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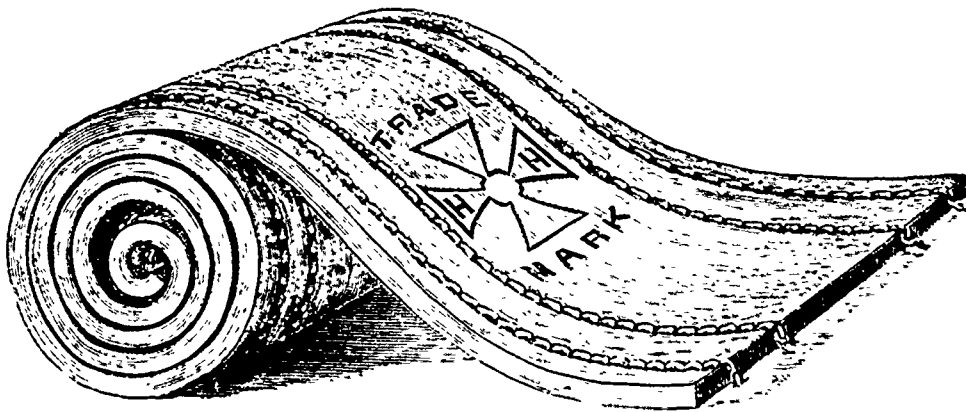
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### A NATIONAL SCHOOL OF FORESTRY.

I need probably make no apology for calling attention to the subject of our Woods and Forests; or at any rate, if any is due, it certainly is not from any want of importance in the subject, but because I am not so well qualified as I would wish to discuss it effectively. The losses which have recently pressed with so much weight upon landowners, will not be altogether without some compensating advantages if they induce us to devote more attention to subjects connected with the land, to consider whether our system of agriculture may not be improved, to establish agricultural schools, to facilitate the transfer of land, and, last not least, to examine into our system of management of woodlands and forests.

So much, indeed, has forestry been neglected, that in Scotland the word suggests deer rather than trees, while in England it is associated with one of our greatest provident institutions.

In endeavouring to call the attention of my countrymen to the present condition and possible improvement of our woodlands, I am not referring only, or even mainly, to Crown forests, which form but a small part of the subject. There are altogether in round numbers 2,800,000 acres of woods and plantations in this country, so that the subject is one of vast importance. Even, however, as regards Crown forests, the subject is one of considerable interest. In the year 1854 a committee of the House of Commons sat to inquire into the management of the Crown forests, and the state of things they found was most deplorable. They reported that in the New Forest, out of 2,535 loads felled, consisting of 3,115 trees, only 936 loads were accepted by the Surveyor of the Navy; so large was the proportion of faulty to sound trees. Again, with regard to Delamere Forest, they reported that "the committee feel themselves bound to report that the condition is most unsatisfactory." In the Forest of Dean "a very large proportion indeed of timber..... was unfit for the service of the navy; it was rotten and deficient." This latter forest now appears to be much better managed, although the New Forest is, economically speaking, in a very sad condition. This is to a great extent due no doubt to previous mismanagement and neglect. It would be satisfactory to have every ten, or at any rate every twenty years, some independent report on the present state of our national forests. This, however, is but a small part of the question, and it is much more important to consider whether the general management of woodlands in this country might not be improved; whether we might not profit by the experience and valuable information of the great foreign forest schools.

It is estimated, as I have already mentioned, that there are altogether in this country some 2,800,000 acres of woodlands, but our own pro-

duction is very far short of our requirements, and the annual imports of wood are no less than 3,000,000 cubic feet, worth from £15,000,000 to £20,000,000 sterling. Now Mr. Howitz, in his interesting report, for which we are indebted to Dr. Lyons, estimates the amount of land which might be profitably planted in Ireland at 5,000,000 acres, and Mr. Boppe, in his memoir, recently prepared for the India Office, calculates that, notwithstanding the great extent of land which has been of late years planted in Scotland, there "still remains 5,000,000 to 6,000,000 acres capable of furnishing valuable forests." Lastly, the extent of forest land in India and the colonies has been estimated at no less than three hundred and forty millions of acres.

A remarkable illustration of what may be done by judicious and systematic planting is afforded by the French "Landes." This region, which thirty years ago was one of the poorest and most miserable in France, is now one of the most prosperous. The increased value is estimated at no less than 1,000,000,000 francs. Where there were thirty years ago only a few thousand poor and unhealthy shepherds whose flocks pastured on the scanty herbage, there are now saw mills, charcoal kilns, and turpentine works, interspersed with thriving villages and fertile agricultural land.

Our own experience in India is another striking case. The institution of the forest department in India was first placed on a scientific footing in 1863, when Dr. Brandis was appointed Inspector-General of forests; but it was not till 1867 that his plans for the training of foresters for India were matured and adopted. And what has been the result? In 1870, the forest revenue of India was £357,000, with the net income of £52,000. In 1880 the gross revenue had reached £545,000, while the net income had increased from £52,000 to £215,000.

In the science of forestry we are, I fear, far behind many foreign countries, especially France and Germany; and it is surely very desirable that our landed proprietors should benefit by the experience which other nations have accumulated. In Scotland it is possible that the management of forests is better understood than in England; but it is very questionable whether, even if Scotch foresters were available in sufficient numbers, an English land owner would be wise to place his woods under any one whose whole knowledge had been acquired by the practical management of Scotch forests, because the condition of the two countries are so different. Moreover, it is probable that even Scotch foresters have much to learn.

M. Boppe, one of the highest French authorities on forestry, has recently visited our English and Scotch forests, and his report, though short, is most suggestive. On the whole, he concludes that even in Scotland, though in that

country forestry may be more advanced than in England, "rien n'a été fait pour donner à la propriété boisée sa véritable situation économique." His expression deserves all the more attention, because from the kindness and hospitality he everywhere experienced, from the pleasant character of his visit, and his natural courtesy, he evidently wished to make the best of everything. Still it is easy to read between the lines, and while his report is full of praise of the soil and the climate, the ability and hospitality, the industry and skill of the people, it is clear that in his judgment the system of forestry is archaic, expensive and obsolete.

I am aware that Scotch foresters would dispute many of M. Boppe's criticisms; but the very differences between these high authorities are additional reasons for further study.

Moreover, as regards the main recommendation contained in M. Boppe's report—namely, that one or more forest schools should be erected—our highest authorities entirely concur. The *Journal of Forestry* has ably and repeatedly called attention to the subject. The *Journal of Horticulture*, of May 3, 1883 observes "that it is little less than deplorable to witness the miles of woods that are practically valueless from a commercial point of view, whereas under skilled supervision they might yield a substantial revenue to their owners, and in addition be an advantage to the trading and agricultural community." Colonel Pearson, who speaks with much authority on the subject, because he has for some years represented the India Office at the great French School at Nancy, in an able paper, read before the Society of Arts, has strongly advocated the same view. He observes that in his opinion our forests and woodlands are very far from being in a satisfactory condition. There is no provision for the renewal of the timber. When the existing trees are cut down there are none to replace them, and when once a forest disappears, it can only be reinstated at a very large expense and great loss of time.

Mr. Brown, in his standard work on Forestry, observes:—"If our forests had been judiciously managed, we should not find so great a part of the woodlands of Great Britain in the unprofitable state in which they are..... The subject under consideration may be summoned up thus: Foresters, generally speaking, are not possessed of sufficient education to give them capacity for carrying out improvements in arboriculture; and until we have a better educated class of men reared to the profession, a large portion of our woods must remain a comparatively unprofitable part of the resources of landed property." Mr. Cruickshank, in his "Practical Planter," sums up the matter very tersely when he says:—

"Nothing is more common than to see trees, which are proper only for moist soils, placed in

the most parched situations, and those which nature has adapted for dry ground alone, planted in swamps and morasses. Those species that would flourish on a light soil, are often absurdly stationed in the most tenacious clays, where they can make little progress; while those that would have attained a large size in stiff land, are planted in gravel or sandy loam, as if for the express purpose of making them dwarfish, unsightly, and entirely worthless."

Mr. Boulger observes that as regards the New Forest, 49,000 acres will before very long be nothing but a worthless barren heath, unless a change of system is introduced. Mr. Grigor, in his work on Arboriculture, mentions many cases in which heavy losses have been incurred through ignorance of the management and formation of woods. He tells us that, in the last twenty years, many tons of seed of the larch and Scotch fir have been imported from the Continent and sown in Scotland, though such seed produces plants which are too delicate for the severer climate of the North. When we consider what a ton of seed is, we see what a loss of time and labor is here indicated. He mentions cases of large plantations, belonging to different owners, in which the American spruce, a dwarf tree, was planted by mistake for the common or Norway spruce; another in which the *Pinus montana*, another dwarf species, was carefully planted at regular distances, as the trees which were ultimately to form the forest after the nurses had been removed. He tells us that he has seen acres and acres absolutely ruined by mismanagement, by bad methods of planting, of pruning, and of thinning.

M. Boppe, in the report to which I have already referred, admits that in Scotland arboriculture, as opposed to forestry, has been brought to great perfection; and he adduces the case of a wood of splendid oaks with an undergrowth of rhododendron, constituting at present quite a fairy-like domain; but his experienced eye could not but look forward to the time when the oaks would all be felled, and there would be nothing to take their place. In fact, one fundamental difference between the management of woods and forests in England and France seems to be that we plant, then thin, and then finally cut down the trees. The French foresters, on the contrary, make it an essential part of their system that the forest should renew itself. In our country they observe there does not exist "aucun lien entre la forêt du passé et celle à refaire pour l'avenir."

M. Boppe mentions with much pathos such a forest in ruins which he visited. The trees had all been cut down for railway-sleepers; the ground was covered with the blackened remains of roots torn up and burned, reminding him of an "iamense ossuary," and the proprietor was replanting at a great expense, and with much loss of time both of which might, in his opinion,

to a great extent have been saved under a better system.

Again, M. Joppe calls attention to the presence of sheep, as in his judgment inflicting a great injury on the Scotch forests, because they effectually prevent the trees from renewing themselves. Not that he would exclude them altogether. He observes that a forest requires 120 years to come to maturity, and that sheep ought to be excluded during the first twenty, when the trees are still small, and also during the last thirty, when they ought to be renewing themselves. This, however, leaves seventy out of the 120, or more than half the period during which sheep do no injury, and may safely be admitted. Moreover, he points out, that in a forest so treated, the young trees kill off the heather and gorse, and the herbage is thereby so much improved that he believes sheep can be more profitably kept in a forest so treated, than if they are allowed to be continually present.

Another point of the greatest importance is the association of suitable species. No foreign forester would think of planting oak by itself. But in our country, sometimes side by side and on identical soil, you may sometimes see oak alone, sometimes larch alone, sometimes oak and Scotch pines, sometimes oak and beech, oak and larch, or oak and chestnuts. It is clear that most of them are economical errors.

Now where, let me ask, can a country gentleman who owns woodlands obtain practical advice as to their management, or procure trained assistance? Where can he send his son so that he may learn something of forest management? We have no forest school in this country, nor any class of persons specially trained and instructed in the formation and management of woods. Private enterprise cannot supply the want, because it is necessary that a forest school should have forests connected with it. In this respect, therefore, the concurrence of Government is essential.

It appears to be a very strong argument in favor of the establishment of a forest school in this country that at present the young men who are going out to manage our Indian forests have to be sent for instruction to the great French forest school at Nancy. No doubt that is a most excellent institution, and we are indebted to the French Government for the courtesy with which they have received our English students; but the system of education given there naturally contains some branches—as, for instance, the study of French law—which are not adapted to English students, while there are many other considerations such as climate, which render a continental school less suitable for English requirements. I may add that no young Englishmen, as a matter of fact, go there excepting those intended for the Indian service.

All the great countries of Europe have established forest schools. Austria, Italy, Switzerland, France, Germany, Hungary, Russia, Sweden, Denmark, Spain, even Roumania, have done so. Great Britain is the only exception, and it is surely very remarkable that it should be so, when we consider that this Empire is probably the most richly endowed with woods and forests of all the countries of the world. Our Colonies contain immense tracts of forest land, much of it of very great value, and estimated on high authority at not less than 340 millions of acres.

The great influence exercised by forests on climate seems now to be generally admitted. It is mainly by the destruction of trees that Asia Minor, Palestine, Northern Africa, and so many other countries, once rich and populous have been reduced almost to the condition of cinders. In this country, indeed, we need apprehend no such danger, but as regards India the case is different.

Sir Richard Temple, speaking of Indian famines, has recently expressed the opinion that "one of the causes, probably the main cause, of the drought was the destruction of forests in past times." He added that "when he went to India he was supposed to have had a liberal education, but he had never heard a word about forestry, and he feared that many of those who came after him were not much better off in this respect."

For our colonies, then, the establishment of a good forest school here would be of very great

importance. A judicious management of their woods would add considerably to their income. French foresters have recently been sent to the Cape of Good Hope and Cyprus, it having been found impossible to obtain any countrymen of our own with the necessary knowledge.

The arguments in favor of establishing a forest school in this country seem, then, to be very strong.

Perhaps, however, I shall be asked why the establishment of such a forest school, if it be so urgently needed, should not be left altogether to private enterprise. The reason, however, is obvious. A properly equipped forest school must have attached to it a large extent of forest, in various stages, and having a variety of climates and soils. This, it is obvious, no private institution can supply. I do not, however, say that a forest school must necessarily be a Government institution. On the contrary, I should be glad if such colleges as Cirencester and Downton could be made available for the purpose. Possibly some arrangements might be devised by which under careful regulations the professors and students attached to them might periodically visit our national forests, just as the French and German students are taken to their great national forests. There is one substantial difficulty, which only, however, brings out more strongly the necessity for some such step. We have, M. Boppe declares, no single pieces of woodland in the country which would serve as a model. Of all our national woodlands those known as Lord Gage's woods are perhaps most suitable; and if the authority in charge of them could be appointed Professor of Forestry at Cirencester or Downton, perhaps that might be the best course to adopt. This, however, I only throw out as suggestion.

Surely also it would be very desirable that professors of forestry should be appointed at our great universities. Considering that most of the landed proprietors of England are educated at Oxford or Cambridge it is, to say the least of it, unfortunate that their attention should never even be directed to a subject in which they are so vitally interested. I do not mean that they should receive necessarily any thorough system of instruction in forestry; but the devotion of a very short time would suffice to give them an idea of the nature and the importance of the problem, of the manner in which it affects their interests, and the sources from which they might subsequently derive more definite information.

There is another incidental advantage which may just be alluded to, although I will not dwell on it—namely, the new career it would afford to young men. More than one of us, I dare say, have asked ourselves, "What shall I do with my son?"

I have just mentioned in illustration that lately the Cape of Good Hope Government determined to appoint a forestry Commissioner with an income of £300 a year. They could not, however, find any qualified Englishman, and were obliged to appoint a French gentleman even though he could not speak English.

Until some such course is adopted it will, I fear, continue to be true that, as the House of Commons Committee of 1854 reported, timber is "everywhere worse managed than any other species of property." On the other hand, the high authorities whom I have quoted have expressed a very strong opinion that we might make our woodlands much more profitable, and they show one step which is a necessary preliminary.

Last year, when I called attention to this question in the House of Commons, Mr. Courtney, on behalf of the Government, promised that they would give it their serious consideration. If they cannot themselves take up the question, I would urge them to appoint a Committee or commission to inquire into the whole subject. Averse as I am on general principles to Government interference with private enterprise, the objection does not seem to apply here. I repeat that I do not at present ask for a school; it would be preferable, I believe, if it be found possible, to utilize the national forests in connection with Cirencester, Downton, or some other similar institution; but I would earnestly press on the Government and the country the great need of some such step, the

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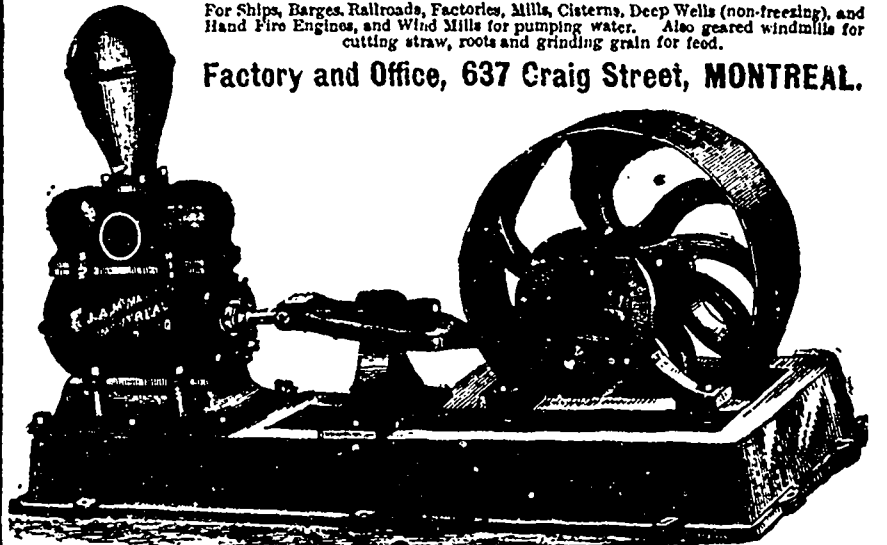
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the result of which, I feel satisfied, would be made more remunerative; large tracts would be profitably planted; we should create additional employment for the people; considerably increase the incomes of our land-owners; and make a substantial addition to the wealth and resources of the nation.—Sir John Lubbock, in the *Contemporary Review*.

### LOGGING CAMP ROMANCE.

The *Menominee Herald* relates the following curious incident which may give variety to the monotony of lumber and logging news: "Richard Gorman of camp 17, of the Menominee River Lumber Company, killed a 200 pound buck in the woods without a gun. He was at work in the forest and while in the act of jumping over a log a huge buck sprang up in front of him and started to run. There was but little snow on the ground and the king of the forest slipped and fell as he passed over an icy spot, when Dick caught him by the caudal

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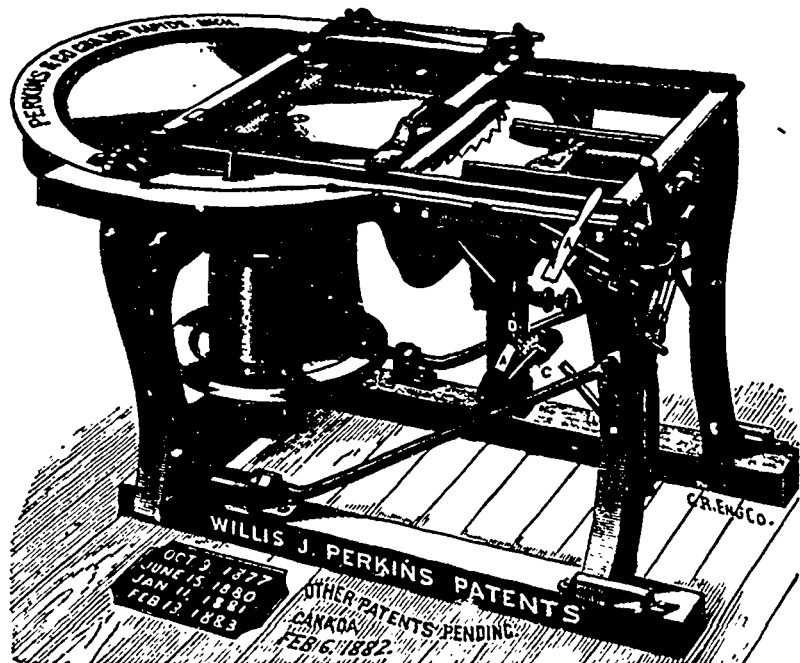
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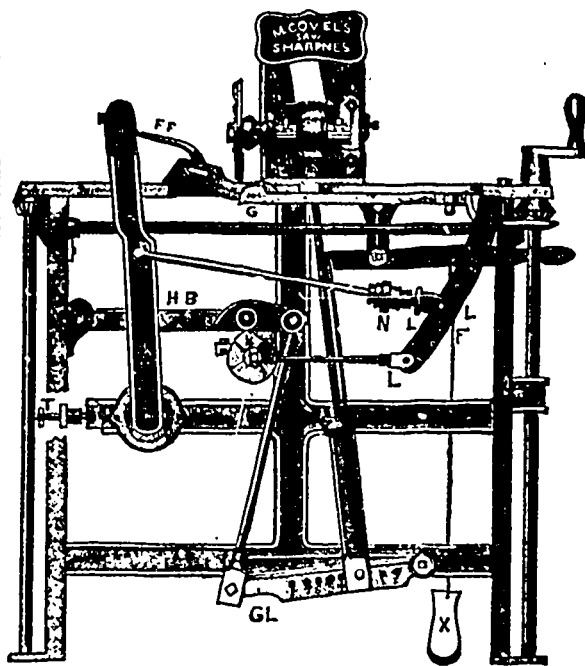


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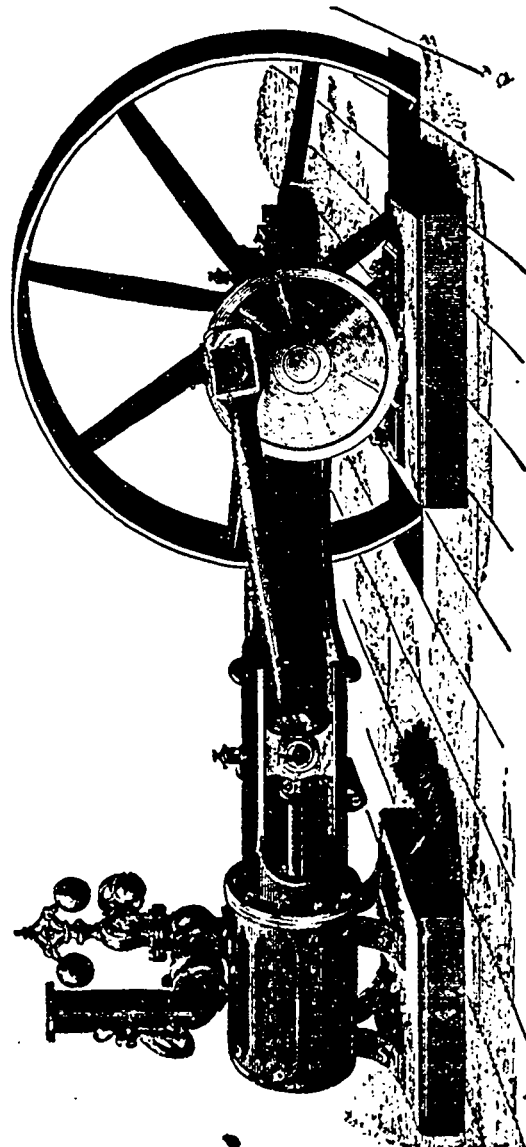
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New Orleans may be from her position, one of the great, if not the greatest, centres of the lumber trade. Vast forests in Louisiana and Mississippi and Eastern Texas will find this city a common meeting point.

## THE SWEET GUM.

The value of sweet gum as a cabinet wood has only recently been discovered. The sweet gum is common throughout the South, but most abundant and largest in size in the Yazoo Valley, Northern Louisiana and Arkansas, there being 9,000,000 acres of it in these three States. It grows to a large, straight tree ninety feet high, furnishing a considerable amount of lumber. This lumber has been found to be eminently adapted for cabinet purposes. Polished, it attains a satiny gloss far superior to black walnut, rich and elegant. The wood has only one inconvenience; it warps very badly, and, unless this evil can be corrected, it will not grow in favor. This defect, however, it is claimed can be remedied. A considerable amount of gum is now being shipped to Cincinnati and other cities engaged in the manufacture of furniture, and fine desks, armchairs and tables have been made from it. It is also extensively used in house-building, and lasts very well.

The rapid disappearance of black walnut, nearly all of which has been destroyed in the Northern States, renders it necessary to discover some substitute for it, and it is suggested that the sweet gum will take its place. The supply of it is practically inexhaustible, and it grows in large clumps and is generally easy of access. During the past year several companies, notably a large English syndicate and an organization of Western lumbermen have made extensive purchases of land in Mississippi, approximating \$2,000,000, well wooded, largely in gum, with the intention of bringing this lumber into general use for cabinet purposes. Experiments have been made with it whereby its defect have been corrected. This will make it the furniture wood of the country during the next twenty years.

## CYPRESS

A wood in which Louisiana has a great interest is cypress, which the state grows in larger quantities than any other in the Union. Valuable cypress swamps exist along the Atchafalaya and its tributaries, and scattered throughout the southern portion of this State. The merits of this wood have only recently been discovered. When the saw-mills at Beaumont and Orange, Texas, began manufacturing cypress lumber they found very little demand for it, but they have since quadrupled their production, and find an easy market for all they can saw. This lumber is just beginning to be introduced into the northern markets, and its advantages are now acknowledged.

The wood is fine grained. After exposure to the air it becomes of a dim reddish color. It possesses great strength and elasticity, and is lighter and less resinous than the wood of the pine. To these properties is added the faculty of long resistance to the heat and moisture of a southern climate. The color of the bark and properties of the wood vary with the nature of the soil. Trees growing near the natural bed of rivers, and surrounded half the year with water to the height of tree or four feet, have a lighter colored bark than those standing where water does not reach them, and their wood is whiter, less resinous and lighter. These are called white cypress; the others are darker, and so called red cypress.

Along the Mississippi river, from the Delta to the mouth of the Arkansas river, grow large cypress swamps, just back of the cultivated land. In these swamps, where on the deep, miry soil a new layer of vegetable mold is every year deposited by the floods, the cypress attains its greatest development. The largest trees are 120 feet in height, and from twenty-five to forty feet in circumference above the conical base, which at the surface of the earth is always three or four times as large as the continued diameter of the trunk. Those felling the trees built scaffolds five or six feet high, upon which they stand to chop down these huge southern vegetable monsters. The base is usually hollow for three-fourths of its bulk. Its surface is longitudinally furrowed with deep channels, the

ridges of which serve as clamps to fix it more firmly in the loose soil.

In the preparation of the wood, both varieties, white and red, are cut in winter, and seasoned until perfectly dry. Cypress is extensively used for building purposes. Roofs covered with cypress shingles from timber cut in winter will last for forty years. The boards are preferred to pine for the inside work of brick houses and for window sashes and panels of doors exposed to the weather. Cabinet-makers use it for the inside of mahogany furniture. It has been used for the sides of vessels, and to a limited extent for masts. Large trunks are frequently made into canoes, some of them thirty feet long and five feet wide. They are more solid and durable than those of any other tree. Cypress makes the best pipes to convey water under ground, especially the red variety.

This truly excellent wood is now used for various purposes, and there is an increasing inquiry for it. Boat builders use it to a considerable extent. Many of the small boats belonging to the men-of-war in the United States service are constructed of cypress; much is used for water tanks, sugar coolers, and cisterns on account of its durability; some enters into the construction of houses and house finishing, it being excellent in ceiling, and large quantities are made into shingles and railroad cross-ties. The Lehigh Valley Railroad Company ordered 75,000 of these ties to be used upon its road some seasons ago, and have found that they lasted splendidly. Some claim that shingles properly prepared will last 100 years. They are certainly very durable. Wood taken from submerged swamps, which has been in contact with the decaying influences of mud and water for untold centuries, is found to be in an excellent state of preservation. Cypress logs have been taken from the soil deep underneath New Orleans in good condition.—*Saw Mill Gazette*.

## GERMAN IMPORT DUTIES.

We understand that a very remarkable alteration of the import duty on wood goods into Germany will take place before very long, Prince Bismark having made a proposition in the German Parliament for an increase of the duty. Parliament is said to be likely to pass this bill, and in this case the import into Germany of sawn and hewn timber from Russia, Finland, and Sweden will be seriously interfered with, if it does not practically cease. As a consequence of this bill, the position of Memel, Danzig, Königsberg and Stettin will be greatly improved; in fact, an increase of the duties, as proposed by the Chancellor, will have a very considerable influence upon the whole Baltic timber trade. It follows from this that, if the duty is first imposed in October, Germany will be a heavy buyer this year; if it begin before the opening of navigation, there will be little or no timber imported into Germany from the above-named countries.

The proposed additions to the duty on imported timber which the great German Chancellor contemplates will have one of two effects according to the time selected for the law coming into operation. One will be to clear out considerable stocks on the Scandinavian side, through the anxiety to get the stuff into the prohibited country before the duty is enforced. The other will be to divert the usual import of Scandinavian wood from Germany to the United Kingdom, owing to the duty coming into force before the shipments can be made to the Prussian Ports. These opposite effects have a very important bearing on this market notwithstanding that the consumption of foreign deals in Prussia is insignificant when compared with what is brought in here. It always seemed anomalous to us that Germany, with extensive forests within her own boundaries supplying a capital class of redwood, should look to Sweden or Norway, or Russia either, for the manufactured articles, at the same time carrying on an extensive export trade herself in both hewn and sawn material.

The large timber districts watered by the Volhynia and Vistula, which feed Danzig and Stettin, besides Memel, with timber logs, are of sufficient area to supply the home consumption without any apparent diminution of the quantity exported. A glance at the map will convey

some idea of the vast forest ranges with which Poland abounds, furnishing timber of excellent quality. The intention is to raise the duty on foreign sawn wood to 2 marks the hundred kilogrammes; this, it is reckoned, will be prohibitive, and put a stop to the trade. The chief places to be effected will be the flooring ports, a considerable quantity of that class of wood being annually shipped to Germany.

The consumer within the limits of the German Empire will hardly feel the duty about to be imposed a very great burden on his industry, especially as it is probably intended that the tax so levied shall go to his benefit in some other way.—*Timber Trades Journal*.

## WATER POWER AND OUR FORESTS

The relation of our water power to the forest is very intimate, and has been for years a matter of investigation, in view of the irregularity and decline of the one with the destruction of the forests. There may not have been proven to be an aggregate decrease in rainfall as forests have disappeared, but the retention of the water and its distribution has been so affected that streams that formerly gave steady and reliable power are now alternately dry or flooded. In 1880 Massachusetts had 3,046 water wheels, while those of New York and Pennsylvania were respectively 9,752 and 7,075. In Massachusetts 44.67 per cent of the power used in her manufacture is water. The latter state has given this problem of the forest connection with this power a large attention, and has made attempts at legislative action. An exemption was proposed of forest lands from taxation, but was opposed on the ground that it would be equivalent to a bounty on certain lands that would be held as a recourse when the markets were favorable, and throw an under burden on the others. A forest commission was finally appointed to secure the state census supplementary data to that of the national in 1879.—*Boston Journal of Commerce*.

## BOILER CORROSION.

Internal corrosion, says the *Locomotive*, is sometimes one of the worst things the steam user has to contend with. With certain kinds of water, it is an insidious foe, and is apt to do great damage to the shell plates before its presence is suspected, or the extent of its action realized.

The primary causes of this action are many, and sometimes quite difficult to determine. The nature of the impurities in the feed water, and the treatment which the boiler receives at the hands of its attendants, are, in general, the potent factors of corrosion. The character of the plates also has much to do with the nature of the action.

Pitting is one form of internal corrosion which is most easily discovered by inspection, and regarding the nature of which there has been a vast amount of controversy. Some attribute it to galvanic action, some to the action of the feed-water, while others attribute it to various other causes, among which some sort of gas theory is usually prominent. As a matter of fact, in this as other things, a variety of different causes may operate, either separately or conjointly, to produce the same result; hence the diversity of opinion as to its causes, and the failure of many of the remedies which have been suggested as specifics for the prevention of the trouble.

In many cases pitting has been traced to galvanic action, and remedies for this have cured the trouble. Galvanic action seems most liable to occur, where grease or some fatty acid finds the way into the boiler through brass tubes, as where a surface condenser is used. The fatty acid attacks the brass and carries portions of it into the boiler, and it adheres to the shell and tubes. Under the patches so formed, pitting sometimes goes on quite rapidly. The remedy in this case is obvious.

But the majority of cases of pitting in land boilers arises from an entirely different cause. Paradoxical as it may seem, the feed-water may sometimes be so pure that it causes the trouble. Where water containing so few impurities that it may be said to be acid, is used in boilers, they require a certain line of treatment, especially when they are not in use, or they will be most

certainly badly pitted in a short time. Boilers used for heating purposes are especially liable to be so attacked when out of use during warm weather. Among such boilers unless proper care is exercised in "laying them up," pitting and corrosion is the rule, and sound boilers are the exception. This class of boilers generally wear out faster, while standing idle, than they do when in use. The proper steps to be taken to preserve them uninjured can most easily and cheaply be learned from some experienced boiler inspector. Location has much to do with the matter, and it is impossible to give any hard and fast rule for their cure which shall apply to all cases.

There is a peculiar kind of corrosion which sometimes occurs beneath patches of incrustation, which is very apt to escape anything but the most careful scrutiny, and often produce serious results before its presence is suspected. Generally, a coating of incrustation is regarded as a measurable protection against corrosion, but we are speaking of, from some peculiarity in the composition of the feed-water, it seems to invite it. The remedy can only be prescribed after a careful examination of all the circumstances by an experienced inspector, and sometimes an analysis of the water is necessary to point out a remedy. We have known cases of this kind when the boiler shell has been eaten entirely through before the trouble was suspected.

## A BIG BAND MILL.

An exchange describes a new band mill recently put into the mill of F. A. Mulgrew, foot of East Eighth street, New York city. The band mill is of London, Barry & Orton make. The wheels are eight feet in diameter, made of wrought iron, arms and rim covered with wood, while the latter is faced with gum cloth, and carries a 6 inch blade, 47 feet in length. It is the largest band saw in New York, and has a capacity for 5,000 feet of mahogany per diem. As the dogs catch in, instead of being driven in, it enables the sawyer to finish up to 8 inch stuff without allowing the board to spring any. There is a duplex motion upon the guide which throws the saw off the wood in running back, so that there is no danger of the saw being thrown off the wheel. This is an improvement on the old method of setting the wood over from the saw. The feed works are so arranged that the sawyer can, in one position, stop or start the mill, change the feed, or change the direction of the carriage, and the feed is variable, so that the sawyer can feed fast or slow. It is an acquisition to the mill of F. A. Mulgrew, and does excellent work.

## The Largest Dry Dock in the World.

St. John's, Newfoundland, has now the distinction of possessing the largest dry dock in the world. In all England and Scotland there is not one nearly so large. In New York the Erie Dock is nearly as large, but there is no other in the United States approaching it in size. It is 600 feet long at the top, and 538 feet upon the line of keel-blocking. Its breadth is 132 feet at the widest part, and 85 feet at the abutment or entrance. The draft of water over the gate sill is 25 feet at high water. The largest steamer afloat, with the single exception of the Great Eastern, could enter this dock at ease. It is built of wood, and the cost has been \$350,000. The Messrs. Simpson have rented it from the Government for ten years at \$16,000 per annum. Only \$9,000 more will be needed to pay the annual interest on the outlay, and before ten years it is confidently expected it will be more than self-supporting.

The Port Blakely, W. T., mills have lately received orders for 15,000,000 feet of lumber to go to Australia, and the Tacoma mills have received orders for 10,000,000 feet. At Port Blakely it is estimated that there are 60,000,000 feet of logs in the water. Logging camps on January 17th were to start up work as soon as the weather should permit. The outlook for the lumber trade in the Puget sound region is considered bright.

Young or middle-aged men suffering from nervous debility, loss of memory, premature old age, as the result of bad habits, should send three letter stamps for illustrated book offering sure means of cure. Address World's Dispensary Medical Association, Buffalo, N. Y.

## Chips.

MR. D. P. McLARIN, lumber merchant, Brandon, Man., has sold out his business to Messrs. Hughes & Patrick.

OVER 13,000,000 feet of lumber changed hands on the Saginaw river during the week ending Feb. 11th.

A CONTRACT to deliver 26,000 ties at High Bluff station, for the Manitoba & Northwestern Railway, has been awarded to Mr. David Wark.

ON Feb. 16th Mrs. H. B. Rathbun, sr., of Deseronto, wife of the senior partner of the firm of Rathbun & Sons, dropped dead from an attack of apoplexy.

"Loos are logs" these days, says the *Lumberman's Gazette*, and their conversion into lumber embraces piles of the circulating medium. In the past six months over \$160,000 has been paid out at Evats for small lots of logs, no one bill amounting to over \$1,500.

THERE are great differences in the average growth of some of the more common trees. In 12 years white maple increases 1 foot in diameter and 30 feet in height; ash, leaf maple or box elder, 1 foot and 20 feet; white willow, 1 1/2 foot and 35 feet; blue and white ash, 10 inches in diameter and 25 feet in height; Lombardy poplar, 10 inches and 40 feet; black walnut and butternut, 10 inches and 20 feet.

MR. SMYTH, of Kent, Ont., has before the Dominion House a bill to provide for the inspection and measurement of saw logs. By its terms the Governor-in-Council has power to appoint inspectors and measurers, whose duty it will be when called upon to examine, classify, and measure all saw logs delivered at the mill. The object is to afford protection to the farmer and insure for him a proper classification and measurement of all logs sold and delivered by him.

MR. G. A. GRIER, of Montreal, is shipping from Eddy's south shore mill, near Ottawa, two million feet of lumber, which he is sending by all rail route to Oswego, N. Y. This is a new departure, as heretofore it was customary to ship only to Brockville by rail in the winter, and allow it to remain there until the summer, when it is forwarded to its destination by water. The entire shipment will make about 200 carloads. Messrs. Rathbun & Co., of Deseronto, will also ship a million feet from the same mill to Oswego by the same route during the winter. — *Ottawa Citizen*.

TIMBER is already beginning to be moved eastward by the C. P. trains. Quite a large cut has been made at various places on the line this winter. Messrs. Timmins & Gorman, of Mattawa, are taking out a raft of timber at Whaipital, which will be shipped direct to Quebec on the opening of navigation. Much valuable timber exists along the line which it is believed will attract many lumbermen during the coming season. Soundings are now being made in the Ottawa river immediately above the Mattawa, in relation to the proposed improvements of the river's navigation from that place to Temiscamingue. Should the improvements be successful in improving the river's navigation, it would give a great impetus to the French colonization scheme. — *Brockville Recorder*.

### Catarrh—A New Treatment.

Perhaps the most extraordinary success that has been achieved in modern science has been attained by the Dixon treatment for Catarrh. Out of 2,000 patients treated during the past six months, fully ninety per cent. have been cured of this stubborn malady. This is none the less startling when it is remembered that not five per cent. of the patients presenting themselves to the regular practitioner are benefited, while the patent medicines and other advertised cures never record a cure at all. Starting with the claim now generally believed by the most scientific men that the disease is due to the presence of living parasites in the tissues, Mr. Dixon at once adapted his cure to their extermination; this accomplished the Catarrh is practically cured, and the permanency is unquestioned, as cures effected by him four years ago are cures still. No one else has ever attempted to cure Catarrh in this manner, and no other treatment has ever cured Catarrh. The application of the remedy is simple and can be done at home, and the present season of the year is the most favorable for a speedy and permanent cure, the majority of cases being cured at one treatment. Sufferers should correspond with Messrs. A. H. DIXON & SON, 305 King street west, Toronto, Canada, and enclose a stamp for their treatise on Catarrh. — *Montreal Star*.

### "The Slough of Despondency"

In which you are wallowing, on account of some of those diseases peculiar to you, madame, and which have robbed you of the rosy hue of health and made life a burden to you, you can easily get out of. Dr. Pierce's Favorite Prescription will free you from all such troubles, and soon recall the rose tint of health to your cheek, and the elasticity to your step. It is a most perfect specific for all the weaknesses and irregularities peculiar to your sex. It cures ulceration, displacements, "internal fever," bearing down sensations, removes the tendency to cancerous affections, and corrects all unnatural discharges. By druggists.

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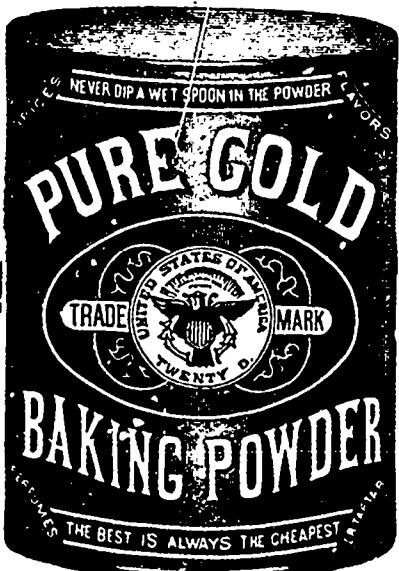
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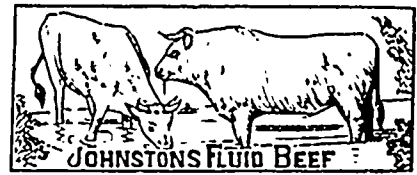
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Communications intended for insertion in the CANADA LUMBERMAN, must be accompanied by the name of the writer, not necessarily for publication, but as a guarantee of good faith. Communications to insure insertion (if accepted) in the following number,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

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

PETERBOROUGH, Ont., MARCH 2, 1885.

SEVERAL jobbers in Hastings County have paid off their men and broken up the shanties.

A MILL at Antigo, Wis., is cutting a considerable quantities of deals for the English market.

It is said that Muskegon and Saginaw lumbermen complain that their best logs in Claire county are stolen by moonshiners.

DURING the past six months \$160,000 have been paid by Evans, Mich., parties for small jags of logs, no one bill amounting to over \$1,500.

THE schooner Favorite, from Norfolk, for New York with lumber, went ashore February 14th, at Hartford, and is a total loss. The crew were saved.

FEBRUARY 12th, John and Abram Johnson, Finlanders, started from East Tawas, Mich., for Gardner's camp, and were found three days later frozen to death.

A BILL has been introduced into the Wisconsin legislature amendatory of the lien law on logs, timber, and all coarse forest products. It gives labor and supplies precedence of all other claims or liens.

It is reported that a pine tree was lately cut at section 17, township 24-6 (Norwich), Missaukee county, Mich., which made 22 logs, the total scale of which was 15,722 feet, the butt being eight feet in diameter.

PAINE & Co.'s mill at Pacific Junction, Minn., has just finished sawing all the timber to be used in the construction of the Northern Pacific railway bridge between Superior and Duluth. It amounted to 9,000,000 feet. In the bill were 900 pieces of 8x16 stringers.

AT Nester & Sullivan's logging camp, near Grand Marais, Mich., the snow last week was from four and one-half to five feet deep on a level. This firm has 100 men and 16 teams employed in its camp. The logs will be rafted to Quebec, and thence shipped to England.

It will strike many people as peculiar that our \$10,000,000 worth of wood and lumber has been imported into the United States, while the exports have amounted to over \$24,000,000 for the fiscal year ending June 30, 1884.

A LINE of steamers is contemplated between Tacoma, W. T., and Yokohama, Japan. The lumbermen of that coast favor the line, because Japan is already a considerable consumer of Puget sound lumber, and a steamer line will facilitate this trade.

It is reported that the Glens Falls Paper Mill Company will introduce the Pond sawdust pulp machines, and begin the manufacture of sawdust paper. A large platform is said to have been built under one of the mills to catch all the dust and edgings that have heretofore gone into the river.

A DETROIT lumber dealer has written to a man at Marquette, Mich., requesting that he secure ground and dock facilities at that point on which to erect a mill. The Detroit man claims to have a contract for furnishing 25,000,000 feet of hardwood lumber to eastern parties, and that the proposed mill will employ 30 to 40 men.

A WOODENWARE concern at Vanceboro, Me., illustrates what could be done in Michigan or Wisconsin, or any other of the wooded states, North or South, by enterprise or capital. At the factory referred to wood flooring (probably parquetry) broom handles, cant dog stocks, base ball bats, clothes pins, dowels, trunk cleats, mop handles, brush handles, and numerous other articles of wood are turned out and shipped all over the United States, even to Oregon and Washington Territory. An order for cant dog stocks is now being filled for the State of Mississippi. There is nowhere that wooden goods cannot go, and there are no goods that are likely to encounter so little competition from foreign makes.—Northwestern Lumberman.

LIST OF PATENTS.

The following list of patents upon improvements in wood-working machinery, granted by the United States Patent office, Feb. 10, 1884, is specially reported to the CANADA LUMBERMAN by Franklyn H. Hough, solicitor of American and foreign patents, No. 617 Seventh St., Washington, D. C. —

- 311,967.—Chuck lathe—C. W. Cray, Chicago, Ill.
- 312,034.—Lathe and planer tool—H. B. Steele, Somerville, Mass.
- 312,223.—Lathe tool—T. & T. E. Ryan, Lockport, N. Y.
- 312,229.—Plane—W. Tidgewell, Middletown, Conn.
- 312,133.—Saw—J. Ledward, Westerly, R. I.
- 312,205.—Saw, drag—J. H. Hulbert, Blanchard, Mich.
- 312,061.—Saw sawage—L. B. Young, Newport, Ark.

PATENTS ISSUED FEB. 17.

- 312,250.—Edger, gang—W. A. Campbell, Marinette, Wis.
- 312,136.—Logs, apparatus for collecting scattered—A. McDougall, Duluth, Minn.
- 312,299.—Saw, drag—M. O. Smith, New Buffalo, Mich.
- 312,530.—Tenoning and boring machine—R. Triller, Buffalo, New York.
- 312,298.—Lathe for turning handles—H. Sheldon, Vienna, Ontario, Canada.
- 312,283.—Lathe for turning irregular forms—G. H. Ober, Chagrin Falls, Ohio.

THE OUTLOOK.

The Lumberman's Gazette, of Bay City, Mich., in its issue of Feb. 25th, gives its opinion of the business outlook as follows:—

As the winter passes along the indications for a lively spring business become more and more assuring. Business men all over the country have been husbanding their resources. Stocks of goods are unusually small, dealers holding back for the appearance of trade, which must inevitably soon set in. Building contracts are reported more numerous than for years past at this season of the year; and just as soon as the weather softens sufficiently to admit of outdoor operations, the demand for building material of

every description must assuredly be very active. Lumber and hardware especially must be in heavy call, and the activity in these two branches of trade are usually sufficient of themselves to set the wheels of business in motion generally; and so as soon as this results, the stocking up process will commence which will give increased impetus to the tide of business activity, until the white winged messenger of prosperity shall proclaim his triumph throughout the land. The industrial prospect in many branches of business is already bright with hope, amid the cheerful tidings of furnaces and other industries starting anew the fires which have been so long smouldering or completely extinguished. The iron industry is almost invariably the first to feel the shock of stagnation, and is also the first affected by the beating of the pulse of industrial resumption. February is not a good month in which to look for any great activity in business circles, even in prosperous business years, and especially should it not be expected to present any very active features this year, when business stagnation preceded its arrival, and when the thermometer has been struggling during the entire month in the neighborhood of zero, with genuine blizzards blocking all the avenues of trade, and congealing the pulse of even business inclination on the part of manufacturer, capitalist and tradesman. Still, in the face of all these untoward surroundings, the outlook for general activity is bright with promise at the present time, and it seems positively safe to predict that the early days of March will witness the inauguration of bright business activity. Even the veriest croakers on business depression, who are invariably painting black, ominous clouds of business disaster, have retreated from their position and are restrained from an exhibition of their dyspeptic and distorted imaginings, which have tended so very materially in the past to delay the advent of business resumption, by inducing timidity on the part of capital, and retarding to the best of their ability and influence, the impetus of natural trade impulses which have been struggling for the ascendancy, with apparent final success. The bright orb of prosperity is finally brightening up the business horizon, and ere many days will shine forth in resplendent glory, shedding its benificent rays of prosperity over the land.

BOARD OF TRADE RETURNS.

The following are the returns issued by the Board of Trade, for the month of Jan. 1885.

MONTH ENDING 31ST JAN. 1885.		
Quantity Loads.	Value.	£.
Timber (Hewn).		
Russia.....	3,243	6,692
Sweden and Norway.....	20,531	31,062
Germany.....	8,193	18,998
United States.....	6,146	21,463
British India.....	3,923	54,629
British North America.....	250	760
Other Countries.....	45,494	61,191
Total.....	87,770	194,785
Timber (Sawn or Split, Planed or Dressed).		
Russia.....	3,682	7,112
Sweden and Norway.....	23,633	60,251
British North America.....	9,787	19,712
Other Countries.....	11,181	37,462
Total.....	48,133	114,537
Staves, (all sizes).....	3,088	19,431
Mahogany (tons).....	6,751	59,940
Total of Hewn and Sawn.....	136,903	309,322

WHERE OUR FORESTS ARE GOING.

An American exchange says:—"To make shoe pegs for American use consumes 100,000 cords of timber, and to make our lucifer matches 300,000 cubic feet of the best pine are required every year. Lasts and boot trees take 500,000 cords of birch, beech and maple, and the handles of tools 500,000 more. The baking of our bricks consumes 2,000,000 cords of wood, or what would cover with forest about 50,000 acres of land. Telegraph poles already up represent 800,000 trees, and their annual repair consumes about 500,000 more. The ties of our railroads consume annually thirty years' growth of 70,000 acres, and to fence all our railroads would cost \$45,000,000, with a yearly expenditure of \$15,000,000 for repairs. These are some of the ways in which American forests are going.

There are others; our packing boxes, for instance, cost in 1884, \$12,000,000, while the timber used each year in making wagons and agricultural implements is valued at more than \$100,000,000."

The writer omits some important items in his calculations of the lumber annually consumed in this country. First is building; there is more lumber used in the construction of residences, stores, warehouses, barns, sheds and wharves than all he has enumerated; then there is fencing of lands other than railroad, there is shipbuilding, and the consumption for coasting vessels is enormous. Then there is furniture and other wood ware; piles use up an immense quantity of timber on this coast, so does mining; charcoal burners are responsible for the clearance of immense tracts of land. Moreover, forest fires destroy millions of cords of wood every year. The timber supply of the future is one of the important questions which men who look to the welfare of future generations have to deal with.—Canadian Manufacturer.

NORTHWEST LUMBERMEN.

The following figures, taken from the report of Mr. Stephenson, crown timber inspector of the Department of the Interior, shows the quantity of lumber, shingles and lath manufactured by Manitoba and Northwest lumbermen during the year ending Oct. 31st, 1884:—

	Lumber.	Shingles.	Lath.
Adams & Scheider	600,000		
Armitage & McCulloch	110,000		
Armitage, J. S.			
Bergin & Co., John			
Boulton, C. A.			
Brouse, G. J. & Co.	76,000	63,750	
Brown, Rutherford			
Co.....	1,800,000		
Bulmer F. T. & Co. 1,150,278			81,000
Cameron, Alex.	50,040		
Dick, Banning & Co.	830,058		
Douglas, David			
Douglas, Jno. Wm.	298,534	80,500	
Drake & Rutherford	400,000		21,900
Fox, T. L.	161,649	231,750	
Ferguson, McQuarrie & Grigg			
Hudson's Bay Co.			
Jonasson & Frederick Brown	614,877		374,000
Kent, Jas.	580,826	520,000	10,000
Keewatin Lumbering & Manufacturing Co.	4,276,798	1,932,000	1,319,700
Leacock, E. P.			
Likely, Jno.			
Mitchell & Byers			
Macaulay, W. J.	532,489	202,000	111,000
McFadden, D.	594,289	537,000	72,900
McKay, James W.	100,000		
McDonald and Shields	4,259,484		
Northwest Timber Company	1,167,569	83,000	12,000
Rainy Lake Lumber Co.	1,756,839	259,000	497,700
Ross, A. W.			
Ross, Crawford			
Ross, David	870,000		
Shields, et al.	3,302,357		
Smith, S.	214,176	250,500	20,000
Sprague, D. E.	2,208,865		265,000
Stubbs, W.	650,000	40,000	20,000
Stubbs, W. H. Jr.			
Watts, Alf.	376,461	43,250	
Whitster & Kayll	60,000	107,000	
Williamson & Harrison	72,507	147,500	17,000
Total	26,028,098	4,312,750	2,715,200

British Columbia Mills.

A Pacific coast exchange advertises to some of the mills in British Columbia as follows:—"There are two large mills manufacturing exclusively for foreign exportation. The Hastings Saw Mill Company cuts about 15,000,000 feet annually, frequently filling orders for special timber of an enormous size. Some logs have been cut 28 inches square and 110 feet long. The Moodyville Saw Mill Company cuts nearly 20,000,000 feet annually, and employs about 110 men, having numerous electric lights for night work. Timber has been brought to this mill measuring seven feet six inches in diameter at the butt, and five feet 130 feet from the base. This is the Douglas pine, or fir, and both companies own large tracts of that valuable timber.

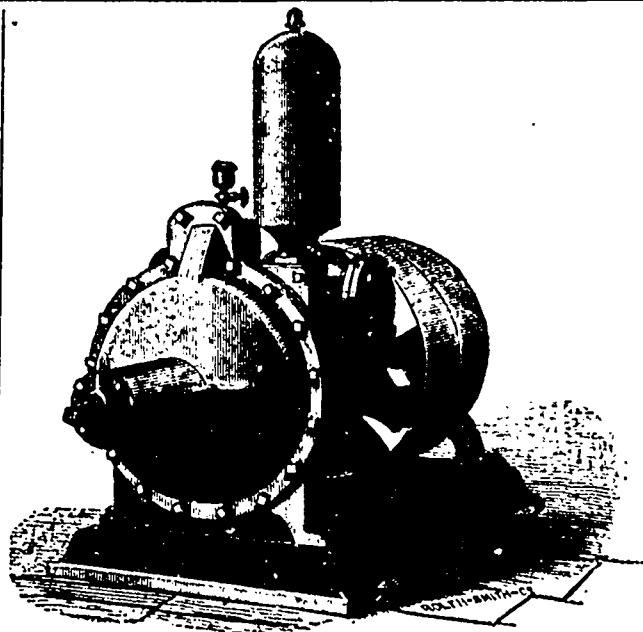


# Central Iron Works

SIMCOE STREET

PETERBOROUGH, Ontario.

WM. H. LAW, PROP'R.



## PROTECTION FROM FIRE

An Improved Rotary Piston Force Pump.

No.	Diameter of Pipes.		No. of Revolutions.	Capacity per minute at table speed.	Price.
	Suction.	Discharge.			
2	2½ in.	2 inch.	250	125	\$100
3	4 "	3 "	250	250	150
4	5 "	4 "	250	400	225

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R. H. SMITH & CO.,

MANUFACTURERS OF EVERY DESCRIPTION OF

ST. CATHARINES, ONTARIO.

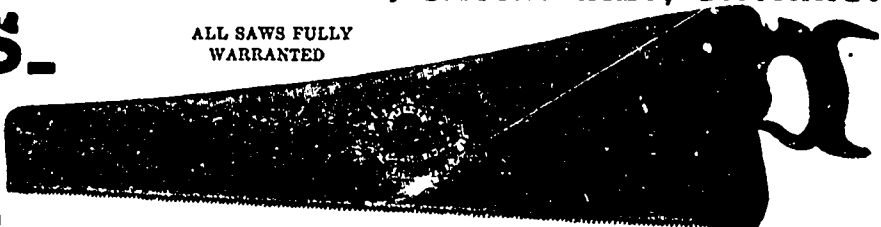
## SAWS.

ALL SAWS FULLY WARRANTED

Sole Manufacturers for the Dominion of Canada of the

## "SIMONDS" SAWS.

All Our SAWS are now made under the "SIMONDS" PATENT PROCESS.



### ECONOMY OF WOOD IN ENGLAND.

A writer in *Woods and Forests*, of Westminster, England, says that everything in the shape of wood is turned to account in the southern counties of England, even the roots being utilized for fuel. Cordwood is made of tree branches, a cord being three feet high, three feet wide and 14 feet long. It sells at \$7.50 to \$7.63 a cord. Large quantities of cordwood are made into charcoal for drying hops. Roots of trees are converted into charcoal. The writer of this article quaintly remarks that, "Large wood is not so profitable for charcoal as small, for the reason that the large is the more valuable in the first place, and it does not cost so much to cleanse as the small wood"—a proposition that would make an American charcoal man laugh. Nine or 10 shillings a cord are paid for grabbing roots, that are either sold for fuel or burned for charcoal. House fagots are made of branches too small for cordwood, and also of the crooked and waste wood of the coppices not fit to be cut into hop poles, pea bough hoops, flour sticks, etc. They are put up in bundles five feet long and five feet round, and bound in the middle like a bundle of wheat. The small spray of undergrowth, of all kinds of wood, is

cut and made into bundles, and sold for about 31 cents a hundred. They are used for brick burning. Fagots sell at \$4.80 to \$5.25 in the woods per 100, whatever that may be; the writer does not say whether it is 100 bundles or 100 sticks. They are used for fuel, especially for lighting fires and heating bakers' ovens. It is not everywhere in England that it is profitable to practice such economy with woods. It will be a long time before such a course will be necessary in this country. When it is profitable in Michigan or Wisconsin to save the trimmings of trees, as it is done in England, the forest preserver can go out of business, for the self interest of tree owners will make his mission unnecessary.—*Northwestern Lumberman*.

### Advice to Mothers.

Are you disturbed at night and broken of your rest by a sick child suffering and crying with pain and cutting teeth? If so, send at once and get a bottle of Mrs. Winslow's Soothing Syrup for children teething. Its value is incalculable. It will relieve the poor little sufferer immediately. Depend upon it, mothers, there is no mistake about it. It cures dysentery and diarrhoea, regulates the stomach and bowels, cures wind, colic, softens the gums, reduces inflammation, and gives tone and energy to the whole system. Mrs. Winslow's Soothing Syrup for children teething is pleasant to the taste, and is the prescription of one of the oldest and best female nurses and physicians in the United States, and is for sale by all druggists throughout the world. Price 25 cents a bottle.

# GRAY NO MORE HAIR.

Grayline; the Great Hair Restorer and Renewer, changes gray hair to its natural color gradually and permanently. Not a dye. A marvellous invention. Gray-haired persons, old men and old women made to look young in three weeks. No more gray hair. Also grows hair rapidly and luxuriantly. Send for descriptive book, and testimonials and opinions of eminent chemists and doctors, etc., who recommend it highly. Address, J. H. NICHOLSON, 7 Murray St., New York.

**Injured While Logging**  
 BELLEVILLE, Feb. 21.—Last week, as Geo. Wright, of Foxboro, was hauling logs in the wood north of Madoc, the hook that attached his horses to the chebogan broke, and he was pulled forward to the ground in front of the sleigh. He fell upon his back in the road, and the chebogan loaded with twelve logs ran over the lower part of his body and pinioned him to the ground. The teamster of the sleigh which followed rode to the camp, a distance of two miles, where help was secured, and the unfortunate man liberated after being held a prisoner and suffering the greatest agony for two hours. It was reported to-day that he died on Thursday.

For diarrhoea, cholera morbus, dysentery and bloody flux, colic or cramps in stomach, use Dr. Pierce's Compound Extract of Smart-Weed. Specific, also, for breaking up colds.

## \$5.00 FOR 35c

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 This Cyclopaedia is a new and valuable book for popular use, compiled by competent editors, after consultation of the best authorities, printed from new, large, clear type, and handsomely bound in leatherette in imitation of crocodile skin. It contains information on every conceivable subject, and its reliability has been assured by the most careful preparation. It is of the greatest use in answering the 10,000 questions that constantly arise in regard to dates, places, persons, incidents, statistics, etc., etc.  
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LUMBER BEGINS TO MOVE

Several weeks ago we predicted that about the middle of February would very probably witness a break in the stillness which characterized the lumber business in the Saginaw valley at the time, and the events of the past week are conclusive evidence that our prediction was correct, as, in lumber parlance, "lumber begins to move," even a short time previous to the date announced by us. Commencing about the first of February, a number of dealers from Ohio and from the east have been noticed at the principal hotels at Bay City and East Saginaw. They announced almost invariably that they merely came here "to see how things looked," and the announcement was undoubtedly correct. There are no business men in the country who are more prudent or cautious as a rule than the average lumber dealer, and he usually proposes to "see for himself and not for another," and has no idea of letting others see for him. It was this characteristic which brought them hither. They were in doubt as to what was to be the outcome of the Michigan log crop; and well understood that the prices for the staple product of the Saginaw valley would be to a very material extent dependent on the result of the labors of the loggers. There was method in their movements and rational reasoning in their statement that if there was to be no very noticeable curtailment of operations in the pines there would be "plenty of time to purchase" before the opening of navigation. More recent events, however, demonstrate very conclusively that they have arrived at the conclusion that the much mooted curtailment is a substantial reality, and that it is not an unsafe investment to place a little money on the lumber piles on the Saginaw river. A. S. Kibbee, of the firm of Dalton & Kibbee, Albany, N. Y., a pioneer dealer, usually noted for shrewdness and prudence in business, in accordance with the views expressed above, last week purchased about 1,700,000 feet of the Wells, Stone & Co. lumber at Saginaw, at \$2, \$18 and \$38 and by the way this sale may be taken as a pointer in regard to prices. It is good stock, and the price paid was precisely the same lumber commanded last fall. Mr. Kibbee also purchased 1,100,000 from other parties the price of which we have been unable to learn through the most vigorous application of the reportorial pump. Another case is the sale of 6,000,000 feet of the Detroit mill stock to eastern parties, who request that their names be withheld from publication. Of course we must hesitate about divulging the name under the circumstances, as we have no disposition to violate the confidence of either the purchaser or manufacturer in opposition to the will of either. Suffice it to say, however, that the amount is correct, and that it is an actual, bona fide sale. The transaction above alluded to, with others of less note, demonstrate conclusively that the cloud has finally broken and that from this time forth there will be more business in lumber to report from the Saginaw river.—*Lumberman's Gazette.*

A LOGGER'S STORY.

"For a young man I have done pretty hard scraping in the Rockies and mining regions of New Mexico and Arizona, but a few days ago I had the worst scare in my life in the lumber districts of Northern Michigan." The speaker was a young man of some 27 years, dressed in rough-and-ready style and wearing a frizzly tow beard. He shifted the position of his broad shoulders as he lounged back in an easy chair in the Sherman House office, puffed his cigar vigorously, and then continued. "It was one of those bitter cold days we've just been having, and I got up at three o'clock to rouse the men and get the sprinkler out. The air seemed full of blue steel and cut to my narrow like a razor. One of the teamsters got scared out and played off sick.—I had to take his place. When we had got a good haul I took the reins and sat down on the tails of the logs leaving the two loggers on behind. Of course about 20 feet hurt off the tail. The road was a sheet of ice, for the sprinkler ran over it every morning, and the horses were sharp-shod so we slid along smoothly till we got to the slide—a pretty steep incline ending in a turn which was mighty sharp for a road 60 feet wide. As soon as we started down my hair began to stand

on end, for the horses galloped like fury to keep ahead of the bobs which were slowing all over the road. I got so paralyzed and nervous that when we approached the turn I reined in too suddenly. I felt the front bobs jump one way and the back bobs the other. The hind ends of the logs whistled through the air like willow switches, and I heard the loggers yell—"For God's sake, — — —." The next thing was a loud snap 'snap' 'snap' like three tremendous paper crackers—as the big log chains broke like so many cotton threads. Did you ever use a switch sling? Well, that is the way I felt, and that is just what I thought of as I was shot off into the air, over, and over, and over, till I struck in a snow drift some 100 or more feet from the road. When I struggled back through the snow I found the horses trying to kick loose from the few bits of harness that dangled about them, the bobs tangled about the roots of a small pine tree, and the logs scattered to the four winds. One logger crawled back to the road with a fractured leg, and the other soon followed with a dislocated shoulder. One had struck a tree and the second had landed against a stump. They afterwards told me in camp that these things were not all unusual, and, as I had some pretty heavy bruises myself, I concluded that I was not made to boss a lumber camp. So I was driven to town the next day to telegraph the management that the head teamster was filling my place, and that I was on my way to Chicago; and you bet your life I am glad I did it."—*Chicago Tribune.*

WHO INVENTED THE BARREL?

Few inventions have had a wider or more varied usefulness than the barrel; few give such promise of perpetuity. Unique in principle, simple, yet singularly perfect in plan and structure, the barrel is little less than a stroke of genius. Who set up the first one? Who first conceived the happy thought of making a vessel tight and strong out of strips of wood bound together with hoops? And when did he live? No history of inventions, none of the encyclopedias in our great libraries, no historian of human progress, so far as we know, gives any information on the subject, unless we except the Roman author, Pliny, who mistakenly attributes the invention to the Gauls who inhabited the banks of the Po. We say mistakenly, since there is the best of good reason for believing that the barrel was in use long before the Gauls took possession of their Italian home, perhaps long before the Gauls existed as a people.

The monuments of Egypt furnish proof of the early use of hooped vessels, though no date is given for their invention. In one of the inscriptions copied by Wilkinson may be seen two slaves emptying grain from a wooden vessel made with hoops, while the scribe keeps tally, and a sweeper stands by with a broom to sweep up the scattered kernels. Close by, an unfortunate is undergoing punishment by bastinado, for short measure, perhaps, or, as Mr. Wilkinson suggests, for petty theft. The measure is barrel shaped, and precisely like the kail of modern Egypt. It would hold, apparently, about a peck. Unfortunately the age of the inscription is not given. Measures of the sort would seem to have been in common use very early in Egypt, though not for the storing of liquids, for which purpose skin and earthen vessels were employed.

At first thought, Egypt would be the last place to look for the invention of hooped vessels and its climate making it specially unsuited for their employment. Possibly, however, that may have been the compelling cause of their invention.

Throughout the east, the bamboo is largely used for making hollow vessels, a section of the stem through a node securing a solid bottom, and one between the nodes an open mouth for a natural tub or bucket. In well wooded regions, nothing would be more natural than the employment of hollow tree trunks, for the same purpose, or sections of tree stems, hollowed out by fire or otherwise. In drying, such vessels would split and spoil, and it would require no great genius to repair them by means of withes or wooden bands, the primitive form of the hoop.

If the users of such natural barrels should

migrate to region where timber was scarce, economy of lumber would be likely to suggest the building of barrels from pieces artificially split, in short the use of staves, by means of which the primitive cooper would be able to make several barrels out of a block that would suffice but for a single dug-out.

But this is speculation merely. It is enough to know for a certainty that the cooper's art, like the potter's, is one of extreme antiquity. We had no suspicion of its venerableness when we began to trace its history in response to the inquiry—Who made the first barrel?—*Scientific American.*

TREE PLANTING.

Although a great deal has been written about tree planting and its relations to the rainfall of a country, still there does not as yet seem to be enough importance given to the subject by the government or by the people. In many countries and districts which were once celebrated for their fertility, agriculture can not now be carried on at all on account of the diminished rainfall, consequent on denuding the country of forests and bush. For instance, Palestine, the northern shores of the Mediterranean, Greece and parts of Spain. The mountains of Estremadura and Murcia have been stripped of the forests and there is now no rain there for eight or ten months, which forbids agriculture, while Catalonia and Valencia are covered with wood and possess a moist and productive soil. Prof. Lindley observes of Mauritius: "If this island should in time become barren, it will undergo the fate which usually attends the destruction or absence of forest in countries exposed to great solar heat." Blanqui says of the Cape Verde Islands: "The terrible droughts which devastate them must be attributed to the destruction of forests. On the other hand, in South America the appearance of forest on cleared land was followed by a rising of the waters of Lake Tacaragura." Again, Blanqui says: "In St. Helens the wooded surface has extended and the rain has increased in proportion. It is now double what it was during the residence of Napoleon." The same authority says: "In Egypt recent plantations have caused rain. The rainfall in Egypt was as low as twelve inches in a year, but by planting some millions of trees by Mahomet Ali the rainfall has been brought up to forty inches. When the Mormons first settled in Utah they found the district barren; water had to be brought almost incredible distances in wooden pipes; trees were carefully planted and nourished with the water so brought, and now the district may be termed the garden of the world, and is not dependent on water brought a distance, but enjoys a steady rainfall." In ascension the replanting of a mountain caused a spring which had dried up after felling the wood to flow again with its former abundance, the wood, having been cut down on the sides of the mountain, had dried up the spring at its base. The following is from "Proctor's Light Science": "We may point out in this place the important connection which exists between the rainfall of a country and the amount of forest land. We notice that

in parts of America attention is paid with marked good results to the influence of forests in encouraging rainfall. We have here an instance in which cause and effect are interchangeable. Rain encourages the growth of an abundant vegetation, and abundant vegetation in turn aids to produce a state of the super-cumbar atmosphere which encourages the precipitation of rain; the consequence is that it is very necessary to check before it is too late the processes which lead to the gradual destruction of forests. If these processes are continued and the climate has become excessively dry, it is almost impossible to remedy the mischief, simply because the want of moisture is destructive to the trees which may be planted to encourage rainfall. Thus, there are few processes more difficult (as has been found in parts of Spain and elsewhere) than the change of an arid region into a vegetation covered district. In fact, if the region is one of great extent, the attempt to effect such a change is almost a hopeless one. On the other hand, the contrary process—that is to attempt to change a climate that is too moist into one of less humidity—is in general attended with not much difficulty. A judicious system nearly always leads to the desired result. It appears to be generally believed that trees produce the following effects: The increase the amount of rainfall. This they probably effect thus: They lower the temperature and thus cause the moisture laden air first to become visible as clouds, and secondly to be precipitated as rain. They intercept, as it were, tap the vapor charged winds. They supersede the state of tension and polarization which exists when an electrified cloud is above them by silently discharging the electricity. It is well known that a moderate amount of rain falls upon the ocean far away from land, and it may be thought by some that the absence of trees cannot reduce the rainfall to an amount less than the fall at sea, which may be considered the normal fall. That from some cause or other a less amount of rain may fall upon land than sea, is evident from the existence of the rainless districts of North Africa, Mexico and Peru. In order to attract rain it has been shown that the surface must be covered with objects like trees, which produce diminution of temperature."—*San Francisco Chronicle.*

SUMMER & HASSET, of Albany, N. Y., issue a neat little circular giving the amount of pine lumber on hand at that place on January 1st, 1854, and the same date in 1855, as follows: 1854, 98,801,000 feet; 1855, 115,208,000.

A NOVEL experiment of carrying a railroad through a forest has been tried in Sonoma county, California. The trees are sawed off and leveled, and the ties are fastened on the stumps, two of which are huge redwoods standing side by side and reaching 75 feet from the ground. So firm is this support that heavily loaded cars pass over with perfect security.

Dr. Sage's Catarrh Remedy cures when every other so-called remedy fails.

LIVERPOOL STOCKS.

We take from the *Timber Trades Journal* the following Comparative Table showing Stock of Timber and Deals in Liverpool on Jan. 24th, 1854 and 1855, and also the Consumption for the month of Jan. 1854 and 1855:—

	Stock, Jan. 24th 1854.	Stock, Jan. 24th 1855.	Consumption for the month of Jan. 1854.	Consumption for the month of Jan. 1855.
Quebec Square Pine.....	435,000 ft.	277,000 ft.	99,000 ft.	59,000 ft.
Waney Board.....	344,000 "	338,000 "	0,000 "	0,000 "
St. John Pine.....	30,000 "	21,000 "	0,000 "	0,000 "
Other Ports Pine.....	55,000 "	67,000 "	7,000 "	9,000 "
Red Pine.....	52,000 "	46,000 "	8,000 "	8,000 "
Pitch Pine, hewn.....	350,000 "	471,000 "	118,000 "	50,000 "
Sawn.....	502,000 "	329,000 "	70,000 "	110,000 "
Planks.....	65,000 "	44,000 "	10,000 "	8,000 "
Dantel, &c., Fir.....	127,000 "	94,000 "	8,000 "	2,000 "
Sweden and Norway Fir.....	128,000 "	65,000 "	0,000 "	5,000 "
Oak, Canadian and American.....	336,000 "	230,000 "	14,000 "	9,000 "
Planks.....	167,000 "	106,000 "	40,000 "	35,000 "
Baltic.....	13,000 "	9,000 "	0,000 "	0,000 "
Elm.....	14,000 "	18,000 "	8,000 "	0,000 "
Ash.....	28,000 "	37,000 "	0,000 "	3,000 "
Birch.....	68,000 "	63,000 "	23,000 "	23,000 "
East India Teak.....	55,000 "	17,000 "	14,000 "	2,000 "
Greenheart.....	100,000 "	83,000 "	3,000 "	6,000 "
N. B. & N. S. Spruce Deals.....	19,087 stds.	25,865 stds.	3,777 stds.	1,010 stds.
Pine.....	1,963 "	590 "	700 "	266 "
Quebec Pine & Spruce Deals.....	8,218 "	5,554 "	115 "	188 "
Baltic Red Deals, &c.....	4,920 "	3,397 "	14 "	00 "
Baltic Boards.....	91 "	136 "	14 "	00 "
Prepared Flooring.....	4,061 "	3,302 "	180 "	901 "

# McCOLL BROS. & Co.

TORONTO

Manufacturers and Wholesale Dealers in  
Machine and Illuminating Oils.

## Our Celebrated "Lardine" Brand

Is Unexcelled by any other Machine Oil on the Market.

## MILL MEN WILL SAVE MONEY!

By using "LARDINE." Wears equal to Castor Oil  
and **ONLY COSTS HALF THE PRICE.**

**CYLINDER** And other Oils, all of splendid quality always  
in Stock. Prices, etc., on application to

McCOLL BROS. & Co., Toronto.

# CHASE & SANBORN

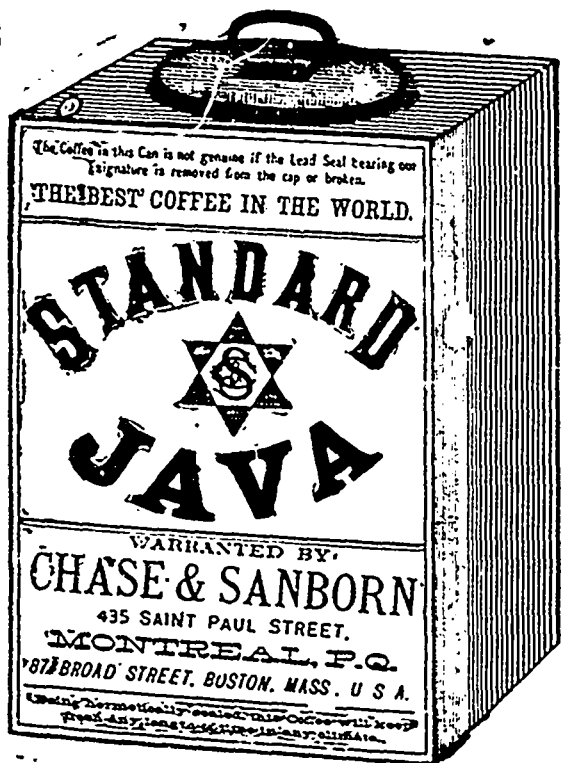
Importers, Jobbers and Roasters of

MONTREAL.

## COFFEES

BOSTON.

Buy this  
Brand,  
which is  
the only  
and  
Original  
Private  
Planta-  
tion  
JAVA  
on the  
Market.



Our  
Coffees  
always  
put up in  
50 or 25  
Lb. Air-  
tight Tin  
Cans  
thereby  
retaining  
all the  
Original  
Strength  
& Aroma.

All Coffees Packed by us Guaranteed Strictly Pure.  
The Wholesale Grocers of Canada are our Selling Agents.  
Order our Coffees through them.

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THE

## Cooks' Favorite!

BAKING POWDER.

DOMINION SILVER MEDAL

Ottawa Exhibition, 1884. It is the most economic  
and the best in use. Perfectly Pure.

## J. T. LAMBERT,

Lumber and Commission Agent.

ORDERS FOR DIMENSIONS AND ALL OTHER  
KINDS AND GRADES OF

## American Lumber

PROMPTLY ATTENDED TO.

Timber Limits and the Square  
Timber Trade a Specialty.

Office, Wellington Street, OTTAWA.

# The Ontario Canoe Co., Limited

PETERBOROUGH, ONTARIO,

Manufacturers of all kinds of PLEASURE, FISHING and HUNTING

## CANOEES

Patent Cedar Rib Canoes, Patent Longitudinal Rib  
Canoes, Basswood Canoes, Folding Canoes, Paddles,  
Oars, Tents, and all Canoe Fittings.



PATENT LONGITUDINAL RIB CANOE.



THE ONTARIO CANOE!



THE JUNIPER CANOE.

Gold Medal, London Fisheries Exhibition, 1883.

J. Z. ROGERS,

Send cent Stamp for Illustrated Catalogue. President and Managing Director

Canoes for Lumbermen, designed to carry any amount of goods and chattels  
and strongly built, made to order on short notice.

A GOLD MEDAL awarded  
at the Ottawa Exhibition,  
1884, for Fine Display

-OF-

## LEATHER

Belting.



SILVER  
MEDAL at  
Montreal, 1884

SILVER MEDAL at  
St. John, N.B., 1883.

Silver Medal, Montreal, 1882.

Factory and Warerooms:—2518, 2520  
and 2522, Notre Dame Street.

## MONTREAL, QUE.

## H. WILLIAMS,

## SLATE & GRAVEL ROOFER

MANUFACTURER OF AND DEALER IN

Tarred Felt, Roofing Pitch, Sheathing and Building Papers, Carpet and  
Rosined Waterproof Paper, Ready Roofing, &c. All orders promptly  
attended to at LOW PRICES.

H. WILLIAMS,

4 Adelaide Street East, Toronto

Market Reports.

TORONTO.

From Our Own Correspondent

FEB. 23.—The still continues quite flat, although quite a number of bills are offering, so that any mills that are operating and have the right class of logs are likely to be kept in full blast. Architects say that their offices are full so that the outlook for the spring opening is good. The principal shipments over the N. & N. W. road at present are in cedar. A large quantity of round cedar fit for block pavement is coming forward, and the contractors yards are piled to their utmost capacity; \$4.50 to \$5.00 per cord is the prices paid delivered on cars here, but the cedar must be perfectly sound and cut from green timber, otherwise it will not be accepted. Previous to cedar being used for block paving, the yard men could purchase all they required at \$35.00 per car of 10 cords, and now the same class of cedar brings from \$45 to \$50 per car, so that cedar lands have proved more remunerative to the owners than formerly anticipated.

Shippers find it impossible to ship over the Midland division of the G. T. R. R. and leave any profit to themselves during the present season of snow and ice. Bill stuff having been cut for some time and not properly piled up becomes coated with ice, and when the car arrives here it is weighed and the shipper has to pay as much freight upon the ice and snow as upon the timber. Of course the railway company make some allowance in such cases, but not nearly as much as they should, for just as soon as the freight on common lumber reaches over \$2.00 to \$2.25 per M for freight, just that soon must the shipper stop shipping. The prices ruling here will not warrant him in bringing it forward to this market at anything above those rates.

In my last letter I promised to give what I considered would be a remedy against the overstocking of the retailers yard, thereby saving them considerable trouble and anxiety, and this is my remedy, now where are the men to take the matter up, I have no doubt they will soon come to the front if they can only see there is money in it.—Open on the outskirts of the city a large yard to be used as an assorting yard with tracks from the railroad running into it, so as to handle as cheaply as possible, now put in from five to ten million feet of well assorted stock, and let it be understood that sales are only made to dealers, this would at once command the good will and confidence of the retail men, and they would never overburden themselves with stock, knowing that for a slight advance, to cover cost of handling and other incidental expenses, they could at any time procure just such a car of lumber as they required.

Table listing lumber prices in Toronto, including Mill cull boards and scantling, Cutting up planks to dry, Sound dressing stocks, 1-inch flooring, etc.

MONTREAL.

From Our Own Correspondent.

FEB. 23.—The demand for lumber has not varied much for some time past, and the market, though quiet, is in a general way pretty firm for good stock, but for inferior, in large lots, probably a trifle less would be accepted. In Ottawa there have been heavy sales made at about last

years prices. It is expected that the building trade will be active here this summer and a large number of houses are to be built, so that prospects indicate a good demand here later in the season. We give below the receipts of lumber by all inlets for the local trade of Montreal, at Montreal, for the year 1884, with comparative figures for 1883, which show a decline of 5,143,556 for 1884 as compared with 1883:

Table showing lumber receipts for Montreal in 1883 and 1884, categorized by Canal, Harbor, and C.P.R.R.

Our prices here show no quotable change, and we continue to quote ex yard as under:

Table listing lumber prices in Montreal, including Pine, Spruce, Hemlock, Oak, etc., with prices per M.

BOSTON.

The Journal of Commerce of Feb. 21st says:—Trade is moving along quietly, with a fair call for the between-season period. Prices keep about steady, and the outlook for the spring is quite good.

CANADA PINE.

Table listing prices for Canada Pine, including Selects, Dresseds, and Sheathing.

CHICAGO.

AT THE YARDS.

The Northwestern Lumberman of Feb. 21st, says:—It is evident that but for the late snow blockade and the cold weather there would, by this time be a considerable movement of lumber. The weather conditions thus far this winter have been utterly opposed to a demand for or shipment of lumber. Outdoor work in the consumption of lumber has, for the most part been impossible. The snow and intense cold have prevented farmers from even visiting their market towns, wherever they live long distances away. Nothing has conducted to the early starting of the spring trade. And yet there is manifest a growing want of lumber on the part of the country at large. This results, probably, from the move that is being made by contractors and builders to improve the present opportunity of low prices to push building the present year. There have been abundant signs in this and other cities to justify this conclusion. Whenever there has been a slight mitigation of the temperature—a day or two of pleasant weather—building operations have taken a start; all the work possible has been crowded forward. The real estate men and the architects confidently predict an active building season. It is this anticipation of future consumption that is stirring up some business in spite of the weather. As soon as winter let go its grip a spurt of demand may be expected.

Prices are still in an undecided state. The lists stand the same as they have been all winter, and slight questioning has been indulged in about them from the fact that there has been so little trade that scarcely a test has been made. Lately, however, there has been more talk about prices. It is understood that the list is being cut from 50 cents to \$1 a thousand, and that in special cases dealers do not scruple to make lower prices than such cuts indicate. It is very much as dealer can catch his customer;

a matter of half a dollar, or more, is not allowed to spoil a trade. Small confidence in the integrity of prices is expressed, and fears are rife that the spring trade may develop further weakness. This fear is increased by the fact that several stocks in the district are to be forced on the market this spring by retiring houses. Such closings out are common to the spring season, but they hurt more when trade and prices are depressed. An open winter and an early spring would have helped trade this year by allowing the consumption of a large amount of stock; but those conditions must now be counted out, as factors in our conclusion. Everything is ahead. The stock on hand Jan. 1st is mostly in pile now. The hope of the season to come is in an extraordinary consumptive demand, which there is good reason to expect.

Receipts of lumber, shingles, etc., from Jan. 1st to Feb. 19th as reported from the Lumberman's Exchange:—

Table showing receipts of lumber and shingles from Jan 1 to Feb 19, 1885, comparing 1885 and 1884 figures.

Stock on hand Feb. 1. 1885. 1884.

Table listing freight rates to eastern points for various locations like Chicago, Albany, etc.

ALBANY.

Table listing lumber prices in Albany, including Pine, Spruce, Hemlock, etc., with prices per M.

BUFFALO.

Table listing cargo lots in Buffalo, including Uppers, Common, Culls.

TONAWANDA.

Table listing cargo lots in Tonawanda, including Uppers, Common, Culls.

OBWEGO, N.Y.

Table listing lumber prices in Obwego, N.Y., including Three uppers, Picking, Cutting up, etc.

LONDON.

The Timber Trades Journal of Feb. 7th says: Prices at Wednesday's sale went very indifferently, and though the trade mustered in good force the competition was of the usual feeble character. The majority of the room were buyers, but it was the unreserved goods that brought them together, and even for these only very low prices seemed to suit. For some of the better descriptions the bidding was fairly well sustained. 3x9 Gefe in 1st and 2nd quality, at £14 5s. was hardly a high price, but the goods were not one of the leading shipments. Archangel 1st deals ranged from £16 5s. to £16 15s., which is a more satisfactory price to record than some that have come under my observation for equally choice goods. The Nyhamn best red battens at £10 5s. also were not badly treated, and there is doubtless a disposition to pay better prices for high class goods, but which the dullness of trade tends to check.

There was considerable quantities of hewn timber put up without reserve, and the bidding was slightly more brisk for these from the fact that such descriptions as were offered have not been very common at the public sales; the parcels we allude to were mostly Quebec stuff, of which some rather good ash went under 80s., the bulk of what was submitted realizing 75s. Red pine timber from the port named fared badly at 52s. 6d. a load, but the logs had nothing particularly attractive about them, and with such a full stock of pitch pine as the dock ponds now display it was hardly to be expected prices would be other than very low.

The same may be said of the yellow pine hewn stuff that came under consideration, and was dull of sale at 42s. 6d. a load, about as wretched a price as the market has yet witnessed. The general character of the sale through out was indifference on the part of the buyer, though of course when a choice lot of some description, scarce in the market, was put up plenty were found to bid for it, with a correspondingly satisfactory result in the price. There was pretty general satisfaction expressed by London buyers that the sale had been spread over the two days, and an early termination to the proceedings afforded those who had correspondence demanding their attention time to get back to their office duties.

Things are said to be a bit active in the f.o.b. trade—at any rate, better than they were at the same time last year—and the continental demand is said to be fairly active, a considerable portion of whitewood having already been placed in Germany in anticipation of the forthcoming sawn wood duty, the particulars of which we furnished in our last.

Stocks of deals at the outports are stated to be very moderate, and less generally than they have been for several years, but we cannot say the same of those here. One with another, things are a shade worse in this respect than they were January, 1884; and, with a lessened delivery from the docks, the general admission is that trade has not improved with the commencement of the new year.

There is a very fair trade doing in certain goods, but, one with another, the business done is on a very confined scale.

The reduction on spruce stocks at the docks since the cessation of the import is something very marked, and can be only attributed to the extraordinary low prices the stuff has been sold at stimulating the consumption. Had the goods merely changed hands we should not have noticed such a lessening of the quantity at

the docks, and from that fact alone it is evident sales privately have been pretty brisk. Prepared flooring boards are some 70,000 pieces heavier now in the dock sheds than they were twelve months ago, about equal to a small shipload, a mere bagatelle in itself, though when we recollect that last year's winter stock was one of the heaviest for several seasons past, the obstacle to prices advancing offered by the present stocks can be better understood.

Pitch pine planks are less in stock now by some 6,000 pieces than they were February, 1884, but owing to the heavy import of ponded timber from the Southern States the price of the same stuff has been with difficulty sustained. Of the 15,000 loads now in the dock ponds represents about half of the total import of 1884.

Canadian sawn goods now in the docks are generally less than they were twelve months since, and pitch pine planks again are on the favorable side, and so with respect to wainscot logs, though the stock of these latter is an ample one for the present demand; in fact, last year's stocks are bad for comparison, exhibiting as they do what was remaining of the heaviest import of wainscot oak that has previously been known.

Lathwood is less in stock now, as far as the docks are concerned, than has been observed for some seasons past, but the dull state of the building trade will hardly allow of much hardening in the price of this commodity, though we quite expect to see the improvement made towards the close of last season fully sustained for good sound wood.

GLASGOW.

The *Timber Trades Journal* of Feb. 7th, says:—Public sales of various wood goods have taken place during the week. At the Greenock sale on the 29th ult., transactions were very limited, and prices are not yet encouraging. The goods offered were American timber and deals and pitch pine.

Full reports of the mahogany and hardwood sales will be found amongst the mahogany reports.

The output from the Clyde shipbuilding yards last month compares well with that of January, 1884. There were thirteen vessels put into the water last month, measuring 10,760 tons, as against eight vessels, 6,340 tons, in the corresponding period of last year. But the quantity of work on hand at present is considerably under the amount that was in progress a year ago.

AUCTION SALES.

On 29th ult., at Greenock, Messrs. Hunter, Sheriff & Co., brokers:—  
 Quebec yellow pine (superior)—  
 35 c. ft. av. per log 1s. 3d. per c. ft.  
 Do. red pine—  
 35 c. ft. av. per log 1s. 1½d. "  
 Do. 2nd yellow pine deals—  
 11 to 16 ft. 8½x3 1s. 5½d. "  
 Do. ends—  
 7 & 8 ft. 7½x3 1s. 4d.  
 Miramichi, N. B., spruce deal ends—  
 2 to 8 ft. 3½x2½ & 3 6½d.  
 Pitch pine planks—  
 7 to 19 ft. 10½x4 & 6 10½d.

LIVERPOOL.

The *Timber Trades Journal* of Feb. 7th says.—As the year progresses it does not seem to bring us much nearer to the good, or any rate the improved condition of things which all so fondly hoped would arise when the present year had been fairly started. There is still the same outcry about the limited demand for wood goods in the country, and that to secure any orders that may be moving in the country prices have to be accepted which leave the barest margin of profit, and in some cases this is cut down to the finest possible point.

This is evidently a most unsatisfactory condition of affairs, and we only look to a rectification of it by a large curtailment of imports. On the other hand, this, in a great measure, impracticable, as shippers have made their arrangements long ago, and unless prevented by natural causes the goods will come forward. With regard to New Brunswick and Nova Scotia districts, from whence our large supplies of spruce deals are shipped, it is said the winter has been so far unusually mild, and in lieu of

snows and frosts, which are so necessary for logging operations in the forests, that exceedingly mild rains have been the rule. This, however, may or may not be true, and time only can show what degree of truth there may be in these reports.

LIVERPOOL TIMBER SALES.

On Wednesday last, the 4th inst., Messrs. Price & Pierce held their auction sale of hewn and sawn pitch pine, spruce deals, &c., when a good company was present, nearly all the local dealers being represented, and a fair sprinkling of consumers from the country also being in attendance.

Of the spruce deals offered rather more than one-fourth was sold, the remainder being withdrawn. The prices realized were:—

		£ s. d.	£ s. d.	
20 to 26 ft.	3x11		7 15 0	per std.
0 " 11 "	3x11		6 12 6	"
15 "	3x9	6 10 0	6 11 3	"
12 "	3x9		6 10 0	"
9 " 11 "	3x9		6 0 0	"
9 " 15 "	3x8		6 0 0	"
20 " 29 "	3x7		6 0 0	"
19 "	3x7		5 15 0	"
15 "	3x7		5 15 0	"
14 "	3x7		5 15 0	"
9 " 15 "	2½x7		5 17 3	"

The pitch pine flooring not having arrived was withdrawn, the auctioneer preferring to sell it after inspection rather than put it up to arrive. The hewn pitch pine in store also was withdrawn.

RESULT OF AUCTION SALE AT LIVERPOOL, FEBRUARY 4TH, 1885.

Per San Carlos, from Pensacola (to arrive.)  
 1,433 logs sawn pitch pine, 30 cub. ft. av.—  
 16 in. & up 15½d.  
 15 " 16d.  
 14 " 16d. to 15½d.  
 13 " 15½d. to 14½d.  
 12 " 14d. 13½d.  
 11 " 13½d.  
 10 " 13½d. to 13d.  
 9 to 11 " 13½d.  
 Beam fillings 16d.  
 Average price of cargo 13 16-16d.  
 Per Tabino, from Mobile:—  
 353 logs hewn pitch pine 11½ cub. ft. av.  
 253 " " " 64 " spl. shipment.  
 490 " sawn " " 39 "  
 342 pcs. pitch pine planks, 33,449 sup. ft.  
 The hewn at from 14½d. to 17½d., av. 15½d. per cub. ft.; the hewn (special shipment) withdrawn; the sawn at from 13½d. to 16d., av. 14½d. per cub. ft.; the planks at from 11d. to 13d. per ft.

TYNE.

The *Timber Trades Journal* of Feb. 7th, says:—Dullness appears still to be the main feature of the trade at the present time in these northern parts, and little so far has occurred since the new year to enliven the monotony. Arrivals have been very small and unimportant, consisting mainly of pit-props and mining timber, and some steamers from Gothenburg and Christiana with usual assortments of wood goods; one cargo has arrived from Pensacola with pitch pine timber and deals, and will be followed shortly by several more from the same place.

It is, perhaps, a little early to prophesy the probable state of the market during the next few months. So far but little has been done in this district by way of placing goods for f.o.w. shipment. The prospect is not very encouraging on the whole. As yet the shipbuilding trade is very quiet, and although a few orders have been given out recently, they are not sufficient in amount to make any great demand for some time to come. In the housebuilding trade quietness still reigns, and is likely to this season the property market not being lively.

Your readers will notice the Northeastern returns still show a downward tendency, which is a sufficient indication of the state of trade in the district.

Storm Signals.

As the coming of a great storm is heralded by the display of cautionary signals, so is the approach of that dread and fatal disease, Consumption of the Lungs, usually announced in advance by pimples, blotches, eruptions, ulcers, granular swellings, and kindred outward manifestations of the international blood poison, which, if not promptly expelled from the system, attacks the delicate tissues of the lungs, causing them to ulcerate and break down. Dr. Pierce's "Golden Medical Discovery" is the great remedy for this, as for all diseases having their origin in bad blood. It improves the appetite and digestion, increases nutrition and builds up the wasted system.

# MONTREAL SAW WORKS

CHAS. M. WHITLAW, **MONTRIE A. I.**  
 Manager.

OFFICE: 452 St. Paul Street. P. O. Box, 1167.

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**CIRCULAR, GANG, SHINGLE, CONCAVE GROOVING,**

**TOP, DRAG, CROSS-CUT AND BILLET WEB, PIT,**

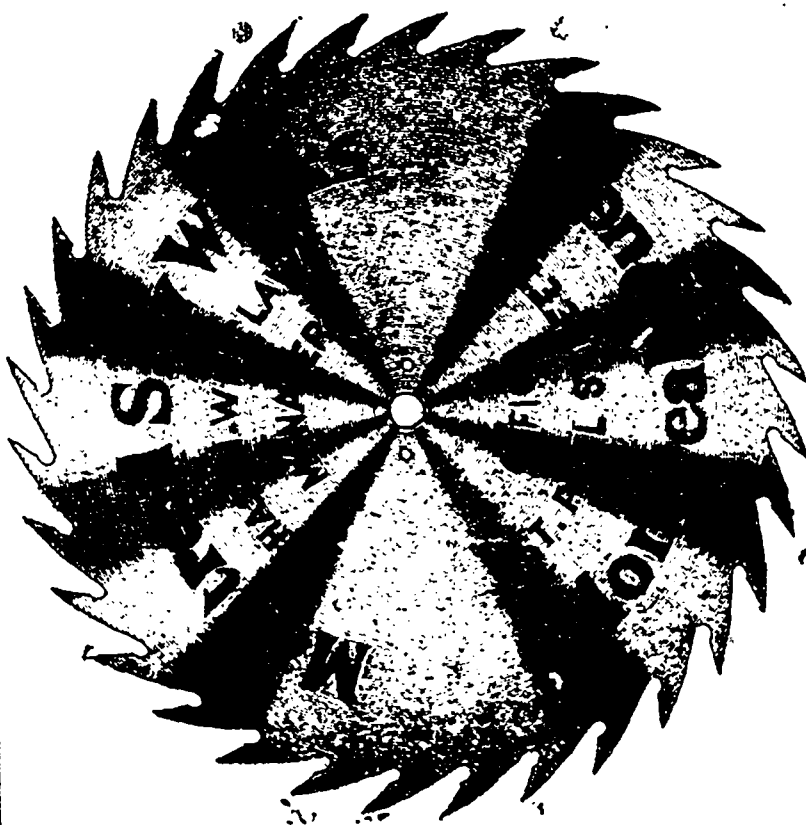
**ICE, AND ONE MAN CROSS-CUT SAWS,**

—AND DEALERS IN—

**BAND SAWS, BARREL AND HEADING SAWS, EMERY**

**WHEELS, GUMMERS AND CUTTERS FILES,**

**RUBBER & LEATHER BELTING, SWAGES, SAW SETS.**



Catalogues and Price Lists furnished on application.

# THE INTERNATIONAL TENT & AWNING CO.

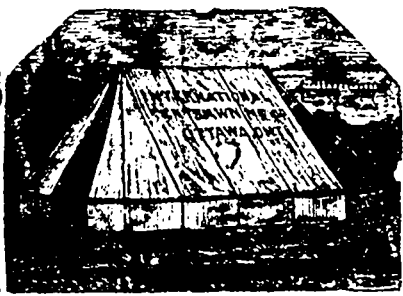
184 Sparks Street, Ottawa.

MANUFACTURERS OF

## LUMBERMEN'S TENTS

*The Cheapest and Best in the Market!*

32  
First Prizes  
AND  
6  
MEDALS.



AT  
HALIFAX  
AND  
TORONTO,  
1883.

Tents, Flags, Tarpaulins, Waterproof Goods,  
Camp Furniture, etc., etc.

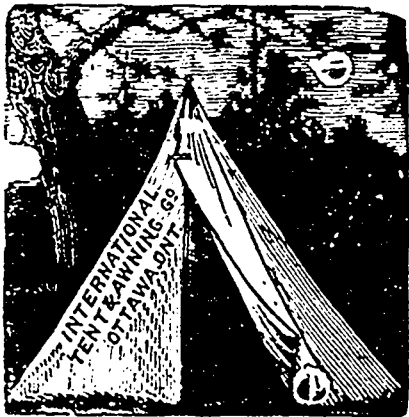
*Estimates for Circus Tents, Range Marquees, Hand-made Sails, etc., furnished on application. Liberal Discount to Large Buyers.*

### PORTABLE CANVAS BOATS MADE TO ORDER

Send for CATALOGUE

AND

PRICE LIST.



Camp Furniture!

SEE OUR NOVELTIES

At Toronto, Ont., and St. John, N.B., we made the best Display of Tents ever shown in Canada—and we never substitute an article inferior to sample in filling orders.

We control "THE LATOUR PAT." for Camp Furniture, the best on earth. The only Gold Medal ever given for this class of goods was awarded to the Latour Camp Furniture at Toronto in 1882.

### SAIL-MAKING.

We have secured the services of the best practical sail-maker in Canada. Orders in this line will receive prompt and satisfactory attention, as is usual with all orders entrusted to us.

Agency for the WILDERMUTH BED SPRING, the best in the Market.

A. G. FORGIE, MANAGER,

International Tent & Awning Co.,

184 SPARKS STREET, OTTAWA.



Something New in Leather Belting

To Mill Owners, Lumbermen, Manufacturers

USE ONLY



## Dixon's Patent Lap Joint Star Rivet Leather Belting

To be had only from

F. E. DIXON & Co., 70 King Street East, Toronto

Send for Circulars and Price Lists.

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CHAUDIERE, - OTTAWA,

MANUFACTURER OF

## LUMBERMANS' TOOLS!

Which took every honor awarded at the Centennial Exhibition.

THE CELEBRATED

### Lightning Cant Dog.

PETER ROBERTSON, Chaudiere, Ottawa.

2011

ESTABLISHED 1856

## OAK TANNED BELTING

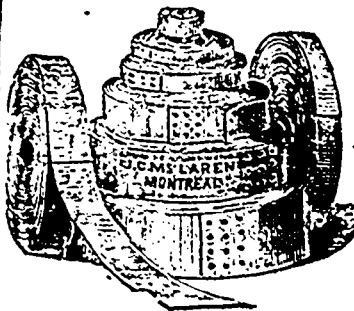
Acknowledged by all to be the

Best Belt ever offered

IN CANADA

EVERY BELT GUARANTEED

The Best Mills in the Country use it.



QUALITY is what I am at, the result being  
the Generous Support of all Manufacturers.

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292 & 294 ST. JAMES  
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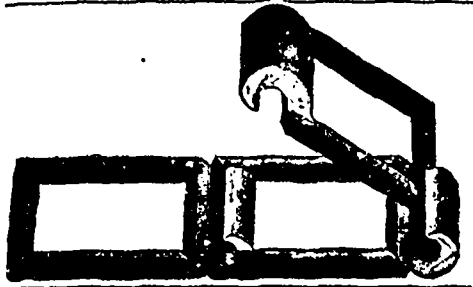
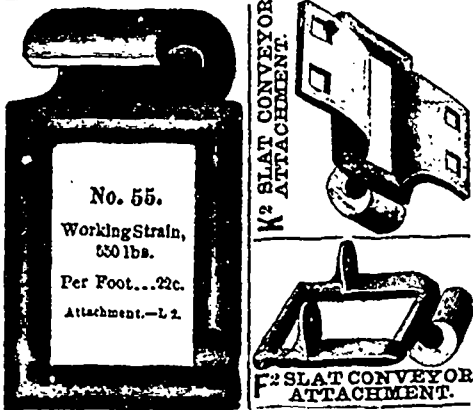
MONTREAL.

Lace Leather, American Rubber and Cotton Belting, etc., always on hand

1622B

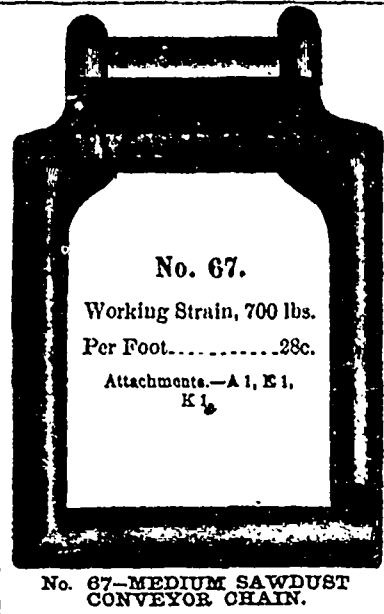
# EWART'S PATENT LINK BELTING

For CONVEYING, ELEVATING, and TRANSFERRING every Product of a Saw Mill, into, through and out of the mill.

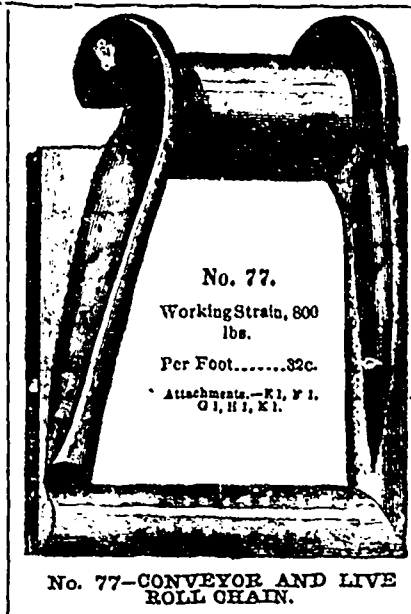
**No. 55.**  
Working Strain, 650 lbs.  
Per Foot...22c.  
Attachment.—L 2.

**K<sup>2</sup> SLAT CONVEYOR ATTACHMENT.**



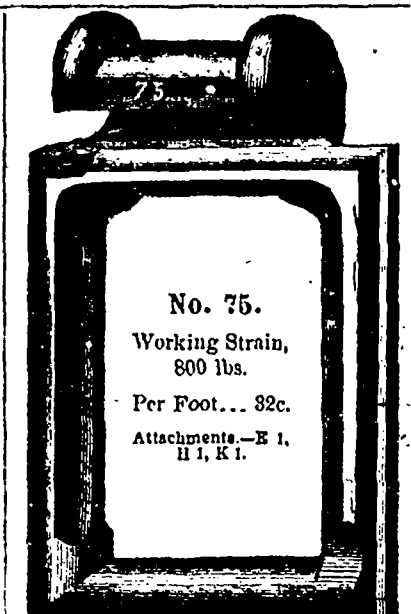
**No. 67.**  
Working Strain, 700 lbs.  
Per Foot.....28c.  
Attachments.—A 1, E 1, K 1.

**No. 67—MEDIUM SAWDUST CONVEYOR CHAIN.**



**No. 77.**  
Working Strain, 800 lbs.  
Per Foot.....32c.  
Attachments.—K 1, F 1, G 1, H 1, K 1.

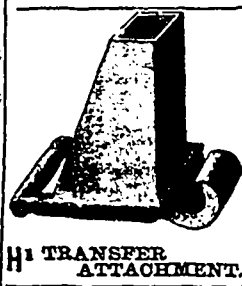
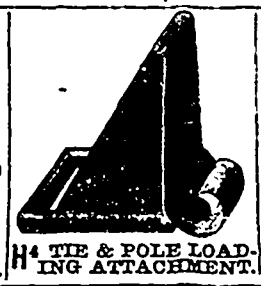
**No. 77—CONVEYOR AND LIVE ROLL CHAIN.**



**No. 75.**  
Working Strain, 800 lbs.  
Per Foot... 32c.  
Attachments.—E 1, H 1, K 1.

**No. 75—LIVE ROLL AND DOUBLE STRAND ELEVATORS.**

No. 45—16 cents per foot and 55 used for Light Sawdust Conveyors.

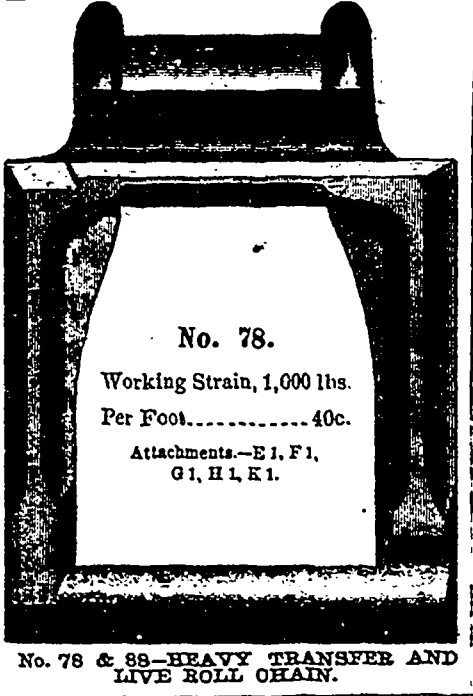



**H<sup>1</sup> TRANSFER ATTACHMENT.**

**H<sup>4</sup> TIE & POLE LOADING ATTACHMENT.**

## GIANT CHAIN for Log Haulups

And Main Refuse Conveyors for Large Mills.



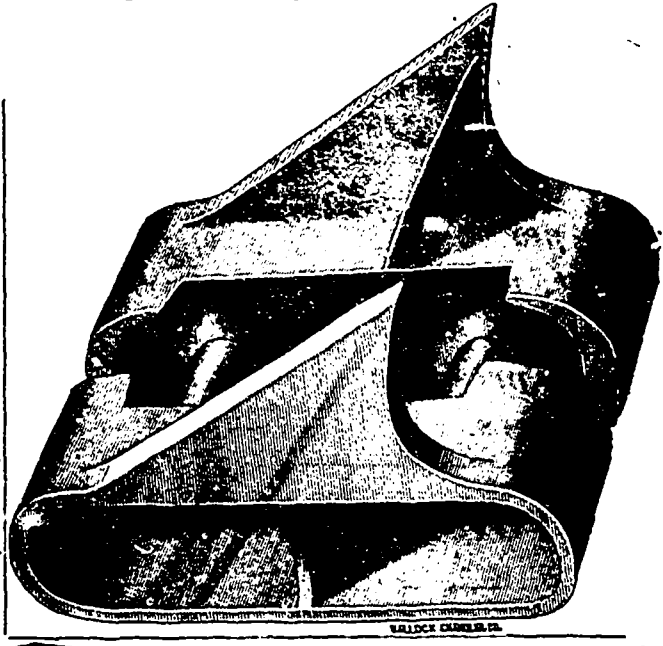
**No. 78.**  
Working Strain, 1,000 lbs.  
Per Foot.....40c.  
Attachments.—E 1, F 1, G 1, H 1, K 1.

**No. 78 & 88—HEAVY TRANSFER AND LIVE ROLL CHAIN.**

### KNIGHT'S PATENT SAW MILL DOG.



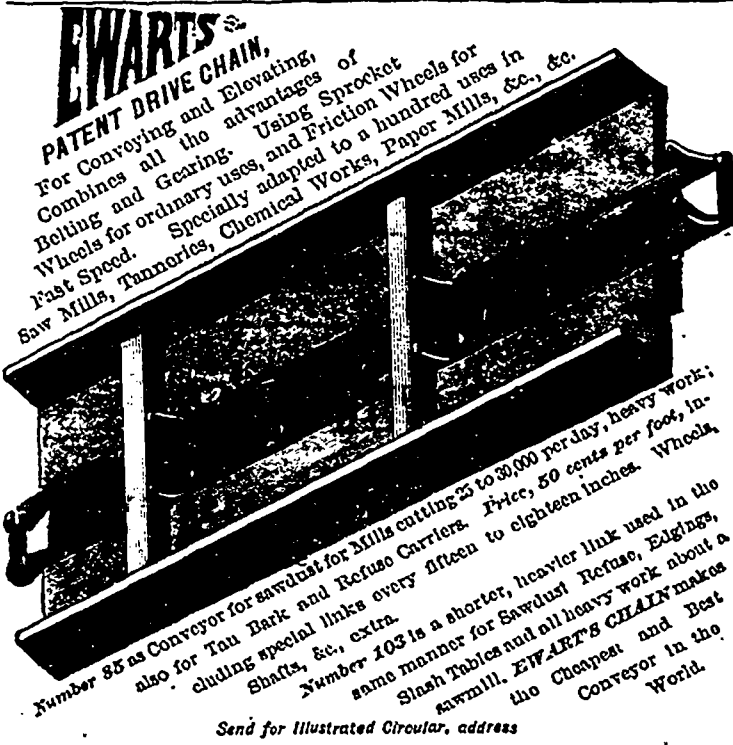
One of the Best Log and Board Dogs made.



**LOG TOOTH.**

### EWART'S PATENT DRIVE CHAIN.

For Conveying and Elevating, Combines all the advantages of Belting and Gearing. Using Sprocket Wheels for ordinary uses, and Friction Wheels for Fast Speed. Specially adapted to a hundred uses in Saw Mills, Tanneries, Chemical Works, Paper Mills, &c., &c.

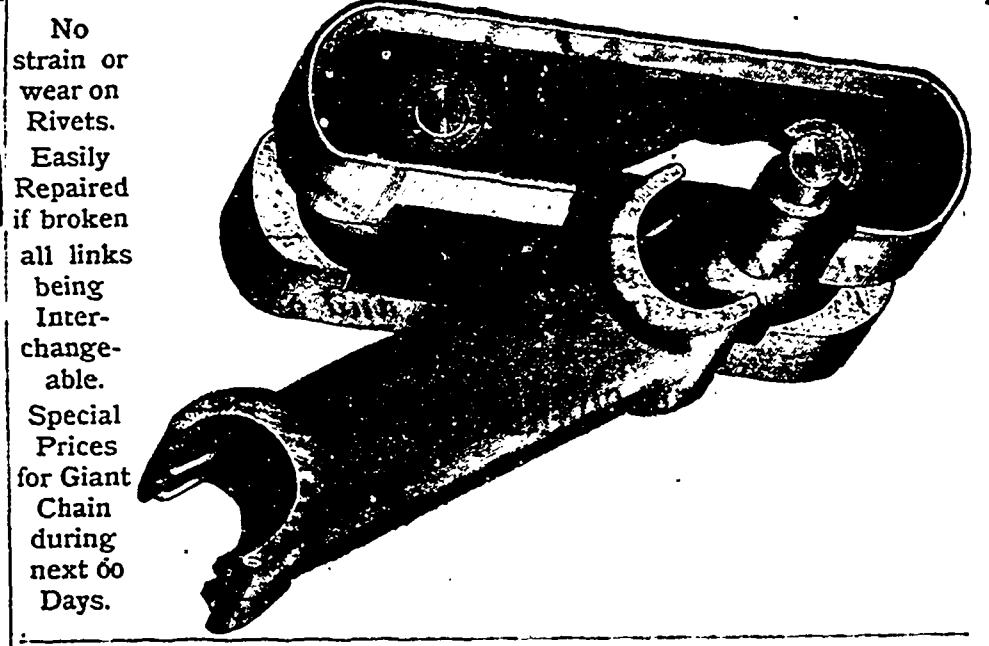


Number 85 as Conveyor for sawdust for Mills cutting 25 to 30,000 per day, heavy work; also for Tan Bark and Refuse Carriers. Price, 50 cents per foot, including special links every fifteen to eighteen inches. Wheels, Shafts, &c., extra.

Number 103 is a shorter, heavier link used in the same manner for Sawdust Refuse, Edgings, Slash Tables and all heavy work about a sawmill. EWART'S CHAIN makes the Cheapest and Best Conveyor in the World.

Send for Illustrated Circular, address

No strain or wear on Rivets. Easily Repaired if broken all links being Inter-changeable. Special Prices for Giant Chain during next 60 Days.



THE WATEROUS ENGINE WORKS CO., BRANTFORD, CANADA,  
Sole Manufacturers and Proprietors of Canadian Patent.

## Waterous Engine Works Co'y,

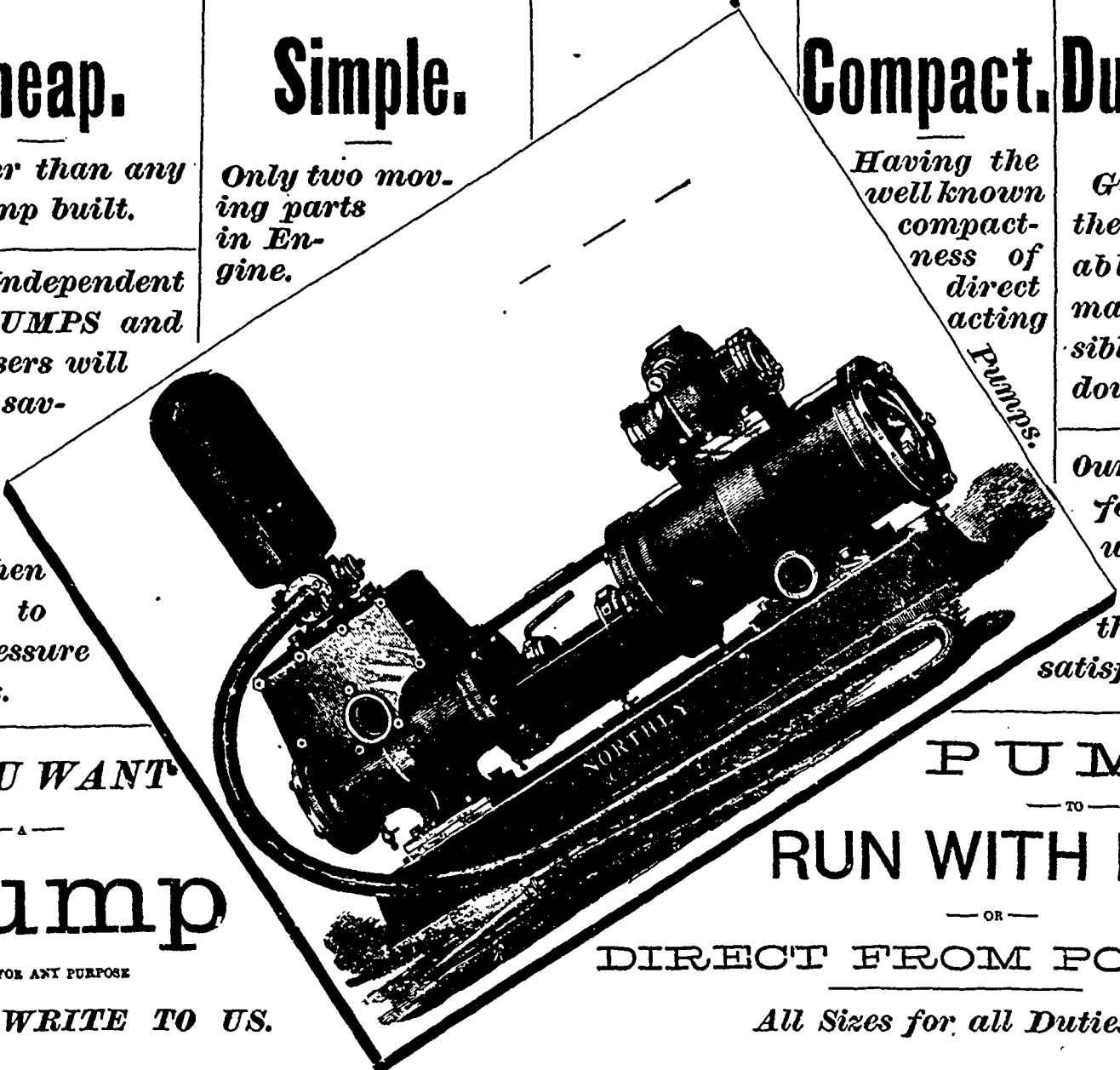
BRANTFORD, CANADA. Send for Catalogue.

# NORTHEY & CO'S STEAM PUMPS, TORONTO, ONT.

*Pumps for Fire Protection a Specialty.*

## SAVE INSURANCE.

*Our Combined Boiler Feed and Fire Pumps are a NECESSITY IN EVERY WELL ORDERED STEAM MILL or FACTORY.*

<h3>Cheap.</h3>	<h3>Simple.</h3>	<h3>Compact.</h3>	<h3>Durable.</h3>
<p><i>Cheaper than any Pump built.</i></p>	<p><i>Only two moving parts in Engine.</i></p>	<p><i>Having the well known compactness of direct acting Pumps.</i></p>	<p><i>Guaranteed the most durable Pump made; impossible to break down.</i></p>
<p><i>Our Independent AIR PUMPS and Condensers will effect a saving of 30 to 50 per cent. when applied to high pressure Engines.</i></p>			<p><i>Our PUMPS for general water supply give the greatest satisfaction.</i></p>
<p><b>IF YOU WANT</b> <b>Pump</b> <small>FOR ANY PURPOSE</small> <b>WRITE TO US.</b></p>			<p><b>PUMPS</b> — TO — <b>RUN WITH BELT</b> — OR — <b>DIRECT FROM POWER</b> <i>All Sizes for all Duties.</i></p>

*Our make of Pump is specially adapted to Mills in out of the way places, as they can be absolutely relied on, and occasion no vexatious stoppages for repairs.*

**WE INVITE CORRESPONDENCE ON ANY POINT CONNECTED WITH PUMPS.**

**SEND FOR CIRCULAR AND STATE YOUR REQUIREMENTS.**

# NORTHEY & COMPANY,

Corner FRONT & PARLIAMENT STS.,

TORONTO, ONT.



# National Manufacturing Co.

160 Sparks Street,  
OTTAWA, ONT.

**STILL RETAINS THE LEAD**

Have been awarded every Medal ever offered at Exhibitions in Canada for our Lines of Goods, notwithstanding the misleading advertisements of unscrupulous firms claiming awards, medals, &c., which they have never received. See letter from H. J. HILL, Esq., Secretary Toronto Industrial Exhibition Association, below. This year at Toronto, Montreal and Ottawa Exhibitions, we have been awarded

10—MEDALS—10

—FOR—

## TENTS, MARQUEES,

And CAMP FURNITURE.



Lumbermen, Contractors and Surveyors

And other large buyers, offered Special Inducements.

New Illustrated and Descriptive Catalogue mailed on application.



OUR LINES OF  
Tents, Flags, Tarpaulins and  
Camp Furniture, Shanty and  
Horse Blankets

Are without Doubt the BEST and  
CHEAPEST in the Market.

National Manufacturing Co. 160 Sparks St. Ottawa

P. O. BOX 345.

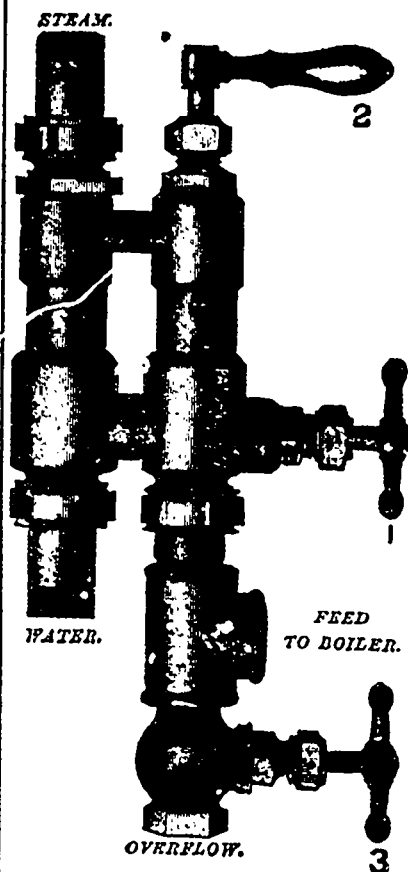
OFFICE OF THE INDUSTRIAL EXHIBITION ASSOCIATION,  
TORONTO, MARCH 10, 1884.

The National Manufacturing Co'y, Ottawa:

GENTLEMEN,—In reply to your enquiry, I beg to say that the highest awards made at the Industrial Exhibition for the years 1881, 1882, and 1883, for Tents, Marquees and Flags, were to your Company, being a Silver Medal for each year. Last year, 1883, was the first in which a medal was specially offered for Camp Furniture and Equipages, and it was awarded to the National Manufacturing Co'y, of Ottawa.

I am, your respectfully,

H. J. HILL, Manager and Secretary.



## The Hancock Inspirator

Best Feeder known for Stationary, Marine or Locomotive Boilers.

The Injector Perfected!

All sizes lift water 25 feet.  
No adjustment required for varying Steam Pressures.

Over 70,000 Now in Use.

MANUFACTURED BY THE  
Hancock Inspirator Co'y

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MONTREAL, P.Q. - - CANADA

Manufacturers of Inspirators, Ejectors,  
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## HUGH GIBSON,

MANUFACTURER OF

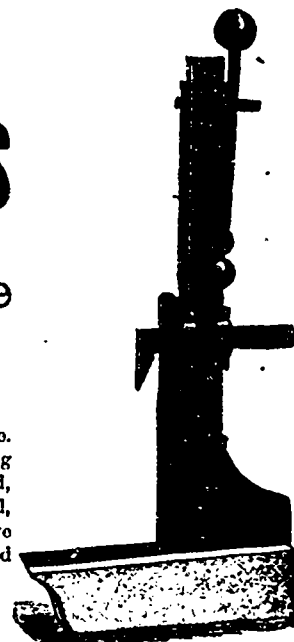
KNIGHT'S PATENT "EXCELSIOR"

## SAW MILL DOGS

The Sawyer's Favorite

For Holding Logs upon a Saw Mill Carriage while being Sawn into Lumber.

These Milldogs I guarantee to give satisfaction in every case. They will hold a frozen log as well as a soft one, for cutting Scantling, Square Timber, &c. These Cants cannot be excelled, I sell them all on their own merits, give ten or fifteen days trial, and then, if not satisfactory, return them to my order, as I have no agents on the road this year, I will sell them at a reduced price. Send for Circular and price list.



Manufactured by HUGH GIBSON, OSHATHAM. EXCELSIOR DOG.

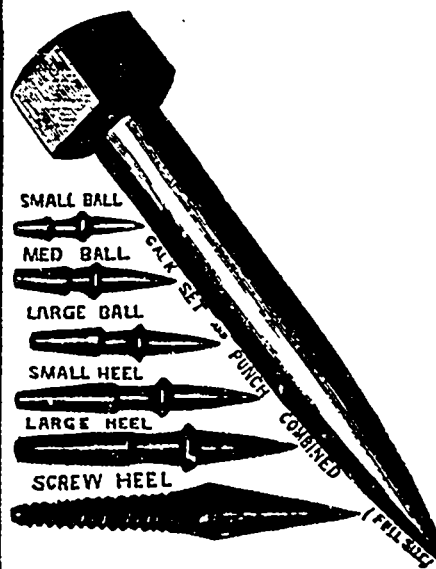
## LUMBER DRIVERS' CALKS

Our CALKS are made with small trip hammers from the best quality of steel and tempered in oil. The quality and temper can be tested by driving them into a bar of wrought iron.

These calks are now used by all the principal Drivers in Maine and New Brunswick. Kept by dealers in Lumberman's Supplies.

T. McAVITY & SONS,  
ST. JOHN, N.B.

Samples and Price Lists sent by mail on application.



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MANUFACTURERS OF SAWS.

Circular, Shingle, Gang, Cross Cut,  
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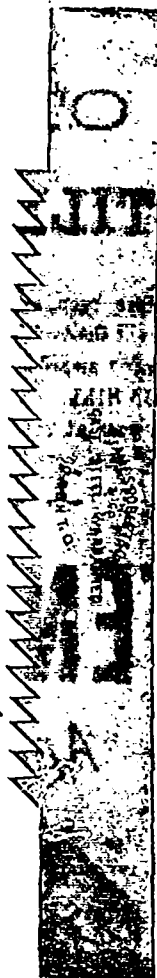
**Anti-Friction Babbit Metal**

IMPORTERS AND DEALERS IN

Band Saws, Emery Wheels, Files,  
Saw Swages, Rubber Belting, Saw Sets,  
Saw Gummers, Leather Belting, Iron Pipe, &c.



EVERY SAW FULLY WARRANTED.  
Prices on Application.



## Why do You Suffer when you May be Cured by Electricity?

Without loss of time or great expense. Ten or Twenty Dollars spent in ELECTRIC BELTS will do you more good than a hundred expended any other way.

**CRYING BABIES.**—Babies cry because they suffer. Their little gums are inflamed, and their bodies are more or less feverish. If you will tie around their necks one of NORMAN'S ELECTRIC TEETHING NECKLACES you will see a wonderful change for the better, their sufferings cease, and their general health improves. Ask for Norman's, and take no other, and you will be pleased. Price 50c.

**FEVER AND AGUE.**—Do not throw away money on worthless remedies, when NORMAN'S ELECTRIC BELTS will cure you. Use one and you will find immediate benefit. Every one is guaranteed.

**LUMBAGO.**—Those who suffer from this disease will find a friend in NORMAN'S ELECTRIC BELTS when all other remedies fail. Ask your druggist for it, and take no other. Guaranteed.

**CONSTIPATION AND BILIOUSNESS** and all disorders of the Stomach and Liver are corrected by using NORMAN'S ELECTRIC BELTS. Try one and be convinced. Guaranteed.

**FEMALE TROUBLES.**—Ladies are benefited more by NORMAN'S ELECTRIC BELTS than by all the science of medicine. They are comfortable and durable. Guaranteed.

**WEAKNESS** and Lassitude yield to the influence of NORMAN'S ELECTRIC BELTS when all other remedies fail. Try one and you will suffer no longer. Every belt guaranteed.

**NERVOUS DEBILITY.**—This dreaded and miserable disease is immediately relieved by the use of NORMAN'S ELECTRIC BELTS. Ask for them, take no other. Every belt guaranteed.

**INDIGESTION AND SLEEPLESSNESS.**—This seven-headed monster is more easily overcome by the use of NORMAN'S ELECTRIC BELTS than any other remedy, and it possibly cannot do any injury. Guaranteed.

**RHEUMATISM** cannot remain long with any one who uses NORMAN'S ELECTRIC BELTS, and Neuralgia is driven away like smoke before the wind. Give one a trial. Every belt guaranteed.

**NERVOUSNESS** may be entirely cured in a short time by using one of NORMAN'S ELECTRIC BELTS, without any fear of injury. Try one and be convinced. Guaranteed.

### TESTIMONIALS—A few Sample Testimonials that speak for Themselves.

Mr. A. NORMAN,

DEAR SIR,—I am happy to inform you that the Appliances I got from your Chicago agent have had a most marvellous effect upon my patient who suffered from Sclatica. He could get very little relief from medicine. Shortly after he got your belts he was able to get out of bed, and is now on a visit to his Canadian friends. Send me some more circulars.  
Yours truly,  
WALLANTA, D.T., December 17th, 1883.  
DR. D. McLACHLAN.

Mr. NORMAN,

DEAR SIR,—I have been wearing your Electric Belts for about six months, and have been greatly benefited by them. I recommend them to all who suffer from Rheumatism.  
Yours truly,  
PERTH, ONT., June, 1883.  
Mrs. J. GUTHRIE.

A. NORMAN, Esc.,

DEAR SIR,—I have experienced considerable benefit from your Appliances. I feel stronger and better every way.  
Yours truly,  
OTTAWA, September 3rd, 1883.  
R. E. HALLIBURTON.

A. NORMAN, Esc.,

DEAR SIR,—Soon after I commenced to use your Electric Appliances they opened my bowels, cured my cough and cold, relieved my head, and considerably relieved my catarrh in consequence. The discharges from my head and chest are now easy, and I feel altogether better. My digestion has improved, my stomach is less sour and windy, and I am less troubled with lascivious and vivid dreams. I had previously tried almost all the advertised patent medicines without deriving any good.  
Yours truly,  
PETERBOROUGH, October 15th, 1884.  
J. GREEN.

### CURATIVE BATHS: Electric, Vapor, Sulphur, and Hot and Cold Baths.

Baths have been admitted in all ages by every school of medicine, to be one of the best means of curing ailments, maladies and diseases. The Electric Bath is the latest and best discovery in this line. Come and try them. Consultation free. Circular on application.

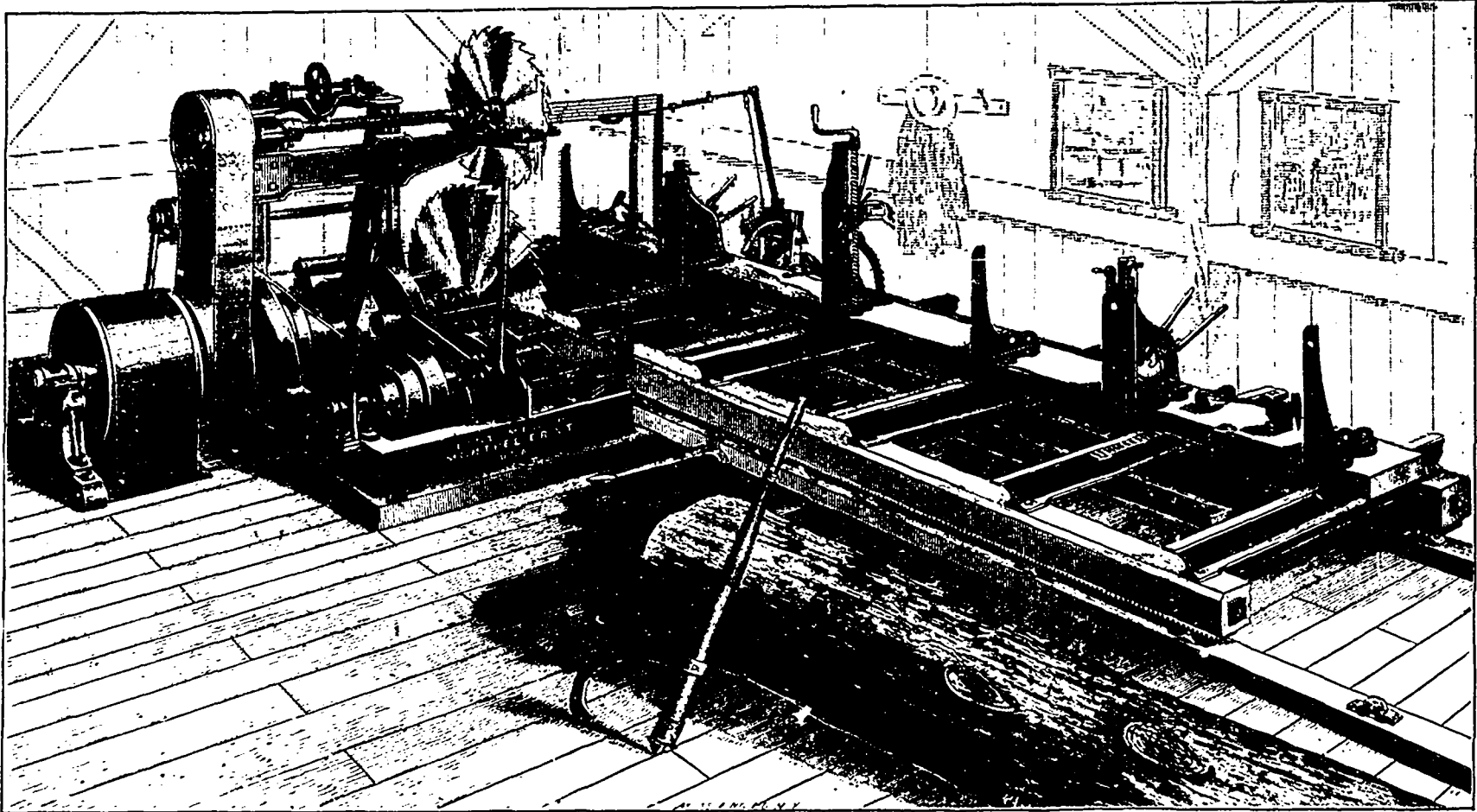
**A. NORMAN, Proprietor, 4 Queen Street East, Toronto.**

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MANUFACTURERS OF LANE'S CELEBRATED

## **CIRCULAR - SAW - MILLS**



**Circular Saw Mills,  
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**Clapboard Machines,  
Clapboard Planers,  
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Planers,  
Drag Saw Rigs,**

**Shingle Machines,  
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