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NO. 23.

WOOD PRESERVATION.

One of the greediest mouths which the forests of the United States are required to fill is that of the railway demand for ties, bridge timber, etc. According to "Poor's Railway Manual," there were in the United States at the close of 1883, 121,592 miles of railways. The average number of ties needed per mile of track is 2,830, and the duration of a tie averages about six years; hence the annual consumption of ties by all the railways of the country amounts to the stupendous total of 57,148,240. This number of ties represents, at the lowest estimate, 144,203,333 cubic feet of timber, enough to make 1,714,447,700 feet of lumber. At 20 cents a tie, the value of the ties laid yearly foots up \$11,429,648. The amount of white pine cut in the Northwest in 1883 was not four and a half times larger than the above figures, a comparison that readily shows how much timber this one branch of the railway industry demands.

It must be borne in mind that we have only given statistics here of the number of ties required for the existing railways, but this large total is being continually increased by the construction of new lines of road, and we have omitted any estimate of the quantity of timber in other forms required for railways, wharves, bridge timbers, etc. etc.

In view of the enormous draft on the forests of the country, it is evident that the time is approaching when scarcity will cause an advance in price. The not remote prospect of such an advance, as well as the present economy of a proper conservative treatment, has induced several railways in the United States to conduct experiments looking towards some feasible means of timber preservation, and the American Institute of Civil Engineers has been for some time past collecting information regarding the various processes for this purpose, with the object of embodying such information in a report to be given to the public. The question of timber preservation is one of national importance, and as it is the aim of this journal to keep its readers informed in regard to everything connected with the lumber interest, we do not think we need to apologize for devoting considerable space to an account of the causes of the short life of timber used by railways, together with a description of some of the methods for its preservation.

There are two principal causes of the destruction of timber in use by railways, namely, decay, and mechanical wear. When wood is exposed to the atmosphere its decay may be considered a species of fermentation set up by the combined action of heat and moisture in the watery and albuminous constituents of the wood, which gradually convert it into humus, or rotten wood, this process being at the same time expedited by the presence of numerous boring insects, which take up their abode in the

cells of the decaying wood and feed upon its juices.

The object of any national treatment for preserving wood is the coagulation of the albumen by substances capable of effecting this; of these the most effectual, as well as the most practical on account of its low cost, is creosote, which exercises a powerful action in the coagulation of the albumen and is also so destructive to all kinds of insect life as to completely exclude them from any wood which has been treated with it; the presence of a sufficient quantity of creosote in any liquid at once and completely arresting the fermentation for an unlimited time, and destroying all germs of animal and vegetable life.

Of the substances containing creosote the two most important, and in fact the only one available for this purpose, are coal tar and wood tar. When coal tar is distilled in iron vessels there is produced in addition to other substances, as naphtha, etc., about 30 percent of the so-called creosote, or dead oil, which has since 1850 been used in continually increasing quantities for this purpose. The quantity of coal used for gas making in Europe is about 10,000,000 tons annually, producing about 5 per cent. of tar, yielding about 155,000 tons of dead oil, the whole of which is available for treating timber. There is also a very large quantity of coal tar produced as a by-product of the gas manufacture, in the United States, but excepting in a few cases nothing has been done towards utilizing the dead oil contained in it.

The second substance, wood tar, referred to above, is the tar produced by the destructive distillation of wood for the manufacture of charcoal. Considerable quantities of this substance are produced, but as yet it has been only considered as a waste substance or available for fuel.

As wood tar contains a large percentage of true creosote, which is entirely absent in the case of coal tar, it is a better preservative of timber than any of the constituents of coal tar, and recent experiments have demonstrated that it may be used by itself for this purpose if forced into the cells of the timber while heated and in a fluid state. Many other substances have been proposed for treating timber, but on account of their cost and the comparatively small quantities produced are not available to any important extent for this purpose.

The method of treatment which is generally considered to be the most thorough, practical and rational, is that which involves first the subjection of the timber in close vessels to the action of high pressure steam for a sufficient length of time to enable the steam to penetrate all the cells of the wood and to vaporize the liquids contained therein, these being afterwards removed by a vacuum pump. After this preparatory treatment the preserving substance

is forced into the cells of the wood under powerful pressure, the quantity of this substance being regulated according to the use for which the timber is destined. If simply to be used for bridges or elevated structures the quantity of the preserving substances required is less than for ties, and if for use under water or exposed to the attacks of the teredo the largest amount which can be forced into the wood becomes necessary.

The apparatus needed for treating timber by this method is simple and comparatively inexpensive. It consists of a cylinder of boiler plate, the size of which depends upon the dimensions of the timber to be treated. This cylinder is made strong enough to resist a pressure of 300 pounds per square inch, and has a track extending for its whole length along the bottom, the ends of the cylinder being closed by strong iron doors, provided with suitable means of rendering them air and water tight. Iron cars, having wheels of small diameter fitting the track on the bottom of cylinder, are provided to carry the timber on ties while under treatment. A steam boiler with vacuum and force pumps, also reservoirs fitted with steam coils for containing and heating the preservative substance are also provided. The operation may be briefly described as follows. After the cars loaded with the timber for treatment are run into the cylinder and the doors closed, steam at about 100 pounds pressure is injected into the cylinder and the supply continued for a length of time depending upon the nature of the wood and its dryness. The steam is then shut off and the vacuum pumps started and kept at work as long as any liquids or vapors are obtained. The vacuum pumps are then stopped and the hot preservative liquid allowed to flow from the reservoir into the cylinder until it is filled. After this the force pumps are started and their action maintained until the pressure in the interior of the cylinder rises to about 200 pounds per square inch, the pressure being maintained at this point until a sufficient quantity of creosote oil or other preservative liquid is forced into the cells of the wood. The force pumps are then shut off and the creosote oil or other liquid contained in the cylinder discharged into a suitable cistern, after which the doors at the ends of the cylinder are opened and the car carrying the timber or ties run out.

When wood has been creosoted in the manner described, paying proper attention to the complete removal of water and juices previous to the injection of the creosote, the density of the wood will be found to have considerably increased, and that its tenacity for holding spikes, etc., as well as its ability to resist mechanical wear has also increased to a very notable extent. One of the southern railway constructors stated some time since in a report on this

subject that in his opinion (we quote from memory), a soft wood tie properly creosoted is much more valuable, both as regards resistance to decay and to mechanical wear, than the best white oak tie; in fact he considered creosoted soft wood ties worth \$1 each for railway use.

One of the principal causes of the rapid destruction of ties from mechanical wear is imperfect road beds, but we think that as ties become less abundant and more valuable more attention will be paid to devices for protecting them from the direct action of the rails, and, as the life of a creosoted tie when exposed to decay alone, is practically unlimited, the advantages of creosoting will under these circumstances become still more apparent.

The principal item in the cost of preserving is the quantity and cost of the preserving substances. In the case of ties, three gallons of dead oil or of wood tar will be required, while for bridge timbers a smaller quantity will suffice.

The cost of treatment, aside from the cost of the preserving agent, will not in the case of ties vary much from five cents per tie. The cost of dead oil ranges from seven to ten cents per gallon.

Ties for creosoting should be carefully selected, as it is manifestly poor economy to creosote a tie in which decay has already commenced.

The necessity of a most thorough preliminary treatment of the ties for the removal of fermentable substance cannot be too strongly insisted upon, as the value of the subsequent preserving process depends almost wholly upon its proper performance, and its neglect has been the cause of frequent failures in wood-preserving operations. It is not long ago that complaints were made in some European journal that creosoted beech wood ties became rotten in the middle of the tie while the outside for an inch or two in depth remained perfectly sound. The reason for this condition of the tie seems clearly traceable to neglect of a proper preliminary treatment of the tie; the water and juices had been removed from the surface of tie, but not from the interior. Consequently the creosote oil was unable to penetrate that portion of the tie on account of the cells being already filled with water.

We do not wish to be understood in this article as advocating the immediate adoption in all cases of wood-preserving processes, for this will depend largely upon the cost of the ties. In many localities their cost is still so low as to preclude any treatment of this kind, but there are many others in which their cost has already increased beyond the point where creosoting may be profitably employed, the area of such localities is continually increasing, and it needs no prophetic vision to foresee that in the near future the adoption of some preservative process for wood will become universal. —North-western Lumberman.

LOOSE PULLEYS.

Loose pulleys are among the most troublesome things in a saw mill to keep in order. In the first place they are not always properly designed for the work they have to perform, the same pattern being used for all kinds of duty. When the speeds are high and the belts heavy, the pulleys should be bored and reamed perfectly true; if an ordinary loose pulley be used, the boss should be extended so as to project, say an inch beyond the rim of the pulley; the inside of the boss should be recessed and an oilyway cut. The pulley should fit the shaft easily but not loosely, so as to admit of a thin film of oil penetrating between the pulley and the shaft, the object being for the pulley to ride on the oil and not on the shaft. For use in saw benches the loose pulley can with advantage be made of less diameter than the fast, so that the driving belt is relieved from strain when not at work and has time to recover its elasticity; it is usual in this case to make the loose pulley with an inclined flange leading up to the fast pulley to facilitate the shifting of the belt. The oil-hole should in all cases be of ample size, and either a lubricator or a pipe fitted. The lubrication should be carefully attended to, especially when the pulley is new; should it once be allowed to seize it will require re-reaming, or it will be constantly giving trouble. If properly fitted and lubricated cast iron makes an excellent wearing surface; a little fine plumbago introduced into the oil will keep it longer in the bearing, and by filling up the little pores in the iron produces a fine smooth surface. Should the loose pulley be made of less diameter than the tight, the difference should not be great, say not more than 1 in., or in shifting the belt from the loose on to the tight it will become unevenly stretched on the one side and be apt to run out of truth. In many cases it will be found an excellent plan to arrange the loose pulley to run on a sleeve of cast iron. A patent in this direction has been taken out (Davis's patent), of which we hear satisfactory results. In this plan the boss of the loose pulley is somewhat enlarged, and made to revolve on a "sleeve" instead of on the shaft itself. The pulley boss is recessed to form an oil chamber, and the oil is supplied in the usual way through a pipe, and is prevented leaving the bearing by means of a flange fitted to the end of the boss, and by the centrifugal force engendered when the pulley is set in motion, which causes the oil to fly immediately to the largest diameter, which is the working or rubbing face of the sleeve. Tight belts—often too narrow for the work—are a fruitful cause of loose pulleys grinding on the shaft, and getting out of order.—*Timber Trades Journal.*

FILING A CROSS-CUT SAW.

Among the free-hand trades of the wood-workers, is to be noticed that of filing a cross-cut saw. It requires considerable practice to handle a three-square file so as to cut down the worn out teeth and bring an even bevel and to leave all of them with the same pitch on the cutting side of the teeth, with sharp triangular pyramidal points that have their extremities in line with a cutting edge of the saw. It may be important to hold the file exactly in some delicate position as to bring a bevel on the back or front of the tooth so that it will not vary the smallest fraction of a degree; but when we come to notice that these surfaces cannot be very large, especially when three or four teeth are found to the inch, and a depth of cut not far from as many inches in the same number of feet along the cutting edge of the saw, we shall find that a half of one degree is not of so much importance of the smallest fraction of an inch on the length of the tooth. We have noticed after a saw has been jointed and filed along the edges of each tooth till these two beveled surfaces meet at a beveled edge, with the front bevel left the sharpest, when the saw is to cut the most in one direction, and taken to leave the roots of the teeth at equal distance from each other, and the pitch of the teeth similar in every respect, that by laying a straight-edge along on the teeth for a small portion of the saw, there is quite a variation in their length, varying much greater than would be found in the depth of cut when the whole depth is divided equally among each of the saw teeth. It may be a good

practice to remove the pressure on the file on the return stroke to preserve the cut of the file, but it would be much better to remove the file entirely as soon as the teeth have been gashed out, and to notice the effect of each cut of the file on the saw tooth, and stop at the instant the filing has brought the tooth to a point. And after the best of care has been taken, there remains the third side of the three-sided point to finish up by removing the burr that has been formed on the edges running strictly from the cutting-point. A test with a smooth-faced oil-stone will show at once if the set of the saw is in one straight line. And it would be discouraging if any workman, after he has his filing so nearly completed, should slide a piece of hardened steel, ground on one side to a smooth flat surface, along over the tooth of the saw held squarely with the blade, but it is a good practice, however, as it settles the most prominent teeth, and shows plainly those which should have a little more taken off on the backs to show the cutting edge of each tooth that runs from one side to the highest point on the other, so that each will have an equal part of the cut to perform. Many of the difficulties and troubles of the saw are found in the set of a number of the teeth, a few of them having all the clearance to perform, or those at one end of the saw blade clearing more on one side than on the other, while those on the opposite part of the blade may be reversed and evenly set; and an equal length of tooth traced down to the last atom, has more to do with the cutting of a saw than the back bevel or pitches, except directly at the point, or the spaces at the roots of the saw teeth.—*Boston Journal of Commerce.*

Timber Churches.

The common tradition, says the *Builder*, that the timber of old churches was frequently of chestnut, seems to be exploded by the researches of the French chemist, M. Payen, who procured a large number of pieces for examination, and pronounced that they were not chestnut, added to which, chestnut trees, whatever their abundance in olden times, are now extremely rare. We are told that if letters were drawn upon oak and chestnut planks, by means of pure sulphate of iron dissolved in distilled water, the characters appear at once in black upon the oak and deep violet upon the chestnut, while ammonia produces a short-lived red upon the chestnut, which is much paler and less distinct upon the oak. Another mode of examination is by making sections of the wood, which cannot well be mistaken, as chestnut timber possesses only eccentric layers, while all French and American varieties of oak show the medullary rays crossing the woody fiber from the center across the circumference.

Encounter with a Bull.

Particulars have reached Dublin of a shocking occurrence near Mullingar, by which two lives were lost. A farmer named Mulvihil was attacked and killed by a young bull, and literally hacked to pieces, his body lying in a pool of blood. During the struggle word was conveyed to the farm of what was taking place, and the servant woman, Mary Moran, about thirty years of age, at once started with a shovel in her hand, and, reaching the field, got between the bull and her master's body, which was still being gored by the infuriated animal. The bull then turned on the brave woman, who used the shovel with all her might. The conflict, however, was of short duration, and a violent blow from the bull's horns threw her violently to the ground. The bull then commenced going the unfortunate woman's body, until a number of men arrived, when a desperate struggle ensued between them and the beast. Eventually the woman was got away, but she died a few hours afterward from her injuries.

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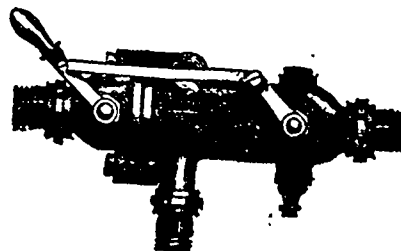
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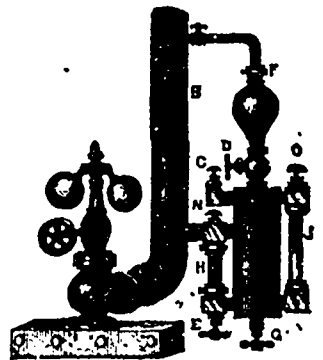
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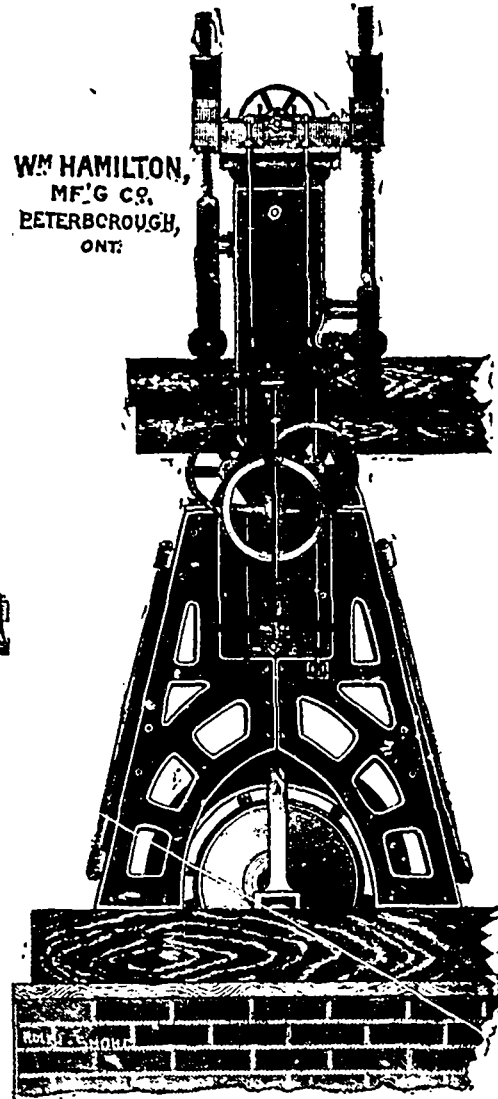
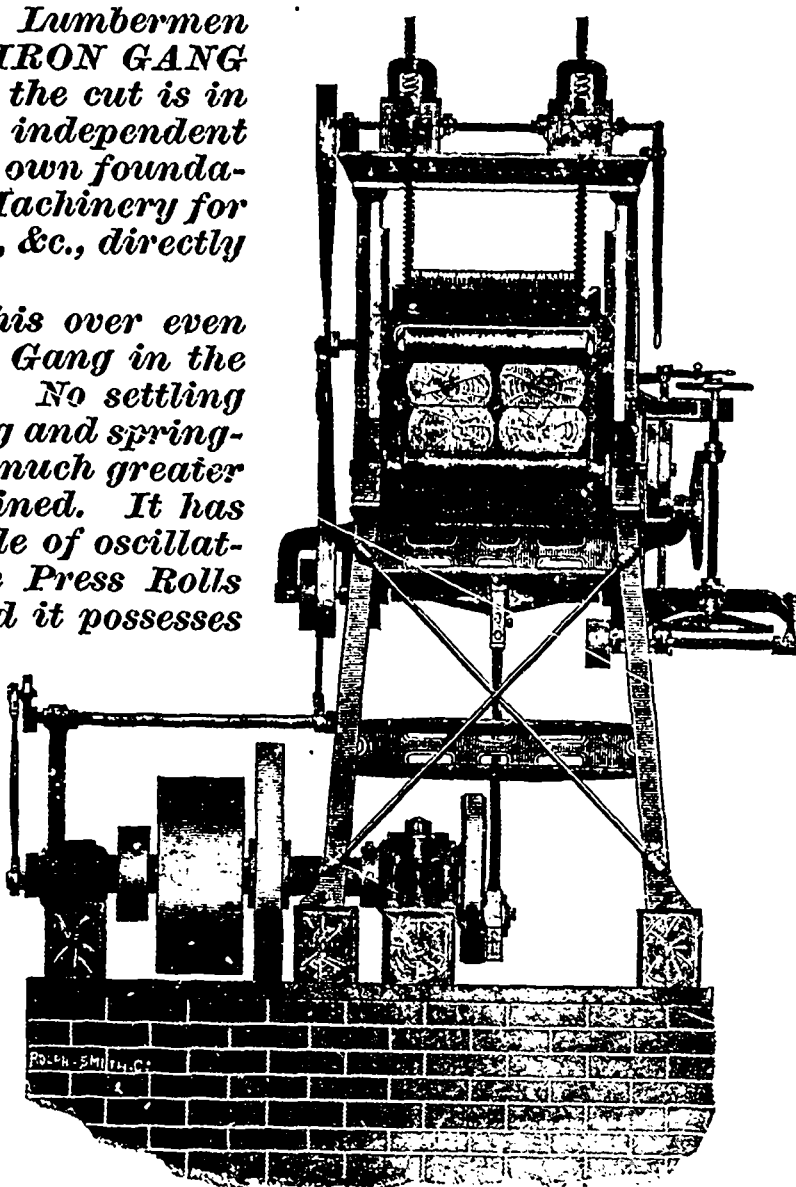
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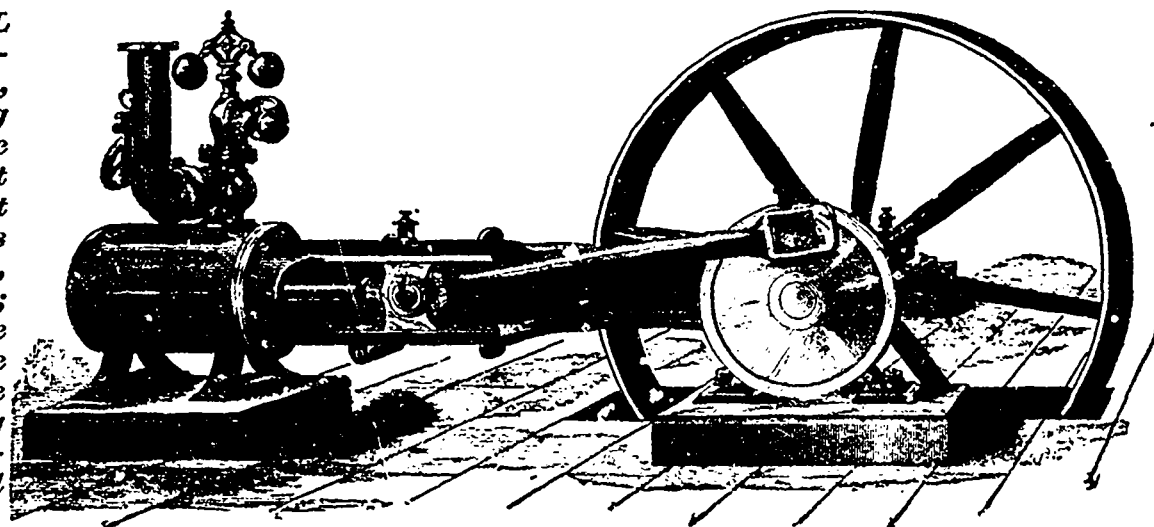
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GENTS,—We are doing big work with the Mill. We recently cut 122 thousand feet of inch Lumber in one day, with the Gang and Large Circular, without any crowding whatever. We are making a steady average of from 90 to 100 thousand feet per day. I cannot say what amount the Gang is really capable of cutting, as we have not yet been able to stock it to run it at its full capacity. I can, conscientiously recommend the Gang as the best built in Canada.

*SERPENT RIVER, September 28, 1884.
I remain, yours truly,
(Signed) WM. THOMPSON, Mill Manager for COOK BROS.*

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This cut represents our SAW MILL ENGINE, of which we make the following our Standard sizes, 12x16, 16x20, 18x24, 20x24, and 24x30, built Strong and Substantial for Heavy Work. The Piston Rod, Cross-head Pin, and Wrist Pin, are made heavy and of the best steel; the Connecting Rod has solid ends and is tightened up by screw and wedge, avoiding all danger of keys getting out; the Slide Valve has a simple balance valve, requiring no attention from the Engineer, as it is self-adjusting. The Engine Shaft and Fly Wheel made very heavy. Belt Pulleys put on when required in place of Fly Wheel, an all regulated by the Judson Governor.



WOOD USED FOR TEA BOXES IN INDIA.

On the above subject we extract the following from a memorandum by Dr. George Watt, who is on special duty with the revenue and agricultural department of the Government of India:

My views on the subject of woods suitable for tea boxes (which I hope to fully express in the dictionary of the Economic Products of India, now under preparation) are at variance with the popular outcry against our Indian timbers, as injuring the Indian teas. I may therefore be pardoned the liberty of briefly indicating the results of a few personal experiments.

I had the opportunity during the Calcutta International Exhibition of inspecting some 200 tea-box woods from all parts of India. Mr. Manson, the forest officer in charge of these collections, performed, along with me, a large series of Experiments. With four slabs of wood, between each pair of which a sheet of new lead was fastened, we tested the supposed action of the wood. One pair was unseasoned wood, the other the same wood only seasoned. After damping the pairs, they were set aside for a time under circumstances intended to simulate the effects of the hold of a ship. In many cases, such as the silk cotton tree (*shimul*) the wood was completely rotten; in others firmly attached to the lead through the growth of a fungus from the decomposition of the wood. Others, such as teak wood, seemed perfectly unaffected. In no instance was the lead found to be in over so slight a degree chemically acted upon. These experiments I repeated once or twice after the close of the exhibition, but failed utterly to discover any wood which seemed to possess the least chemical action upon lead.

That the wood is not the cause of the action seems further indicated by the fact that in China, as in India, a large number of woods are used, and that there does not seem the slightest evidence, neither in India nor in China, that any of these woods has as yet been shown by experience to corrode the lead. If the question were merely one of flavor imparted to the tea, one would expect the pine wood used in China to stand first in this respect; but what is complained of is the chemical decomposition of the lead lining, and the cause of this might readily enough be determined by chemical analysis of the tea so destroyed, compared with a chemical examination of the fresh wood used for the boxes, and chemical experiments with various actions upon the lead of the compounds formed from the fermentation of tea. The presence of any active principle among the tea which belonged to the wood would prove my explanation to be incorrect; while the establishment definitely of the peculiar compounds from tea which possess the corroding power would lay the foundation of a complete solution of the difficulty. The preparation of tea upon a scientific seems a not very distant future.—*English Ex.*

DRY KILNS.

The following description of Messrs. Rathbun & Co.'s dry kilns is given by the *Deseronto Tribune*:

One of the greatest improvements made by "The Rathbun Company" during the past few months, has been the erection of three of the celebrated "Chicago Lumber Kilns." They have been constructed in the most thorough manner, every detail being carefully looked to, and the result is that they now have the most complete structures for the purpose ever erected in Canada or the United States. They are located upon the factory yard, at the west end of the village, and the large draft chimneys, seventy-five feet high, capped with handsome iron roofs, can be seen for a long distance, from all directions, and are a very prominent object when approaching from the bay, and the source of many inquiries from visitors as to what they are, and their purpose.

The constantly increasing demand for dry lumber induced "The Rathbun Company" to make these improvements, and now that they are completed, and working, it will enable them to supply large quantities of perfectly dry flooring, siding, &c., &c., besides increasing the manufacture of doors, mouldings, and other saw factory products. Each kiln is eighteen

feet wide by seventy feet long, and will hold forty thousand feet B. M. of lumber. The heat is generated by superheated steam, which circulates through about one mile of one inch iron pipe, and by a system of draft doors and dampers, the temperature can be regulated as required from 150° to 200° Fahrenheit. To prevent checking of lumber, or drying too fast on the outside, which has been a serious objection to former kilns, there are numerous small jets of steam introduced directly into the lumber chamber, which serve to keep the air moist, and the surface of the lumber in such a condition as to dry it much more perfectly than by any former method.

In connection with the kilns, and separated from them by the firewood, is a fine brick building, size twenty by fifty feet, containing two boilers, with superheaters, set with "The Jarvis Furnace," so constructed as to burn wet refuse, sawdust wood, etc., just as it comes from the saw mill, and with a most complete arrangement for dumping the fuel directly from the mill cars to the furnace doors. These boilers not only supply steam for the dry kilns, but also heat the entire saw and door factory, the steam being conducted to it through a two inch iron pipe a distance of two hundred and fifty feet. There is also in the boiler house a powerful steam pump, with hose constantly attached for use in case of fire, which can at any time be started at short notice, and will prove a great fire protection for that end of the village. The whole is connected with the main line of "The Bay of Quinte Railway," by a complete system of tracks, that enables the lumber and fuel to be easily, quickly, and cheaply handled, and does away with labor of several horses and carts. We understand that there are other improvements projected, which will put this important branch of "The Rathbun Company's" business, in a position second to none, but as winter is now upon us, we presume nothing further will be done until another season opens. Such improvements are a benefit and a credit to the place, and are a substantial proof of the enterprise of "The Rathbun Company."

LUMBER CHUTES ON THE CALIFORNIA COAST.

In the *Milling and Scientific Press* of November 1, published at San Francisco, is a lengthy article, with illustration, on a novel method of loading lumber adopted at various points along the coast. The following is a condensation of the article:

The shore line of the west coast of the United States has very few good harbors. Between San Francisco and the Straits of Fuca, some 700 miles, there is really not a single harbor which is always accessible during gales. There are a number of open roadsteads, giving partial shelter from the summer Northwest winds, and several bar harbors, all of which are dangerous of access and utterly impracticable in heavy or even moderately bad weather.

For nearly the whole length of the northern coast, the immense forests, extending back for miles from the shore furnish employment for labor and investment for capital. At every available point for shipment stands a saw mill, turning trees into lumber which is sent here by sea and thence distributed. Every little river has its fisheries and canneries, and all the valleys and bottom lands their agricultural population.

The produce is mainly shipped by sea and under the peculiar existing conditions the people have had to devise means to overcome the natural disadvantages of the coast line. From these necessities has grown up the "chute system," of loading and discharging vessels.

Most of these chutes are on the coast north of San Francisco, although there are a few on the south coast also. They consist of a long incline of wood in the form of a shallow trough, extending from a headland of a shipping point, or from a high wharf or pier, out to a point where water is deep enough to allow vessels to come under and load, and are suspended from shears resting on the headland and piers. Of course, no average can be given of their length, size, cost of construction, or length of shears. These items all depend on the location and conformation of the coast. In some cases they are 60 feet long, as when used from a wharf or

pier, and in others 600 feet or more. The length depends entirely upon the vertical height from sea level, to the point from which the lumber is started. There must be inclination enough for lumber to slide by its own weight, and yet not so much that its impetus would be too great. Nor part of the structure ever touches the vessel, except by accident, but the whole thing is suspended from the various shears of supports, and the outer end or apron is raised or lowered to suit the stage of the tide, height of vessel, and weight of lumber, according as it is light or heavy. In stormy weather they are, of course, hoisted high in the shears.

The engraving which accompanied this article in the San Francisco paper was made from a photograph of Rockport chute, Mendocino county, formerly known as Cottanouve, a landing only considered available for six months in the year, and by no means the best on the coast at any time. An isolated rock off the beach, which was so precipitous and pointed as to have a foothold at its pinnacle for only one man to work at first, has been cut down until it presents a surface available for storing over 200,000 feet of lumber. From this rock to another nearer shore has been stretched a wire suspension bridge, costing over \$13,000, and the horse cars bringing lumber from the mill come on trestle work the bridge, and cross it to the other rock. The chute comes down from the outer rock, where the lumber is piled. There are guys, stays and braces to steady the chute, and regulate the inclination as well.

There is no other part of the world where this chute system is in vogue. They are built on all sorts of places along the coast. The extreme edge of a headland or point is often selected on account of depth of water. The ocean surf is constantly rolling in, and even behind many of the small points or headlands there is a heavy swell. In many places the insurance men refuse to take risks on the vessels on account of the danger of loss.—*Northwestern Lumberman.*

REDWOOD.

In a recent interview with the representative of the California Redwood Company, who is now in this country, we gleaned some remarkable details about this new and interesting wood. The trees, especially those of a large size and toward the butts, are like the firs and pines ring or cup and star shaken; but, as the secretory matter which forms the heartwood is devoid of resin, the faults, shakes, or fractures are clear and open. In this detail they form a strong contrast to the pitch pine, or southern pine, in which these shakes are the lodgment of large quantities of resin. Again, the wood cut from the butts is specifically heavier than that from the upper part, and when thrown into the water will sometimes sink at the butts and lift clear out of the water at the tops. This remarkable phenomenon appears to be owing to the saturation from the ground by water, for the butts upon being cut and dried resemble the wood of the upper part in every respect.

The durability of this wood seems remarkable, proof of which is found in fallen trees in the wood being grown over, and spanned or grasped by other and large trees. In walking upon these

prostrate logs, the bark and sapwood is so rotten that the feet sink in it like walking on snow; but the heartwood is found to be perfectly sound. These logs from being saturated with water, by contact with the ground, will not float in the water. The wood of these long-fallen trees is equally as good as that of the standing ones, but somewhat more dark in color. In dealing with these logs they cross-cut them in lengths, and elevate them above the ground to dry; in two or three years they will be sufficiently dry to float.

The pine (Oregon pine) and the spruce are common in these redwood forests, but the fallen trees of these woods rapidly rot, and are consequently worthless for commercial purposes.

These redwood trees, although evergreen, resembling our yews, admit of an undergrowth, through which it is impossible with an axe to force a way. This is curious, for our yew groves admit of no undergrowth, not even a blade of grass. This fact in connection with these redwood trees is no doubt traceable to the enormous height of the foliage above the ground, it admits of an atmosphere, although to large extent devoid of light, in which an undergrowth can exist. The atmosphere of these woods is cold and damp when the outer air, exposed to the sun, is hot and dry.

This redwood, from its non-resinous character, is unsuitable for burning. In the standing tree this is so marked that forest fires are unknown.—*Timber Trades Journal.*

DECEPTIVE CIGAR BOXES.

A little package of cigar box lumber, says an exchange, comes to us from the Phoenix Lumber Company, Milwaukee, that in some respects is of considerable interest. One piece is Spanish cedar veneered on poplar, and another most men would say was cedar, providing they saw but one side of it. Turned over, and it is plainly basswood. This imitation of cedar is a patent process, we understand. Many a smoker is not so expert that he can judge of a cigar on its merits, but depends much on the appearance of the box out of which it is taken. If he thinks the box is cedar, he takes it for granted that the cigar is not a bad one. Here is where he is liable to be deceived, and in this regard an imitation cedar box acts as a deceptive agent. What he takes for a Spanish cedar box may be pure basswood.

It is stated that the saw mill building at the New Orleans, La., exposition has been completed. It is 600 feet long, and 40 saw mills are located in the building. If the arrangements for securing a reasonable supply of logs are such as were promised there will be an opportunity for a competitive display of saw mills and accessory machinery and appliances such as has never before been afforded.

"Frailty, thy Name is Woman."

That she is frail often in body,
"Tis true, 'tis true 'tis a pity
And pity 'tis 'tis true."
Dr. Pierce's Favorite Prescription is the best restorative tonic for physical frailty in women or female weakness or derangements. By druggists. Price reduced to one dollar.

LIVERPOOL STOCKS.

We take from the *Timber Trades Journal* the following Comparative Table showing Stock of Timber and Deals in Liverpool on Nov. 1st, 1883 and 1884, and also the Consumption for the month of Oct. 1883 and 1884:—

	Stock, Nov. 1st, 1884.	Stock, Nov. 1st, 1883.	Consumption for the month of Oct., 1883.	Consumption for the month of Oct., 1884.
Quebec Square Pine.....	345,000 ft.	406,000 ft.	253,000 ft.	348,000 ft.
Waney Board.....	520,000 "	301,000 "		
St. John Pine.....	35,000 "	59,000 "	30,000 "	34,000 "
Other Ports Pine.....	70,000 "	30,000 "	0,000 "	8,000 "
Red Pine.....	68,000 "	61,000 "	2,000 "	3,000 "
Pitch Pine, Sawn.....	648,000 "	309,000 "	58,000 "	100,000 "
Planks.....	432,000 "	475,000 "	123,000 "	204,000 "
Dantid, &c., Fir.....	55,000 "	68,000 "	18,000 "	4,000 "
Swedon and Norway Fir.....	90,000 "	113,000 "	40,000 "	38,000 "
Oak, Canadian and American.....	70,000 "	69,000 "	47,000 "	10,000 "
Planks.....	262,000 "	312,000 "	82,000 "	129,000 "
" Baltic.....	182,000 "	173,000 "	57,000 "	81,000 "
Elm.....	9,000 "	21,000 "	0,000 "	0,000 "
Ash.....	30,000 "	25,000 "	12,000 "	20,000 "
Birch.....	30,000 "	25,000 "	14,000 "	7,000 "
Greenheart.....	78,000 "	162,000 "	60,000 "	67,000 "
East India Teak.....	28,000 "	39,000 "	53,000 "	9,000 "
N. B. & N. S. Spruce Deals.....	31,000 "	109,000 "	5,000 "	8,000 "
Pine.....	31,597 stds.	23,204 stds.	0,315 stds.	9,482 stds.
Quebec Pine & Spruce Deals.....	1,100 "	1,065 "		
Baltic Red Deals, &c.....	10,269 "	8,849 "	2,633 "	3,361 "
Baltic Boards.....	3,701 "	5,597 "	857 "	1,559 "
" prepared Flooring.....	40 "	291 "	27 "	31 "
	2,975 "	3,651 "	894 "	715 "

WOODEN WATER PIPE.

Respecting the durability of wooden water pipe, a member of the Engineers' Club, of Philadelphia, said: "The section of spruce was originally about 14 inches in diameter at the large end and somewhat smaller at the other, having a rot iron band about 1 1/2 in. wide, 3/4 in. thick at one end and tapering to a thin edge at the other, so that it could be driven on or into the end of the log near the outer circumference. A piece of iron pipe 4 in. internal diameter and about 12 inches long, tapered to a thin edge at each end, served to connect the ends of the two adjoining logs, which were driven over it end to end, and prevented from sagging by the iron bands around the ends of the logs. In some cases no interior iron coupling pipe was used; one log was tapered at one end and driven into the next one, which was prevented from splitting by the exterior iron band. The 4 in. pipes, so far found, were of yellow pine, spruce, and oak, of about 12 feet lengths, and from 12 to 24 feet in diameter, and supposed to have been laid between 1795 and 1805; the depth at which they were found varied from 2 to 8 feet below the surface of the street. The outer bark and heartwood of the spruce logs were generally sound, while the inner bark and sapwood were decayed, except where the soil was dry, gravelly or porous, when the greater part of the wood was decayed and the iron badly corroded. A specimen of red oak from a log adjoining the spruce one was decayed on the under side, but other portions looked nearly as fresh as if recently laid.

THE BAMBOO.

There is a class of plants which gives a peculiar character to most Indian forests, and this is the bamboo. They are tall arborescent grasses, generally growing in dense clumps, consisting of numerous slender stems, often 60 feet high and more. The stems are hollow, light, and very strong, and they furnish most valuable material for building; but they are also used to make baskets and mats, and the walls, floors, and even the roofs of houses are often made of stout bamboo matting. The demand for bamboos is very large, many millions being annually floated down from the Burmah forests, and they are exported from most of the larger forest districts in India. Only in some remote districts are the bamboos as yet without value. A project was started a few years ago to use the fresh shoots of the bamboo for the manufacture of paper, and extensive concessions were made by Government to the promoters of this project. Excellent paper from bamboo is made in China, and there seems no doubt that fresh bamboo shoots yield one of the most valuable of paper stuffs. But in most districts the stems fetch much more when mature than the papermaker could afford to pay for the fresh shoots, and in those remote districts where bamboos have as yet no value the unhealthiness of the forests, the scarcity of labor, and other difficulties are in the way of this undertaking.

New Mills at Port Arthur.

The Port Arthur Boom Slide and Lumbering Company, in which Messrs. Connee and Thompson are the principal stockholders, propose to assist in keeping up the boom in Port Arthur by erecting a large saw mill on their water lot adjoining Geo. A. Priest & Co.'s planing mill. The mill will have a cutting capacity of 50,000 feet per day, and will be fitted up with the best and most approved machinery. The company have already contracted for the delivery here of 5,000,000 feet of logs and in fact they would have had some on the spot already had it not been for the obstructions previously in Pine river, where the logs are being obtained. It is believed a number of new mills and factories will go up next summer along the water front.—Sentinel.

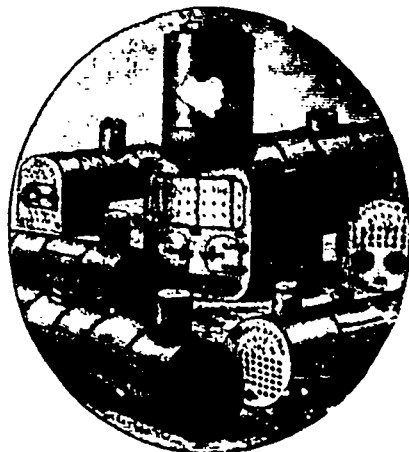
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Are you disturbed at night and broken of your rest by a sick child suffering and crying with pain and cutting teeth? If so, send at once and get a bottle of Mrs. Winslow's Soothing Syrup for children teething. Its value is incalculable. It will relieve 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.

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There is no member of society to whom this book will not be useful, whether youth, parent, guardian, instructor or clergyman.—Athenaeum. Address the Faculty Medical Institute, or Dr. W. H. Parker, No. 4 Bulfinch Street, Boston, Mass., who may be consulted on all diseases requiring skill and experience. Chronic and obstinate diseases that have baffled the skill of all other physicians, can be cured by this book. Such treated cases will be sent without an instance of failure. HEAL THYSELF

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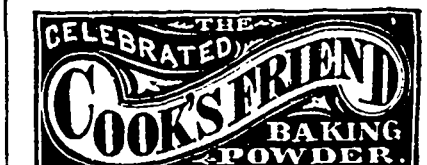
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All communications, orders and remittances should be addressed and made payable to THE PETERBOROUGH REVIEW PRINTING AND PUBLISHING COMPANY (LIMITED), Peterborough, Ont.

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

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

PETERBOROUGH, Ont., DEC. 1, 1884.

AMASA HOWE is rebuilding his shingle mill recently burned at Fort Fairfield, Me.

A NEW steam mill for the manufacture of short lumber will be built at Atkinson, Me.

A NEW mill will shortly be established by Messrs. Lee & McTavish at Rapid City, N. W. T.

JAMES FOWLER's saw mill, near Shoridan, Mich., was burned Nov. 7th, causing a loss of \$12,000.

THE Cumber Lumber Company will put a passenger coast on its logging railroad running north from Cadillac, Mich.

THE schooner Plowboy left Toronto Nov. 1st, bound for Charlotte, N. Y., but had to put into Port Dalhousie with the loss of her deck load of timber.

THE Alberta, N. W. T., Lumber Company have had supplementary letters patent issued to them authorizing an increase of their capital to a million and a half.

OTTAWA lumbermen say that the season was the most favorable one for sawing operations, and that the cut will amount to about the same as last year.

It is the intention of the Rainy Lake Lumber Co. to build a planing mill on the north side of Lawrenson's creek. It is to be completed before the spring.

OAK pillars, it is admitted by architects and builders, are better supports for a building in case of fire than iron, owing to the liability of the latter to warp and give way from heat.

It is said that there is a skating rink floor in Indianapolis made of paper lumber. The boards are laid edgewise, and the surface sand-papered smooth. It is comparatively noiseless.

WORLD'S INDUSTRIAL EXPOSITION.

The World's Industrial and Cotton Centennial Exposition was inaugurated by a resolution of the National Cotton Planters' Association of America at its annual meeting in October, 1882. The original intention was to designate it simply "The World's Cotton Centennial," the year 1884 being the centennial anniversary of one of the great commercial events of America—the first exportation of cotton from the same; but subsequently this comparatively limited intention was abandoned, and the scope of the enterprise was extended by making it "The World's Industrial and Cotton Centennial Exposition," thus imparting to it both a national and international character, which decision was more emphatically confirmed by an act of the United States Congress and by proclamation of the President to the whole world.

In accordance with the provisions of the act of Congress the location of the exposition was fixed at New Orleans and ample funds were at once provided for the same. The United States Government will expend \$300,000 for its collective exhibit, and \$1,000,000 was loaned by the Government to the enterprise; \$100,000 was appropriated by the city of New Orleans, \$100,000 by the State of Louisiana, and \$500,000 was subscribed by the citizens of the city of New Orleans.

The classification of the exhibits will comprise the following groups:—1, agriculture; 2, horticulture; 3, raw and manufactured products, ores, minerals and woods; 4, furniture and accessories; 5, textile fabrics, clothing and accessories; 6, the industrial arts; 7, alimentary products; 8, education and instruction; 9, works of art; 10, pisciculture. These ten groups have been divided into 1,000 classes. In addition to these will be a number of other special and interesting departments.

Water, gas and steam, and other motive power for machinery will be supplied gratuitously. Neither American or foreign exhibits will have to pay rent for the space allotted them in the exposition, but a reasonable entrance fee, suitable to the character of the exhibit offered, will be charged to the exhibitors of the United States.

The buildings and grounds devoted to the purpose of the exposition will be of ample capacity, and will embrace all the improvements and facilities suggested by the experience of previous expositions of a similar capacity. There has been erected five principal buildings.

In addition to the other great structures will be 40 saw mills in constant operation, enormous and elegant accommodations for live stock; costly and imposing structures of various manufacturing concerns, and two magnificent buildings erected by the Republic of Mexico at a cost of half a million of dollars. This Republic will maintain a distinct exhibit, and have quartered on the grounds during the entire exposition a battalion of infantry and one cavalry with the two principal bands of the same. This will be an attractive feature.

The exposition being under the joint auspices of the United States government, the city of New Orleans and National Cotton Planters' Association of America, it will be formerly opened on Tuesday, the 16th day of December next by the President of the United States, assisted by his cabinet officers, the Congress, governors of the various states, and President Diaz, of the Republic of Mexico. A formal and urgent invitation to assist in these exercises has been extended to his Excellency the Marquis of Lansdowne and his cabinet ministers. The inauguration exercises will be conducted upon an elaborate and appropriate scale.

THE Pioneer Lumber Company of Eau Claire, Wisconsin, has failed with liabilities amounting to \$250,000. Two years ago the company suffered the loss of their valuable mill by fire, and it also was one of the heaviest sufferers by the flood this year.

THERE is now every reason to believe that Mr. Peter McLaren, the well known lumberman of Perth, intends extending his business to Brockville. His agent was in that town securing leases for two yards, one on the corner of Perth and Brock streets and the other on the corner of Brock and John.

REVIEW OF THE LUMBER TRADE DURING THE PAST SEASON.

The Quebec Chronicle says:—The lumber and timber trade of the port, we learn, has been again in most respects unprofitable to all concerned. Our shippers had to face one of the most gloomy winters in England that can be remembered in the history of the trade, and the amount of stuff sold was very much lighter than usual, especially in white pine timber, which, owing to the depressed state of ship building had almost gone out of consumption. In the face of this a considerable quantity of square timber was made up the Ottawa, augmented to some extent by a very favorable winter, and this supply coming on a market already overstocked created a depression throughout the year which has told seriously against the producer and has not benefited the shipper. Very little new timber changed hands early in the season; with the exception of a few small average rafts which were forced upon the market, and these were sold at large reduction on the previous year's prices. A little later on in the season we heard of a few operations in a better class of rafts, but on the whole the business was very light, and a large bulk of stock now wintering over is in the hands of the lumbermen. We are glad, however, to learn that the production on the Ottawa this season is likely to be very much smaller than usual, and it is said by those well informed that it will not exceed a million and a half. If this is realized it will tend greatly to strengthen the value of Ottawa pine in this market next season, but nothing short of a cessation of production will bring about this improvement. In hardwoods values have changed very little with the exception of oak, which has been dull of sale during the year, and concessions have ultimately had to be made to force sales. We hear the production of this wood is not likely to be large, and as most of the best parcels are now in the hands of shippers we may possibly see the value of this wood maintained, but in this as in other articles much depended upon the quantity produced. Deals have been in fair request all year especially the higher grades, 3rds and 4ths being less saleable, but the stocks wintering over will be lighter than have been known for very many years. The season just closed has been one of the lightest on record as regards the volume of shipments, and owing to the very high rate of ocean insurance it has now almost become prohibitory to ship in sailing vessels late in the year. Very few sailing ships came out on their second voyages compared with previous years, and the amount of tonnage short is about 124,000 tons. This it is to be hoped will give relief to the home markets and create a healthier state of things there and may in this way assist the coming year's business, but unless things are kept in a very moderate compass the trade will undoubtedly be depressed for a much longer period. The stocks wintering over at this port have not yet been made up, but will be seen as usual in the annual statement of Messrs. Forsyth when issued.

FREIGHTS.

In 1881 there was a deficiency in sailing tonnage as compared with 1880 of about 200,000 tons in round numbers, and this deficiency has not since been made up. This year there is again a deficiency on last year as follows:—

SAILING VESSELS.	
1883.....	627 vessels 504,062 tons
1884.....	499 " 380,147 "
Less.....	128 " 124,815 "

In ocean steamers there was an increase last year of about 95,000 tons. This year there is decrease of about 25,000 tons as follows:

1883.....	269 strs. 451,500 tons.
1884.....	239 " 425,631 "
Less.....	30 " 25,978 "

Freights ruled dull and low throughout the whole season with a little stiffening towards the end of June and at the close of the season. It is seldom that we see so few ships in port after the middle of October as we had this year, but shipments were so light that no more were wanted and freights remained on a dull level throughout. Large quantities of deals were carried by steamers, both the regular lines and outsiders, a business which is fast concentrating at Montreal, and for the first time, we believe,

steamers actually loaded square timber or what is equal thereto in Montreal. It is a pity to see our shipping business gradually drifting from us in this way, and it might be supposed that the rules and regulations of the Ship Laborers' Society, which are said to be the cause, would be revised and amended and brought more into accordance with the interests of the port and the views of the ship-owners, particularly as we are given to understand there is no objection made to the actual rate of wages.

The following is a statement of prices current during the season:—

MAT.	Timber.	Deals.
Liverpool.....	20s.	
Greenock.....	20s.	
Steam:—Montreal to London.....		47s. 6d., 46s.
Three Rivers to Glasgow.....		40s.
Range of Porte West Coast.....	18s., 20s.	
Steam:—London to Liverpool.....		50s.
Greenock.....	17s. 6d.	
Drogheda.....	25s.	55s.
Lisbon.....		55s.
Bristol.....	20s.	
JUNE.		
Liverpool.....	20s., 21s.	55s.
London.....	23s. 3d.,	
	22s. 6d.	55s.
Hull and Grimsby.....		55s.
Greenock.....	20s., 17s.	
	18s. 6d.,	
	18s. 6d.	
Belfast.....	20s.	
Aberdeen.....	24s.	60s.
Glasgow.....		55s.
Three Rivers to London.....		55s.
Saguenay, Melis, Mantane or Rimouki to London.....		52s. 6d. 55s.
Do to Sligo.....		60s.
Do to Marseilles.....		60s.
East Coast England.....	22s. 6d.	55s.
Chatham and Sheerness.....	20s.	55s.
Steam:—To Sunderland (s. "Acton").....	20s.	50s.
Montreal to London.....		50s.
Montreal to River Plate.....	\$13@14 p.m.	
Steam:—To Liverpool.....		45s.
Newcastle.....	22s. 6d.	55s.
Sunderland, Hull or Hartlepool.....	22s. 6d.	55s.
JULY.		
Liverpool } Pine.....	21s.	
	{ Hardwood.....	22s. 3d.
Greenock.....	18s. 6d., 18s.	
Range Ports East Coast.....	23s.	55s.
London.....	22s.	52s. 6d., 55s.
Clyde.....	18s. 6d.	
Montreal to West Coast.....		52s. 6d.
Cardiff.....	19s.	
Chatham or Sheerness.....	23s.	55s.
Sunderland.....	20s. 6d., 21s.	
Plymouth.....		65s.
Liverpool.....	20s. 6d.	
Waterford.....	21s.	50s.
AUGUST.		
London.....	220. 6d.	62s. 6d., 55s.
Liverpool.....	20s. 6d.	
Quebec to River Plate.....	\$13 per 1,000 ft. B. M.	
Greenock.....	18s. 6d., 19s.	
Bristol.....	21s.	
Sligo.....		62s. 6d.
Steam:—Three Rivers to Liverpool.....		50s.
Do. Montreal to Liverpool		50s.
Cardiff.....	20s.	
SEPTEMBER.		
Cork.....	22s. 6d.	55s.
Liverpool.....	20s.	
Greenock.....	20s.	
Steam:—Montreal to London.....		50s.
(Longitudinal sleepers)....		60s.
London.....	23s.	50s., 52s. 6d. 47s. 6d.
OCTOBER.		
Fleetwood.....	23s.	52s. 6d.
East Coast.....	20s.	47s. 3d.
Cape Town (staves).....	£5 (deals & boards)	£5

Gum as a Disease. Dr. Beyrinck, a distinguished Dutch naturalist, has been investigating the origin of the masses of gum collecting on the limbs of certain kinds of trees, notably the plum and apricot. He finds that the exudation is due to a disease produced by the presence of parasitic fungi, and when healthy trees are inoculated with the gum thus produced they speedily contract the disorder, which is highly contagious. The disease disseminated by the drying of the gum by oxidation and its circulation in the wind, which thus wafts the germs for many rods, so that one diseased tree may infect a whole plantation.

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MANUFACTURERS OF EVERY DESCRIPTION OF
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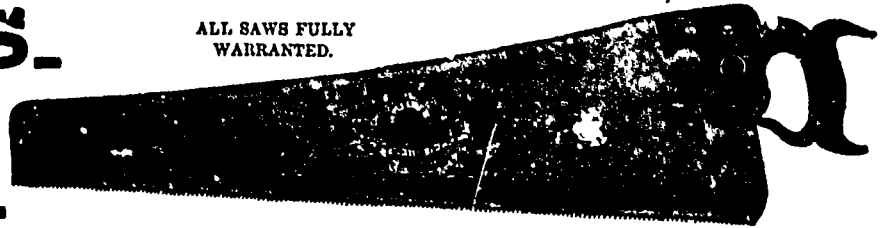
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Electric Belt Institution,

(ESTABLISHED 1874),

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NERVOUS DEBILITY, Rheumatism, Lame Back, Neuralgia, Paralysis and all Liver and Chest Complaints immediately relieved and permanently cured by using these BELTS, BANDS, AND INSOLES.
Circulars and Consultation FREE.

A FEW SIMPLE TESTIMONIALS THAT SPEAK FOR THEMSELVES.

OTTAWA, September 3rd, 1883.

A. NORMAN, Esq.—Dear Sir,—I have experienced considerable benefit from your appliances. I feel stronger and better every day.

Yours truly,

R. E. HALIBURTON.

PETERBOROUGH, October 15, 1883

A. NORMAN.—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 discharge from my head and chest are now easy, and I feel altogether better. My digestion has improved, my stomach 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,

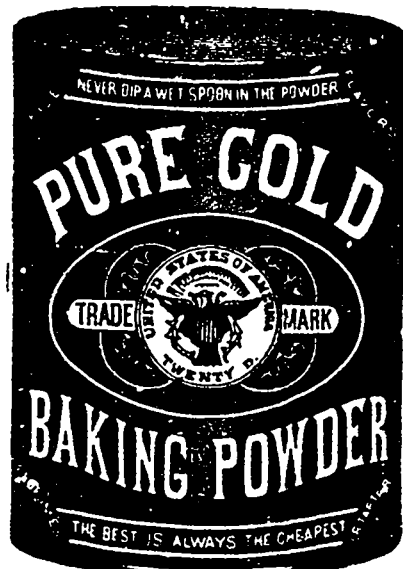
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A. NORMAN, Proprietor.

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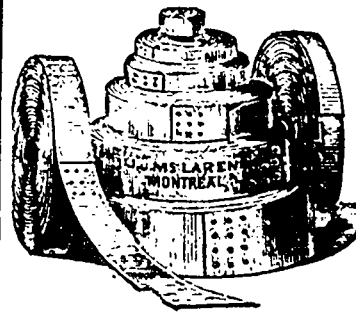


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SAW MILL DOGS

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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.

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EXCELSIOR DOG.



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 odd 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. 16148321

DESERONTO.

The output at the cedar mill during the month of October, says the *Tribune*, exceeded that of any previous month in its history, when we consider the stock used and amount of machinery in operation. The following is a list of different kinds of lumber manufactured during the month, and amounts of the same cut:—Railroad ties, 3,360 pieces, 8x10 in. post, 11,104; shingles, 2,231,250; heading, 66,000; cedar, 16 in., 16,200; joisting and dimension timber, 549,700 feet B. M.; 1½ lath 4,297,000 pieces; saw logs, 2,180 pieces; floats, 453; square timber, 329; paving blocks, 67 car loads; 18 in. wood, 907 car loads; 4 in. wood, 491 cords. Shipment from this department have been lively all season, particularly by rail during the construction of the N. T. & Q. Railway. A great number of car loads of ties, posts, telegraph poles, culvert and bridge timber, material for station, section and coal houses, were shipped from the mill, and this, with numerous orders from the Grand Trunk and other lines, made the past season more lively than ever heretofore. The convenience afforded by the Bay of Quinte railway is greatly in favor of this mill, as it conduces to a great measure of promptitude in delivering of material and filling orders. The shipments by water have also been on a very extensive scale, and will continue so till the close of navigation, when the mill will shut down for a short time to make slight repairs, previous to entering on winter operations.

A DESTROYER IN THE SPRUCE FORESTS IN MAINE.

According to accounts of observations published in the third bulletin of entomological division of the department of agriculture, the ravages of the spruce bud and worm (*Tortrix Fumiferana*) have been extensive and destructive in the coast forests of Maine west of the Penobscot river. The damage appears to have reached a few miles inland from the coast but the belt in which it has prevailed is marked by extensive masses of dead woods. The trees are attacked in the terminal buds, which are eaten away, and when that is done the case is hopeless. The fatal character of the attack is owing to the fact that the spruce puts forth but few buds, and those mostly at the end of the twigs, and when these are destroyed, it has nothing on which to sustain the season's life. The attack was made in June when the growth is most lively, and just at the time when the check upon it can produce the most serious results. The larches are also attacked by a saw fly, but with results that are not as necessarily fatal as in the case of the spruce. They are more liberally provided with buds, some of which may escape and afford a living provision of foliage. The larch, moreover, sheds its leaves in the fall, and is in full foliage before its enemies attack it. Hence, while the spruce and fir succumb to the first season's assaults, the larch can endure two years of them.—*Science Monthly*.

THE THIRD FIRE AT DULUTH.

Duluth, Minn., has again, for the third time, since July, says the *Northwestern Lumberman*, been visited by a disastrous lumber fire. At 1 o'clock on the morning of November 10th, fire broke out in the lumber yard of the Oneota Lumber Company, destroying about 8,000,000 feet of lumber partly belonging to other parties, the saw mill and 10 buildings, including boarding houses, store, office, dwellings, stable, etc., belonging to the same company, and the saw mill and yard of the Osterhout & Hugart Lumber Company. The losses are about as follows. Oneota Lumber Company, mill, lumber, houses, etc., \$60,000; insurance, \$28,500, lumber, \$8,000, store, etc., \$7,800; total, \$104,600. Osterhout & Hugart Lumber Company, loss on mill, lumber, etc., \$61,000; insurance on mill, \$13,000; on lumber, \$91,000. Other losses on lumber stored in yards are, Bradley, Hanford & Co., \$20,000; John McKinley Lumber Company, \$10,000; Duluth National Bank, \$5,000; Alfred Merritt, \$3,000; Freeman Keene, \$3,000. H. W. Coppernall, trustee for the Muskegon National Bank, \$40,000; DeLittle, \$3,000. The area burned over was about 30 acres, and it is

estimated that the total loss was 15,000,000 feet. The total loss is put at from \$200,000 to \$230,000, and the total insurance is \$176,000. The Oneota company shut down last Friday, and was said to be in arrears to its men, leading to the supposition that the fire was incendiary, from motives of revenge.

THE FORESTRY AGITATION.

People who are discouraged because the forestry agitation does not take hold better should remember that in France and Germany nothing was done to arrest the destruction of forests till the people began to fear that they would run out of fuel. They then instituted a very effective system of tree culture. In England the same result was reached by the discovery that much land which was unfit for agriculture could be profitably planted with trees. So in America, where the need presses, the trees are being grown. In Dakota, Minnesota, Nebraska, and some parts of Kansas, it is a common practice to devote a part of the farm to timber. Much of the pine land which is being cleared now will eventually be again given up to forest trees, because it is good for nothing else. Nothing much will be done in this direction, however, until lumber grows scarce and the scantiness in the supply gives promise of better prices. It may be taken for granted that every man will continue to clear his timbered lands whenever he wants more acres to cultivate in grain or whenever he chooses to sell the logs. Very few will be governed by any consideration for the climate, the streams, the springs, the floods, or other matter, except their own immediate gain. Measures to restore the forests will only be taken after their loss is felt.—*Southern Lumberman*.

LARGE TREES.

Michigan lumbermen sometimes lay claim to having cut some monstrous trees, remarks the *Lumberman's Gazette*, as in fact they have; but in comparison to a couple of redwood trees recently reported by the *Santa Rosa Republican* of California, the largest pine tree ever leveled in a Michigan forest would present the appearance of a mere sapling. The *Republican* says that "a redwood tree, cut in this country, furnished all the timber for the Baptist church in Santa Rosa, one of the largest church edifices in the country. The interior of the building is finished in wood, there being no plastered walls. Sixty thousand shingles were made from the tree after enough was taken for the church. Another redwood tree, cut near Murphy's mill, in the county, about ten years ago, furnished shingles that required the constant labor of two years before the tree was used up. The above statements are vouched for as true by Supervisor T. P. Proctor."

TREES IN CITIES.

The planting of Gray's-in-road will be no small part of the improvement of a district of London that till recently had few attractions, and if the Holborn Board of Works be stimulated to carry on the work it is only to be hoped that other bodies will follow the good example. Any one who has looked down on London from great height—say from St. Paul or Queen Anne Mansions—will have been surprised at its greenness. Little oases of verdure are freely spread about through the great wilderness of brick or soot-stained stone. And yet London does not give the general impression of a city where tree life is valued or cultivated. One great essayist of the past generation, who busied himself much with the charms and attractions of the great city, used to boast that in the busiest part of the capital a Londoner need still never lose sight of a tree, and he used to mention with pride and special example near Ironmonger lane which saved Cheapside from being an exception to his rule. But the truth is that London gas and London trees are hidden away from the ordinary pedestrian. They are to be met with in the parks and squares and in a few little secluded churchyards insulated and themselves almost buried in the surrounding bricks and mortar. In fact tree life for London is passing through a period of transition. Our ancestors planted elms and oaks apparently without much sympathy or appreciation of their

value. London grew sparse. London atmosphere developed a new constituent and the smoke and soot flakes of a busy and dirty city killed many and stunted most of the city trees. Then came what may almost be called a discovery. The singular fitness of the plantain, shedding annually its year's growth of bark and the crop of soot that had settled upon it, was demonstrated just when it was needed. There is no reason why all the great London arteries might not show something of the greenness of the Thames Embankment. Portland place might be such a boulevard as Paris would be proud of. On the Ziel at Frankfort they have freely planted trees that leave a Londoner without his favorite excuse of the climate and the smoke.—*London Daily News*.

A WOODEN TELEPHONE.

A score of merchants, brokers, publishers and reporters stood in a circle around a wooden box fastened to the wall of the second story of 67 Greene street and listened to the performance of the box, which was a new acoustic telephone, operated without the aid of electricity. A large wooden disk, with a mouthpiece two and a half inches in diameter, was fastened to the front of the box, and across the mouthpiece was stretched a diaphragm of wooden basket work. A non-insulated wire ran from a nickel plate key on the exterior of the basket-work across the street and four blocks up town to a companion talking box.

"Halloo, there, let me hear you sing," said a handsome young man with a brown mustache, who stepped out of the group around the telephone. He said this in a whisper that was not audible to other gentlemen standing less than three feet away.

"All right," bawled a voice at the other end of the line. "I'll sing," and a half a second later the notes of the "Sailor's Sweetheart" floated from the box so distinctly that it sounded as if somebody in the next room was singing. The notes of a mouth harmonicon and an ordinary metal whistle was transmitted with equal clearness; and when the orator blew his breath on the diaphragm the listener at the other end detected at once what he had done. He blew a horn that produced an echo like a fog alarm, called out fractions and stock figures clearly and closed the test with a swelling "Hurrah for Ben Butler."

"The secret lies in the diaphragm," said Inspector A. A. Knudson. "It is made of an imported wood. Four layers of it woven together are screwed to the mouthpiece disk, and then the telephone box is complete. The wire used to day is made of phosphor bronze, but ordinary steel wire can be used. It requires no insulation because no electricity is used. The diaphragm is so sensitive that it can reproduce the vocal vibrations distinctly even at a distance of two miles. Aspirates and sounds that it is impossible to transmit over any known telephone are produced by this diaphragm."—*New York Sun*.

WOOD PAVEMENTS.

As containing data and deductions of general interest, we publish a letter recently written by Joseph P. Card, of St. Louis, to O. Chanut, C. E. While the fact that the writer is president of a wood-preserving company should be given due weight, it should be also remembered that he is an expert in this line of practice, and has diligently studied all the bearings of the case from a business as well as a constructive standpoint:

"In the first place," says Mr. Joseph P. Card, "it is admitted by all, that it is of little use to lay any pavement without a good and substantial foundation, and none of the substances used requires this more than wood.

"Such being the case, a substantial concrete foundation is first laid, and it should cost the same, whether granite, wood, or other material be placed upon it; consequently the only thing to be considered is the cost of the wearing surface, the lasting qualities of same, and its desirability as a pavement when completed.

"In my opinion, the trouble with wood pavements in this country has been: First, the lack of a proper foundation. Second, the people generally have expected a wood pavement,

which should have cost as usually laid (with a board foundation) \$1.25 per square yard, to last as long as a granite pavement (with a concrete foundation) that cost \$4.50 or more per yard.

"Now we take Broadway, New York, for instance, which is 44 feet wide, with a concrete foundation, ready to receive either granite or wood blocks, and suppose granite block are laid at a cost of say \$3.60 per square yard, which would be equivalent to \$8.80 per front foot for the abutting property.

"On the other hand, a preserved wood block pavement is laid with blocks say 3½ inches by 6 inches deep, leaving a space of ¼ to ⅓ of an inch between the rows, to be filled with suitable material, at a cost of \$1.63 per square yard, or \$3.90 per front foot.

"Now what would be the result? The granite pavement would probably last 10 to 15 years with slight repairs, and the wood pavement 5 to 9; but for comparison we will suppose the granite to last 15 years and the wood 5.

"The granite costing \$8.80 per front foot, the wood \$3.90 for five years, or \$11.88 for 15 years (allowing two renewals), and deducting 79 cents difference in interest at 6 per cent. would make wood cost for this period of time \$11.09 per front foot, or a difference of \$2.29 per front foot, equal to 15 cents per front foot per year more than granite, which is virtually nothing.

"Now, in my opinion, the wood pavement would be more likely to last over five years than the granite to last 15; but if I am incorrect, who is there living or doing business in a street like Broadway, where property is worth thousands per front foot, that would not willingly pay the slight difference, or many times the difference to get rid of the incessant noise and confusion incident to a stone pavement?

"I think the thoroughfare should be paved with wood, and the by-streets with granite or stone, as it would last indefinitely.

"My reason for using a five inch wooden block is, that when the surface of the street becomes worn down to the extent of 2 to 2½ inches, it becomes so irregular that the remainder of the blocks, whether 2½ or 5 inches, are so softened with moisture, which accumulates in the depressions from rainfall or by sprinkling, that they soon go to pieces.

"Wood on end, if it could be kept dry, would outwear granite, as shown by Col. Flad's tests made at our water works here, consequently the drier the wearing surface is kept the less wear.

"Fully creosoted wood blocks under heavy traffic wear rapidly, as shown on the Brooklyn bridge, for the reason that the oil keeps the fiber soft.

"There was more wear on the St. Louis bridge, which is paved with wood, in the two months which the bridge was salted, to remove slush and ice, than in the balance of the year.

"In other words, the principal wear of any wood pavement occurs during wet weather, and the aim should be to keep the wearing surface of the wood as dry and smooth as possible.

"With a good concrete foundation once down, the wooden blocks could be renewed when necessary, during night time, with little or no inconvenience to travel.

"From a sanitary point of view, the concrete foundation would prevent what most people seem to dread, the leaking through of impurities to the soil beneath, while the treated blocks would disinfect any portion that might enter the same."—*Scientific American*.

THE prohibition of the importation of rags to this country, says the *Lumberman's Gazette*, has had the effect of advancing the interests of our wood pulp manufacturers, by increasing the demand for their product. The cholera in Europe is demonstrating the truth of the old adage that "it is an ill wind that blows nobody any good" and wood pulp manufacturers are still anticipating an advance in the price of their product, because of increased demand.

Wrecked Manhood.

Victims of youthful indiscretions suffering from nervous debility, lack of self-confidence, impaired memory, and kindred symptoms, should send three letter stamps for large illustrated treatise, giving means of certain cure, and numerous testimonials. Address World's Dispensary Medical Association, Buffalo, N. Y.

Chips.

E. B. Eddy's large saw mills in Hull closed down for the season Nov. 11th.

The lumber business is increasing at Muskegon, up to Nov. 1st it has shipped 480,207,000 feet of lumber and 17,724 cords of slabs.

While James Miller was adjusting a belt in Reid's saw mill, near Foxboro, his arm came in contact with a circular saw. Amputation was found to be necessary.

Wm. Downs, a workman engaged in the Dawn lumber woods, had his leg smashed Nov. 12th, by a log rolling upon it. He was taken to Dresden.

The mills, says the *Lumberman's Gazette*, continue to increase the amount of lumber in pile on the Saginaw river, which is at present greater than it has ever been since the business was inaugurated.

One of the latest ideas is lumbermen's hospitals, which, it is said, are being established in several places adjacent to where heavy logging operations are going on.

The shipments from the Saginaw river up to November 1st, amount to 720,962,058, which has never been exceeded except in 1881 and 1882. The shipments for the same period in 1883 were over 8,000,000 feet less than in 1884.

Graham, Horne & Co., Duluth, Minn., within six weeks prior to November 8th, sawed and shipped 2,000,000 feet of dimension to Port Arthur for the Canadian Pacific railway.

H. H. Martin, of Shawano, Wis., is this season operating for the Chippewa Logging & Boom Company, operating two camps, at which he intends to put in 10,000,000 feet of logs.

John R. Booth, the Ottawa, Ont., lumber manufacturer, has let a contract for the building of a steambot to run on Lake Nipissing, Ontario. It will be the largest steamer that ever navigated the lakes so far north in that province.

Messrs. Cartwright & Simpson, says the *Halton News*, have purchased, by public auction, ten acres of pine and oak timber from Mr. J. Flynn, of Carlisle, for \$2,600, and lumbering operations are expected to be lively in that neighborhood this winter.

What was considered the largest raft of red cedar ever seen at Apalachicola, Fla., was surveyed there recently. It was brought in from Marianna. It contained 236 logs, some of them measuring 28 cubic feet. Another raft containing 175 logs was coming in.

Estimates of the standing pine timber in Arizona place the amount at 1,000,000,000 feet. While this amount seems large, the *Lumberman's Gazette* remarks, it would only furnish work for the saw mills on the Saginaw river a single year.

At a late sale of timber licenses at Fredericton, N. B., on Oct. 30th, a block of limits in Caldwell Parish, Kings county, was sold \$117 per mile, and secured by T. P. O'Connor. Another of two miles on Pishehogan river, Charlotte county, was bought by James Packard at \$26 a mile.

The Cutler & Savidge Lumber Company, of Spring Lake, Mich., now puts down its intended input of logs this season at 35,000,000 feet as compared to 63,000,000 last year. The company has 12,000,000 feet of lumber on hand at its Spring Lake mills, besides a quantity in its Indian yards.

The Rathbun company, of Deseronto, Ont., have patent lumber dry kilns, with a capacity of 50,000 feet daily, and the amount of water evaporated by each of the three dry kilns is 30,000 pounds. This amounts to over half a pound of water for each foot of inch lumber, or saves about 13,000 pounds on each carload of lumber shipped.

The Ottawa Citizen says:—The lumbermen's agents say that the work in the shanties this winter will be good. Wages will be about the same as last year; if anything, a trifle better. The chief lumbermen are shipping good hands north every day. A number have gone or are going to the State of New York, induced by high wages, but the vast majority prefer to remain in Canada among friends and where, all things considered, they think, and rightly, that a fair day's work gives a fair day's wage.

Lumber Shipments.

The annual shipments of lumber from the river St. Lawrence to the river Plate during the season of navigation has been:—From Montreal—Pine, 24,380,378 feet; small stowage, 334,430 feet; from other ports on the St. Lawrence—Pine, 1,130,262 feet; spruce, 11,421,008 feet; small stowage, 640,599 pieces; total shipment from all source, 36,938,548 feet of pine and spruce, and 1,005,035 pieces of small stowage. The largest shipment were during the months of July and August. During the season of navigation, 1883, 18,768,652 feet of pine and spruce were shipped; the amount of small stowage shipped not recorded.

Mr. Heron Harris, of Ottawa, is getting out 17,000 cords of wood and 205,000 ties for the Canada Pacific Railway.

Catarth—A New Treatment.

Perhaps the most extraordinary success that has been achieved in modern science has been attained by the Dixon treatment for Catarth. Out of 2,000 patients treated during the past six months, fully ninety per cent. have been cured of this stubborn malady. This is done 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 Catarth 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 Catarth in this manner, and no other treatment has ever cured Catarth. 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 Catarth.—*Montreal Star* 17122.

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Steam Saw Mill,

complete with shingle and planing machines, all in first-class working order, will cut 50,000 feet a day. Engines are large and almost new. Will be sold cheap. For further particulars apply to

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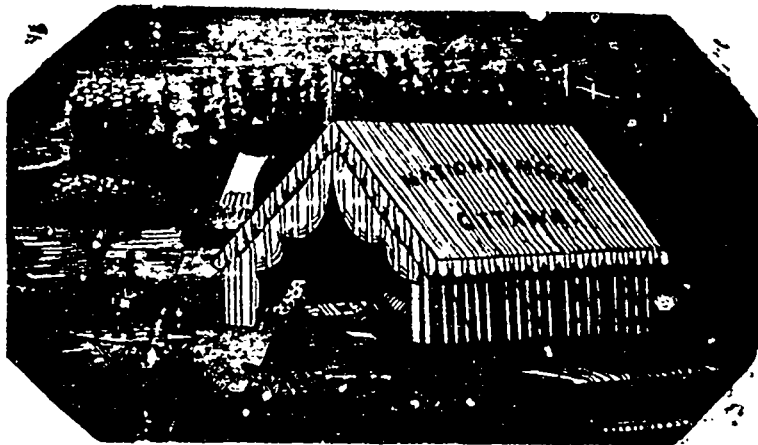
Have been awarded every Medal ever offered at Exhibitions in Canada for our Lines of Goods, notwithstanding the misleading advertisements of unscrupulous firms claiming awards, medals, &c., which they have never received. See letter from H. J. HILL, Esq., Secretary Toronto Industrial Exhibition Association,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

10—MEDALS—10

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Lumbermen, Contractors and Surveyors

And other large buyers, offered Special Inducements.

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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

6m120

Market Reports.

TORONTO.

From Our Own Correspondent.

Nov. 24.—Navigation for the season of 1884 may now be considered as completely closed. Sixteen vessels of various sizes have loaded and cleared this port since my last letter, taking with them 2,315,000 feet of lumber, the chief portion of which was pine, 215,000 for Canadian ports and balance for Oswego, N. Y. The quantity remaining on our docks at this date is much less than at the corresponding period of last year. The same may be said regarding stocks held at most of the mills north of this city. If shipments had commenced one month earlier in the spring there would have remained at this time but little lumber that was really fit for shipment, and it now remains for the shippers and mill men to cast up their accounts and take stock. One thing is self-evident, there has been too much lumber forced upon the market to make the season's operations profitable. Mill men who disposed of their season's cut early in the spring fared the best, in fact I may venture to say they are about the only ones who have made anything as the result of their seasons labor. Prices continued to drop during the entire summer until its close, so that bill stuff may be quoted \$1.00 per M. below the spring quotations and other kinds \$1.50 to \$2.00. The above figures apply to car load or vessel lots, the drop in prices at the yards is slightly less, so that the retailers have had the best end during the latter part of the season. Sales from the yards, however, have fallen off seriously during the last month. There has not been the amount of activity noticeable in other years at the closing up of the season's work. No doubt this may be partially accounted for by reason of the greater quantities sold to consumers by the wholesale men, direct from the rail, or from piles in the various railroad yards. The amount of trade done in this way becomes more apparent every week to those who are accustomed to the trade, and whose business calls them down about the wharves and railroad yards, indeed it is quite a common occurrence to see consumers, with their teams, taking away 10 M of shingles, or 1,000 feet of a particular kind of lumber, and for which they usually pay as low a figure as that charged to the retail dealer by the car lot. No opportunity of turning the honest penny is lost by the wholesale dealer. Competition is keener in the lumber trade here at present than in any other branch of business I know of, and the retail men lick the hand that whips them, by purchasing as freely from the men that do this class of trade as from men who dislike and do not practice this mode of business, although it is doubtful if such trade benefits the wholesale men, as they are unable to look after small debts, contracted by such a class of customers, as sharply as the retail men; still they seem to like it, by way of variety, I suppose.

Table with 2 columns: Item description and Price. Includes Mill cull boards and scantling, Shipping cull boards, Scantling and joist, Cutting up planks to dry, Sound dressing stocks, Picks Am. Inspection, Three uppers, Am. Inspection.

Table with 2 columns: Item description and Price. Includes 12-inch flooring, dressed, 12-inch rough, 12-inch dressed, 12-inch undressed, 12-inch dressed, 12-inch undressed, 12-inch dressed, 12-inch undressed, Clapboarding, dressed, XXX sawn shingles, Sawn lat.

MONTREAL.

From Our Own Correspondent.

Nov. 25. Business for the past two weeks has been pretty fair, but nothing to boast of, the busy season is now about over and things are likely to remain quiet till after the Christ-

mas holidays. We advance our quotation for butternut, not that there is any advance in the price of the article we have been quoting, but the quality is now better and the margin shows the difference in quality, we now quote from \$25 to \$40 according to grade. Laths are advanced in price and are now selling at \$1.75 to \$2.00. We quote ex yard as follows:

Table with 2 columns: Item description and Price. Includes Pine, 1st quality, P no, 2nd, Pine, shipping culls, Pine, 4th quality deals, Pine, mill culls, Spruce, Hemlock, Ash, run of log culls out, Bass, Oak, Walnut, Cherry, Butternut, Birch, Hard Maple, Lath, Shingles, 1st, Shingles, 2nd.

SHIPMENTS.

The season of navigation has now closed and from returns which we have received from the Export Lumber Company, has apparently been a very successful one so far as the quantity of lumber exported is concerned. The shipments of pine and spruce from Montreal to the River Platte during 1884 was 24,336,378 feet, and from the ports on the St. Lawrence to the same destination was 12,559,170 feet, being a total of 36,895,548 feet, as against 18,169,896 feet. The totals for the past 14 years are as follows:

Table with 2 columns: Year and Feet. Lists years from 1870 to 1884 and corresponding lumber quantities in feet.

CORDWOOD.

Roads in the country have been in a very bad state, which has interfered with the carrying of wood to the railway stations, so that the arrivals of wood here have been small, and business has not been brisk, but prices are unchanged. We quote at the wharves ex cartage as follows:

Table with 2 columns: Item description and Price. Includes Long Maple, Long Birch, Long Beech, Tamarack.

LIVERPOOL MARKETS.

Our latest advices report the imports as having been moderate with the exception of spruce deals, and the consumption generally as satisfactory. Private sales of spruce deals from St. John, N. B., at \$5 per standard ex quay, at several parcels on c.i.f. terms, and the same price was realized for them at auction. 1st quality pine deals are quoted at £19 to £22; 2nd quality pine deals, £15 to £16 10d. and 3rd quality £8 to £9.

WINNIPEG.

The Commercial of Nov. 18th says:—Mills have nearly all closed down, and preparations are being made for going into logging camps for the winter. There have been a few for stuff to finish outdoor contracts, and the number of buildings in the city to finish during the winter promises to keep up a straggling demand for finishing lumber for a month at least. The season altogether has been a very unsatisfactory one both to dealers and manufacturers. No quotations can be given, and any heard are merely nominal.

CHICAGO.

AT THE DOCKS.

The Northwestern Lumberman of Nov. 22nd says:—While prices have not greatly differed from those of last week, on most sales, there have been several instances in which piece stuff has sold at \$2.75, an advance of 25 cents a thousand on ordinary sales. The higher figure has been realized in cases where the cargo was very desirable, and suited the purpose of the yard that was catering to the Kansas demand. No 2 inch is selling at about previous prices, though instances are frequent in which dry lumber has sold at \$1 above quotations. A special demand has prevailed, for the reason before mentioned, and when that had to be met

the purchaser was willing to pay outside prices. Shingles are selling at mostly unchanged prices, though there is a tendency to outside figures. Quotations are as follows:

Table with 2 columns: Item description and Price. Includes Piece stuff, green, Long lumber, green, Coarse common, Boards and strips—No. 2, green, Boards and strips—Medium, green, Boards No. 1, green, High grade, Shingles, standard, Shingles, Choice, Shingles, extra, Shingles, clear, Shingles, cedar, Lath.

LAKE FREIGHTS.

Table with 2 columns: Item description and Price. Includes Grand Haven by steam, Muskegon by steam, Whitehall, Ludington, Manistowic, Menominee dry, Menominee green, Oconto, Cheboygan, Alpena, Bay City, Frankfort.

AT THE YARDS.

The general trade, other than that affected by the southwestern drain, is moderate. A steady distribution is going on, but there is little vigor in demand. Now that there will be a check to the flow Kansas-ward, we may expect a sharp decline in aggregate shipments.

On November 1st there was lumber on hand in the seven yards of South Chicago to the amount of 22,493,607 feet, a decrease of 1,279,171; shingles, 20,133,250, a decrease of 5,061,250. Evidently the South Chicago dealers are either buying sparingly or shipping heavily—probably both.

Receipts of lumber, shingles, etc., from Jan. 1st to Nov. 20th as reported from the Lumberman's Exchange:—

Table with 2 columns: Year and Receipts. Lists years 1884 and 1883 with Lumber and Shingles receipts.

Table with 2 columns: Year and Receipts. Lists years 1884 and 1883 with Lumber and Shingles receipts.

Table with 2 columns: Item description and Price. Includes Lumber, Shingles, Lath, Posts, Railroad ties, Wood, cords, Bark, cords, Slabs, cords, Telegraph poles, Piles, Spars.

Table with 2 columns: Item description and Price. Includes Spruce, boards, each, Spruce, plank, 2-in., each, Spruce, wall strips, each, Hemlock, boards, each, Hemlock, joist, 4x6, each, Hemlock, joist, 2x4, each, Hemlock, wall strips, 2x4, each, Black walnut, 4 inch, Black walnut, 3 inch, Scaymore, 1-inch, Scaymore, 2-inch, White wood, 1-inch and thicker, White wood, 2-inch, Ash, good, 2nd quality, Ash, second quality, Cherry, good, Cherry, common, Oak, good, Oak, second quality, Basswood, Hickory, Maple, Canada, Maple, American, Chestnut, Shingles, shored, pine, 2nd quality, extra, sawed, pine, clear, cedar, mixed, cedar, XXX, hemlock, Lath, hemlock, Lath, spruce.

Table with 2 columns: Item description and Price. Includes Lumber & timber, Shingles, Lath, Pickets, Cedar posts.

FRIGHT RATES TO EASTERN PORTS. In effect from Nov. 1st, 1884, to March 1st, 1885.

Table with 2 columns: Item description and Price. Includes Chicago to, Albany, Boston and common points, Philadelphia, Baltimore, Washington, Buffalo and Pittsburgh, Erie, Pa, Dunkirk, N. Y.

TONAWANDA.

Table with 2 columns: Item description and Price. Includes Three uppers, Common, Culls.

BUFFALO.

Table with 2 columns: Item description and Price. Includes Uppers, Common, Culls.

BOSTON.

The Journal of Commerce of Nov. 22nd says. Trade is without any special improvement in any line, and prices are about as before. There is a surplus of the poorer grades of lumber, but choice grades are well in hand and steady in price. The Boston correspondent of the Northwestern Lumberman writes thus:—"Although there is a steady demand for the best grade of cherry, it is much less than the demand of last year. Quartered white oak is now the pet of finishers. No two pieces are alike, it admits of as fine a

finish as rosewood, and one particular advantage it has over some other hardwoods is its ability to hold its color and look well with age. This is not true of ash or butternut, which becomes dingy, and have a dirty look. We all know that walnut requires age to bring out its richness. For that reason it will always be a popular wood, and just now some of the finest jobs in the city are being finished in walnut. Poplar to a great extent has taken the place of pine for moulding purposes, and there is a difference of at least \$10 a thousand in the price."

CANADA PINE.

Table with 2 columns: Item description and Price. Includes selects, Dressed, Shelving, Dressed, 1st, 2nd, Dressed Shippers, Dressed Box, Sheathing, 1st quality, 2nd.

OSWEGO, N. Y.

From Our Own Correspondent

No change in prices: trade for the past two weeks has been very much depressed. Navigation is about closed for the season.

Table with 2 columns: Item description and Price. Includes Three uppers, Picking, Cutting up, Fine Common, Common, Culls, Mill run lots, Siding, selected, 1 in., 1 1/2 in., Mill run, 1x10, 13 to 16 ft., Selected, Shippers, Mill run, 1 & 1 1/2 in. strips, Selected, Mill run, 1 & 1 1/2 in. strips, Culls, 1x7 selected for clapboards, Shingles, XXX, 18 in. pine, Cedar, Lath, No 1, No 2.

ALBANY.

Quotations at the yards are as follows:—

Table with 2 columns: Item description and Price. Includes Pine, clear, Pine, fourths, Pine, selects, Pine, good box, Pine, common box, Pine, 10-in. plank, each, Pine, 10-in. plank, culls, each, Pine boards, 10-in., Pine, 10-in. boards, culls, Pine, 10-in. boards, 16 ft., Pine, 12-in. boards, 13 ft., Pine, 12-in. siding, select, Pine, 12-in. siding, common, Pine, 1-in. siding, select, Pine, inch siding, common, Spruce, boards, each, Spruce, plank, 2-in., each, Spruce, wall strips, each, Hemlock, boards, each, Hemlock, joist, 4x6, each, Hemlock, joist, 2x4, each, Hemlock, wall strips, 2x4, each, Black walnut, 4 inch, Black walnut, 3 inch, Scaymore, 1-inch, Scaymore, 2-inch, White wood, 1-inch and thicker, White wood, 2-inch, Ash, good, Ash, second quality, Cherry, good, Cherry, common, Oak, good, Oak, second quality, Basswood, Hickory, Maple, Canada, Maple, American, Chestnut, Shingles, shored, pine, 2nd quality, extra, sawed, pine, clear, cedar, mixed, cedar, XXX, hemlock, Lath, hemlock, Lath, spruce.

CARDIFF.

The Timber Trades Journal of a recent date says:—The arrivals since our last report have consisted of a pitch pine cargo from Dobby, a fair size cargo of tumber from Quebec, and a steamer cargo of about 500 standards deals and boards from Gelfo. White Sea goods seem to be rather scarce. In spite of the very lively building business which is still going on in this district, and the fact that the contract for the new dock at Parry having been given out, and work is to commence this month, there is not, so far, any improvement in our retail prices, and things remain at present in the quiet state we have already had occasion to record.

TYNE.

The *Timber Trades Journal* of a recent date says:—The arrivals of the past seven days are very small and insignificant; one cargo of pitch-pine, one cargo of Quebec goods, one of props, and the usual Christiania steamer are about all the arrivals to chronicle. A few ships are on the way yet from the Baltic ports, but the extremely stormy weather of the past week and strong westerly winds will have driven all such as were in the North Sea to the coasts of Norway and Denmark, while it is to be feared many of them will have been lost.

Stocks are not a great deal altered, in red-wood, deals and battens they are only small, and should there be a fair amount of demand during winter and spring months the supply would be short. At the present low rate of consumption, however, they are ample for a long time to come. Business is still very flat, and in consequence of the closing of the ship-yards and engine works an immense number of men are unemployed.

LIST OF PATENTS.

The following list of patents upon improvements in wood-working machinery, granted by the United States Patent office, Nov. 18, 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.:

- 306,072.—Barrel header—W. Hoffman, Newark, N. J.
- 306,204.—Peg wood sharpener—W. G. Scott, Batavia, Mass.
- 306,332.—Plane, rabbet—J. A. Traut, New Britain, Conn.
- 306,063.—Saw mill feed mechanism—J. Cook, assignor to Sinkar, Davis & Co., Indianapolis, Ind.
- 306,062.—Saw teeth, device for setting and jointing—D. Logan, Hartstown, Pa.
- 306,188.—Sawing machine, band—P. Miller, Norwich, Conn.
- 306,187.—Trees, device for felling—P. Miller, Norwich, Conn.

QUEBEC COLLERS' OFFICE.

The following is a comparative statement of Timber, Masts, Bowsprits, Spars, Staves, &c, measured and culled to date:—

	1882.	1883.	1884.
Waney White Pine..	3,104,648	3,518,515	2,198,453
White Pine.....	7,961,065	7,130,419	3,686,744
Red Pine.....	1,456,350	474,468	327,735
Oak	1,312,100	1,883,294	772,042
Elm.....	714,549	300,261	633,812
Ash	310,769	257,827	410,458
Beeswood	1,471	2,244	4,121
Butternut.....	2,639	1,023	1,260
Tamarac.....	51,975	7,409	19,113
Birch & Maple.....	260,661	136,803	201,239
Masts & Bowsprits...	23 pcs	— pcs	— pcs
Spars.....	51 pcs	— pcs	41 pcs
Std. Staves.....	368,11.27	677,3.0.15	33,6.1.12
W. I. Staves.....	1171.0.1.07	619,2.3.29	290,8.0.19
Brl. Staves.....	754.3.23	115,8.0.16	97.1.0

JAMES PATTON,
Supervisor of Collers.

Noticed by Spain.

The *London Canadian Gazette* says:—The woods which the Province of New Brunswick exhibited at the Forestry Exhibition have been noticed with much approval by the Spanish forestry magazine, *Revista de Montes*, which is published semi-monthly in Madrid. From the issue of Sept. 1st we make the following translation:—"Canada exhibits woods of handsome colours (*precious colors*) and great strength, among which may be distinguished for the fineness of their grain the ash, maple and birch. The *Abies Canadensis* (hemlock spruce) is abundant there; its bark is used for the extraction of tannin, which is exported in the liquid state. Until within a short time only the bark of this tree was used; latterly, however, the wood is being exported to the United States."

"What we learn with pleasure we never forget."—*Alfred Merder*. The following is a case in point. "I paid out hundreds of dollars with out receiving any benefit," says Mrs. Emily Rhoads, Mich. "I had female complaints, especially 'dragging down' for over six years. Dr. R. V. Pierce's 'Favorite Prescription' did me more good than any medicine I ever took. I advise every sick lady to take it." And so do we. It never disappoints its patrons. Druggists sell it.

Stranger Than Fiction

are the records of some of the cures of consumption effected by that most wonderful remedy—Dr. Pierce's Golden Medical Discovery. Thousands of grateful men and women, who have been snatched almost from the very jaws of death, can testify that consumption, in its early stages, is no longer incurable. The Discovery has no equal as a pectoral and astringent, and the most obstinate affections of the throat and lungs yield to its power. All druggists.



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 - Gent's Patent Lever, Jewelled, Cut Expansion Balance, Solid Coin Silver Cases, reduced to \$7.
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 - Nickle, Stem Wind, Open Face, \$4.50.
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Notice to Contractors.

SEALED TENDERS addressed to the undersigned, and endorsed "Tender for Timber," will be received at this office until Monday, the 17th day of November, next, inclusively, for the supply of timber required in connection with the Dredging Plant of the Department, according to a specification to be seen at the Department of Public Works, Ottawa, where printed forms of tender may be seen.

Persons tendering are notified that tenders will not be considered unless made on the printed forms supplied and signed with their actual signatures.

Each tender must be accompanied by an accepted bank cheque, made payable to the order of the Honorable the Minister of Public Works, for the sum of \$150, (one hundred and fifty dollars,) which will be forfeited if the party decline to enter into a contract when called upon to do so, or if he fail to complete the work contracted for. If the tender be not accepted the cheque will be returned.

The Department will not be bound to accept the lowest or any tender.

By order,
F. H. ENNIS, Secretary.

Department of Public Works, }
Ottawa, 28th Oct., 1884. } 3d105cod11.22

GOLD for the working class. Send 10 cents for postage, and we will mail you free, a royal, valuable box of sample goods that will put you in the way of making more money in a few days than you ever thought possible at any business. Capital not required. We will start you. You can work all the time or in spare time only. The work is universally adapted to both sexes, young and old. You can easily earn from 50 cents to \$5 every evening. That all who want work may test the business, we make this unparalleled offer; to all who are not well satisfied we will send \$1 to pay for the trouble of writing us. Full particulars, directions, etc., sent free. Fortune will be made by those who give their whole time to the work. Great success absolutely sure. Don't delay. Start now. Address *Emerson & Co., Augusta, Maine.*

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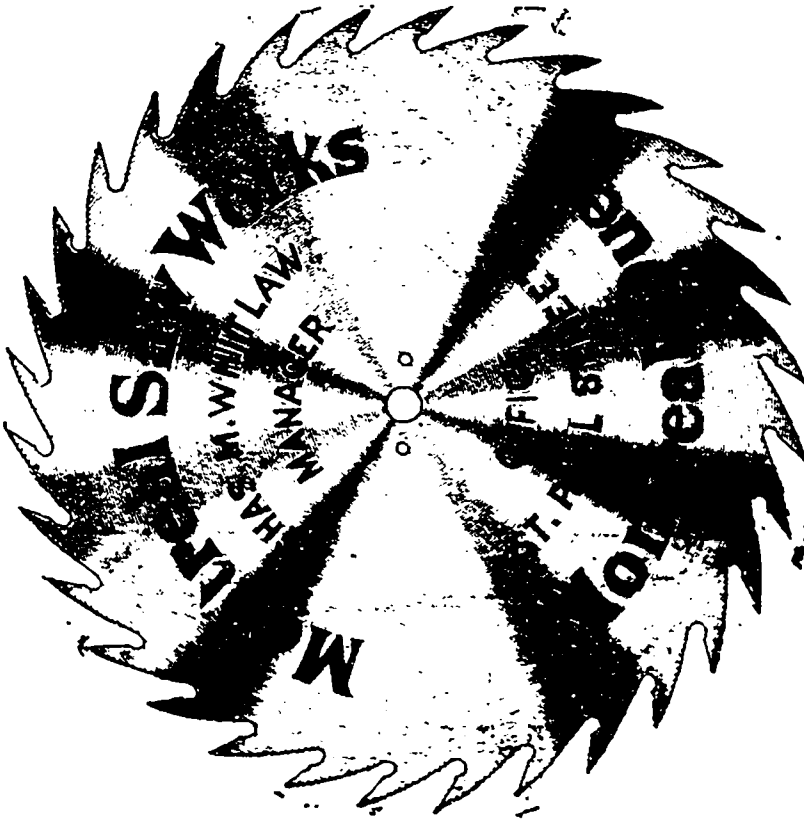
ICE, AND ONE MAN CROSS-CUT SAWS,

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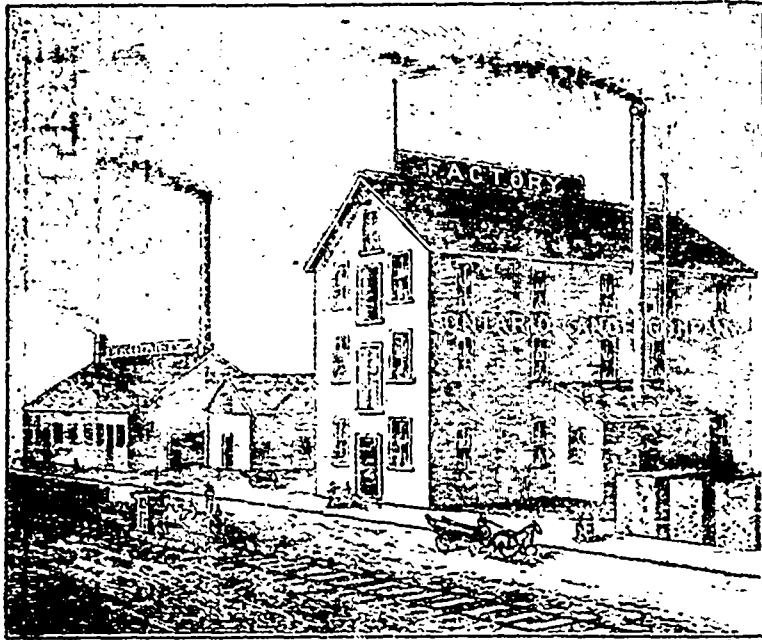
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Gold Medal, London Fisheries Exhibition, 1883.

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-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.

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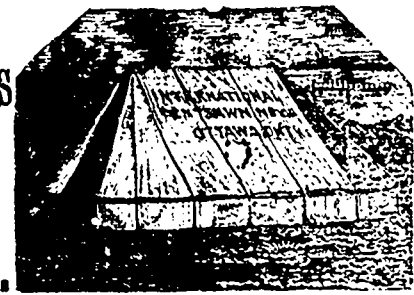
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6 MEDALS.



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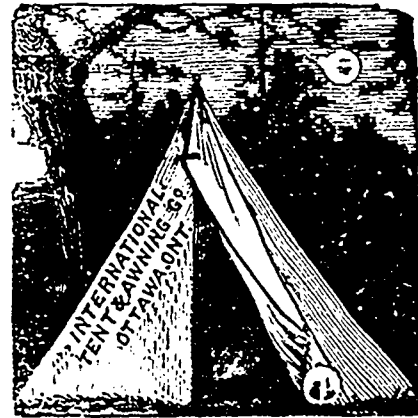
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At Toronto, Ont., and St. John, N.B., we made the best Display of Tents ever shown in Canada—and we never substitute an article inferior to sample in filling orders.

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.

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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.

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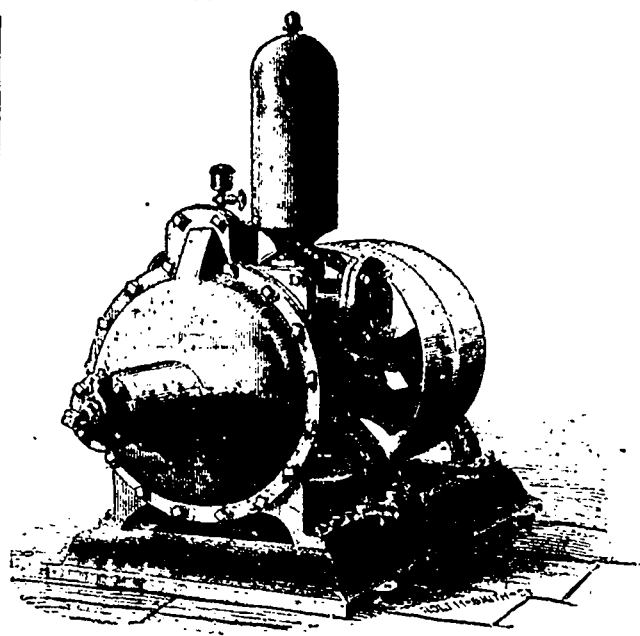
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Central Iron Works

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An Improved Rotary Piston Force Pump.

No.	Diameter of Pipes.		No. of Revolutions.	Capacity per minute at table speed.	Price.
	Suction.	Discharge.			
2	2 1/2 in.	2 inch.	250	125	\$100
3	4 "	3 "	250	250	150
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Engines, Boilers, Pumps, Saw Mill Machinery

STEAMBOAT PROPELLERS AND ENGINES.

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For Architectural Works. &c.

IRON ROOFING AND BRIDGES,

AND ENGINEERING WORK IN GENERAL.

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.

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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 Sciatica. 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,
DR. D. McLACHLAN.

WALLATA, D.T., December 17th, 1883.

A. NORMAN, Esq.,
DEAR SIR,—I have experienced considerable benefit from your Appliances. I feel stronger and better every way.
Yours truly,
R. E. HALLIBURTON.

OTTAWA, September 3rd, 1883.

MR. NORMAN,
DEAR SIR,—I have been wearing your Electric Insoles for about six months, and have been greatly benefited by them. I recommend them to all who suffer from Rheumatism.
Yours truly,
MRS. J. GUTHRIE.

PERTH, ONT., June, 1883.

A. NORMAN, Esq.,
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,
J. GREEN.

PETERBOROUGH, October 15th, 1884.

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.

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Pumps for Fire Protection a Specialty.

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

Cheap.

Cheaper than any Pump built.

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IF YOU WANT

Pump

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Simple.

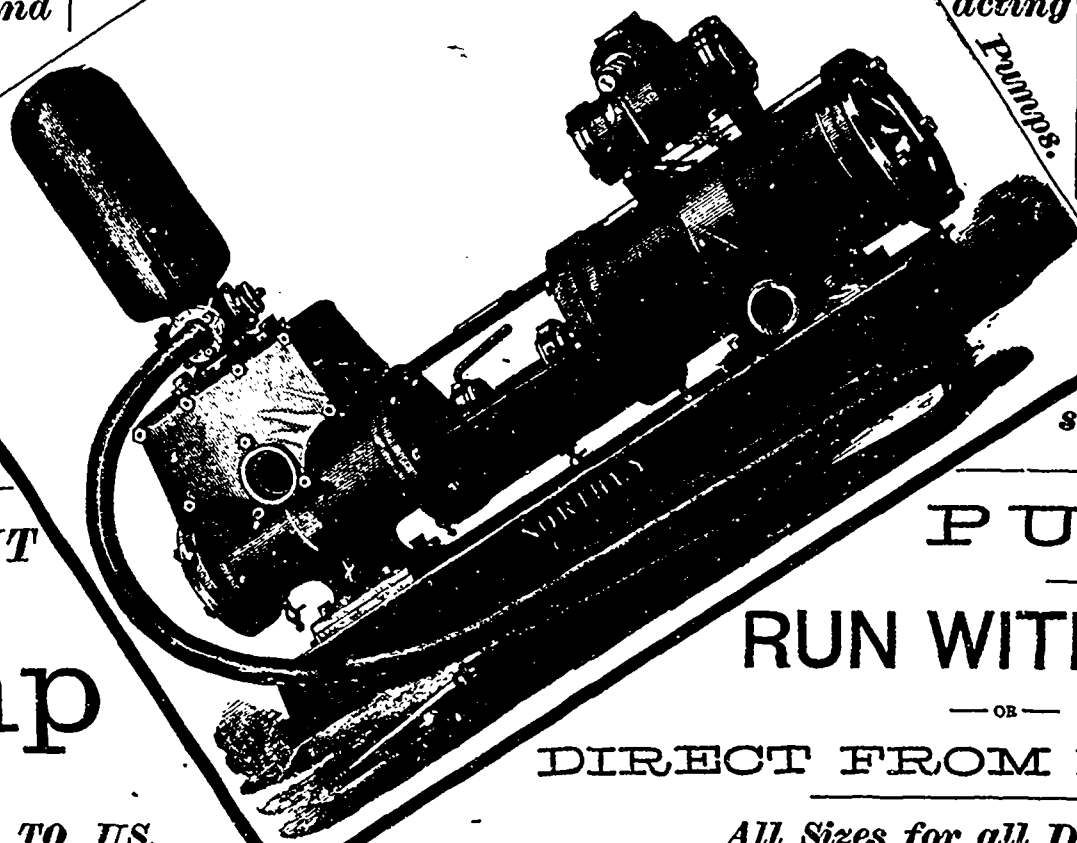
Only two moving parts in Engine.

Compact. Durable.

Having the well known compactness of direct acting Pumps.

Guaranteed the most durable Pump made; impossible to break down.

Our PUMPS for general water supply give the greatest satisfaction.



PUMPS

—TO—

RUN WITH BELT

—OR—

DIRECT FROM POWER

All Sizes for all Duties.

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.

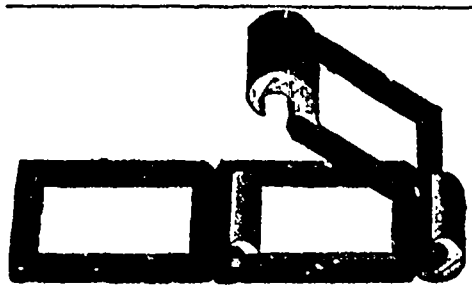
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NORTHEY & COMPANY,

Corner FRONT & PARLIAMENT STS.,

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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, 550 lbs.
Per Foot...28c.
Attachment.—L 2.

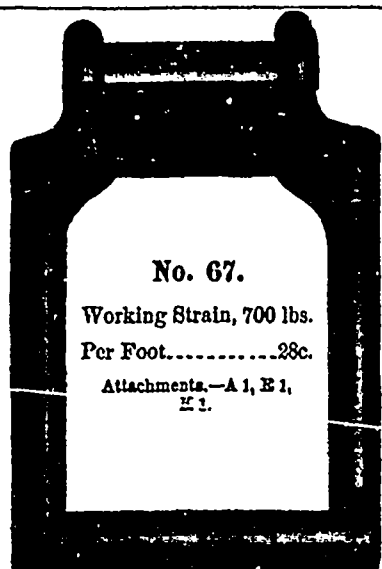


K³ SLAT CONVEYOR ATTACHMENT.



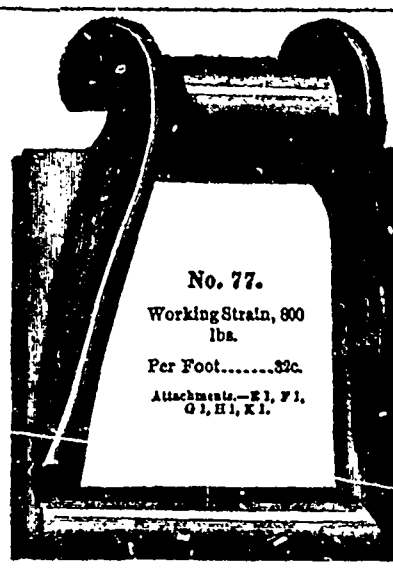
K² SLAT CONVEYOR ATTACHMENT.

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



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

No. 67—MEDIUM SAWDUST CONVEYOR CHAIN.



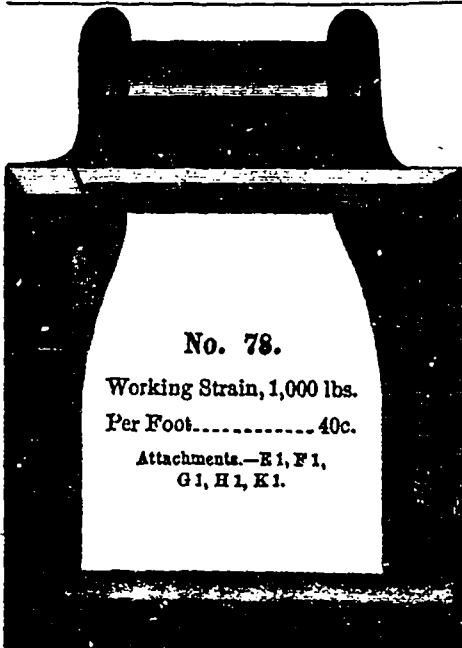
No. 77.
Working Strain, 800 lbs.
Per Foot.....32c.
Attachments.—E 1, F 1, G 1, H 1, K 1.

No. 77—CONVEYOR AND LIVE ROLL CHAIN.



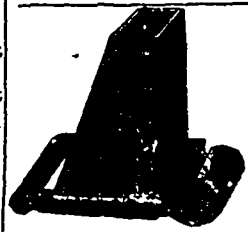
No. 75.
Working Strain, 800 lbs.
Per Foot... 32c.
Attachments.—E 1, H 1, K 1.

No. 75—LIVE ROLL AND DOUBLE STRAND ELEVATORS.

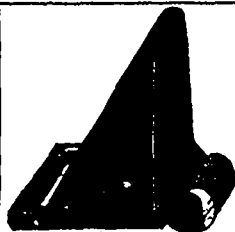


No. 78.
Working Strain, 1,000 lbs.
Per Foot..... 40c.
Attachments.—E 1, F 1, G 1, H 1, K 1.

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



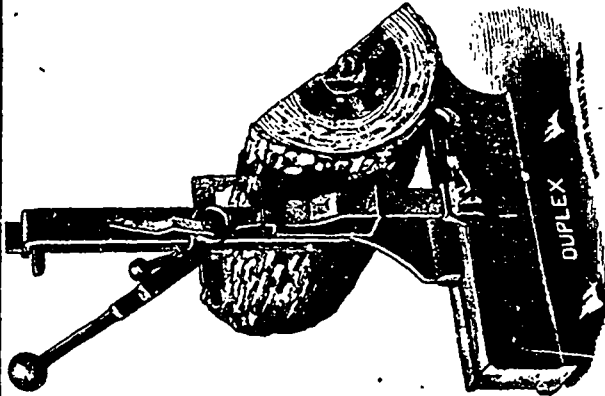
H¹ TRANSFER ATTACHMENT.



H⁴ TIE & POLE LOADING ATTACHMENT.

GIANT CHAIN for Log Haulups
And Main Refuse Conveyors for Large Mills.

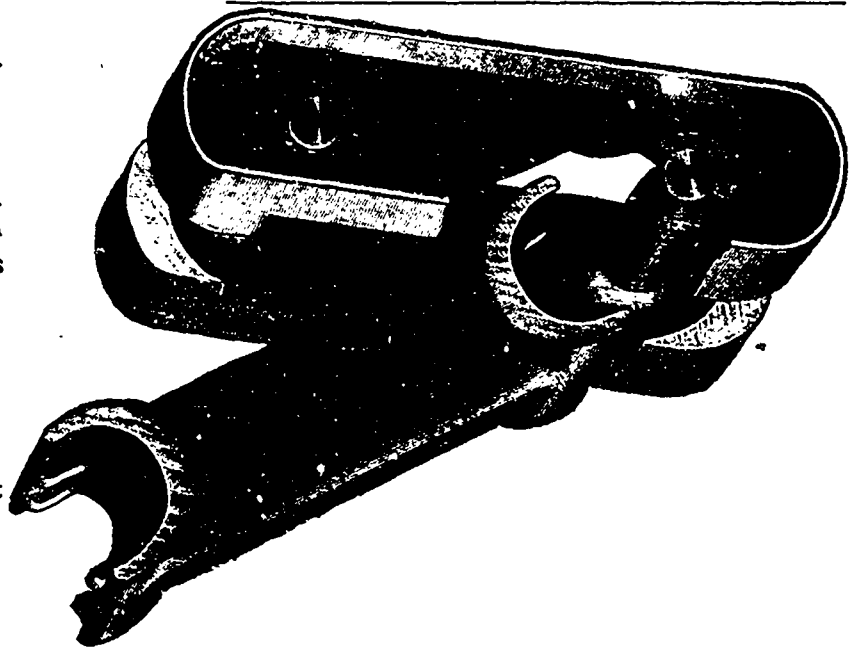
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One of the Best Log and Board Dogs made.

LOG TOOTH.

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



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. Prices, 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.

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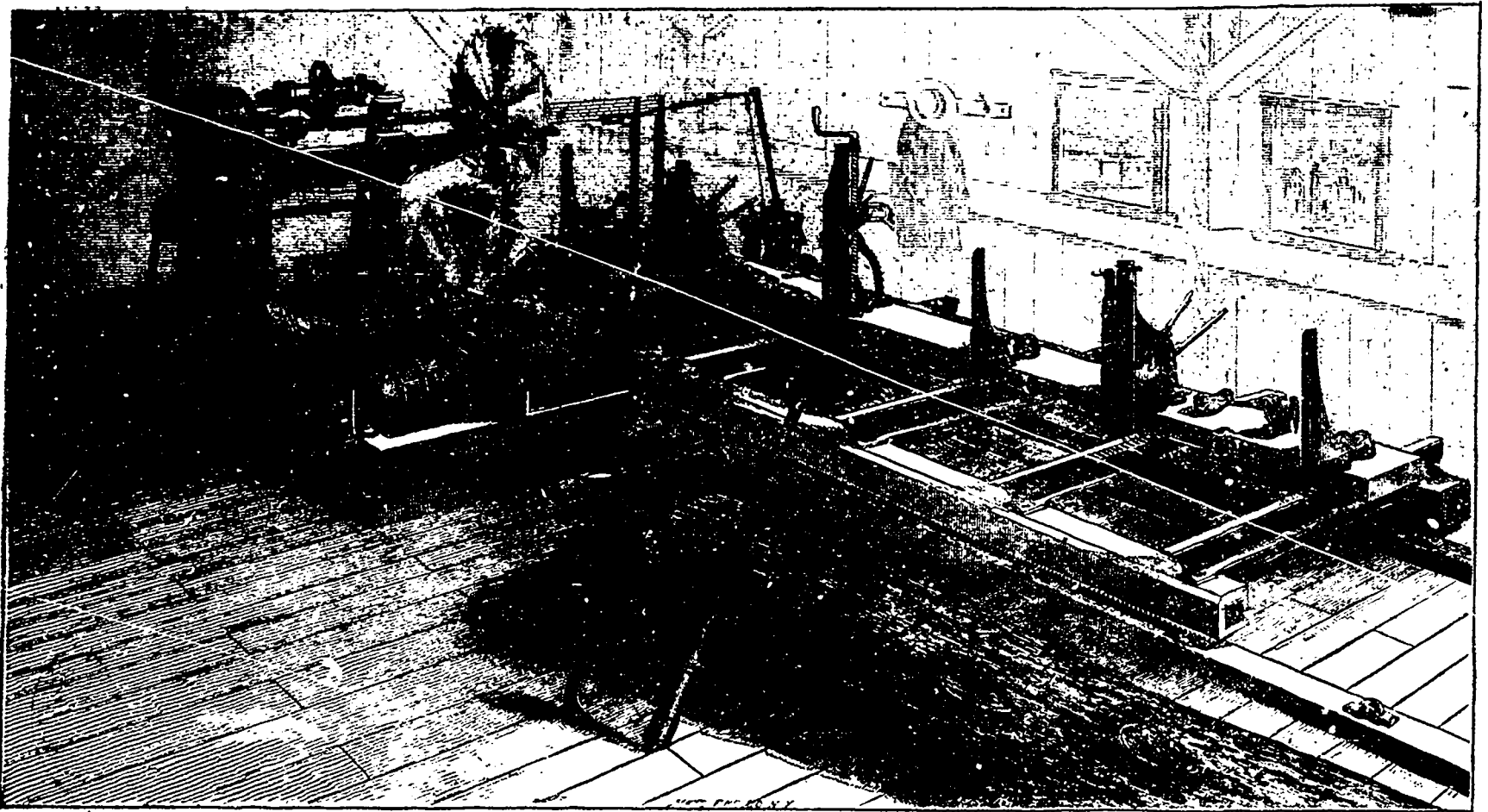
Waterous Engine Works Co'y,
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Circular Saw Mills,
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Clapboard Planers,
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Planers,
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