and this real impoverishment of the people extended, and so threatening had become the prospect of farther and most serious national loss, that about thirty years ago the matter was taken in hand by the government, and vigorous measures adopted for the purpose of arresting the evil, if possible, and reclaiming the injured soil. Investigating commissions were appointed, and the most careful examinations were made by competent engineers and scientific experts, the result of which was the enactment of a code for reforesting the mountains. Under this code a large expenditure was authorized to be made annually by the government for a period of ten years, for the purpose of replanting those districts which had been stripped of their trees, and which had thereby given occasion to the torrents. The right of eminent domain was asserted. No one was now at liberty to remove at his pleasure the trees growing upon his own ground. He could cut them only under governmental direction and in a way that would not be injurious to others; for it was seen that some peasant, living high up in the Alps, and desirous of extending his pasture ground by cutting off the forests around him, might by so doing give rise to a torrent which would carry destruction to the fields of someone miles below, perhaps to the fields of a whole village.

Where the fields have been laid bare, the government offers aid to those who need it in replanting them. If any will not, with this aid, set about the work of replanting, the authorities having the work of reforesting in charge take possession of the lands and replant them. The owner has the right of redeeming his land at any time within five years after the replanting by the government has been completed, on condition of paying the cost of the labor expended,

principal and interest, or by surrendering half of his land. In case this is not done, the land becomes wholly the property of the government.

THE FORESTS OF SIBERIA.

Some examinations have recently been made by exploring parties of the character of the immense forests of Siberia. The most important timber stretch begins a little south of Dudinka, and still far north of the arctic circle the pines become tall. Here is a veritable forest, the greatest the earth has to show, extending with little interruption from the Ural to the sea of Ochotsk, or about 650 miles, and four times as much from east to west. This primeval forest of enormous extent is nearly untouched by the axe of the woodman or cultivator, but at many places devastated by great forest fires. The forest consists principally of combro pine, valued for its seeds, enormous larches, the nearly awl-shaped Siberian pine, the fir, and scattered trees of the common pine. Most of the trees north of the arctic circle reach a colossal size, but one is often found far isolated from all others, grey and half dried up with age. The ground between the trees is covered with a labyrinth of fallen branches and stems, which are frequently covered and almost concealed by luxuriant beds of mosses. The pines therefore lack the shaggy covering common in Sweden, and the bark of the birches scattered through the pines is distinguished by an uncommon blinding whiteness.—*Northwestern Lumberman.*

A Heavy Timber Growth.

A critical examination was recently made of a tract of timber land, in the Samish section of the Puget Sound, W. T., region, including 160 acres. The parties making the inspection went entirely over the tract, counted the trees and computed their contents, and the estimate reached 12,000,000 feet of sawed merchantable lumber, or an average of 75,000 feet per acre. The stumpage at present is worth 50 cents a thousand, but the time will come, and that at no distant day, when it will be worth \$2 to \$3. The value of Puget Sound timber land will then make speculators wish they had bought some of it when it was cheap.—*Northwestern Lumberman.*

Big Cedar.

Messrs. T. W. Robinson and others have been for some time past taking out cedars for the Midland Railway of Canada. The principal scene of their operations has been the township of Smith. They have secured some fine pieces, but a log taken out by Mr. Garner Nicholls, of Bridgenorth, on the farm of Mr. J. C. McConekey, undoubtedly carries of the palm. The log in question is 24 feet long and 27 inches at the top end. It contains 790 cubic feet. It is the largest of over 15,000 pieces taken out by the firm.

LIFE AND AGE OF A TELEGRAPH POLE.

This subject may seem of trivial account to the great mass of business people, but when it is proved to them that it actually affects the cost and convenience of telegraph messages and of dividends to stockholders, an interest may be awakened that will make the inquiry on the subject one of unusual interest, inasmuch as it affects the high or low price of rates for messages. The original cost of the erection of telegraph lines is important, but not so important in a series of thirty or forty years as is that of its maintenance in working order during that period. Some of the lines now owned and used by the Western Union Telegraph Company were first built more than forty years ago. When one is told that they have been built three or four times since that at great expense, it would seem to lead to the conclusion that a large amount of capital is necessary to represent the actual cost of the telegraph lines which have been in existence for many years.

The size of a telegraph pole has much to do with the duty which it is expected to do—that is, the number of wires it is calculated to carry. Many telegraph companies now owned by the Western Union Telegraph Company of to-day were organized and their lines built many years ago, before the organization of the "N. Y. and Mississippi Valley Printing Telegraph Company" in 1851, its name being changed to that of the "Western Union Telegraph Company" in 1856, by an act of legislature of New York State.

The contract to build the original line required that the posts be not less than thirty feet long and twenty-seven inches or more in circumference, four and a half feet from the butt, and twelve inches in circumference at the top, and set in the ground five feet. There were to be at least thirty of these posts to the mile, and they were to carry two lines of iron wire, one of which should weigh not less than six hundred pounds to the mile, and the other not less than four hundred and fifty pounds to the mile. These posts were to be of the best and most durable timber obtainable along the route they were stationed. These posts were intended for light lines only. When it was found necessary to increase the number of wires it was necessary to have larger and more heavy poles, not necessarily much taller only in cities and large towns.

When considered apart from any local catastrophe or universal storm, the poles which were cut in winter were found to last as follows, according to the wood used, without being renewed:—Cedar, 16 years; chestnut, 13 years; these are used in the Eastern, Middle, and Western States. Juniper and cypress are used in the Southern States, and redwood is used in California. Spruce lasts 7 years and juniper 13 years. If poles are cut in the summer their life will be about five years shorter than if cut in the winter. The soil in which they are set, and also the atmosphere and sunlight, have much to do with their life, for if one breaks off at the surface of the ground, or near the surface, as is usually the case, it will be five feet or more shorter than the others, and hence it is generally regarded as unfit to reset, and a new one must take its place. In some locations this is provided for by having all the poles long enough to reset if they are sound enough for it to be economical to do so. The average period of the usefulness of a pole under ordinary circumstances is as above mentioned. It is seldom that mixed woods are used on a line; they are all of one kind of wood.

The official return of the Western Union Telegraph Company to the Superintendent of the United States Census, in July last, shows the following facts as to the poles used during the year:—Average length of poles, 27 feet; diameter at top, 6 inches; kind of wood used, cedar, chestnut, juniper, cypress, and redwood. These poles were obtained in all parts of the United States and in Canada. The average cost of each pole delivered without freight was one dollar and two cents. All these poles were round, except about one-fiftieth, which were sawed or squared. No process was used for preserving poles, and their average life, according to the wood used and the location where set, was twelve to fifteen years, and most durable wood in favorable situations did not exceed twenty-five years. The woods preferred were

red cedar, white cedar, chestnut and redwood. It is to be observed that pine and hemlock are not used. It may be remarked here that American telegraph poles make an agreeable contrast with the crooked and unsightly larch poles used in England.

The falling of a pole generally does much damage to the arms, insulators and wires. If they were all put up now at once, plain wire will last from twelve to fifteen years, and the galvanized wire used at the present day, being the best conductor, will last in the most favorable atmosphere for from sixteen to twenty years, but no longer; and where there are strains by poles or wires falling they will not last so long, and in cities and large towns, where there is much gas and moisture, it will not last more than two or three years. At all events, when a line begins to be about ten or twelve years old, and has plain wire, it is regarded as unreliable, and the safest and most economical way is to rebuild it throughout of new materials. The cost of constant repair and isolated and frequent transportation of posts and other materials, and the labor of repairs and resetting, are almost as much in a short time as it would to rebuild. The gauge of wire and the number of pounds to the mile are as follows: No. 4, 730 pounds; No. 6, 510 pounds; No. 8, 380 pounds; No. 9, 320 pounds.

From these facts we can see that a telegraph line that is thirty-six years old has been entirely rebuilt three times at least under the usual course of things, and that it may have been nearly four times rebuilt. The trunk lines of the Western Union Telegraph Co. were first built more than thirty years ago, and nearly all of their lines have been rebuilt at least once. Where a line is built for only a few years and it is proved that more are required it is then necessary to rebuild it entirely, with longer poles, and in such cases all wires are also put up now, if they are expected to be in constant use.

The maintenance in working order of continual expense to provide for the wear and tear incident thereto, the same as is the case with railroad lines, where it is always calculated that there are to be a certain proportion of new ties, rails, etc., every year, and it is charged to the maintenance account and reckoned as part of the cost of running the road.—*Journal of the Telegraph.*

CANADA AT CHICAGO.

A correspondent of the Montreal *Witness* writes from Chicago as follows:—"Yesterday, Tuesday, I had the opportunity of being driven through the lumber district by Mr. Wilce, senior partner of Thomas Wilce & Co. Mr. Wilce is an old Montrealer, having arrived there from Cornwall forty years ago, and engaged for several years in business as contractor. In 1848 he removed to Chicago, where he continued his contracting. Having secured a competence before the fire, he retired from business, but two or three years after entered the conflict again, having secured possession of a planing mill, which now does the largest amount of work of any in Chicago. About five years ago he added to this a lumber yard at the corner of 22nd and Throop streets, with a frontage of 400 feet by 250 in depth, where annually is handled about 14,000,000 feet of lumber. This is in addition to the 5,500,000 shingles and 32,000,000 feet of lumber consumed in the planing mill. In the planing mill ten machines are at work, running at the highest rate of speed. The employees are mostly Bohemians, and a number of women and girls of that race were engaged in gathering the shavings from around the machines into immense bags, so large and heavy that it was as much as I could do to lift one. These they attach to their shoulders by means of straps and carry to their homes, a mile or more away. These women are the best featured and healthiest looking I have seen in Chicago, with, of course, an occasional exception. Mr. Wilce showed me the plan for feeding the furnaces below the boilers, which was invented by a former engineer. The shavings were made to fall into the furnace like snow in a heavy storm, and as it fell it was consumed, the combustion being perfect. This is a great saving of labor, the fireman being able to regulate the fall by means of a switch, while an automatic poker swaying from side to side kept the fire constantly stirred.

In rear of the planing mill is a very large saw and door factory, in which Mr. Wilce's son is an equal partner. Here are made all kinds of articles for use in the building and finishing of houses in the great North-West.

FOOLED ONCE MORE.

Markdale (Ont.) Standard.

MR. EDITOR.—The most of people relish a good story, provided it be a truthful one. Tales of adventures, daring, heroism, dangers of the deep, battles, &c., all have their charms. Who amongst us could read the adventures of Robinson Crusoe half way through and not have a desire to know the end of it. We confess being of this class. Now, the first thing we do when we receive our weekly newspaper is to hurriedly glance through it and pick out what we consider the most important item. These are generally distinguished by their headings; but you don't catch us trusting any longer to these glaring impositions. We could laugh at being fooled once or twice, but to get caught a third time is our reason for remonstrating. Two or three weeks since we got to reading what we considered a very nice story in one of our Toronto weeklies, and towards the end it informed us about St. Jacobs Oil; we only laughed, and said humbug. The week following we noticed another heading, "How Mark Twain Entertained a Visitor." Well, thinking we might learn a little etiquette, in case Mark should take a fancy to send us an invitation, we read it, but by St. Patrick, if they didn't finish by making Mark introduce St. Jacobs Oil. Well, confound it, we exclaimed, but they have got another dose of that St. Jacobs Oil on us again, and determined not to be caught so simple next time; but now, sir, I admit the corn; along comes our *Toronto Mail* on Thursday, down we sat, and almost the first thing that caught our eye was the adventures of Capt. Paul Boynton; it appeared quite interesting; it told how he bumped up against sharks, etc. At this point we began to feel a little incredulous, because, from our knowledge of these gentry, they would relish the captain alive or dead, all the same. However, determined to learn more of his exploits, we read a little further, when—O, well, it don't matter what we said, you can't find it in any of the dictionaries. I'm—dashed if the captain wasn't oiling himself all over with St. Jacobs Oil, it may be the more easily to evade the sharks, for we made no further search, our curiosity was satisfied. Now, Mr. Editor, in order to fool us again, it will require to be printed wrong end up. We have made up our minds to look out for anything and everything in the shape of St. or Saint attached to their name.

We are sorry for the readers of any journal to be thus "taken in," so to phrase it, but what can they expect when we editors are caught in the same storm without any protection. Whilst sympathizing with them, we can only admire the ability shown in any enterprise that can thus compel, as it were, the attention of people. When it is considered that only a short time ago St. Jacobs Oil was scarcely known in Canada, and now has so commended itself to the favor of the people of the Dominion as to become the household remedy for rheumatism, neuralgia, pains, bruises, chilblains, etc., and all because of its surprising efficacy in these ailments, we think it will be regarded by everybody as a matter of congratulation that we possess, so easily attainable, such a reliable means for the cure of disease. Such is our view of the matter, although we are "fooled," on an average, about five times a week. If St. Jacob can stand it, we've made up our mind to fight it out on that line, if it takes all winter."

QUEBEC PINE LANDS.

The Quebec Legislative Assembly, on April 11th, went into committee on the following important resolutions respecting public lands:—1. That the pine timber upon public lands shall in future be reserved in all sales, grants, location tickets, leases, or permits of occupation. Such timber shall belong to the Crown, and the reserve thereof shall be mentioned in all location tickets and letters patent, and every person now being the holder, or who shall hereafter be the holder, of a license to cut timber upon such lands may, during the continuance of such

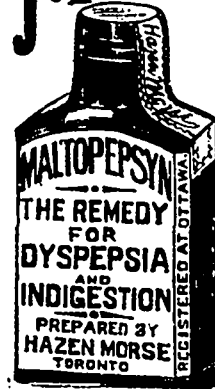
license, by conforming to the regulations now or hereafter to be in force relating to timber on Crown lands, enter upon the uncleared portion of such lands, and cut and remove such trees, doing no unnecessary damage to the property, and make all necessary roads to remove such timber and haul in supplies. Notwithstanding the above proviso, the locattees being holders or not of letters patent, or their assigns, may, however, cut and use such pine timber as may be necessary for the purpose of building and fencing on the said lands, and by paying the same price as the holders of licenses to cut timber or saw logs, they may dispose at pleasure of those which they may cut down in the clearing of the land necessary to obtain letters patent. 2. That when there is no license to cut timber upon such public lands, the commissioner may, in such case, sell at public auction the pine timber so reserved by these resolutions by complying with the provisions of the Act 36 Vic, cap. 9. 3. That the Crown shall out of the consolidated revenue fund of the province pay to the persons who shall in future acquire public lands by sale, grant, location ticket, lease, or permit of occupation, or to their heirs or assigns, for the pine cut upon such lands, and upon which the Crown shall have collected dues, the sum of 25 per cent. of the dues so collected for the timber cut on such lands since their sale. Regulation shall from time to time be made by the Lieutenant-Governor-in-Council for the purpose of ascertaining and determining the persons to receive such payments, the sums to be paid, and the date of payment.

After a brief debate the resolutions were adopted in committee, and a bill based on them read a first time.

Forestry in England.

A paper on the "Teaching of Forestry" was read before the Society of Arts recently by Col. Pearson. The people strongly urged the necessity of establishing in Great Britain a school of forestry in connection with the State, where young foresters could be trained, instead of sending them to Continental schools, before drafting them to India and other colonial possessions for forest service. A committee is to be formed in order to bring the matter under the consideration of the Government.—*Timber Trades Journal.*

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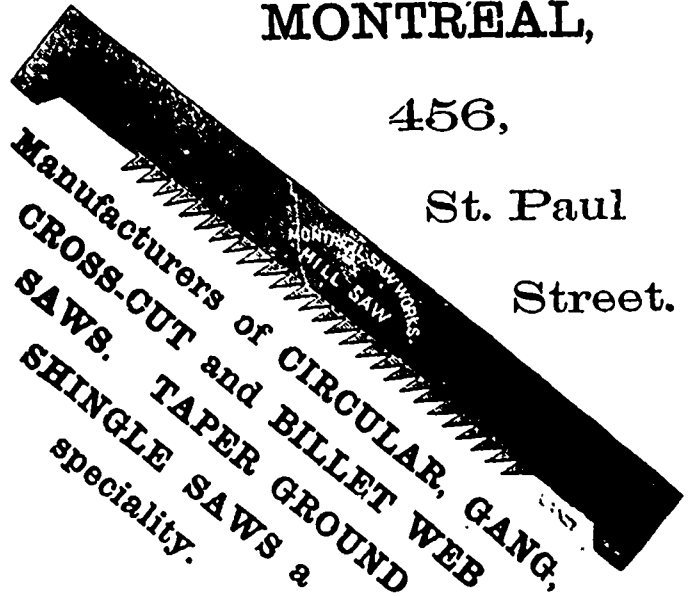
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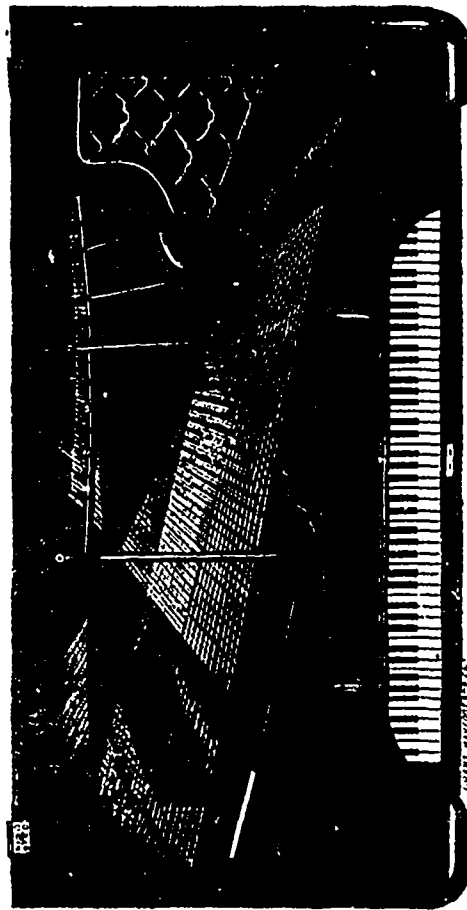
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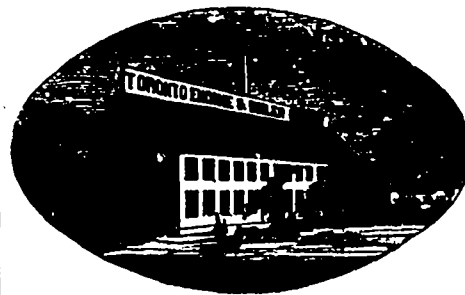


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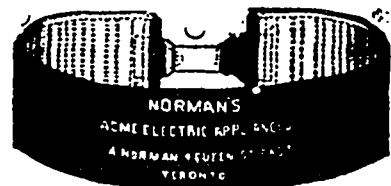
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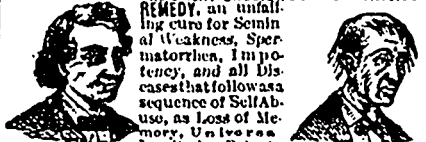
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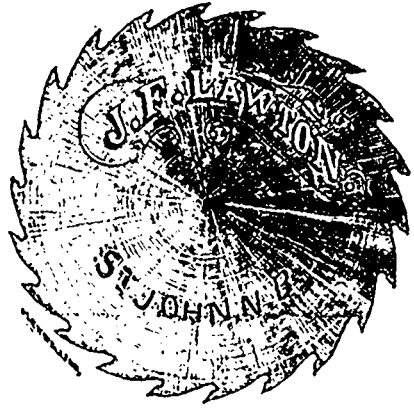
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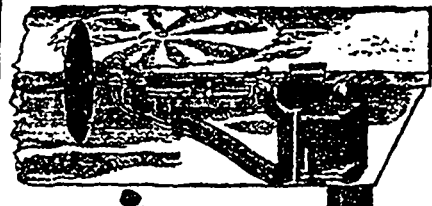
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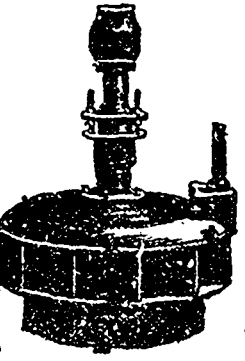
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Communications intended for insertion in the CANADA LUMBERMAN, must be accompanied by the name of the writer, not necessarily for publication, but as a guarantee of good faith. Communications to insure insertion (if accepted) in the following number,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

PETERBOROUGH, Ont. APRIL 15, 1882.

It is thought that there will be more square timber brought to Toronto this year than last. In 1881 there were one million feet sent east from here.

A stick of white pine was cut in a lumber shanty on the Madawaska, 47 feet in length by 36 x 35 inches square. It is said to be one of the finest pieces of timber ever cut in that region.

MR. J. T. LAMBERT, lumber broker of Ottawa, in writing to us enclosing his subscription and an advertisement, concludes in the following complimentary manner: "Your paper is very much thought of here. I wish you another good year's business."

A CHANGE has been made in the Port Hope firm of Irwin & Boyd, who have been doing a business in that town as lumber commission dealers, forwarders, shipping and general agents. The firm in future will transact business under the name of Irwin & Philp.

THE firm of Messrs. White & Moir, lumber merchants, Albany, N. Y., have dissolved partnership, and the same business will be continued by Mr. White of the old firm, his son, and Mr. E. Van Zandt, late of Van Zandt & Co., under the name of Douglas L. White & Co.

E. L. KELSEY, Detroit, Mich., operates in getting out hardwood timber and staves for foreign markets. A few days since he purchased at Milwaukee, Wis., some 9,000 cubic feet of timber and a few thousand of staves. The timber is shipped to Liverpool and the staves to West Indies, via Green Bay and Montreal.

THE President of the Winnipeg Board of Trade stated at a recent meeting that it was estimated that sixty or seventy millions of feet of lumber would be manufactured in Winnipeg, on Lake Winnipeg and on the Lake of the Woods. There was six millions at present in store, and no estimate was made of the amount that was likely to be imported. He had interviewed Mr. Van Horne, General Manager of the C. P. R., and that officer stated that there would be plenty of cars available for carrying lumber this summer, and that every facility would be afforded for bringing in supplies. The brickmakers estimated that 50,000,000 to 60,000,000 of brick would be manufactured.

J. A. MATHIEU, of Port Leyden, N.Y., has entered into contract with the Vulcan furnace establishment at Nowbery, in Chippewa county, Mich., to work up 240 cords of wood per day into charcoal. Seventy-two resorts are also in construction at Wyandott, Mich.

THE largest trees known are probably the *eucalyptus amygdalina*, or "peppermint tree," growing in the Dandenong district of Victoria, Australia, which is said to measure 370 feet to the starting point of the crown, and 417 feet to the top, and another specimen of the same species, is mentioned by Baron Ferdinand von Muller as having attained the height of 480 feet.

THE *Timber Trades Journal* says that a considerable number of American doors has been received at Newcastle-on-Tyne, forwarded via London. During the past few months we hear that 8,580 doors have been landed. It is stated that this importation has had an unfavorable effect on door-making in the district; although the foreign goods are scarcely so heavy as the doors turned out from the local joinery establishments, they are calculated to suit all ordinary requirements.

THE *Kingston Whig* says that Mr. Peter McLaren has been in that city. During last winter he kept up thirteen shanties, and his cut of timber is hence very large. He succeeded in getting his logs, with the exception of about 1,000, to the stretnins. The season in Ontario has been one of the worst known, but in Quebec there was plenty of snow. The demand for square timber is reported to be good. Mr. McLaren will send all his to Kingston for rafting and towing down the St. Lawrence.

Messrs. R. & G. Strickland, of Lakesfield, the purchasers of the Dominion Bank limits in the County of Victoria, Ont., have taken out during the last winter 6,000 pieces of timber, and logs to the extent of ten and a half millions of lumber. It is estimated that this is about a tenth of the production of the whole limit. Messrs. R. Dobell & Co., of Quebec, after examining the timber, purchased the whole lot at prices more than five cents a foot above their last year's sales, and they say that the quality is equal to any timber they have examined this season. Messrs. Strickland have been offered \$16 a thousand for their merchantable timber. They have been shipping by Toronto, but next season they hope to ship by the Midland Railway, owing to the contemplated completion of the Sault Ste. Marie branch.

PLANTING FOREST TREES.

THE *Buffalo Lumber World* recently received a letter from Mr. J. A. Hubbard, of North Limington, Me., in which he mentions an instance which is so good an illustration of both the feasibility and the profit of timber culture, that we give it here. It seems that sixty years ago a certain thirty acre plot of land in Brownfield, Oxford county, Me., was cultivated soil, having neither tree nor bush on it. Twenty-five years ago it was purchased by Aaron McKeney, of Buxton, Me., for \$1,600, and last fall Mr. Joseph Hobson, of Saco, Me., paid \$8,000 for it, calculating that it contained 1,300,000 feet of pine timber. They have already cut from it 900,000 feet, and it is estimated that there is still standing about 600,000 feet, making in all 1,500,000 or an average of 50,000 feet per acre—all grown within sixty years, and standing within a quarter of a mile of the Saco river. These are cold facts and can readily be verified by application to any of the parties concerned. In the face of a case like this, it would be folly to deny that pine can be cultivated with profit, and the same is true to a still greater extent of hardwood timber, especially black walnut. The great difficulty is, that the returns are necessarily very slow, and the money invested is locked up for a number of years, but there are few investments which will be any safer or yield larger returns in the end.

But it is not by private enterprise alone that this work of raising new forests to take the place of those removed, should be carried. It is a matter not merely of local, but of national importance. Our law-makers might better busy

themselves in encouraging timber cultivation than in wrangling about the appointment of a custom house official, the distribution of post offices, or the policy of the Government at Timbuctoo. Why should not a "Department of Forestry" be created which should have the sole duty of conceiving and putting into practice measures for the conservation and restoration of our forests? When the people and their representatives become awakened to the importance of the matter, we may hope to see such measures taken as will result in a renewal of our woods, with all their attendant advantages.—*Buffalo Lumber World*.

HAMILTON.

THE *Spectator* has the following account of the Hamilton timber trade—Hamilton is one of the chief ports on this lake at which square timber is received from the back country and shipped to the sea coast. Some timber has already arrived at the booms of the Great Western and Northwestern railways. The timber already here belongs to Messrs. Platt & Bradley, of Hamilton, and Murphy, of Quebec. The Wellington, Grey & Bruce branch of the Great Western, and the Georgian Bay branch of the Grand Trunk bring the larger quantities. The Grand Trunk timber comes from about Wiarton. Platt & Bradley began rafting operations lately. The quantity of timber that will come to Hamilton this year will be less than half the quantity handled last year. The timber will go down to the sea in rafts, very little going by vessel. Staves will be shipped in greater quantities than last year. The business of last season was larger. Thirteen rafts and twenty cargoes of square timber, about 1,600,000 cubic feet, were sent down, besides a raft of spars and masts for Boston. In addition to timber shipments, several cargoes of pipe and West India staves were shipped for the English market. The total value of these shipments exceeded \$600,000. The railways delivering the timber received \$35,000 for freights, and the cost of making up the timber into rafts for towing to Quebec was between \$30,000 and \$40,000. The past winter was such an open one that but little timber was cut, and thus the shipments fall off, but on account of the increase in the quantity of staves, business for vessels will be better in that line. Freights are dull, and the only charter reported by Hamilton parties is from Lake Erie to Garden Island at a figure lower than last season's rates.

HEMLOCK LANDS.

THE *Chignecto Post* says:—There can be no doubt but it is a bad policy for New Brunswick to sell these lands to manufacturers of tannery extract. There is a limit to the quantity of such bark in the Province. It ought to be saved. New Brunswick is placed in a position to do the tanning for the Dominion. None of the western Provinces have much hemlock, but the Far West will produce great quantities of hides. The rich pasture lands of British Columbia and of the States further east than there are destined to feed the herds and flocks, which will supply meat to Europe. No doubt the exportation will be largely in the shape of dead meat, fresh and in barrels. The hides should be tanned in Canada, and where so conveniently as in New Brunswick? But it will not take long for men like the Millers, and all credit is due them for their energy, to strip our forests of the hemlock bark, and leave the trees, scattered through the woods, a temptation to fire. Whatever may be the motives of Mr. Sayre and his friends in resisting the sale of the lands, there can be no doubt that great care should be taken not to allow our Province to be stripped of her wealth, for the sake of the trifle that is gained.

THE DESTRUCTION OF THE HARDWOOD FORESTS.

THERE is growing conviction that the hardwoods of the country have not been estimated at their real value by the owners of lands. Deciduous timber mostly grows on high and dry lands that are fit for agricultural purposes. In all new districts it has been the custom from the earliest settlement of the continent to chop and burn the timber in order to clear the land so that the forest land might be converted into fields. The custom has been maintained too

long in nearly every locality in the United States and Canada, with perhaps the exception of some of the remote sections of the south. Since railroads and navigation have been extended, there is scarcely a section so remote from market but that the hardwood products of the forest can be made merchantable if the proper means is taken. There now seems to be no excuse remaining for the indiscriminate slaughter that is made of hardwood timber in some sections of the northern timber bearing states. It is time that in nearly all the northern states, especially in Michigan, Wisconsin and Minnesota, a better appreciation and economy of the hardwoods became the rule. In Ohio, Indiana and southern Michigan, farmers who own a fine patch of timber know what it is worth, for the reason that it has a certain merchantable value. Wherever oak, ash or walnut grows, and railroads are near, there is no question as to their value. But in northern Michigan and Wisconsin the timber, which is of a different character, is less esteemed, and settlers who are fighting hard with rigorous circumstances, look upon the thick bodied and stubborn maple, the smooth and taper beech, and the glossy birch as to foes their progress, and with vengeful axe strike them down, and burn them in slash and log heaps. In doing this they little think of the value there is in the timber that they thus ruthlessly sacrifice—value that may be latent because the settler has not the time nor the money to utilize the timber.—*Northwestern Lumberman*

MICHIGAN PROSPECTS.

THE *Lumberman's Gazette*, of Bay City, Mich., says:—"Notwithstanding the unprecedented high prices of lumber, and the occasional slight elevation, which has during the winter struck almost every grade of lumber on the market, not only at the great manufacturing centres, but also at the distributing points, as well as at the outer source of supply—the retail yards of the country—the demand seems to be as yet unabated, and the reports which reach us from every direction are of the most encouraging character. The outlook, therefore, judging from the present standpoint, is cheering to the manufacturer, the wholesale dealer and the retailer; and the indications point unmistakably to the fact that prices must be maintained, and that there will be no break to seriously disturb the general trade.

Tree Planting in Ireland.

IN the course of a recent letter to the *Times*, advocating the above object, Mr. George Ormo Malley makes the remark that "in Ireland as well as in Switzerland no soil is more suited for planting than a rocky one. The bogs of Ireland, especially the deep red bog, is deprived of surface water by a cheap system of drainage, will nourish vigorously the spruce, larch, Scotch and black Austrian firs, together with holly, laurel, and magnificent rhododendrons for undergrowth. * * * The 'nakedness' of our land in respect of foliage is its most melancholy feature, and I need not dwell on what is so well known to every practical farmer, that nothing nourishes the winter grasses or improves outlying stock so much as tree shelter, especially spruce, fir, or other evergreen or non-deciduous trees."

GLYMOUR'S new mill at Trenton will be in operation in the beginning of May, with a capacity for cutting 400,000 feet in ten hours, employing 600 men and a 1,000 horse power engine with sixteen tubular boilers. A Gehena furnace will consume the waste material. The works have cost \$250,000, and 200 acres of ground have been secured as piling ground. Two locomotives will transport the lumber to and fro, there being five miles of track on the grounds. Sixty dwelling houses are to be erected for workmen.

MESSRS. McMILLAN & McPHEE, of Alexandria, and Mr. Alex. McLennan, of Coteau, have a large number of saw logs on the river Delisle, which is daily expected to open up, the ice being very shaky. A large number of men will be employed on the drive. It is to be hoped that these gentlemen will be more successful on the river this year than they were a year ago, when after many weeks' work and the expenditure of over \$2,000, a large proportion of the drive had to be left "hung up" in the rapids.

TELESCOPING A RAFT.

An exciting scene lately amused the Sunday strollers at Williamsport, Pa. Rafts were plunging through the chute, when one lodged on a sand bar. Efforts were made in vain to dislodge the obstruction. A large square timber raft rushed into the chute, and it was evident that extraordinary good maneuvering would be necessary, or there would be a collision between the moving raft and the stationary one. The onlookers at the Beaver mills became greatly excited, and exclaimed, "By George, there will be a smash up." "They'll telescope, sure." Striking the brakens obliquely, the rapidly descending craft plunged into the one on the bar, hitting it amidships, and sending heavy timber high into the air, but, fortunately, without injuring a man on either raft. The sand-bar, now apparently not satisfied with detaining one raft, reached up and fastened upon the last disturber of its rest. Those on the boom steamer-boat, above the dam, seeing this, blow from their whistle an alarm of danger, for other rafts above the chute to haul in, as they know that navigation in that quarter must cease until at least one of the rafts on the bar could be pushed out of the way. The little steamer, at the same time, hurried to the assistance of a raft that was a short distance from the mouth of the chute, and which would, undoubtedly, have entered and been wrecked but for the timely presence of this useful boat. Other rafts tied up at safe points above, thereby cutting off the interest in a visit to the chute in the rafting season.—*Northwestern Lumberman.*

SCHOOL OF FORESTRY.

Is it not about time that our Local Government did something for the protection of the timber of this Province? It is fast disappearing. Poles, ties, timber, logs, and lumber are cut in millions daily, and are being carried away, some to the front, some to the States, some nobody knows where, but our forests are disappearing. The Midland has 500 miles of railway, more or less, and it is only along the Haliburton branch that there is any timber left. What we want is that Mr. Mowat should establish a Department and School of Forestry, to protect the old forests, and to plant new ones. The Foresters should make a study of forestry, and first of all plant all the roads in the Province with trees. The roads form three per cent. of the whole area of Ontario, and this at once would be an advantage. This thing should be attended to without delay. Nearly all European Governments have State Foresters,—why is Ontario without them.—*Bobcaygeon Independent.*

FORESTRY CONGRESS.

It appears that the National Forestry Congress, to be held at Cincinnati, Ohio, at the end of this month, has been made an international affair by the appointment by our Minister of Agriculture of a commission consisting of Mr. Saunders, Prof. Brown, of Guilph, and Mr. D. Beadle, of St. Catharines. The American Forestry Association, it will be remembered, meets in the same city on April 25-29, to read and discuss papers bearing on the science.

The Presidential Arbor Day will also be observed at the same time, and Dr. J. A. Warder, the President of the Association, informs us that a site has been selected in the Presidential Grove for a tree to be planted on behalf of the Queen.

A Splendid Market.

The *Winnipeg Times* says:—"We have had experience in this land of how the National Policy is benefiting Canadian manufacturers. A few years ago, prior to the present tariff, Minnesota, Wisconsin, and Illinois supplied us with carriages, cutters, wagons and farming implements. We drew scarcely anything in these lines from the eastern provinces. To-day, Ontario manufacturers are so crowded with work of this description for this Province and the North-west that in some cases, it is said, it will take a good part of the summer to fill the orders; and this is in addition to the very large supplies already coming to hand under the tariff. The Canadian manufacturers have secured a splendid market here, of which they have not been slow to avail themselves.

LUMBER WANTED.

50,000 Feet Tough White Oak, 50,000 Ft. White Ash, 50,000 Feet Rock Elm, all best quality, quote price at Ayr station, to be delivered by August, 1882. Specifications furnished on application.
Ayr Agricultural Works,
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Timber Limits for Sale.

I offer Timber Limits Nos. 94, 102, 144, 145, 157, 164, 170 and 182 on the North Shore of Georgian Bay, for sale either "en bloc" or in single townships of 36 square miles each.
GEORGE J. THOMPSON,
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Timber Limits with Mill, FOR SALE.

One hundred and fifty-six square miles at Garden River, (near Sault St. Marie, Ont.) Splendid pine timber. One of the most compact and best built in Canada.
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Situate on CANAL BASIN, OTTAWA.

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

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A FOREST DEPARTMENT.

Our readers will be interested in the following extract from the annual report of the Commissioner of Agriculture and Arts, for the Province of Ontario, being part of the report of Mr. Wm. Brown, Professor of Agriculture, and Farm Superintendent of the Ontario Agricultural College and Experimental Farm at Guelph:—

My introductory subject this year is, Our School in relation to the cultivation of Trees in the Province; as, although I have in previous reports endeavored to give some idea of its immense value, no definite suggestions have been made, nor any future work made clear.

The general importance of the subject, and its special application to Canada, is necessarily our first consideration, but it is one that has been probably handled by evidence before the recent Agricultural Commission, that little more is necessary to impress its political standing upon the Government. The great points of trees or no trees, of retained moisture or rapid evaporation, of irregularly or regularly distributed rain fall, of unchoked storms or amelioration, of more or less temperate temperatures, and of the secondary but telling ones of ornament and cropping revenue—all go to make up a chapter of keen interest in our yet but short history as a nation.

Were evidence needed either to convince or stimulate us to action, the fact of what is being done in the conservation and replanting of forests in other countries should awaken both our pride and deep interest, as such lessons are plentiful in India, Australia, and the neighbouring Republic. There, Forestry is a profession and a Governmental department, systematically conducted by able officers, who are liberally supplied, first, in the item of experiments, and then in the establishment of extensive re-clothing of lands chosen by virtue of judgment based upon these and other known facts acquired by experience, or as shown by Nature herself.

When we desire to bring this matter right home to the farmer and his son here, the story takes seven distinct heads:

1. Shelter for crops.
2. Shelter for grazing animals.
3. Shelter for dwellings.
4. Regulation of temperature.
5. Regulation of rainfall.
6. Ornamental purposes; and
7. As a cropping investment.

The area and value of the forest lands of Canada are still of great magnitude;—indeed, of such magnitude that all the reliable information we possess from the brief notes of surveys stands as evidence of our ignorance of its variety, wealth, and extent, because any survey partakes so much of the character of straight-line testing that whole blocks of hundreds of acres of many kinds of our best timber lie untouched and unknown—at least to Government. It is surely within the scope of a reasonable outlay, and not many years' work, that the country should hold one map showing the principal tree crops on every surveyed lot, as well as on every outlined township, district, and limit. While we know intuitively that we are wealthier than we appear to be, it will give us no better standing in the world's market to make a story about it without actual inspection. Besides, when we talk scientifically, as we must do, in respect of forest influences upon many things, our practice goes afoot, it is most material to be thoroughly familiar with the existing condition of our forests as regards first, second, or any subsequent natural growths, and how far they are likely to subserv the ends in view.

The requisite proportion of tree surface to that under agriculture is another of the studies yet little understood by scientists, and cannot, so to speak, be handled practically with any precise measure of reason until further experiments point to safe data; but, from the extreme of over-clearing on the one hand, to that of too much forest on the other, there is safe ground for no delay on the part of any Government. Of course this would bring up the allied point of what parts of the country should be conserved and what parts replanted, subject to the regulation of appropriate positions and adaptability of soil and climate in each particular example.

It should be one of the particular duties of the Professor of Arboriculture to educate the students of this Institution in regard to the suitability of

certain kinds and forms of trees for special purposes—whether for field clumps, shelter belts, road-side shade, neighbourhood of dwellings, or for more extensive planting in addition to the management of them in all their detail from the seed bed, transplanting in the nursery, preparation of land for planting, their annual maintenance, thinnings and their value, enemies to and diseases thereof, to the grazing of replanted lands, and the ultimate realization of the matured crop.

Thus should we be in a position to advise our Legislatures on the great national problem of the special and general conservation and replanting, by which it would be shown that enclosing, draining, regulation of fires, animal trespass, and supervision stood as items of public expenditure of the first class, so that one of the first of their duties is the establishment of Forest Departments, and the appointment and duties of a Conservator of Forests for each Province.

THE ELECTRICAL GIRL WHO LIVES AGAIN.

(London (Can.) Advertiser.)

It is now about three years since the *Advertiser* published the story of the Electrical Girl in the township of Romney. The tale passed through nearly all of our exchanges, and occasionally re-appears now. The story in brief was that the girl was so highly charged with electricity that she could not handle any article of steel. She was a veritable magnet, and needles, knives, etc., would cling to any part of her person. The publication excited a good deal of curiosity concerning the girl, and many persons called upon her at her home. Recently she was taken ill, and the local physicians were called in. She described her peculiar sensations. In her knee joints severe pains were felt, shooting at intervals, as though a battery were at work and giving her intermittent shocks. The knee began to swell, and the pains spread to other parts of her body, generally becoming permanent in her joints. All the doctors could do was of very little avail. Occasionally slight relief would be obtained, but in wet or murky weather the pains would redouble in violence. Finally when the doctors had given up treating her, and regarded her simply as a physiological wonder, a tramp called one day at the house. While he was being given a meal he was told about and asked permission to see the girl. He had been a soldier in the Crimean army, and while working in the trenches around St. Petersburg he contracted rheumatism in its most severe form, and noticing that the girl's symptoms agreed with his, he pronounced her to be suffering with rheumatism. The parents of the girl were overjoyed, but were again cast down as they recalled the fact that the doctors said they could do nothing for her. "Why," said the tramp, "do you want to bother the doctors about rheumatism? Get a bottle of St. Jacobs Oil. It cured me, and will cure any case. I know plenty of old soldiers who have been cured of chronic rheumatism by the use of St. Jacobs Oil." The advice was taken, and the so-called Electrical Girl is to-day prepared to add her testimony to the thousands of others who bear witness to the efficacy of the Great German Remedy.

To the Editor of the London (Can.) Advertiser.

DEAR SIR,—As you have given me a good deal of notoriety by writing of me as the Electrical Girl, I thought I would write to tell you of my condition. * * * (Here follows the recital which is summarized above.) My parents obtained a bottle of St. Jacobs Oil, and to its effects I owe the fact that I am now able to walk without pain, and the swellings in the joints have all disappeared.

Yours very truly,
SUSAN J. HOFFMAN.

GROUND SHAVINGS.

Our New York correspondent writes regarding the establishment of D. C. Nowell & Sons, on Nineteenth Street and Eleventh avenue, where a mill is run for the purpose of grinding shavings for horse bedding, packing, etc. Mr. Nowell, who runs the Hudson River Planing-mill, where this rather novel business is carried on, is an old lumberman of 40 years' experience. This gentleman, a few years ago, invented a machine for grinding shavings, and an experimental test produced the most gratifying results, and the

experience after four years' use furnishes an important contrast to the facts before the plan was employed. Instead of paying some five dollars per day for the removal of the shavings, the mill brings in a revenue of from \$30 to \$50 daily. The capacity of the mill is 10 tons per day, and the ground shavings find a ready market at \$6 per ton. The product of the mill however, does not average the number of tons given as the full capacity. There are some 80,000 horses in the city of New York, to say nothing of outside points, and if the use of the shavings for bedding was pushed, there is a wide field for operating. One of the advantages claimed for shavings is the absorption, by the waxy acids, of all odors; hence the shavings are used to some extent as a disinfectant, and decayed matter when covered by them is rendered unoffending. Ground shavings are also used for bedding for cattle and swine, also in stock cars, and are held to be better than sawdust for ice houses.—*North-western Lumberman.*

THE FUEL PROBLEM.

If it be true that the fuel problem has been solved for Dakota, as below affirmed, we may consider it as solved also for the Canadian North-west, in extensive regions of which lignite and coal exist in quantities larger than the public are generally aware of. The *St. Paul Pioneer Press* says:—"General Manager Haupt, of the Northern Pacific, is now satisfied that the fuel problem of Dakota has at last been solved. The feasibility of burning the lignite coal of the Bly Mines has been amply demonstrated. That it can be used for all heating purposes is no longer an equivocal proposition. Superintendent Hobart, of the Dakota division, is testing the coal in a base burner. One day recently, with a high wind and unusually low temperature, the room was perfectly warmed with the consumption of between four and five scuttles of coal in the twenty-four hours. The same amount of the best Pennsylvania coal has often been consumed under like circumstances, showing a saving of at least 65 per cent.; when the difference in cost and weight is taken into account, this is much cheaper than wood."

Score Another for Cedar.

The cities of St. Paul and Minneapolis are agitating the question of street pavements, and naturally desire to obtain the best material for the purpose. The *Pioneer Press* commissioned a man to visit several cities and inspect different kinds of pavement with a view to ascertain the relative durability of stone, macadam and wood. Pains were taken by this commissioner to obtain the opinion of experienced men in regard to the different kinds of pavement, and the result of the investigation is that cedar blocks are considered the best wherever they have been used. In St. Louis there are over 300 miles of macadam pavement, and it is alleged that it alternates between the most horrible mud in wet weather and the most insufferable dust in dry weather. In many places it was found that macadam pavement was universally condemned.

MR. E. HALL, of Detroit, Mich., is going extensively into lumber operations in the vicinity of Farwell. His intentions are to construct a railway and put in some 300,000,000 feet of logs on the Tobacco river, some four miles south of Farwell. A dam is being constructed for the purpose of floating out the logs. Extensive arrangements are likewise being made through many parts of the Saginaw valley for summer logging.

THE raging Ohio seems to be making an effort to out rival the mad Mississippi in the commotion and destruction it is creating. A large number of rafts of logs have been swept away on the turbid tide, at Cincinnati, and other points. There has also been considerable damage on the Ohio's tributaries.

A DEPUTATION has visited Ottawa in the interests of American manufacturers to oppose the proposal lately made by manufacturers of cooperage materials in the western part of the Province of Ontario in favor of the imposition of an export duty on elm, basswood and red oak bolts, bolt logs and hoop logs.

THE Victoria, B. C., press urges the importance of the Dominion Government immediately reserving the lands and timber adjacent to the southern passes of the Rocky Mountains to prevent them from falling into the hands of the Northern Pacific Railway, which could then create a monopoly in timber, and force the Canada Pacific syndicate to pay enormous prices for timber.

THE *Monetary Times* says that a London Joint Stock Company, with a capital of £100,000, has purchased the Millo Vacho property, opposite Rimouski. It consists of 80,000 acres, with a frontage of ten miles on the River St. Lawrence. The company intends to carry on a general lumber and pulp business, and will build wharves, and provide facilities for loading vessels.

It is said that the dock labourers at Oswego have made a rate for unloading lumber by which vessels of 300,000 feet capacity are charged more than vessels of smaller capacity. This will affect only a few vessels, most of which are in Toronto harbor, and it looks as if the discrimination was ill-grounded. It is surely better for the laborers to have a large cargo to work at than a small one.

NOTICE has been given of an application for letters patent for "The Rainy Lake Lumber Company, Limited," with a capital of \$350,000, in hundred dollar shares, and its chief place of business at Winnipeg. The first directors of the company are to be Messrs. Hugh Sutherland, James Robert Sutherland, Henry Norland Ruttan, Peter Johnson Brown, William Buckingham, John Ross and Simon James Dawson.

THE *Northwestern Lumberman* says that a New York firm has cut up 50,000 feet of oak during the past three months for Peter Cooper's glue factory. Frames are made of it upon which the glue is placed for drying. If this strikes the average reader as being a pretty big story, he should bear in mind that the building where the glue is manufactured occupies two acres of ground.

THE *Kingston News* says that there is a great deal of timber to be carried this year—enough to warrant good rates and to make vessels quite independent as far as chartering is concerned. All the vessels that have a stern port will find timber to carry, and at good paying figures, too.

BRIGHT'S DISEASE, DIABETES, KIDNEY, LIVER OR URINARY DISEASE.—Have no fear of any of these diseases if you use Hop Bitters, as they will prevent and cure the worst cases, even when you have been made worse by some great puff'd up pretended cures.

"WHAT EVERY ONE SAY MUST BE TRUE."—And every one who has tested its merits speaks warmly in praise of Hagar's Pectoral Balsam as a positive cure for all throat and lung complaints, coughs and colds, sore throat, bronchitis, and incipient consumption.

People have no more right to become dyspeptic, and remain gloomy and miserable, than they have to take poison and commit suicide. If the stomach becomes weak and fails to perform its functions, Burdock Blood Bitters will speedily remedy the trouble.

DYSPEPSIA, that all prevalent disease of civilized life, is always attended with a disordered sympathetic system and bad secretions, and no remedy is better adapted to its cure than Burdock Blood Bitters taken according to special directions found on every bottle.

A POPULAR REMEDY.—Hagar's Pectoral Balsam is one of the most deservedly popular remedies for the cure of coughs, colds, sore throat, asthma, whooping cough, croup, bronchitis, and all pulmonary complaints. For sale by all dealers.

A REAL NECESSITY.—No house should be without a bottle of Hagar's Yellow Oil, in case of accident. There is no preparation offered to suffering humanity that has made so many permanent cures, or relieved so much pain and misery. It is called by some the Good Samaritan, by others the Cure-all, and by the afflicted an Angel of Mercy.

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 Zopsea, from Brazil, the new 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 ten cent sample of Zopsea, the new remedy, of your druggist. A few doses will surprise you.

Chips.

The Port Hope Times says that Capt. Eccles has refused to carry 10,000,000 feet of lumber from Cobourg to Oswego at 90c. per M. He wants \$1.

It is stated that Boston capitalists have purchased the homlock bark on 28,000 trees in the Adirondack region, New York, and will strip the trees and carry off the product.

Rockford, Ill., has a wood feather manufactory, where basswood is shaved into strips and modicated for filling bed ticks and pillows and other purposes, the article being really superior for such uses.

SEVENTY-FIVE million feet of homlock lumber has been cut at Williamsport, Pa., this year, as against 15,000,000 feet last year. Pennsylvania lumbermen are just beginning to see the value of this kind of timber.

The Chippewa Lumber and Boom Company paid out for labor in the mill and at the Paint Creek dam, from March 1, 1881, to the same date this year, \$140,896.14, and \$100,000 for labor on logs—a total of \$240,896.14.

POPULAR from the vicinity of Sault Ste. Marie is being cut for shipping away to pulp mills. There is a large growth of poplar in the Upper Peninsula of Michigan that will come handy for change to the farmers who shall clear the land in that rugged country for some time.

The auditor of a railroad in Wisconsin, who has been up north through the logging country, reports that notwithstanding the estimate that the log crop is only a two-thirds cut, the large number of new men who have entered the business will make the money receipts for lumber greater by one-fourth than during any previous year in the history of the State.

A LARGE mill for the manufacture of wood pulp is about to be built upon the line of the Quebec Central R. R., near Cookshire, Que. The location is on the Eaton River near its junction with the St. Francis, in a section where suitable wood is abundant. Mr. Wm. Angus, late of the Canada Paper Company, is understood to be the capitalist interested.

It is represented, says the Battleford Herald, that a large lumbering establishment is to be started at Green Lake, north of Carleton, the lumber from which is to be run down the Shell river to the Saskatchewan. Mr. O. Keefe is on his way out to survey the limits, which will be in two blocks, composing one thousand square miles in all. The owner of the enterprise is said to be a Toronto man.

THERE is a German colony at Jacob's Town Mackinac county, consisting of 70 families. They, a few months ago, began operations in a dense wilderness of heavy timber, selling the forest growth as they cut it away in the process of clearing the land, instead of making a promiscuous slaughter of it, and burning it by wholesale. There are now 140 acres cleared, and the colony has on hand 25,000 cedar posts, 2,000 telegraph poles and 2,000 hardwood logs.

THE Saginaw Courier says: A gentleman in this city purchased a farm on the Cass river recently, on which were several black walnut stumps. By some means while digging he discovered some buried trees and has since taken out considerable walnut, which, when cut up, he has disposed of at the rate of \$60 a thousand. The reporter was shown a piece yesterday from a tree that was taken out nine feet below the surface. It is supposed that the river changed its course somewhat years ago and that these fallen trees were imbedded in the deposits that filled up the old channel.

Messrs. R. & G. Strickland have returned from the personal supervision of their timber and lumbering operations on their new limits, having straightened up their winter's operations. They have taken out over six thousand pieces of square timber and sufficient saw logs to make over ten and a half million feet of lumber. This is less than a tenth of the quantity which their limits contain. We are assured that these excellent limits will stand such extensive operation for another ten years at least. The Messrs. Strickland have been offered already 4 cents per foot over and above last year's price for their square timber. They have as fine a quality of timber as was ever taken to Quebec.

ST. JACOBS OIL



THE GREAT GERMAN REMEDY FOR

RHEUMATISM,

Neuralgia, Sciatica, Lumbago, Backache, Soreness of the Chest, Gout, Quinsy, Sore Throat, Swellings and Sprains, Burns and Scalds, General Bodily Pains,

Tooth, Ear and Headache, Frosted Feet and Ears, and all other Pains and Aches.

No Preparation on earth equals St. Jacobs Oil as a safe, sure, simple and cheap External Remedy. A trial entails but the comparatively trifling outlay of 50 Cents, and every one suffering with pain can have cheap and positive proof of its claims.

Directions in Eleven Languages. SOLD BY ALL DRUGGISTS AND DEALERS IN MEDICINE. A. VOGELER & CO., Baltimore, Md., U. S. A.

MACK'S MAGNETIC MEDICINE.



Is a Sure, Prompt and Effectual Remedy for Nervousness in ALL its stages, Weak Memory, Loss of Brain Power, Sexual Prostration, Night Sweats, Suppurative Torrida, Seminal Weakness, and General Loss of Power. It repairs Nervous Waste, rejuvenates the Jaded Intellect, Strengthens the Enfeebled Brain and Restores Surprising Tone and Vigor to the Exhausted Generative Organs. The experience of thousands proves it an INVALUABLE REMEDY. The medicine is pleasant to the taste, and each box contains sufficient for two week's medication, and is the cheapest and best. Full particulars in our pamphlet, which we desire to mail free to any address.

Mack's Magnetic Medicine is sold by Druggists at 50 cts. per box, or \$2 for \$5, or will be mailed free of postage, on receipt of the money, by addressing MACK'S MAGNETIC MEDICINE CO., Windsor, Ont., Sold by all Druggists in Canada.

HOP BITTERS NEVER FAIL

If you are a man of business, weakened by the strain of your duties, avoid stimulants and use Hop Bitters.

If you are young and suffering from any infirmity, or if you are married or single, old or young, suffering from poor health or languishing on a bed of sickness, rely on Hop Bitters.

Thousands die annually from some form of Kidney disease that might have been prevented by a timely use of Hop Bitters.

Whoever you are, whenever you feel that your system needs cleansing, toning or stimulating, without resorting to toxicants, take Hop Bitters.

Have you dropsical kidneys or urinary complaint, disordered stomach, bowels, blood, liver or nerves? You will be cured if you use Hop Bitters.

If you are simply weak and low spirited, try it! It may save your life. It has saved hundreds.

D. I. C. is an absolute and irresistible cure for drunkenness, use of opium, tobacco, or narcotics.

Sold by Druggists. Send for Circular.

HOP BITTERS W.F.O. CO., Rochester, N. Y. & Toronto, Ont.

J. G. EDWARDS
 HARDWARE MERCHANT,
LINDSAY.
 BELTING, FILES, BABBIT METAL,
 CHAINS, ROPE, and
LUMBERING SUPPLIES.

FOR LUMBERMEN
Poleroad Tramway Cars
 Will Carry 2,000 Feet of Hardwood Lumber per Load

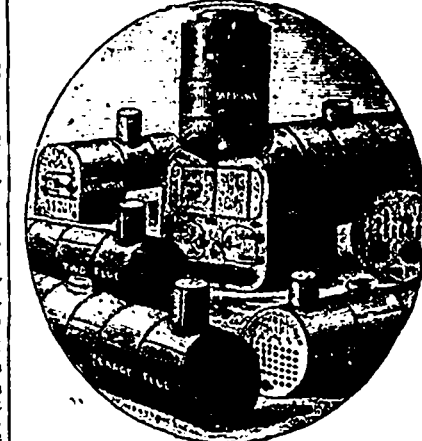
Drawn with one span of horses, either summer or winter, on Round Pole Roads, which are cheap and speedily built.

The woodwork of the Car can be built by any handy man in a couple of days. The undersigned supply the ironwork complete, including bolts and washers and a diagram of car.

The wheels are adjustable on its axle to accommodate itself to any bend in the pole. The weight of ironwork is 2,250 lbs. Price on application to

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 Patentees and Manufacturers of Moore's Improved Taper Cone Feed Saw Mills.

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 STATIONARY,
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MILL CASTINGS
 Ship Windlasses, Capstans, and Ship Castings of all kinds, (MADE TO ORDER.)
 Power Capstans, Patent Ship Pumps With Copper Chambers.
 Lead Scuppers & Water Closets & all goods in my line for Ships' use.
 Work done to Order with Quick Despatch.

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 MANUFACTURERS OF ALL KINDS OF

Steam Engines
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MILL MACHINERY.
 Ships Windlasses, Iron Capstans and Ship CASTINGS of all kinds.

Ships Cambooses & Cabin Stoves
 COOKING AND HEATING
STOVES,
 Shop, Office and Parlor Stoves, and Franklins

Agricultural Implements.
BRASS CASTINGS.
 Tin, Sheet Iron and Copper Ware for SHIP and HOUSE USE.

GRATEFUL-COMFORTING.
EPPS'S COCOA
 BREAKFAST.
 "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 Cacao, Mr. Epps has provided our breakfast tables with a deliciously 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 malefactors 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,
 London England.

Market Reports.

OTTAWA.

From our own Correspondent.

APRIL 7th.—People here are now anxiously awaiting the opening of the Chaudiere and other mills in the vicinity. The numerous repairs and improvements are about completed, and everything is in readiness for the arrival of the first logs. The beginning will be made earlier this season than last; two or three weeks' time will witness the mills in full operation. The hiring of men has not, however, yet begun, this being generally done after the

BREAKING UP OF THE SHANTIES

and arrival home of the hands. Wages this year will be as high, if not higher, than last, and more difficulty will be experienced in engaging the full complement of men, as many have left for the States. This will be somewhat severely felt by our lumbermen, as a vast amount of work remains ahead. No doubt the coming summer will be the liveliest in this interest seen since

THE MEMORABLE YEARS

of '69, '70 and '71, when lumbering operations were carried on to their fullest extent. Of the total cut of logs and square timber on the limits on the Upper Ottawa the present season, a pretty correct estimate can now be made. It is generally conceded by parties who are familiar, that the cut this winter will be as large again as was that of last year. 1,300,000 pieces passed the Quyon boom during the summer of 1881. This is the point where the

LARGEST NUMBER OF LOGS

pass, coming to Ottawa and vicinity, the operations on this side of that point not amounting to anything great. It requires seven of these logs on an average to make a thousand feet of lumber, so an estimate can be made by this of the amount of lumber cut by the mills here and neighbourhood. It is calculated that there will be manufactured this year about two million and a quarter pieces. Fully 750,000 pieces were

STUCK IN THE OTTAWA RIVER

and its tributaries the past summer, and these, together with this year's cut, will without doubt be safely navigated to their destination, thanks to the many and valuable improvements lately and continually being made by the Upper Ottawa Improvement Co. A new firm has been operating on the Kippewa the past winter, that is, that of W. C. Edwards & Co., of Rockland. They have also taken out timber on the Dumoine, Blanche, Galneau, Castor and Nation Rivers. Their

CUT ON THE UPPER OTTAWA

limits will amount to about 50,000 logs. Shanties will break up about the fifteenth of next month, that is as soon as the lakes open. Operations are now being carried on as lively as possible. There is plenty of snow and ice on the Kippewa yet, and most other places. Men are now being engaged for the drive, the wages paid this year being from \$20 to \$35. No sales of logs have been reported lately, which is something unusual.

TORONTO.

From Our Own Correspondent.

APRIL 10th.—Lumber shipments by vessel to American ports have now fairly begun, five cargoes having already left here for Oswego, and six more vessels on the way loading, and the average quantity on each has been something like a quarter of a million feet. The demand for all kinds of pine lumber from sound common to clear is excellent, and for desirable dry lots during the earlier part of the season, prices are likely to advance. Good, dry car sheathing or flooring strips are hard to obtain, and the prices for flooring from the yards have advanced from \$2.50 to \$3.00 per M., although, owing to the carpenter's strike, building has for the present come nearly to a stand, and no work in the architects' offices offering. No doubt this may be partially accounted for in this way, any persons entering into building operations naturally consult with their architect, and as it was well known before hand that labor strikes were likely to be the order of the day for some time to come, they were advised to postpone their asking for tenders until the labor question was settled.

Speculative building, such as we have had going on here for the last two years, has received a sudden check, the stringent Lien Act passed by the Ontario House at the last session has caused loan companies to be extremely cautious as to whom they lend money to, and none but those having a clean record will be able to obtain advances, unless they have other real estate to offer as security, and it is much better for our city that such is the case, as large numbers of houses have been thrown together (I think this is about the right term) during the last three years, and a few years hence the question will be asked, Where are they? Of course this does not apply to all who have been operating, some of them make a point of doing their work substantially, such men will still find plenty of room for capital and energy.

In continuing my list of wood-working factories, I would next call your attention to the large building on the corner of Sheppard and Richmond streets. This factory is not controlled by any single firm. Steam power is furnished to a large number of various trades throughout this large building, but there are two firms who come prominently to the fore, 1st, the firm of R. Philp & Co., manufacturers of coffins and caskets. This firm does the largest business of the kind done in the Dominion, employing from 75 to 100 men, and using up from 25 to 30 M. of lumber weekly, employing a man especially and constantly in getting out new designs for mountings; and in going through the large shops occupied by this firm, and viewing the large quantities of the various sized coffins in all their different stages of completion, we get some conception of the vast numbers of poor suffering humanity who are daily passing away to their long home. The warehouses and offices connected with this firm are situated on Front Street West, near the Queen's Hotel.

The well known building firm of Moir & McCall occupy shops immediately adjoining the coffin factory, where they have all the machinery requisite for the cheapening of labour. This firm has done some of the best work in our city, and they are especially well known in connection with the building of church edifices, and all such work, after passing from their hands, would be a credit to any contractor in any part of the world. This firm employ a staff of first-class workmen, who like all the rest at present, are out on strike, and until this question of wages is settled, trade from the various retail yards will be dull.

QUOTATIONS, FROM YARDS.

Table with 2 columns: Item description and Price. Includes Mill cull boards and scantling, Shipping cull boards, Scantling and joist, Cutting up planks to dry, Sound dressing stocks, Three uppers, Am inspection, 1 1/2-inch flooring, etc.

MONTREAL.

From Our Own Correspondent.

APRIL 10th.—Since the date of our last report there has been considerable change in the state of the ice on the river. The ice bridge has gone and there is open water from here down to the lake, and market steamers and ferry boats are expected up to-day or to-morrow from winter quarters. There is a good deal of activity going on preparing for the opening of navigation. Imports are expected to be large, as the stocks in the yards are by no means heavy, and a large number of new buildings are about to be commenced; till then business will likely rule quiet, and by that time people will be better able to judge what will be wanted, and get it down by the first canal boats. The export of lumber is expected to be fully equal that of last year,

while freights to South America are not expected to be any higher than last year, although we have not been able to hear of any engagements as yet. The first cargoes are to be sent off early in May. Prices in the yards here are firm and likely to go higher in a couple of weeks. In the meantime we continue to quote, ex yard:—

Table with 2 columns: Lumber type and Price. Includes Pine, 1st quality, Pine, 2nd, Pine, shipping culls, Pine, mill culls, Spruce, Hemlock, Ash, run of long culls, Bass, Oak, Birch, Hard Maple, Lath, Shingles, 1st, Shingles, 2nd.

CORDWOOD.—Owing to the advance of freights by the Q. M. O. & O. R. there has been very little cordwood coming in, and we do not expect much till navigation is fairly opened by river and canal. A brisk business is looked for all summer, the rate of freight by water being so much cheaper than railway. The demand here has improved considerably lately, although prices are much advanced and dealers here have been obliged to advance prices fully fifty cents all round. We now quote prices at the railway depot, ex cartage, as follows:

Table with 2 columns: Lumber type and Price. Includes Long Maple, Short, Long Birch, Short, Long Beech, Short, Long Tamarack, Short.

LONDON, ONT.

From Our Own Correspondent.

APRIL 10th.—Since my last letter there is no important change to report in the lumber market of this city. It is thought, however, that the price of material and the strike for higher wages by the carpenters and other workmen will seriously affect the amount of building to be done through the summer.

All grades of lumber remain firm at last quotations, and if any change is to be noted, it may be that hard lumber is an exception. The opinion prevails among our merchants here relative to the elm log export duty now being agitated, that it should be imposed. Shingle bolts are taxed \$1 per cord, and spruce and pine logs \$1 per M. feet. Elm is an important factor in our manufacturing and productive interests, and when our internal manufacturing privileges are in a measure monopolized, something should be done to protect them. I may in a future letter have something more to say on this subject.

The erection of a very large brick skating rink will shortly be commenced here. It is to be 190 x 80, and will be a very handsome structure.

The cedar block pavement on Richmond street will now shortly be proceeded with, and there is also a movement gotten up by a "local" newspaper reporter here to have the market square paved with the same material. The plan of the scheme is a novel one, every donor to give so many blocks, or the price of them.

Our yards are beginning to fill up again, in anticipation for the spring demand.

QUOTATIONS.

Table with 2 columns: Item description and Price. Includes Mill cull boards and scantling, Shipping cull boards, Common boards, Scantling and joist, Common stocks, Cutting up plank and boards, Sound dressing stocks, Clear and picks, Three uppers, Am inspection, 1 1/2 inch dressed and matched flooring, XXX sawn shingles, Lath per 1000 feet.

ST. JOHN, N. B.

From Our Own Correspondent.

APRIL 6.—The prominent feature of the period embraced in this report is the continuation of the cold, winter-like weather described in last report, enabling the lumbermen to extend their supplementary operations in an unusual degree. Conversing with some of the large operators this week, they say that they are doing better work now than at any time during the winter;

the chief difficulty they have to encounter is to keep their men; like the wild geese, when the time arrives at which they usually leave camp, they think they should "be off," and become very uneasy if longer detained.

DEALS.

There are no sales of deals yet reported this spring, the views of buyers and sellers appearing too divergent thus far. Manufacturers are holding very firmly at \$11 per ft., superficial feet, and shippers are unable to see their way to pay such a price; much will depend on circumstances as to which party can hold out the longest.

FREIGHTS.

There was quite a boom in the freight market last week; some eleven ships were chartered for the West Coast of England or the East Coast of Ireland at 60s., and three steamships for the United Kingdom on private terms. These vessels were chiefly taken by one shipper. The market has since been quiet, with a downward tendency; we quote 57s. 6d. out the market rate.

SHIPMENTS.

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

Table with 2 columns: Destination and Quantity. Includes For Europe (3,200,000 Sup. feet), United States (2,213,000), West Indies (90,000).

The number of sugar box shoeks shipped for Cuba is as follows:—

Table with 2 columns: Period and Quantity. Includes Sept. 1 to March 22 (69,040), Since (6,432), Total (70,072).

SHIPPING.

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

Table with 2 columns: Ship name and details. Includes John Black, 545, W. C. England, E. C. 1., or Glasgow; Herbert Beech, 1,061, Liverpool; Brothers, 537, W. C. E. or E. O. 1.; Kentlgren, 824, Liverpool; Maggie Taylor, 347; Bonito, 593, W. C. E. or E. C. 1.; Argyle, 1,222, W. C. England; Alex. Campbell, 475; Alma, 630, W. C. England; Herlot Herlofsen, 760; Oxo, 535; Cedar Craft, 1,098, W. C. England; E. W. Gale, 258.

ALBANY.

APRIL 8th.—Quotations at the yards are as follows:—

Table with 2 columns: Lumber type and Price. Includes Pine, clear, Pine, fourths, Pine, selects, Pine, good box, Pine, 10-in. plank, Spruce, 10-in. plank, culls, Pine boards, 10-in., Pine, 10-in. boards, culls, Pine, 10-in. boards, 16 ft., Pine, 12-in. boards, 16 ft., Pine, 12-in. boards, 13 ft., Pine, 1 1/2 in. siding, select, Pine, 1 1/2 in. siding, common, Pine, 1-in. siding, select, Pine, 1-in. siding, common, Spruce, boards, Spruce, plank, 1 1/2-in., Spruce, plank, 2-in., Spruce, wall strips, Hemlock, boards, Hemlock, joist, 4x6, Hemlock, joist, 2x4, Hemlock, wall strips, 2x4, Ash, good, Ash, second quality, Cherry, good, Cherry, common, Oak, good, Oak, second quality, Hickory, Maple, Canada, Maple, American, Chestnut, Shingle, shaved, pine, 2nd quality, extra, sawed, pine, clear, cedar, mixed, cedar, XXX, hemlock, Lath, hemlock, Lath, spruce, Lath, pine.

BOSTON.

APRIL 8.—The Journal of Commerce says that there is no change in the general situation since our last report. Everything points to a good future for the market. In New York there are many large building operations in contemplation or actually being prosecuted. In our own market builders are not far behind, and there promises to be an immense amount of lumber consumed. The only drawback seems to be in the matter of values. If lumber does not increase in price so as to discourage builders and

upset all their calculations, there will be no cause for complaint.

Table with CANADA PINE prices for Selects, Dresseds, Shavings, etc.

CHICAGO.

APRIL 8.—The Northwestern Lumberman says that the feeling regarding values is peculiar, and difficult to describe.

Receipts and shipments of lumber and shingles for the week ending April 6, 1882, includes take receipts from January 1 to April 6th:

Table with RECEIPTS and SHIPMENTS for Lumber and Shingles.

Receipts and shipments of lumber and shingles from January 1, to and including April 6th:

Table with RECEIPTS and SHIPMENTS for Lumber and Shingles.

Table with STOCK ON HAND MARCH 1 for 1881 and 1882.

OSWEGO, N.Y.

The market is very firm—more perhaps in consequence of the short supply and the poor assortment.

Table with Three uppers, Pickings, Fine, common, etc., and their prices.

BUFFALO.

Table with Buffalo prices for Uppers, Common, Culls.

TONAWANDA.

Table with TONAWANDA CARGO LOTS—SAGINAW INSPECTION.

GLASGOW.

The Timber Trades Journal, of March 25th, says:—At Glasgow the imports have been per steamships of various lines, and consist of parcels of oak billets and planks, whitewood, maple, and staves.

The public sales held at Greenock on the 21st inst., reported below, was rather quieter than usual, the trade still being sparingly for present wants, and with little of competitive spirit.

An extra demand is generally experienced at this time of the year, especially if there has been a severe winter, but the past season having been comparatively mild, has allowed of workmen being employed with little cessation all the time, which apparently accounts for the want that is felt at present of the usual increased business activity.

Deliveries of deals from the yards at this port continue fairly good, being till present date considerably in advance of corresponding period

last year. The contrast is especially marked during the first month of the year, the deliveries in January, 1881, amounting to 63,980 pieces, and in January, 1882, to 75,942 pieces.

AUCTION SALES.

On the 21st inst., at Greenock, Messrs. Edmiston & Mitchell, Brokers:—Quebec yellow pine timber, 65 c. ft. av. per log, 1s 9d. c. ft.

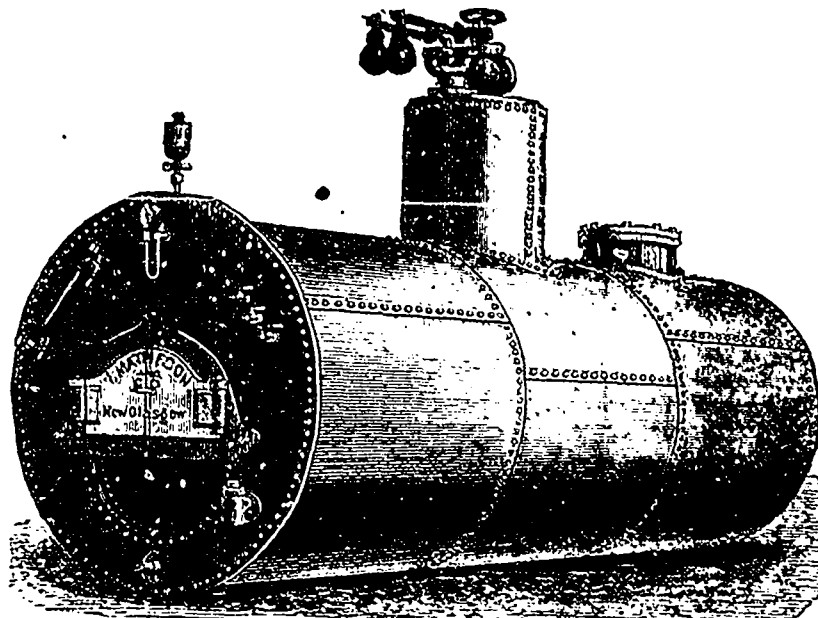
LIVERPOOL.

The Timber Trades Journal, of March 25th, says:—The past week has been a very quiet one, and, had it not been for the auction sales of mahogany and whitewoods, it would have passed over quite uneventfully.

KITCHEN FLOORS.

To keep the kitchen floors clean is very troublesome. Grease will spill upon it and make a stain that requires much labor to get out. Bare boards are soon soiled, and a carpet, when it is not beyond the reach of the housekeeper collects too much dust to be desirable.

Petro v. The Guelph Lumber Company. Mr. Justice Ferguson gave judgment on Saturday, April 5th, in several cases heard before him at the Fall Sittings of the Chancery Division.



JONES & SON, Wholesale Lumber & Timber Dealers 39 Broadway, NEW YORK.

Oak, Ash, Cherry, Black Walnut, Poplar, Butternut And all other kinds of HARDWOOD LUMBER. White and Yellow Pine Lumber and Timber.

ESTABLISHED 1874. THOS. GRAHAM Manufacturer of Every Description of FILES and RASPS

HAND CUT FILES made from the best Refined English Cast Steel and Warranted Equal in every respect to the best English brands.

NEW FOUNDRY FIRM. McLean, Brayshaw & Co. Simco Street, PETERBOROUGH. CASTINGS of every description in Brass and Iron.

PATENTS! We continue to act as Solicitors for Patents, Caveats, Trade Marks, Copyrights, etc., for the United States, Canada, Cuba, England, France, Germany, etc.

LEATHER BELTING. Chipman, Renaud & Co. MANUFACTURERS OF LEATHER BELTING, FIRE ENGINE HOSE, LACE LEATHER, &c. 124 & 126 Queen St. MONTREAL

PARKER & EVANS

SOLE PROPRIETORS OF THE
FAMOUS INTERNATIONAL
BOILER FLUID COMPOUND.

Patented 5th March, 1877.

This Compound will save its Cost many times in one year by saving fuel
It eradicates scale, and when the Boiler is once Clean a very small quantity
keeps it Clean and Free from all Incrustation
It is perfectly harmless to Iron, and emits a clear pure Steam.
In ordering, mention the CANADA LUMBERMAN.

504 St. Paul Street, MONTREAL.

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 (Pago's Genuine), Lard, Seal, Cylinder, Spindle, West Vir-
ginia and Wool Oils. Our Stock includes Mill Supplies and Rubber Goods of all
kinds. Quotations furnished for any part of Canada

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

ROBIN & SADLER

594, 596, 598, St. Joseph St.

MONTREAL

Manufacturers

of

LEATHER BELTING

Fire-Engine

HOSE,

Lace Leather,

Mill Supplies, &c.

JAS. ROBERTSON & Co.

TORONTO, ONTARIO,

Manufacturers of Every Variety of

Circular, Mill and Gang Saws

SAWS REPAIRED

Emerson Pattern & Lumberman's Clipper

INSERTED TOOTH SAWS A SPECIALTY.

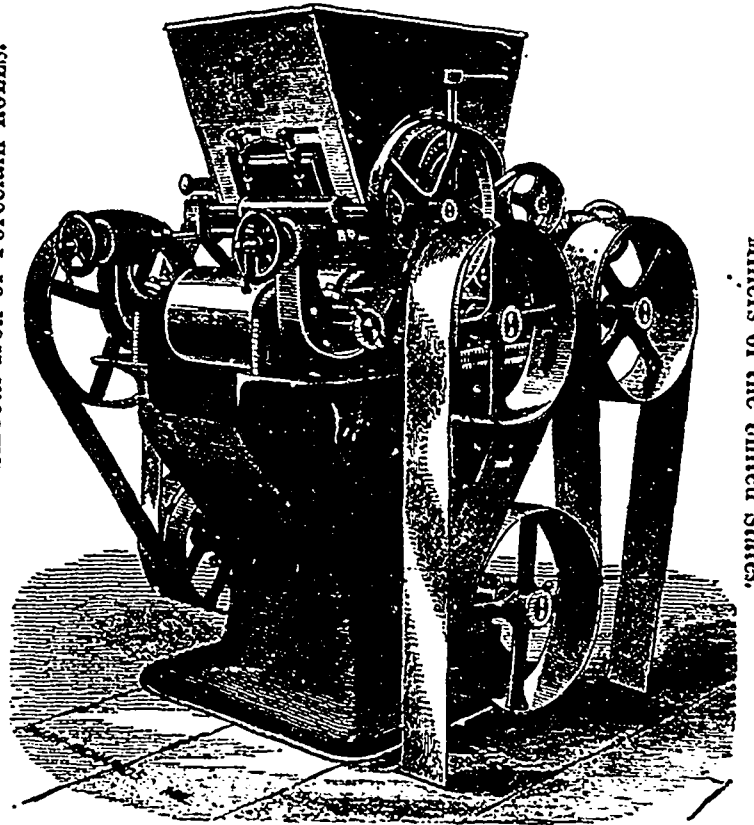
Every Saw Warranted.

SEND FOR PRICES.

Flour Making by the New Process

GRAY'S PATENT NOISELESS ROLLER MILL

*A Model of Perfection!
Every Mill a Success!*



CORREGATIONS of all Descriptions.
Smooth Iron or Porcelain ROLLS.

These Roller Mills are used by all the Representative
Millers 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.

WEYMAN'S NEW IMPROVED PATENT

Porcelain Rolls

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

MILLER BROS. & MITCHELL,

Nos. 110, 112, 114 and 116 KING STREET

MONTREAL.

SOLE LICENSEES FOR DOMINION.

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

Northey's Steam Pump Works

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

No. 47 King William Street.

HAMILTON, ONTARIO.

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

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

ABRAMS & KERR

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.

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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

We give a Good Overalls for 0 35

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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ROBERT W. LOWE,

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 Hazelhurst & Co's WINTHROP COOKING RANGES, WATERLOO WOOD STOVES, FRANKLIN, &c., &c., &c.

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SAINT JOHN, NEW BRUNSWICK.

STEAM SAW MILL OWNERS

Have your Boilers thoroughly Inspected and Insured against Explosion by

The Canadian Steam Users' Insurance Association

HEAD OFFICE, 9 VICTORIA STREET, TORONTO.

SIR ALEX. CAMPBELL, President.

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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.

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WAREHOUSE—10 & 12 King Street East,

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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.

R. WALKER & SONS, 33-37, King & Colborne Sts., Toronto

613

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 a year, costing \$3 to \$4 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 fierce, 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		10x		12x	
			12x $\frac{1}{8}$		
			12x $\frac{1}{4}$		
			12x $\frac{3}{8}$		

Probably more wheels 12x $\frac{1}{2}$, 12x $\frac{3}{4}$ and 12x are used than all the other sizes together. Saw Gumming Wheels are used, however, of all sizes up to 21x $\frac{1}{2}$. 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 83 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. 113

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 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, Esq., 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,

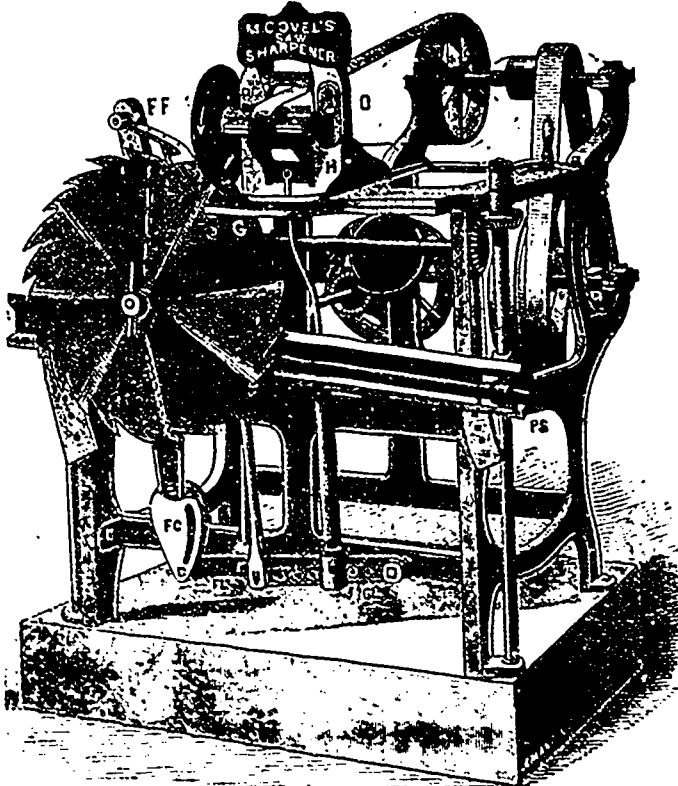
WILLIAM TAIT,
Lumberman, Gravenhurst.

Toronto, August 13th, 1880.

WM. HAMILTON, Peterborough, Ont.

DEAR SIR—The Steam Feed you put in is working splendidly.
Yours, &c.,

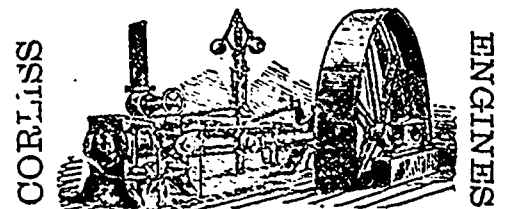
THOMPSON, SMITH & SON.



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.

HART EMERY WHEEL COMPANY, Limited

HAMILTON, CANADA.

GILBERT HART, Detroit,
President.

JAMES T. BARNARD, Hamilton,
Secretary-Treasurer.

SAMUEL BRIGGS, Hamilton,
Superintendent.

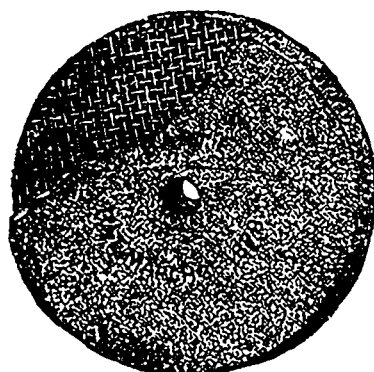
MANUFACTURERS OF THE CELEBRATED

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.

Toronto November 17th 1887

Mess^{rs} The Joseph Hall Manufg Co
Oshawa
Ont.

Gentlemen

When you were manufacturing Engines and Mill machinery in 1872 you supplied me with all the machinery for my Saw-Mill at Midland.

Every part of the work was strictly first class and gave me the greatest possible satisfaction. I never saw as good a lot of Machinery. The material was the very best quality and the workmanship unsurpassed. Until my mill was burned and rebuilt I did not fully realize how entirely you carried out your agreement to do me a first class job.

The Engines, Boilers, circulars, gauges, and connections worked splendidly. In the erection of the Machinery we had no trouble everything was according to the plans and specifications furnished and was put together without alteration of any kind.

I am pleased to learn that you have repurchased the patterns and plant you sold to the McMill Manufg Co and intend to manufacture all kinds of Mill Machinery. You shall have all the work I can send you.

Yours very truly

N. H. Cook

President of the British Canadian Lumbering and Timber Co.