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PUBLISHED
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The only Newspaper devoted to the Lumber and Timber Industries published in Canada

SUBSCRIPTION
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VOL. 5.

PETERBOROUGH, ONT., DECEMBER 1, 1885.

NO. 23.

CARE OF THE FORESTS.

Forest preservation in Canada was the subject of a contribution by Mr. A. T. Drummond, of this city, at the annual meeting of the American Forestry Congress at Boston. In a *raume* of the present position of the forest preserves of this country, the author points out that, though in the Provinces of Ontario and Quebec there are still considerable areas of red and white pine along the northern tributaries of the great lumbering rivers, the trees are of diminished size compared with those common 30 years ago, and the lumbermen are fast approaching the limit of the growth of these most valuable of our lumber woods. New Brunswick's preserves have also been greatly encroached upon; Nova Scotia has scarcely any left; in the Northwest the country is chiefly prairie, and there the question is how far forests may be created; in fact it is only in British Columbia that they are yet largely untouched, and these, with what remains in the eastern provinces, it is urged, should be conserved as to be a continued source of revenue. The money to be gained from the manufacture of lumber, however, is not the only measure of importance of forests to the country. That is an item affecting the welfare of the individual provinces or states of the two great political divisions of the continent alone, and if their people choose to waste in a comparatively few years the natural wealth with which they have been endowed it would only be a matter of regret to their own citizens who would have to make up in other ways the revenue their governments generally derive from the forests under their control. There is another and a wider ground in which the people of the whole country are interested. The denudation of the forests has been scientifically proved to have a serious effect on the rain fall of the adjoining territory, and on the streams flowing through it. In this connection, which, on account of local geographical conditions, applies less to Canada than the United States, many states may be and are affected by the unwise action of one of their number. Streams running through and serving the purpose of several states may be so dried up as to cause serious loss to their inhabitants who are in no way to blame for permitting the causes of the trouble. Two years ago a serious fall in the level of the Hudson was attributed to the stripping of the forest land at the head waters of the river, and the feeders of the Erie canal fell so low as to cause fears that a greatly increased expenditure would be necessary to maintain the usefulness of that avenue of commerce. Thus states possessing large wooded areas owe a duty to their neighbors as well as to themselves, and how they may best discharge it is the subject of Mr. Drummond's essay. The work is twofold in its nature—preservation and renewal. Besides Germany, Franco and Sweden, in Europe, India and Cape Colony

have forestry departments, the latter being arranged on the fundamental principle that every tree cut down shall be replaced by a newly planted one; as the Government report says, forest destruction is as firmly opposed as any other moral evil. The expense of this is not so formidable as might be thought, each South African forester being expected, besides his other duties, to annually raise and transplant to the burned and cleared districts 4,000 young trees. This is urged on American Governments as an example worthy of being followed as regards one part of the problem—replanting. Preservation is a more complex and, perhaps, more difficult object to secure. The present system of granting leases, by which lumbermen have virtually continuous control of the limits once they obtain possession of them is open to objection, though with regard to existing leases it cannot fairly be altered without compensation to the holders. In new districts though, it is urged, a wiser course might be pursued in the way of restricting the leases to definite terms of five or seven years, when the land would be given a rest for say 25 years, to enable the smaller trees to reach a suitable size for the lumberman's use; limits should also be of restricted size as is the case in Manitoba and the Northwest, where alone the Dominion Government have control of the wood lands, so that the systematic work of replanting and protection might be more readily carried on; square timber production which causes both a waste and danger, increasing the material by which fires are carried, should be discouraged; the cutting of trees under 12 inches should be a punishable offence, and the starting of forest fires a criminal one, involving the punishment of every member of the camping party whose negligence was the cause of the catastrophe. These, Mr. Drummond thinks, are the remedies for the evil which all acknowledge to exist in a greater or less degree in each of the provinces—in Quebec, owing to recent legislation, perhaps, least of any—and the means of enforcing them, he sums up in the organization of a forestry department by each local government, with a regular superintendent to look after and oversee the forest ranges and their duties, to prevent encroachment by lumbermen on unleased Crown lands to see that small trees were not cut, to investigate the cause of every fire happening within their districts and punish the guilty parties, to raise exhausted or young trees for replanting the burned districts and to collect and sow the seeds of desirable kinds of trees, and to generally encourage tree-planting by land owners and disseminate information about trees and tree culture.—*Montreal Gazette*.

Ross & Co., of Quebec, have purchased a tract of pine of S. Coleman, Chicago, situated on Monistique river, north of Driggs station.

A QUESTION OF STUMPAGE.

An agitation is on foot in New Brunswick to secure the removal or the reduction of the stumpage charged by the Provincial Government by all logs cut on the public lands. The logs sawn in that province are almost entirely spruce, there being little pine of any value. The wood exports are, therefore, almost exclusively of spruce deals and boards and scantling, which find sale in Great Britain. Here they come in competition with the woods of Norway and Sweden and Russia. The Norway woods have the advantage of a shorter sea voyage, consequently cheaper freight than the New Brunswick deals, and the cost of the labour employed in logging and milling is less. Under these circumstances the profitable production of spruce lumber in New Brunswick is carried on with difficulty. Not long ago, the New Brunswick Government increased the rate of stumpage. They gave the lumbermen longer leases of their lands, and holding that this gave their business greater security on the ground of permanency, the Government decided to exact heavier stumpage in return for the so-called privilege. It is now claimed that, looking at the disadvantages under which the lumberman and the manufacturers of lumber are laboring, the stumpage charges cannot be borne and ought to be abolished; and it is maintained that although the Provincial Government may lose some revenue, the people of the province must gain very largely. It is, in fact, asserted very positively that if the stumpage is adhered to by the Provincial Government, the lumbering business cannot go on. The answer of the Government has not yet been received.

It is claimed by some that in fairness the Government ought not to levy stumpage charges at all. Under the terms of the Washington treaty and for Dominion purposes it became necessary to abolish an export duty which New Brunswick had for many years imposed on sawn lumber. The Dominion recouped the Province for the loss by an allowance of \$150,000 annually. It held by many that this \$150,000 a year was actually in lieu of New Brunswick's revenue from the lumber on her own lands, but the several Governments of the Province have thought differently, for they have not only accepted the \$150,000, which represents the loss sustained by the Government in those days three times over, but they afterwards levied a stumpage tax and have steadily gone on increasing it, so that now they receive from stumpage more than they formerly received from the export duty. They had the power to do this but there is a suspicion that it was not good policy and that if the Provincial expenditure had been kept within reasonable limits they need not have resorted to the stumpage and especially to repeated increases of the rate. However this may be—and it is a domestic question for home settlement—it is

now certain that the lumbermen of the Province, who are largely manufacturers of their own lumber, for which they have to find a market where they can, claim that they are heavily handicapped by the stumpage fees and are unable to conduct their business with any profit to themselves with such a burthen on their backs, especially in these times when the lumber market in England is so demoralized. As lumbering and the manufacture of lumber constitute the great industry of New Brunswick; as this interest permeates every branch of trade and effects alike the farmer, the laborer, the mechanic and the merchant, the lumbermen's complaints will, no doubt, receive respectful consideration from the Government and the Legislature. If this were a question of whether a few persons engaged in a particular business should sink or swim, the Government might not be induced to modify their policy as they might assume that others would step in to take the place of those who might drop out. But this is not the fact or the reasonable assumption here. Not a few persons only but scores of thousands feel the effect of the depression and the burthens. All those who have invested capital in the lumbering on the public lands are complainants. And it may be that the existence of many business houses, carrying on extensive enterprises, is staked on the decision of the Government.—*Montreal Herald*.

BOILER CORROSION BY SULPHUR.

A French commission on the inspection of boilers and the investigation of accidents resulting from their explosion, had its attention drawn to the explosion of two boilers, one at a colliery in Nièvre, and the other, at the Ougree Iron Works, in Belgium. In both cases the accident was attributed to the destructive effect on the metal of sulphuric acid. In the case of the boiler at Nièvre, it contained large scales of oxide of iron, and also sulphur in some form of combination was found on the corroded parts. At the Ougree Works, sulphuric acid was actually found in a free state as well as in the form of sulphate of iron. Two samples of the soot left by the smoke in the parts destroyed were analyzed. They gave sulphate of iron, between 52 and 53 per cent., and free sulphuric acid in one sample 1.42 and in another, nearly, 12 per cent. The action was thus explained: The soot was deposited during the working of the puddling furnaces in an entirely dry state, but when the fires were put out, the soot, loaded with moisture, entered and combined with the metal into a paste. The oxidation of the sulphuric acid then occurred, and the iron was in this condition to be attacked. The corrosive action was thus going on constantly when the boiler was not at work, and in parts that could not be cleaned out, while no action occurred where the soot had been cleared away.

BOARD OF TRADE RETURNS.

The following are the returns issued by the Board of Trade, for the month of Oct., 1885, and also for the 10 months ending Oct., 1885:

MONTH ENDED 31ST OCT., 1885.		
Timber (Hewn).	Quantity Loads.	Value \$.
Russia	30,697	52,870
Sweden and Norway	62,133	88,878
Germany	23,235	63,329
United States	7,267	26,891
British India	5,986	79,605
British North America	23,700	122,112
Other Countries	31,939	38,895
Total	190,063	497,610
TIMBER (SAWN OR SPLIT, PLANED OR DRESSED).		
Russia	198,938	438,066
Sweden and Norway	228,527	470,859
British North America	132,651	822,881
Other Countries	21,240	65,177
Total	581,356	1,296,983
Staves, (all sizes)	14,235	54,001
Mahogany (tons)	4,954	41,701
Total of Hewn and Sawn	771,420	1,704,623
TEN MONTHS ENDED OCT. 31ST, 1885.		
Timber (Hewn).	Quantity Loads.	Value \$.
Russia	237,741	425,026
Sweden and Norway	481,134	674,973
Germany	268,639	631,106
United States	127,042	480,830
British India	34,596	497,027
British North America	217,200	952,714
Other Countries	344,130	477,168
Total	1,711,263	4,059,444
TIMBER (SAWN OR SPLIT, PLANED OR DRESSED).		
Russia	1,041,039	2,255,650
Sweden and Norway	1,546,314	3,244,603
British North America	816,456	1,997,727
Other Countries	299,223	891,296
Total	3,703,032	8,389,076
Staves (all sizes)	104,580	430,313
Mahogany (tons)	60,025	441,837
Total of Hewn and Sawn	5,414,824	12,448,520

HOW TO PUT AN ENGINE IN LINE.

An engine in line when the axis of the cylinder, and the piston rod are in one and the same straight line in all positions, says Leffel's *Millwright & Mechanic*. This line should intersect the axis of the engine shaft, and be at right angles to it. The guides should also be parallel thereto. The shaft must be level, but the cylinder may be level, inclined, or vertical according to the design of the engine.

To line up an engine, as it is generally termed, take of the cylinder head, remove the piston, crosshead and connecting rod, then with a centre punch make four marks in the counter bore at each end of the cylinder at equal distances apart around the bore. Take a piece of stiff hoop iron with a hole at one end of it, slip it on to one of the stud-bolts of the back cylinder head, and secure it firmly with a nut, after which it may be bent in the shape of a crank, one end projecting across the cylinder at its centre, at a sufficient distance from it to admit of convenient and accurate measurement. Next draw a fine line through the cylinder, and attach one end of it to the temporary crank above mentioned, and the other end to a stake driven into the floor at the back end of the bed-plate. Then with a piece of hardwood or stiff wire pointed at each end and equal in length to half the diameter of the cylinder, set the line, so that, when one point of the wood or wire is inserted in any one of the centre-punch marks at either end of the cylinder, the other end will feel the line. Next see if this line passes through the centre of the shaft; if so, the cylinder is in line with the shaft, if not, one or the other must be moved, which requires both skill and judgment, since engines differ so much in design and construction. Now turn the engine shift round till the crack-pin almost touches the line passing through the centre of the cylinder, then ascertain by measurement whether the line is equi-distant from the collars on the crack-pin. Then turn the shaft on the other centre until the crack pin feels the line. If the measures correspond the shaft is in line with the cylinder; if not they will show which end needs to be moved. The operation may have to be gone over several times before a definite conclusion can be arrived at. The shaft may be leveled by placing a spirit level on it, if

there be room; if not, drop a plumb-line passing through the centre of the crack-pin and shaft; then by placing the crank at both centres and at half-stroke, the line will show whether the shaft is level or not. The guides may be brought into line with the cylinder by measuring from each end of each guide to the line passing through the centre of the cylinder, and moving them until they are parallel to the line and to each other. To adjust them to the horizontal, a spirit-level may be placed on their top faces; if no level is at hand a square and plumb-line may be used; where these accessories are not at hand a straight edge placed across them will determine by actual measurement whether they are in line with the centre line of the cylinder or not.

Engines get out of line from the following causes: faults of design, faults of construction, overwork, the character of the work which they are performing, or from the loss of the crank wearing away the face of the main bearing against which it revolves. To move an engine shaft and pillow-blocks into line with the centre of the cylinder, screw down the caps of the pillow-blocks firmly on the shaft, then slack up on the bolts that tie down the pillow-blocks to the bed-plate, after which the shaft, pillow-blocks and fly wheel may be moved from the back end by means of a lever or jack-screw, after which they should be firmly tied, and the set screws and wedges re-adjusted. To move a cylinder, if the connections be short and stiff, remove the belts which tie it to the bed-plate, then measure from the plane of the cylinder to some fixed object such as a wall, post or column, cut a plank or scantling about an inch longer than the actual measurement from the cylinder to the wall, so that when placed against the cylinder, it may stand slightly oblique; then by driving on the end of the plank with a sledge or heavy hammer, the cylinder may easily be moved. The holes should then be reamed, and new bolts corresponding to the reamer substituted for the old ones. The cylinders, guides, and pillow-blocks of all engines should be double pinned to prevent them from getting out of line, and whenever it becomes necessary from wear to move them, the holes may be re-reamed and new pins substituted.

LEATHERS ON LUMBER.

Don. J. Leathers, of Grand Rapids, the well-known dealer in pine lands, while in Muskegon closing up the details of the White, Swan & Smith transfer to the Lumber Company, was seen by a reporter for the *News* and peremptorily pumped pertaining to the pine prospects of the peninsula.

"Is stumpage higher this fall, Mr. Leathers, than it has been for the past few years?"

"Oh, yes; from 40 to 50 per cent."

"What are the principal reasons for the rapid advance?"

"There is a corner on pine. But comparatively few, if any, tracts are now held for speculative purposes. Non-resident speculative owners have closed out and the pine forests of Michigan are owned by a very few men, and these men are operating for an immediate profit. Money put in Michigan pine is turned very rapidly. There is a general scramble desirable stumpage and lumber will be manufactured with a rush for the next two years."

"How many more years of lumbering is there in Michigan?"

"Not over five years. There are some tracts of course which will stand longer than that, but estimating the remaining pine as closely as possible, and figuring on the basis of the past few seasons' cut, and five years will see the forests pretty well stripped."

"To what section will the lumbermen turn their attention when the timber belt of Michigan is denuded?"

"To the South and Washington Territory. As every one knows, there are vast tracts of pine in the Southern States and of as good quality as can be obtained anywhere. But it will require a good deal of northern capital and northern experience and push to lumber down there with profit. It is my impression that excellent tracts of pine can be bought in the south at present cheaper than a year or two

years ago. At that time there was a rush for southern pine, the demand being mostly for speculative purposes. The boom has gradually died out, and to my certain knowledge a number of purchasers would sell out to-day for less than they paid two years ago. It will be five or six years yet before lumbering will commence in earnest there, and but few persons are able to tie up their money that length of time and pay taxes—which are growing heavier each year—hoping for a rise in the market. Such men as Maj. A. B. Watson, D. A. Blodgett, as well as others which might be named, can't be very easily frozen out, and they will make money on their investment."

"Has there been as much money made in lumber in this state as people have been led to believe?"

"Well, I will cite you a single instance, which will compare favorably with a hundred such deals. Several years ago White, Swan & Smith purchased a tract of pine land for \$155,000. They cut 40,000,000 of the tract and sold the remaining 80,000,000 feet for \$400,000. I made this sale and know the figures are approximately correct. While the lumber remains in Michigan there will be a greater activity in all operations than heretofore."

WOOD-WORKING PATENTS.

The following list of patents relating to the wood-working interests, granted by the United States Patent Office, November 17th, 1885, is specially reported by Franklyn H. Hough, solicitor of American and Foreign patents, 925 F. Street, N. W., Washington, D. C.

- 330,803.—Lumber-trimmer—A. Rogers, Muskegon, Mich.
- 330,797.—Planer-knife Grander—G. H. Mills, Concord, N. H.
- 330,564.—Planing and matching machine—E. H. N. Clarkson, Baltimore, M. D.
- 330,399.—Saw gummer—F. Herhold & J. E. Mills, Chicago, Ill.
- 330,484.—Saw mill carriage—G. M. Hinkley, Milwaukee, Wis.
- 330,720.—Saw mill carriage—S. W. Lattle, Evansville, Ind.
- 330,499.—Saw punching and setting machine—J. Laybolt, Wakefield, Mass.
- 330,396.—Saw swage—D. B. Hanson, Indianapolis, Ind.
- 330,680.—Saw tooth—J. A. Dean, Worcester, Mass.

PATENTS ISSUED NOV. 24.

- 320,867.—Chuck, lathe—J. C. Bauer, London, England.
- 330,948.—Lathe cutting appliance—L. E. Wheeler, East Hampton, Mass.
- 331,195.—Saw, splitting—W. H. Hawley, Hanford, Cal.
- 331,262.—Saw tooth swaging machine—J. E. Traverse, New York, N. Y.
- 331,135.—Sawing machine, rift—O. S. Holt, Rock Island, Ill.
- 331,054.—Stump extractor—J. B. Heard, Bowling Green, Ky.
- 330,994.—Stump puller—J. W. Mayberry, Marvyn, Ala.

A CHICAGO OPINION.

The last issue of the *Lumber Trade Journal* contains the following on the situation in the lumber market:—

It is slowly but surely being realized by the dealers throughout the country that the advance in price was made in good faith, and that the jobbers are determined to adhere strictly to present quotations. In scanning our various reports from the lumber markets elsewhere we find the same feeling as to prices predominate, and, indeed, in not a few of them there are indications of further advances. It may be well for the dealers that are still withholding orders (and we know there are many such) to take timely cognizance of the very important fact to them that prices are not going to decline, and it is not unlikely that a very nice per cent will be saved by placing orders now. It is thought by many the advance and those to be made, if any, will continue during next season. This idea we cannot endorse altogether, as the indications already are that as much, if not more, logs will be got out this winter than last. Many large logging crews are going out already, and

there are more camps located now than in three previous years at as early a date.

In conversation with a leading lumberman the other day he said his firm would reduce its cut from 35,000,000 feet to 30,000,000 feet, but that it was truly astonishing to him to see the general disposition there was with other large operators to be first on the ground, prepared to do more work and stay longer than last year.

If such be the facts it is folly to think that prices will maintain their present high standard after the opening of navigation next year. But in the meantime, Mr. Dealer, what are you going to do? The extreme caution that actuated you in withholding your orders the greater part of this year places you now with limited and broken stocks. To supply your trade you must buy sooner or later in large quantities. If you dilly dally along as you have been doing you will be compelled to not only meet present but doubtless higher prices.

Death of a Pioneer.

Mr. Edward McGillivray, one of the most widely known commercial men in the Ottawa valley, died on Nov. 24th of paralysis of the brain. For nearly fifty years he carried on a large wholesale and retail trade, and had extensive business connections with the lumbermen of the Ottawa country. He was mayor of Ottawa during the years of 1858 and 1859, and was connected with every enterprise for the advancement of the place from the early days of Bytown down to the present. The Montreal Telegraph Company, the St. Lawrence and Ottawa railway and the Canada Atlantic railway are among the most prominent enterprises to which Mr. McGillivray lent the aid of his energetic assistance.

The Largest Load of Lumber.

The *Oswego Palladium* of Nov. 19th says:—The barge *Dakota* arrived here last night from Brockville, in tow of the tug *Proctor*, having on board the largest load of lumber ever brought into this port by any craft. The cargo was consigned to Page, Fairchild & Co and consisted of 618,825 feet of pine lumber. The amount of duty paid was \$1,237.65.

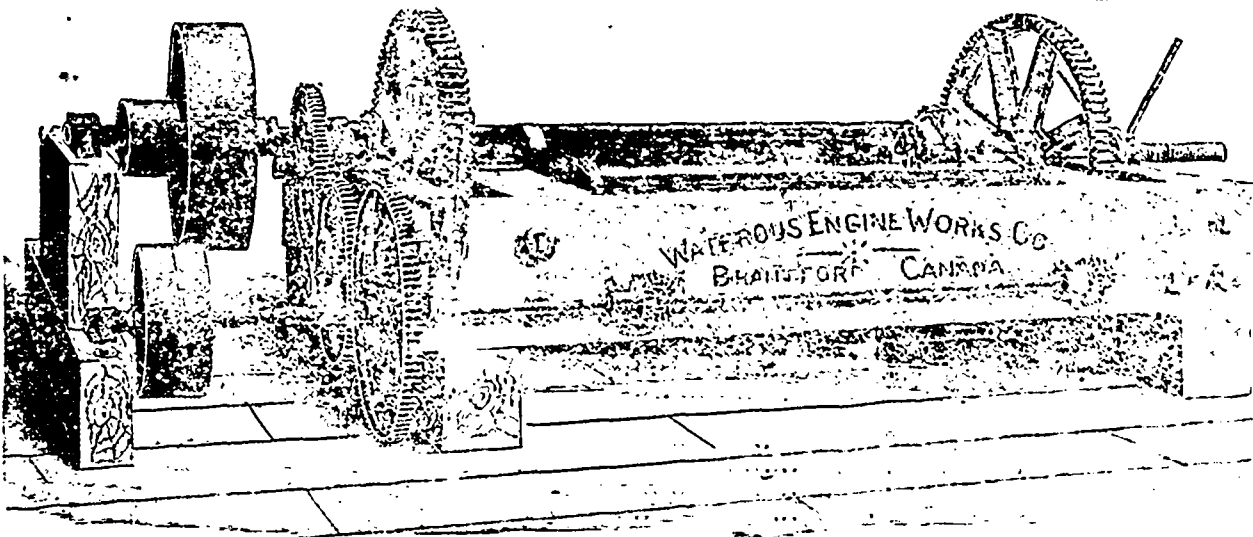
SAYS the *Lumberman's Gazette*:—Basswood is manifestly growing in popularity. Not only is it used for box-making and for similar purposes, but it has a large place in moulding shops. It disputes supremacy in this respect with white-wood, and both have a lead over gum. Pine is getting too high in price to put it into mouldings, when cheaper woods will answer the purpose just as well. It is only the force of habit that continues the use of pine to the exclusion of other good and easily worked woods, and as wood-workers learn the value and availability of white-wood and basswood they will be more extensively employed.

Consumption Cured.

An old physician, retired from practice, having had placed in his hands by an East India missionary the formula of a simple vegetable remedy for the speedy and permanent cure of Consumption, Bronchitis, Catarrh, Asthma, and all Throat and Lung Affections, also a positive and radical cure for Nervous Debility and all Nervous Complaints, and having tested its wonderful curative powers in thousands of cases, has felt it his duty to make it known to his suffering fellows. Actuated by this motive and a desire to relieve human suffering, I will send free of charge, to all who desire it, a little recipe, in German, French or English, with full directions for preparing and using. Sent by mail by addressing with stamp, naming this paper, W. A. Noyes, 149 Powers Block, Rochester, N. Y. lyew43

Every observer who walks the streets of a great city, and scans with intelligent eye the colorless faces of more than fifty per cent of the people he meets, can easily agree with us in the statement, that this age, which makes such traffic upon the working energies of the greater part of men in the intense pursuit of business, has destroyed in a proportionate degree the animal health and robust constitution. Nature, in this stage of exhaustion, cannot be restored of itself, but requires some stimulating tonic to strengthen and keep the system in regular order, and in Northrop & Lyman's Quinine Wine we have the exact remedy required. The peculiar operation of this medicine, in cases of general debility and nervous prostration, has undergone long and close observation, and it is believed it will never fail, if properly and judiciously administered. Prepared by Northrop & Lyman, Toronto, and sold by all druggists.

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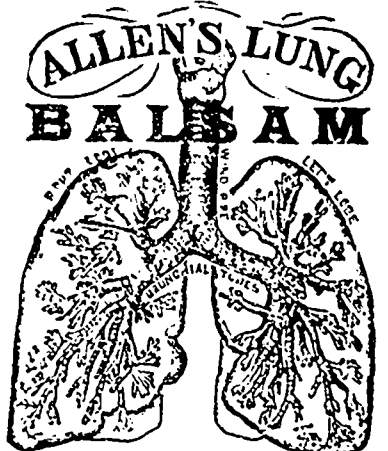
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(This Engraving represents the Lungs in a healthy state.)

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SIMPLY A LUMBER PILE.

In every business in which a man can engage there are opportunities for exhibiting distinguishing peculiarities, that of themselves indicate, to a very great extent, the success of the business.

The practical business men, and one who thoroughly understands the necessities of a successful manufacturing industry will have his buildings and machinery so constructed and arranged as that he can produce the articles of manufacture at the least expense and with the least amount of labor. His employees will partake somewhat of the spirit of their employer, and a neat clean work-shop or factory will be the result. The various tools for daily use will be conveniently arranged in drawers, on tool racks prepared for the purpose. The machinery will be clean, the floor about it will not be covered with an accumulation of chips, shavings, or dust, from the work of the day before, but everything will be as clean as possible to have it, (the character of work done of course to be considered), a spirit of rivalry can easily be instilled into each employee, so that he will be always on the alert to out rival his nearest neighbor in doing nice work, and keeping his machine or tools in better condition. It was once my pleasure to visit a large planing mill and sash, door and blind factory, where a weekly premium was given to the employee who during the week turned out the most perfect work, and kept his machine or tools in the best order. It may perhaps seem like a stretch of imagination to say the work rooms, at the close of the days' work, were as clean as the office, but it was literally true, the last ten minutes of each day was occupied by each workman in cleaning his machine or tools and putting them in their proper places. The same system of order can be and should be practiced in every manufacturing and mercantile industry upon the basis of the axiom, "Whatever is worth doing at all, is worth doing well." In no industry do we find just such a well of things with reference to system and order as in the lumber business. We find on going through the yards of the large manufacturer or extensive wholesale dealer of lumber that almost universally there is manifest great care in piling their lumber; their yards are regularly laid out with avenues or roadways on either side of which are huge piles of lumber, numbered, the date of piling stamped on many of them. Especially is this so in the case of hardwood. The end of every board is covered from a half to three-quarters of an inch with the stringer to avoid cracking or checking, the piles are uniform in size, grades and varieties are carefully kept secret and not unfrequently a map of the yard is on file in the office from which any information can be had that could be obtained by a personal visit, save the actual appearance of the lumber itself. The yard is clean, no piles of odds and ends are visible, and everything is in order. But with the yard of the retail dealer, how strange the contrast. We do not mean to say that all retail lumber dealers are careless, but it is a fact that the large majority of the retail lumber yards of the country are in a confusion that is inexcusable; drives and roadways are blocked with piles of lumber going to decay, thrown there when some customer, perhaps, was looking over stock and selecting such as he wanted, the culs thrown aside where they yet remain. It is not unusual to see in these same yards lumber piled solid; the result of which is moulded and discoloured lumber and if green when piled, or if it stands through a season of rain or snow it gathers water and very soon is unfit for use. So little care is exercised in keeping sizes and varieties separate, and it is not an unusual thing in a retail yard to see a pile of lumber made up of every conceivable size, length and shape, and the owner has no more idea of what is in it than he has of the cash value it represents. These things are the rule rather than the exception, and it is a remarkable fact that it is so. A retail lumber yard can be made as attractive to its customers as can a dry goods store; as a matter of profit it would pay, as a matter of reputation it would pay, as a matter of convenience it would pay.

Who is there that would not feel that he was getting a better quality of lumber if taken from a clean, straight pile than if the same was taken from a pile of odds and ends? The same rule applies to a lumber yard as to a store, and who is there that does not expect and is still willing to pay more per yard for cloth taken from the shelf than for a remnant of the same piece that would answer the same purpose? From every standpoint it will pay to keep a lumber yard in order.—*Lumber Trade Journal.*

CARE OF BELTING.

This is of the utmost importance in all factories, and they should go of the best material, and receive the best care. No belt should be allowed to sway from side to side on pulleys while running. Where leather is used, the belt becomes stretched on one side. The belt should be cut and spliced with a nice scarf lap, and well glued and fastened. Many times that would save the price of a belt, and much more than that in the necessary delay that follows, which would cover the expense of many belts. The best leather belting will stretch more in some places than others. All this class of belts are stretched and made from first-class leather, and when first applied, will run very well, and do well in a cold dry climate, but with use and atmospheric action, some portion will become stretched, and if allowed to run so, grow worse, and fly of the pulley, and many times wind around the shaft, breaking the belt, with other expensive machinery, which might have been avoided by a little labor at the right time. Rubber or canvas is not subject to the above trouble; but they have their faults. Many times a leather belt can be kept straight by using some soft dressing upon the hard places of the belt. Apply as often as there are signs of its stretching crooked. Always apply the dressing to the hollow edge of the belt; this will soften the leather and cause it to stretch and straighten. This should be done to all new leather belts, when first stretched, at any time when the belt becomes crooked, and will overcome one of the great troubles with leather.

Another is the way in which the belt is joined together. This has been a great problem to solve; that is, to fasten a belt, so that it can be readily taken up, as all belts will stretch and become too slack. It seems to me what is required is a fastener light and strong, that the belt may be fastened together in the shortest space of time: One that will leave both sides of belt as near alike as possible. One that will present as little surface to the pulley as can be. One that will hold the belt the firmest. One that can be used where tighteners are used. One that will not cause the tightener to jump. Such a fastener would be of more intrinsic use to factories and mills than anything now in use. There are but few fastenings now in use, but what there are objections to. Lacing is about as old as anything that is used. The objection to this is its liability of stretching, allowing the corners of the joint to catch any obstacle that comes in contact with the belt, causing the lacing to give way, as some parts of the string will stretch more than others, and thus make the belt crooked. Then, there is the extra thickness to run over the pulley, and the less surface to come in contact with pulley, causing the belt to slip there more than elsewhere; this cuts the lace, and it gives way on one side tearing out the holes. When lacing is used, the joints should be closely watched, and as soon as the lacing becomes stretched, or to show signs of giving away, the joint should be tightened up. Many times new lacings would not be required, but by drawing up the lace, it would straighten the belt, and cause the wear to come on new places of the lacing.

Do this when the mill is shut down, thereby saving the expense of having a portion of the machinery idle in working hours. Rivets are good used in connection with the best glue, but rivets alone are objectionable, the same as of lace in making a thicker place in the belt, causing it to jump. To mend the belt, as it should be, with the above, it takes time and causes much delay. Then comes the expense, as they are more expensive than studs or hooks, as the belt requires to be cut or punched for them. This weakens the belt, causing it to give away in short time, by tearing out the ends, and in a short time the belt needs a piece spliced on, which should be done neatly. It never did

pay to handle belts in a slipshod way. Many men have been forced to close up business on account of the use of poor belts. They buy them because they are the cheapest at first, but they are dearest in the end. It is not always the dearest that is the best, or the best that lasts the longest; one man may use a thing as long again as another. Get the best, and take the best care of it, then it will be the cheapest. Belts should be watched as closely as any part of the machinery, as it is not alone the first cost, but the many delays they cause.—*Lumber Trade Journal.*

SOUTH AMERICAN LUMBER EXPORT

The export of lumber to South America, says the *Monetary Times*, is an important business. Forty-seven vessels laden with lumber cleared from Montreal during the season of 1885 bound for the River Plate. Six of them left in June, twelve in July, nine each in August and September, ten in October and one on November third. Their cargoes varied from 275,000 feet to 1,185,000 (carried by the *Gloaming*) and the total cargoes of these amounted to 26,465,543 feet, all pine. Twelve vessels sailed during the season from other ports on the St. Lawrence to the same destination, carrying 54,000 feet of pine, 4,825,000 of spruce and 666 spars, besides small stowage. There were, with two exceptions, loaded by the Export Lumber Company. We remark, besides, the sailing of the *Aspotogan*, on Oct. 20th, with 402,600 feet pine, for the west coast of South America. A recapitulation gives the following result:

Pine.....	26,519,543
Spruce.....	4,825,000
	31,344,543 ft.
Smallstowage.....	526,828 pcs.
Last year was the only one which equalled the palmy days of 1873 for this trade, but the present season is not far behind. We give below a comparison for the past sixteen years:—	
1885.....	31,344,543
1884.....	36,038,548
1883.....	18,768,652
1882.....	24,419,827
1881.....	16,147,941
1880.....	10,420,080
1879.....	12,476,150
1878.....	10,855,240
1877.....	8,787,928
1876.....	8,437,000
1875.....	10,123,000
1874.....	16,262,293
1873.....	36,073,919
1872.....	28,234,966
1871.....	16,005,933
1870.....	25,145,183

FORESTS AND CLIMATE.

The third number of *Petermann's Mittheilungen* for this year contains an article by A. Woeikof on the influence of forests on climate. The commencement of a scientific investigation of this subject was made when the Bavarian forest meteorological stations were established, and when Prussia, Alsace-Lorraine, France, Switzerland and Italy followed the example. As a general rule it may be laid down that in the warm seasons, as between forests and places close at hand which are treeless (1) the temperatures of the earth and air are lower in the former, (2) their variations are less, (3) the relative humidity is greater. After examining observations as to evaporations, Herr Woeikof states that the influence of forests in diminishing evaporation from water and the soil is so great that it cannot be accounted for alone by the lower temperature of the hot months, the greater humidity, or even by the shade. An important influence which has hitherto been but little appreciated is the protection from the wind afforded by the trees, and this the writer regards as more important than all the others together in reducing the degree of evaporation. With regard to the influence of the forests on rain and snow fall, there is yet only a single series of observations supplying comparative statistics and extending over a sufficiently long period. These were taken in the neighborhood of Nancy, and they show an important influence of forests in increasing the rain fall. It might appear that the effects of forest on rain in the climate of central Europe in winter would be

small, for the difference between the temperature and humidity of the forest and the open is very little, and quantity of moisture in the atmosphere is small. But the observations show that it is at the time of the year that forests get much more rain. This the writer attributes to the clouds being lower, the resistance which the forest offers to the movement of the air and to the moist west wind. Forests retain rain by the undergrowths of grass, moss, etc., much better than open ground, and let water off superficially only after a heavy rain fall; the remainder filters upward slowly, and much of it is used for the evaporation of trees. Although forests, especially thick, luxuriant forests, cannot exist without certain supplies of moisture, yet it is the same to them when the supplies come, for they retain what they get, and use it over a long period. One example of it is the Lenkoran forest, on the west coast of the Caspian, where the vegetation is more luxuriant than in any other part of Europe, yet very little rain falls in summer; but the rain fall in autumn and winter is great. The water is stored up by the forest, and is used in evaporation during the heat of summer. Humidity of the atmosphere, however, is not consistent with a high temperature, as the Red Sea shows; but in the forests the humidity is due to the evaporation of the leaves—in other words, to a process by which heat is converted into work, and hence the coolness.

Herr Woeikof then endeavors to ascertain the influence of forests on the climatic conditions of their neighborhoods in the western parts of the Old World, between the 38th and 52nd degrees north latitude, the places selected being in all cases in the open. Thus for the 52nd degree eight stations are taken between Valencia in Ireland on the west and the Kirghiz steppes on the east, for the 50th, Guernsey on the west, Semipalatinsk on the east, and thirteen stations, and so on for each two degrees of latitude, to 38°. The general result of observations in fifty stations in six different degrees of latitude is that in Western Europe and Asia large forests have a great influence on the temperature of places near them, and that by their influence the normal increase of temperature as we travel eastward from the Atlantic ocean to the interior of the continent is not merely interrupted, but they give places far removed from the coast a cooler summer than those actually on the sea. A striking example of this is Bosnia. An examination of the statistics show (1) that in Bosnia the summer is 1.5° to 4.5° cooler than in Herzegovnia; (2) even on the island of Lissa, in the full influence of the Adriatic sea, the summer temperature is more than a degree higher than that of Bosnia, which is separated by lofty mountain ranges from the sea. Bosnia owes this comparatively cool summer to its great forests, while Herzegovnia is almost disafforested. To sum up: Forests exercise an influence on climate which does not cease on their borders, but extends over a larger or smaller adjacent region according to the size, kind and position of forest. Hence man by afforestation and disafforestation can modify the climate around him; but it is an extreme position to hold that by afforestation the waste places of the earth can be made fertile. There are places incapable of being afforested, which would not give the necessary nourishment to trees.—*Et.*

AN OLD NORWEGIAN WOODEN BOOK.

From Scandinavian regions we sometimes hear of wooden antiquities being disinterred, which ages have swept over obliviously, but which when brought to light are of great interest, as connecting links between the present and the past. Sometimes it is a ship but the latest discovery, though infinitely smaller, is even more curious and admirable. The description is from *St. James' Gazette*: "The process of restoring a characteristic old wooden church at Hoppersted, in the Hardes district of Soynge, in Norway, has brought to light an interesting Norwegian mediæval relic. In a closed niche a book, consisting of six wax tablets, was found carefully enclosed in a casket of wood and leather. The tablets are of boxwood, covered with wax, each tablet having a thin border, so as to hinder the tablets from

sticking together on closing the book. This precaution has helped to keep it in excellent preservation. The contents are chiefly drawings, made by a fine style, representing scenes from village and rural life. At the end there is a large catalogue in Latin of various kinds of animals, with a translation into old Norwegian; and from this it has been conjectured that the greater portion of the book dates from the close of the thirteenth century. But there are indications that part of the book is of earlier date. The tablets are fastened together at the back, and the cover is carved and inlaid with various small pieces of differently coloured woods. The book has been placed in the Museum of Antiquities in the University of Christiania, and it is intended to publish it shortly in facsimile."

AN IMPORTANT RAILWAY

The late driving of the last spike on the Canadian Pacific railway has called forth a large amount of comment, which presumes to be wise, from the American press. This comment, while it admits that the work accomplished is of great importance, is generally adverse to the prospective profitability of the railway. The men who scribble off their diurnal editorial filling for the morning newspapers assume to know that the country through which the Canadian Pacific runs is mostly barren of natural resources. Their idea is that the region is too far north to amount to anything for settlement or development. Besides, it is in Canada, and patriotism demands that the new thoroughfare and the territory it traverses be depreciated, though likely as not the young fellows who do the scribbling are recent importations from her majesty's dominions.

The Lumberman aims to be fair in the treatment of foreign as well as domestic affairs. It is fully aware that when American newspapers assert that the Canadian Pacific railway will have meagre resources for local traffic they are in grave error. As a matter of fact the road, for its entire length, runs through territory rich in resources. Much contempt has been thrown at the section north of Lake Superior region, which is described as utterly barren and worthless. The truth is that though the Lake Superior region is rocky, and much of it unfit for agriculture, those ancient and primitive ledges, said to be the oldest of earth, inclose the richest of iron copper, and silver deposits. These have been sufficiently developed, especially in the vicinity of Port Arthur, to prove beyond doubt that the region will one day teem with industry, and that the Canadian Pacific will be freighted with results moving east and west. An important factor of local traffic on this portion of the route will be the rich deposits of building stone that abound. Lately the finest marble of the Scotch variety, has been developed near Port Arthur, and is already being shipped. The Rabbit mountain silver mine shows what can be done in the unearthing of this precious metal. It is well known that the most promising silver discoveries have been made on the north side of Lake Superior. Silver Islet and Isle Royal testify to this assertion.

Further west, in the Lake of the Woods region, the country is seamed with iron and other minerals. In that district, also, is a wealth of timber, much of which is pine, that has already become the source of a great lumber industry. To the eastward in the region of Lake Nipissing, is another vast and rich timber section. It is simply nonsense to talk of lack of natural resources for traffic along that portion of the Canada Pacific between Lake Nipissing and Winnipeg. As well might we say that there were no resources for traffic for a railroad running through the mountain districts of Pennsylvania or West Virginia. There are wide areas west of the Lake of the Woods that are swampy covered mostly with tamarac, and there is a heavy growth of poplar on sections; but as the prairie country to the westward becomes settled this swamp timber will be utilized for wood pulp, railroad ties, and other purposes, and become sources of traffic.

West of Winnipeg is that vast reach of prairie land, spreading away to the Rocky mountains, 700 miles, and from the American

line to beyond the North Saskatchewan, 400 or 500 miles. Nearly all this territory is good agricultural or grazing land, and will one day be completely settled with a thrifty population. Already there is a line of settlement and numerous growing towns from Winnipeg to Calgary, near the mountains. The main line of road has several branches striking out into this agricultural region, and others are projected. These serve as feeders of traffic. It is true that the country traversed by the Canadian Pacific lies in a zone of cold winter temperature yet excellent crops of wheat, rye, oats and barley are raised, while cattle do excellently well. The country lying just east of the Rocky Mountains, included in the district of Alberta, is milder than that further east; indeed, the climate there is as fine as can be found anywhere. There is nothing in the climate of the Canadian Northwest to prevent its occupation by farmers. How silly it is, then, to talk about the Canadian Pacific not having any local resources of traffic. It will not only have its home traffic, but it has already begun to capture the cattle trade of northern Montana, which naturally belongs to the Northern Pacific.

Thus we see that the Canadian Pacific begins in the populous sections of old Canada, runs through a region of vast timber and mineral resources to Winnipeg, and thence 700 miles to the Rocky mountains, through a rich prairie country, already partially settled, and destined to support at least 10,000,000 of people. What better situation for way traffic could be conceived? The farming and pastoral population of the prairie regions will want the lumber, the iron, copper, lead and building stone of the Lake Superior country, either in the raw state or manufactured. In process of time the Lake Superior and Lake of the Woods sections will become seats of great manufacturing enterprises, simply on account of the timber and mineral resources that abound in them. The prairie country will be the market for these manufactures. On the other hand the mining and manufacturing sections will want the products of the farms and the pastures to the westward. Thus an interchange of traffic must surely grow up, the like of which exists between the east and west of the northern states. In nature had planned out two sections of country on purpose for connection by railroad, a better hit could not have been made than is apparent in the situation along the Canadian Pacific.

Yet there are other advantages to be mentioned in connection with this great transcontinental thoroughfare. From Calgary to Port Moody the road traverses the Rocky mountain portion of its route, which is also rich in timber, mineral and coal. The newspapers on this speak with inexcusable ignorance of this part of the route. British Columbia possesses almost countless articles of raw material that can be worked into commodities for the millions of people who will inhabit the great interior. The coast country will also become famous for its manufactures, while the market will be to the eastward, necessitating railway transportation.

Thus has been outlined the native resources for way traffic along the Canadian Pacific. Nothing has been said about through business, which all acknowledge must be immense. The endeavor has been to simply correct a misapprehension concerning the natural advantages of the new Canada, which has been gondered of, or prompted by national prejudice.



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DEVOTED TO THE LUMBER AND TIMBER INTERESTS OF THE DOMINION.

PUBLISHED SEMI-MONTHLY BY THE Peterborough Review Printing and Publishing Company (Limited), Peterborough, Ont.

Terms of Subscription: One copy, one year, in advance \$2 00; One copy, six months, in advance 1 00. Advertising Rates: For line, for one year, 50 00; For line, for six months, 30 00; For line, for three months, 15 00; For line, for first insertion, 10 00; For line, for each subsequent insertion to 3 mo's, 5 00; Cards not occupying more than 12 lines (1 inch) per annum, 5 00; Cards not occupying more than 12 lines (1 inch) for six months, 3 00; Cards not occupying more than 6 lines per annum, 3 00; Cards not occupying more than 6 lines for 6 mo's, 3 00. Special rates will be made for page, half page and column advertisements.

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

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 office of Messrs. S. M. DEACON & Co., 154 Leadenhall Street, London, England, who also receive advertisements and subscriptions for this paper.

PETERBOROUGH, Ont., DEC. 1, 1885.

FULL three million feet of logs will be got out of the Cypress Hills this winter.

Mr. J. M. Irwin's Nassau Mills, near Peterborough, have closed down for the season. Mr. Irwin has about 300 men in the woods.

Messrs. R. & G. Strickland have shut down their saw mill, at Lakefield, Ont., having finished their season's cut of lumber.

Boston reports more lumber selling this month than October, with less arriving from the West, giving the hope of an advance in values.

It is stated that there are less shagbarks in sight along the Grand Rapids and Indiana railroad now than at any time within the past five years.

Quite a large amount of lumber is being received at Tonawanda from Canada by rail now. This is a recent innovation, and promises to add materially to business the coming winter.

It is expected that the Gibson tannery, in New Brunswick, will be reopened next year, when the hemlock lands on the Nashuaak will have been rendered accessible by the Miramichi Valley railway.

Forty-five square miles of timber leases were sold on Nov. 18th, at the New Brunswick Crown Lands office, one berth of six square miles on New Canada brought \$35 per mile, \$17 above the upset price. There have been about 1,000 timber leases already made out.

The little saw mill closed on Saturday night. It has had a full average run, and did it without serious accident to man or mill. On Friday, Mr. Gidley, the superintendent, asked the boys to hump her up a little, and see what she could do, and the result was a few hundred feet over 103,000. The highest cut for one day was 113,000 and this record would have been beaten on Friday, had not some wretched pin broke loose, and caused a delay of over an hour. - Belvidere Independent.

The Fredericton, N. B., Farmer says Mr. Temple, M. P. has furnished a mill site at (Belvidere), adjacent to the railway, and will erect an extensive saw mill thereon. Bonstown, when the railway is completed, will become a centre of wealth and population. It will be the principal station between Marysville and Chatham, and with its proximity to the lumber lands of the Miramichi must grow rapidly. The soil in that vicinity is said to be of excellent quality, and so Belvidere may be expected to thrive agriculturally as well as otherwise.

As a result of the proposed early construction of the Buctouche and Moncton railway, Mr. Alexander McLean, of Scotch Settlement, will immediately proceed with the erection of a steam rotary mill, 35-horse power, with a capacity for cutting 10,000 to 15,000 feet of lumber per day. There is an abundance of hard and soft wood timber in the Scotch Settlement, and, in fact, at many points along the proposed line, and no doubt that section of country will reap a great benefit. The timber embraces spruce, hemlock, pine, birch, beech, maple and ash, all in large quantities. The latter woods are in great favor with furniture manufacturers, and the supply in this district is so good that a prominent furniture man has intimated that a furniture factory is among the possible industries of the near future. - Moncton Times.

FILING SAWS.

One of the most important things in the care of circular saws is filing.

This care is necessary for all saws. No matter of what kind or size or style this remark is applicable to them all. Saw filing is an art and an art that but few attain to in perfection. Saw filers may be graded about like this, good for nothing, very poor, poor, passable, fair to good, good, very good, and perfect. The last named quality is not often found. The greatest number will be found among among the classes passable and fair to good. I think more might attain to the higher grades if instead of hurrying the job through they would stop and see what they are about at every tooth they file. If there is anything in the world you need to give your whole attention to while you are about it, it is filing. No one can tell stories, or smoke, or eat apples, and file a saw well at the same time, for either one or the other will suffer very materially during the operation.

Never by any means let the file rest on the saw during the back stroke. A little pains taken for a short time will overcome the tendency to let the file rub when being drawn towards you. It spoils a file quickly, as well as indulges you in a bad habit which one cannot too quickly overcome. The saw needs to be clamped firmly just below the bottom of the teeth, so there will be no vibration of the plate when filing. The clamp needs to be the right height to fit the file. It is a gross error to have a clamp stationary where there are several persons using it, because each person has a little difference in height, and so each person filing needs to adjust the clamp to suit himself.

Now hold the file firmly and push a good steady stroke, first filing up the front of the tooth square, keeping the file well into the bottom of the tooth to keep the length and preserve the shape, or correct a badly shaped tooth, for it is one of the good qualities of a filer to keep every tooth just alike. Avoid by all means making the saw produce the sounds represented by ky yark, ky youk, ky yick, ky yarouick yick. No screaming should ever be indulged in or allowed by a filer, and any filer that allows himself to produce those horrid unmusical sounds does not know his business. Set that down in your note book.

Now after you have filed up the front nice, file just enough from the top to give it an edge and no more, and here also let the file go to the bottom of the tooth to keep the form good.

There are a few kinds of sawing, or perhaps I should say different kinds of sawing, usually done on the common saw table, and each kind needs a little different style of filing and setting. The first is heavy sawing, like resawing timber and splitting up heavy coarse plank for stud-ding and general house building purposes. For such purposes a saw tooth in all cases

should be swaged. This if properly done keeps the outside point of the teeth full and sharp. Swage first and then file and then give it just a trifle of set, and everything else being equal, if a saw does not run well there's trouble some where. For this kind of work a tooth needs to be filed square across both front and back, and with such saws we can file all from one side. In doing this it is necessary that after one tooth is filed, the next one shall take the place of the one that has been filed.

I know it is the common custom to file up about four teeth, and then move the saw along and file four more. In doing this each one of the four teeth have a different bevel on the front side. From the position one stands in during the operation it is impossible that he should be otherwise and so we generally get about as many different bevels as there are teeth in the saw.

This is all wrong and no wonder with such filing that there are so many saws that do poor work.

Another kind of sawing is that of sawing molding stock and sawing stock for matching machines.

In this kind of work it is very seldom we need more than a 12 or 14 inch saw, and a 12 gauge saw with 20 teeth is about the style that is wanted. For this work we should file square across on the fronts, and drop the hand a little on the back of the tooth, so as to give the edge of the tooth a slight bevel and set the saw just enough to clear nicely and no more.

A very nice swage for this kind of saw is a great help to keep the outside points full and sharp. For common rough sawing there is not that positive necessity of keeping a saw in perfect set, but in sawing molding strips the smoother the stuff is sawed the less stock it takes to finish it up with the molding machine.

For this work the saw should be filed from both sides, and set only enough to clear the saw, using a swage [very nicely made] with care to keep the outside points full and sharp.

One more specialty in sawing which calls for nice filing is line sawing. This is largely found in what is generally called carriage sawing. This takes in sawing for all kinds of vehicles, light or heavy, drawn by horses. Everything for this work is marked out from patterns either by pencil or timber scrub, and many of the lines are straight and the circular saw economizes the work very much. I will say here, however, that since the band saw came into so general use the most of such work is done with the band saw.

To be a good line sawyer it need a large practice and a good knowledge of keeping a saw in first class order. As far as I know, most of the sawyers doing this kind of work file square front and back, and file all from one side, using very little set. Line sawing is a specialty, and a good line sawyer either in carriage or car works ought to be prized. One more specialty and I will close the chapter: clock sawing is a specialty by itself and perhaps there is no kind of sawing in the country that demands and receives such close attention as what we know as clock sawing.

In this work the teeth are filed moderately hooking and very fleaming. The points of the teeth are like needles. They are kept perfectly round and in perfect set, the set being so little that the eye hardly detects it. Everything is made from perfectly dry stock, and it is all short work; it is wonderful to see to what perfection sawing can be brought with the advantage of having all clean dry stock, kiln dried to perfection.

There are but few, however, that can so trust their eyes. - J. F. Langdon in Cabinet Making.

MORE HEAVY PINE SALES.

This week another big pine deal was closed in Muskegon, this time Torrent & Ducey being the sellers, and C. H. Cook, of Montague, and W. C. Wilson, of Michigan City, being purchasers. The transfer includes about 23,000 acres, estimated to cut 120,000,000 feet of pine, situated in Chippewa county, in the Upper Peninsula. The consideration is \$150,000. Mr. Cook will very shortly go up north and begin the erection of a mill which will be ready for work at the opening of next season. The mill will be located near Life Saving Station No. 12

on the south shore of Lake Superior. The fore going is from the Muskegon Chronicle, which also contained the following: -

"This makes the fourth sale," said Mr. Torrent, "that we have made from this upper peninsula land this season, in all amounting to over \$200,000. Torrent & Ducey have also recently sold one-third of their 31,000 acre tract in Franklyn County, New York, the price paid being \$83,000. In all we have sold something like \$433,000 worth of standing pine this season."

"You have been making some heavy purchases also?"

"Yes, we have been buying more or less all the year. I presume the firms here that I am interested in have bought something like \$550,000 worth of pine this year. The J. H. Moores and the Manistes tracts were the heaviest, but we have been picking up a number of smaller lots."

"How does the price of stumpage this year compare with last year's?" we asked.

"Well, in the lower peninsula I should say it is a good round dollar a thousand higher than last year. In the upper peninsula it has advanced but not so much."

"Torrent & Ducey bought this upper peninsula land some years ago," we remarked.

"Yes," said Mr. Torrent, "I think we bought that in '81. We did not get it direct from the Government. It had been bought up several years before. I think we paid about \$4 an acre for it. Cook & Wilson have made a good bargain. It will overrun the estimate on stumpage. If we wanted to manufacture the lumber up there we wouldn't have thought of selling—not at least at the price we got. That northern pine is not quite so good as the timber up this river, but it is very good, some of it is excellent." - Lumberman's Gazette.

GLASGOW.

The Timber Trades Journal of Nov. 14th says: - The cargoes at present being landed here, included in the last week's import list, consist chiefly of lower port spruce deals, which appear mostly sound and clean. Some of them no doubt will go into use for goods, packing cases, being a quality of goods suiting admirably for the purpose. There have been during the week no further arrivals of steamers per steam liners from Quebec and Montreal, and the import may be considered as almost closed for the season. The week's import at Greenock have been two cargoes of pitch pine and one of greenheart.

The sale at Yorkhill, on 5th inst., was attended by rather a small company of buyers. The catalogue comprised a large assortment of pine and spruce deals, and, compared with quantity offered the proportion sold was small. Still a good many lots were disposed of, and there was bidding for other lots, but being under broker's limits, the goods were withdrawn.

We have to note that there is no mahogany here in first hands at present.

QUEBEC CULLERS' OFFICE.

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

Table with 4 columns: Timber type, 1883, 1884, 1885. Rows include Waney White Pine, White Pine, Red Pine, Oak, Elm, Ash, Basswood, Butternut, Tamarac, Birch & Maple, Spars, Std. Staves, W. I. Staves, Bri. Staves.

Quebec, Nov. 20. JAMES PATTON, Supervisor of Cullers.

LIGHT FROM WATER POWER.

The beautiful falls of Montmorency, one of the chief points of interest to the tourist visiting Quebec, are to be utilized for a novel purpose, that of generating electricity for lighting Quebec. The water is led from the river above the falls, through a sluiceway, to the edge of a

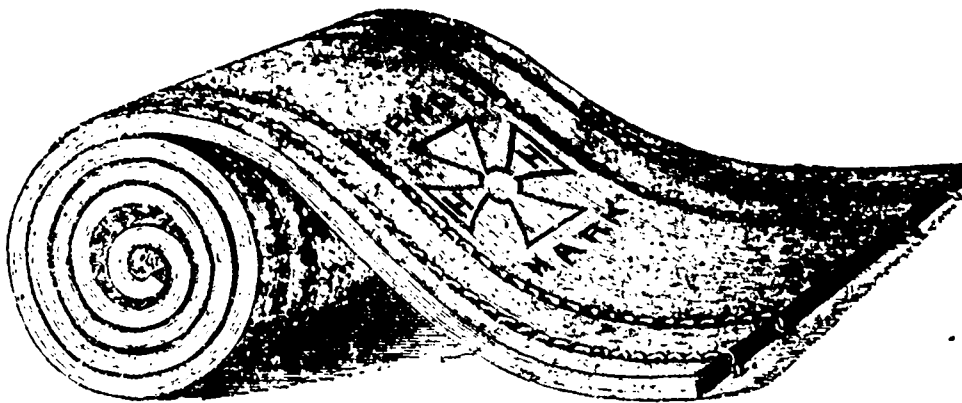
HARRIS, HEENAN & Co.

124 AND 126 QUEEN STREET,

MONTREAL.

Patent Stitched—Steam Power Pressure Stretched—Oak Tanned

TESTIMONIAL.
THE GORD & SON'S, CITY MILLS,
Nov. 13th, 1884.
Harris, Heenan & Co.
DEAR SIRS.—Your Patent Sewed Belt has been in use in our "City Mills" for some time. We are thoroughly convinced of its superiority over any belt, American or Canadian, we have used in an experience of over 35 years. It stretches so little, and gives so little trouble, that compared with riveted belting, the sewed belt saves double its price in time and labor saved. We heartily recommend it to manufacturers as the cheapest and most satisfactory belt in the market.
Yours respectfully,
W. C. GORD & SON,
MILLS.



TESTIMONIAL.
PACA, BENNETT & CO., CANAL HOSE SHED AND
NAIL WORKS, MONTREAL, 15th Nov. 1884.
Messrs. Harris, Heenan & Co., Montreal.
I have pleasure in recommending the belting manufactured by Messrs. Harris, Heenan & Co. of this city. After thoroughly testing it, I find it greatly superior to any belting that has come under my notice and fully equal to all they claim for it, and certainly without an equal for cross or double belting.
CHAS. R. ELLACOTT,
Supt. H. S. & H. N. Dept.

LEATHER BELTING!

*The Best, therefore the Cheapest, Belt in the market.
Replaces, when used, all others.
More Pliable and Durable, especially at the splices.
Single equals medium double.*

*Stretches but little, always retains its original width.
Superior for Cross or Double Belts.
Runs straight and true, does not start at the laps.*

25 per cent Stronger, 33½ More Lasting, and 12½ Heavier, than any other Leather Belt.

precipice, 165 feet high, and from here through a tube to the base. The lower three-fourths of this tube is made of quarter-inch boiler plate iron, the upper fourth of three-inch plank. The tremendous pressure exerted by this column of water, 165 feet high and 24 inches in diameter at its base, will turn a turbine wheel at the rate of 600 revolutions per minute, giving a force of 900 horse power. This is transmitted almost direct to eight dynamos on the floor above, and from these sufficient electricity will be generated to light 800 arc lamps in Quebec, seven miles distant. The apparatus is very ingenious and extremely strong, and will probably be a great success. There is only one other place in Canada—Ottawa—where any thing of the kind is in use. Even now the process is in use at Montmorency, in Mr. Hall's lumber mills, where nine lights are run by a turbine eight inches in diameter, having a force of six hundred horse power. The tremendous pressure is shown when Mr. Hall turns on a hydrant, letting out a huge stream of water with a deafening roar. Pipes are led through the lumber yard, into which water can be turned at a moment's warning and flood the entire place. The lumber mills themselves are run by power from the falls.—Exchange.

NEW YORK.

The Record and Guide of Nov. 21st says: There seems to be a considerable amount of irregularity in the form of business; some operators complaining seriously, and others making quite a cheerful report. Yard prices are nominally unchanged, but in a general way tend to steadiness at present. Advices from the interior have a firmer tone generally, but show less of the positively buoyant characteristics usual at this season of the year.

Eastern spruce really shows nothing of an unusual character. Prices on the average range are different from those current on actual sales for two or three weeks past, and \$13 to \$15 is a good general quotation for random, but with lower shadings of the inside figure likely and

the extreme more frequently exceeded on something extra. Special reach out one \$1 to \$1 50 to \$2.00 per M higher, and are not easy to place; owing to the reduced productive capacity, and the indisposition of St. John manufacturers to cut in this way.

White pine has more or less demand for consumption on all the natural local outlets, and some dealers report a considerable amount of animation in the distribution necessary to fill their orders. Exporters, too, are fairly represented, but continue to divide their custom somewhat; and this occasionally leads to a little grumbling from quarters formerly accustomed to monopolize most of the foreign trade. There is a great deal of unloading and piling yet to be done before the supplies are all taken care of. We quote at \$15.50 to \$18.00 for West India shipping boards; \$25 to \$29 for South American do.; \$12 to \$15 for box boards, and \$16 to \$18 for extra do.

Yellow pine is still reported upon in a somewhat irregular manner, with a general tendency to adhere to the old slow and unpromising statements regarding the balance of this year at least. We quote as follows: Randoms, \$17.50 to \$19.50 per M; specials, \$19.50 to \$21, do.; green flooring boards, \$20 to \$22; dry do. do., \$23 to \$26; sidings, \$20 to \$22 do.; cargoes f.o.b. at Atlantic ports, \$13 to \$15 for rough and \$18 to \$20 for dressed; cargoes f.o.b. at Gulf ports, \$12 to \$14 rough and \$19 to \$21 for dressed.

Hardwoods appear to be kept in very good form. There is the stereotyped and, to a great extent, justifiable complaint about difficulty in finding a first hand offering "in just the right shape," but as shippers from the interior have no fixed standard to work upon, it is impossible for them to close adjust their consignments to the numerous necessities of this market, and they simply do the best they can. Sometimes the result is very unsatisfactory; but anything that is attractive and useful generally finds a place at steady prices. Choice export assortments continue in fair favor. We quote whole-

sale rates by car load as follows. Walnut, \$65 to \$110 per M; white ash, \$33 to \$40 do.; oak, \$30 to \$55 do.; maple \$20 to \$32 do.; chestnut, \$23 to \$34 do.; cherry, \$70 to \$90 do.; white-wood, \$23 to \$35 do.; elm, \$20 to \$23 do.; hickory, \$42 to \$55 do.

BRICK MADE FROM SAWDUST

It may have been noticed, says the Muskegon Chronicle, that during the latter part of marine navigation, considerable sawdust was shipped from this port to Chicago, by Gow & Major. There is a firm in Chicago, with a large capital stock, making brick from this sawdust. We were shown one of these yesterday. The bricks are made of sawdust and clay, subject to a great pressure; are burned as are ordinary bricks and rendered fire proof. They are in size 13x6x4 inches, and have two square inch holes lengthwise through their body, thus making them a little heavier than ordinary bricks, but extending over four times the amount of space. They are made to stand upright between the outer and inner coats of the wall, thus making the house warmer as well as fire proof.

A GROWING INDUSTRY.

The Sherbrooke Gazette says:—We are much impressed with the rapid growth which is taking place in industrial pursuits by a recent visit to Thompson & Co's. Bobbin and Spool Works on Factory Street. This is a special trade and we had been under the impression that it was a small one. We were agreeably enlightened. Situated in the upper storey of Twosies Factory, the large wheels, the numerous belts, the extensive array of machines used in the trade and the busy aspect of the workmen, all convinced us that a large business was being carried on. Some ten or twelve workmen are constantly engaged and the amount of work done is considerable. The creditable exhibition made by this firm at the recent exhibition had already led us to believe that the work executed by them was first-class, but we confess we were astonished at

seeing the numerous patterns of spools, bobbins and other implements used in cotton and woolen mills and kindred establishments, all made, and from which orders are filled by this firm. The wood used is the best yellow birch; the work is of the best, and the growing favor shown to articles turned out by them is a proof of their skill and care.

MAINE.

Indications point to unusually heavy lumbering operations in Maine woods during the coming winter. Already large crews have left for the scene of operations and many others are busily preparing to start. While this situation is true generally throughout Maine, it is notably so on the Penobscot, where the loggers are leaving for the northern forests in greater numbers than for years past. An extensive operator informs us that with a favorable winter the cut on the West Branch will be a third larger than that of last year. The incentive of increased operations lies in the general hopeful feeling with regard to next season's trade, coupled with the facts that supplies were never lower and labor is reasonable, while logs have brought good prices during the past season and the quantity to be wintered over is not large.—Industrial Journal.

Rafts Entered at the Supervisor of Cullers' Office Quebec.

- Oct. 20. R. R. Dobell & Co., hemlock lath-wood, Hadlow cove.
- Oct. 22. Flatt & Bradley, barrel staves, Sillery.
- Oct. 23. John Roche, deals, Garthly Mills.
- Oct. 26. Collins Bay R. & T. Co., two drams, sundry coves.
- Oct. 26. Burton Bros, pine, Sharples (Sillery.)
- Oct. 28. Fraser & Sorenens, white and red pine, St. Lawrence Docks.
- Oct. 31. Kelsay & Leonard, four cribs of staves, Bowen's cove.

RULES FOR MANAGEMENT AND CARE OF STEAM BOILERS.

The following summary is issued by the Hewes & Phillips Iron works, of Newark, N. J., and it comprises useful information to all in charge of engines.

"The first duty of an engineer, when he enters his boiler-room in the morning, is to ascertain how many gauges of water there are in his boilers. Never unbank nor replenish the fires until this is done. Accidents have occurred and many boilers have been entirely ruined from neglect of this precaution.

"In case of low water, immediately cover the fires with ashes, or, if no ashes are at hand, use fresh coal. Do not turn on the feed under any circumstances, nor tamper with or open the safety-valve. Let the steam outlets remain as they are.

"In cases of foaming, close throttle and keep closed long enough to show true level of the water. If that level is sufficiently high, feeding and blowing will usually suffice to correct the evil. In cases of violent foaming, caused by dirty water, or change from salt to fresh or vice versa, in addition to the action before stated check draft and cover fires with fresh coal.

"When leaks are discovered they should be repaired as soon as possible.

"Blow off 8 or 10 inches at least once a week; every Saturday night would be better. In case the feed becomes muddy, blow out six or eight inches every day. Never blow entirely off except when boiler needs scraping or repairing, and then not until fire has been drawn for at least ten hours, as boilers are often seriously injured or ruined by being emptied when the walls are hot. Where surface blow cocks are used, they should be often opened for a few moments at a time.

"After blowing down allow the boiler to become cool before filling again. Cold water, pumped into hot boilers, is very injurious from sudden contraction.

"Care should be taken that no water comes in contact with the exterior of the boiler, either from leaky joints or other causes.

"In tubular boilers the hand-holes should be often opened, and all collections removed from over the fire. Also, when boilers are fed in front and blown off through the same pipe, the collection of mud or sediment in the rear end should be often removed.

"Raise the safety-valves cautiously and frequently, as they are liable to become fast in their seats, and useless for the purpose intended.

"Should the gauge at any time indicate an excessive pressure, see that the safety-valves are blowing off. In case of difference, notify the parties from whom boiler was purchased.

"Keep gauge-cocks clear, and in constant use. Glass gauges should not be relied on altogether.

"When a blister appears there must be no delay in having it carefully examined, and trimmed or patched, as the case may require.

"Particular care should be taken to keep sheets and parts of boiler exposed to fire perfectly clean, also all tubes, flues, and connections, well swept. This is particularly necessary where wood or soft coal is used for fuel.

"Under all circumstances keep the gauges, cocks, etc., clean and in good order, and things generally in and about the engine and boiler-room in a neat condition.

"Barium chloride, and milk of lime are said to be used with good effect at Krupp's Works, in Prussia, for waters impregnated with gypsum.

"Soda ash and other alkalis are very useful in waters containing sulphate of lime, by converting it into a carbonate, and so forming a soft scale easily cleaned. But when used in excess they cause foaming, particularly where there is oil coming from the engine, with which they form soap. All soapy substances are objectionable for the same reason.

"Petroleum has been much used of late years. It acts better in water in which sulphate of lime predominates. As crude petroleum, however, sometimes helps in forming a very injurious crust, the refined only should be used.

"Rogers' tannate of soda is probably the best preparation for general use, but in waters containing much sulphate, it should be supplemented by a portion of carbonate of soda or soda ash.

"For muddy water, particularly if it contain salts of lime, no preventive of incrustation will prevail except filtration and in almost every instance the use of a filter, either alone or in connection with some means of precipitating the solid matter from solution, will be found very desirable.

"In all cases where impure or hard waters are used, frequently blowing from the mud-drum is necessary to carry off the accumulated matter, which if allowed to remain would form a scale."

COOPERAGE.

It was not till the Christian era that man kind learned to make casks of wood. The ancient Greeks knew not the convenience of a wooden barrel; nor the Romans till after the time of Julius Cæsar. Jars of earth dried in the sun, or burned with fire, made by the potter, answered all the purposes of the modern hogshead, as witnessed the jars in which the forty thieves were hid. For portable kegs they used earthen bottles and sacks made of the hide of animals. The Kelts, dwelling in the forests, made use of tree trunks, hollowed by the decay of the heart growth, which they set upon flat stones, and filled with their harvested grain. As these split they learned to repair by slipping over them rings of other trunks. From this practice they gradually reached the art of making conic boxes, of straight flat sides, hooped in the same way, and tightened by wedges. The Kelts in Great Britain early attained a great skill in the manufacture of these wooden vessels, and the modern art of cooperage reached a high degree of perfection among them. From a very early date, the occupation of the cooper has been divided into several distinct branches. The dry cooper makes casks for holding all sorts of goods in a dry state, as grains, sand, flour, etc. The tight cooper makes casks or barrel, for liquids, water, etc. There are also general coopers, who prefer to undertake all kinds of work; but, to become a skillful cooper, it is necessary to confine attention and practice to one branch of cooperage, that the workman may be practically familiar with every detail.

In England, and indeed throughout Europe, staves and heads are made almost exclusively. The great abundance of other suitable woods has given the American cooper a wider range of stock. The ash and white pine here furnish a greatly superior wood to their brothers. Today the preparation of the staves and heads is principally conducted in the country, where wood is cheaper and labor reasonable. Whole communities, as Townsend, Mass., Brookline, Milford, and Henniker, N. H., are devoted almost exclusively to this business.—*Cooper's Journal.*

HINTS ON THE CARE OF TOOLS.

The following hints on the best means of keeping tools in good condition, are from the *Building and Engineering Times*, of London:

WOODEN PARTS.—The wooden parts of tools, such as the stocks of planes and handles of chisels, are often made to have a nice appearance by French polishing, but this adds nothing to their durability. A much better plan is to let them soak in linseed oil for a week, and rub them with a cloth for a few minutes every day for a week or two. This produces a beautiful surface, and at the same time exerts a solidifying and preservative action on the wood.

IRON PARTS.—Rust preventive.—The following receipts are recommended for preventing rust on iron and steel surfaces:

1. Caoutchouc oil is said to have proved efficient in preventing rust, and to have been adopted by the German army. It only requires to be spread with a piece of flannel in a very thin layer over the metallic surface, and allowed to dry up. Such a coating will afford a security against all atmospheric influences, and will not show any cracks under the microscope after a year's standing. To remove it, the article has simply to be treated with caoutchouc oil again, and washed after 12 to 24 hours.

2. A solution of India-rubber in benzine has been used for many years as a coating for steel, iron and lead, and has been found a simple means of keeping them from oxidizing. It can be easily applied with a brush, and is easily rubbed off. It should be made about the consistency of cream.

3. All steel articles can be perfectly preserved from rust by putting a lump of freshly-burnt lime in the drawer or case in which they are kept. If the things are to be moved (as a gun in its case, for instance), put the lime in a muslin bag. This is especially valuable for specimens of iron when fractured, for in a moderately dry place the lime will not want any renewing for many years, as it is capable of absorbing a large quantity of moisture. Articles in use should be placed in a box nearly filled with thoroughly pulverized slaked lime. Before using them, rub well with a woolen cloth.

4. The following mixture forms an excellent brown coating for protecting iron and steel from rust: Dissolve two parts crystallized iron chloride, two antimony chloride, and one tannin, in four water, and apply with a sponge or rag, and let dry. Then another coat of the paint is applied, and again another, if necessary, until the color becomes as dark as desired. When dry it is washed with water, allowed to dry again, and the surface polished with boiled linseed oil. The antimony chloride must be as nearly neutral as possible.

5. To keep tools from rusting, take 1/2 ounce camphor, dissolve in one pound melted lard; take off the scum and mix in as much fine black lead (graphite) as will give it an iron color. Clean the tools and smear with this mixture. After 24 hours rub clean with a soft linen cloth. The tools will keep clean for months under ordinary circumstances.

6. Put 1 quart of fresh slaked lime, 1/2 pound washing soda, 1/2 pound soft soap in a bucket, and sufficient water to cover the articles; put in tools as soon as possible after use, and wipe them up next morning, or let them remain until wanted.

7. Soft soap, with half its weight of pearl-ash, 1 ounce of mixture in about 1 gallon boiling water, is in every day use in most engineers' shops in the drip cans used for turning long articles bright in wrought iron and steel. The work, though constantly moist, does not rust, and bright nuts are immersed in it for days till wanted, and retain their polish.

8. Melt slowly together six ounces or eight ounces lard to one ounce resin stirring till cool; when it is semi-fluid, it is ready for use. If too thick, it may be further let down by coal oil or benzine. Rubbed on bright surfaces ever so thinly it preserves the polish effectually, and may be readily rubbed off.

9. To protect metals from oxidation—polished iron or steel, for instance—the requisite is to exclude air and moisture from the actual metallic surface; wherefore, polished tools are usually kept in wrappings of oil cloth and brown paper; and, thus protected, they will preserve a spotless face for an unlimited time. When these metals come to be of necessity exposed, in being converted to use, it

is necessary to protect them by means of some permanent dressing; and boiled linseed oil, which forms a lasting film of covering as it dries on, is one of the best preservatives, if not the best. But in order to give it body, it should be thickened by the addition of some pigment, and the very best—because the most congenial—of pigments is the ground oxide of the same metal—or in plain words, rusted iron reduced to an impalpable powder, for the dressing of iron or steel—which thus forms the pigment or red oxide paint.

10. Slake a piece of quick lime with just water enough to cause it to crumble, in a covered pot, and while hot add tallow to it and work into a paste and use this to cover over bright work; it can be easily wiped off.

11. Olmstead's varnish is made by melting 2 ounces resin in one pound of fresh sweet lard, melting the resin first and then adding the lard and mixing thoroughly. This is applied to the metal, which should be warm if possible, and perfectly cleaned; it is afterwards rubbed off. This has been well proved and tested for many years, and is particularly well suited for planished and Russia iron surfaces, which a slight rust is apt to injure very seriously.

RUST REMOVERS.—1. Cover the metal with sweet oil rubbed in, and allow to stand for 48 hours; smear with oil applied freely with a feather or piece of cotton wool, after rubbing the steel. Then rub with unslaked lime reduced to as fine a powder as possible.

2. Immerse the article to be cleaned for a few minutes, until all the dirt and rust is taken off in a strong solution of potassium cyanide, say about 1/2 ounce in a wineglassful of water, take it out and clean it with a tooth brush with some paste composed of potassium cyanide, Castile soap, whiting and water, mixed into a paste of about the consistency of thick cream.

QUEBEC.

The *Chronicle* of Nov. 7th says:—The large sale of timber referred to in our last Friday's issue was a very prime raft manufactured by Mr. McCann, and comes from French River, Georgian Bay; it was sold to Messrs. McArthur Bros., and consists of 150,000 feet of square white pine, 65 feet average, with about 50,000 feet of waney board of 20 inch average girth. The price, we are informed, was equal to 34 1/2 to 35 cents all around.

About eighteen thousand standard of first quality spruce ex ship President, loaded at Batican, were sold at \$53 f.o.b. ship. Fifty-two per cent. are oddments and 30 per cent. 11 inch.

Advice to Mothers.

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

LIVERPOOL STOCKS.

We take from the *Timber Trades Journal* the following Comparative Table showing Stock of Timber and Deals in Liverpool on Nov. 1st 1884 and 1885, and also the Consumption for the month of Oct. 1884 and 1885:—

	Stock, Nov. 1st. 1884.	Stock, Nov. 1st. 1885.	Consumption for the month of Oct. 1884.	Consumption for the month of Oct. 1885.
Quebec Square Pine.....	315,000 ft.	256,000 ft.	253,000 ft.	306,000 ft.
" Waney Board.....	529,000 "	468,000 "		
St. John Pine.....	78,000 "	32,000 "	30,000 "	1,000 "
Other Ports Pine.....	78,000 "	59,000 "	4,000 "	11,000 "
Rod Pine.....	58,000 "	32,000 "	2,000 "	1,000 "
Pitch Pine, hewn.....	548,000 "	610,000 "	58,000 "	58,000 "
" Sawn.....	432,000 "	672,000 "	123,000 "	223,000 "
Planks.....	55,000 "	104,000 "	13,000 "	41,000 "
Dantzig, &c. Fir.....	96,000 "	67,000 "	49,000 "	17,000 "
Sweden and Norway Fir.....	70,000 "	58,000 "	27,000 "	9,000 "
Oak, Canadian and American.....	262,000 "	361,000 "	39,000 "	86,000 "
" Planks.....	182,000 "	207,000 "	57,000 "	57,000 "
" Baltic.....	80,000 "	5,000 "	0,000 "	0,000 "
Elm.....	30,000 "	52,000 "	12,000 "	19,000 "
Ash.....	36,000 "	32,000 "	14,000 "	8,000 "
Birch.....	73,000 "	185,000 "	66,000 "	139,000 "
East India Teak.....	33,000 "	133,000 "	33,000 "	2,400 "
Greenheart.....	31,000 "	117,000 "	5,000 "	2,000 "
N. B. & N. S. Spruce Deals.....	31,987 stds	23,007 stds.	0,000 stds.	0,000 stds.
" Pine.....	1,180 "	245 "	6,315 "	7,122 "
Quebec Pine Deals & boards.....	9,418 "	8,150 "	2,583 "	4,072 "
" Do. Spruce.....	823 "	4,478 "	857 "	1,830 "
Baltic Red Deals, &c.....	3,701 "	4,478 "	87 "	56 "
Baltic Boards.....	40 "	310 "	27 "	56 "
" prepared Flooring.....	2,975 "	2,148 "	804 "	731 "

Chips.

The Rathbun Company, of Deseronto, manufacture a disinfectant from sawdust.

BUILDING is active at Calgary. N. W. T., but contractors complain of a lumber famine.

THE Sturgeon River Lumber Company, up per peninsula, Mich., has this season shipped over 10,000,000 feet of deals to French & Co., Quebec.

KENNEBEC river, Me., lumbermen estimate that the cut of logs on that stream and tributaries this season will exceed the amount put in last winter by 20,000,000 feet.

THE schooner Nellie Starr, from St. John, N. B., arrived at Philadelphia, November 6th, after fighting her way through gales which swept away part of her deck load of spruce.

THE schooner Stephen J. Walls, from Apple river, N. S., for New York, arrived at Vineyard Haven, November 6th, having lost part of her deck load of lath during a heavy gale November 2nd.

EARNST RICHARDS, of Three Rivers, Canada, on his way to enter the employment of Wright & Ketcham in Midland county, Mich., was killed in a railroad accident on that firm's logging railroad, near Averill.

THE Governors of the Northern States are invited to attend the Southern State Forestry Congress which assembles at Defuniak Springs, Fla., in December to participate in the ceremony of planting and dedicating trees to all the States.

JOHN ARNOLD, employed in Major Walker's mill, Calgary, Alberta, was caught by the feed belt and pulled through a revolving metal pulley. His face was split through his forehead, nose and lips. It was thought that he would recover.

CANADIANS seem to be particularly unfortunate in the lumber camps. John Flood, from Caledonia Springs, Ont., is the latest victim. He was employed by the Thayer Lumbering Co. and was killed on Nov. 12th at Lake City by a log rolling on him.

THE following changes in Quebec firms are announced:—Dissolutions—D. & J. Maguire, merchants and shippers; James A. Maguire and Charles Maguire, partners. Hall Brothers & Co., lumber merchants &c., Quebec; P. P. Hall, G. B. Hall, W. C. Hall, H. M. Price and Luis F. Peters, partners.—New firms—G. B. Hall & Co merchants and lumber manufacturers; G. B. Hall, W. C. Hall, and Alfred E. Hall, partners. Hall, Brothers & Co., lumber manufacturers and merchants; P. P. Hall, Herbert M. Price, and Louis F. Peters, partners.

PRACTICAL ITEMS.

Rock or sugar maple is the best material for making water-wheel steps. The logs are cut, and either shaped into steps roughly or cut into conveniently sized blocks. The sap must be removed by soaking in fresh running water. A practical millwright cuts a lot of maple and dumps it into the millpond until wanted, when it may be turned to size and put under the wheel before it has time to dry or shrink. For new wheels shipped to a distance, the maple, which has first been water-seasoned and dried, should be turned to size and boiled in a kettle of tallow for a number of hours. Drying maple, which must wear out under water, has an injurious effect upon it. The complaint of steps wearing "down stream," or in the direction of the water pressure, is caused by the wheel being out of balance, or the wheel being crooked, or both.

If the wood-screw be too loose in the hole where inserted, and the sawing machine table, or other article of furniture, needs to be hastily repaired, with no glue at hand, insert a soft pine stick a little less inside than the hole for the screw, and fill the rest of the cavity with powdered resin. Heat the screw sufficiently to melt the resin as it is being turned in with the crew-driver.

The great trouble in drying lumber quickly has been the tendency to form a hard shell on

the outer surface before the interior sap has been vaporized, this hard shell preventing the escape of the sap. To overcome this difficulty a new lumber drier heats the wood to a temperature of 225 deg., to 250 deg., where it is allowed to remain two or three hours, when steam is shut off and the temperature of the wood is reduced to about 100 deg., either by cold water or cold air. It is then reheated and cooled as above, the operation being repeated until the lumber is thoroughly seasoned.

In putting on leather belts always place the rivet head side to the pulley, and for rubber belts place the same side out or away from the pulleys. Never on a rubber belt. If it is a new one, it will cause the rubber to stick and accumulate on the pulleys, and eventually ruin the belt, and further, when resin has applied for some time it will form a glazed, hard surface, causing the belt to slip out more than it did before the application was made. If a leather belt gets too dry, use tallow or a mixture of castor oil and tallow. Watch the lacings closely, and when you find one giving way, relace it immediately.—Saw Mill Gazette.

RAPID ADVANCE IN PINE LANDS

The advance in the price of pine stumpage during the past decade has been most wonderful and very many men who owned interest in pine lands, which not many years ago were considered of no extraordinary value, have found themselves the possessors of bonanzas which made them immensely wealthy. The rich men of the Saginaw valley to-day are those who "doubled" in pine lands, and those men living outside the valley who have speculated in pine, have made greater progress on the road to wealth than those in any other legitimate investment. A most remarkable instance demonstrating the correctness of the above idea is found in the transfer of the timber and plant of Swan, White & Smith, at Muskegon, which was accomplished through the agency of Dun J. Leathers, of Grand Rapids, who sold this tract of pine for the late S. N. Wilcox, of Chicago, six years ago, for \$155,000. Swan, White & Co. have since cut 40,000,000 feet from the tract and now have 80,000,000 feet left, which with their saw mill and one-half interest in the logging railroad, they sell for \$425,000 to the Thayer Lumber Company. It has been altogether a grand speculation for those interested, and Mr. Leathers may also be complimented for his connection with the transaction.—Lumberman's Gazette.

Catarrah—A New Treatment.

Perhaps the most extraordinary that success has been achieved in modern science has been attained by the Dixon treatment for Catarrah. Out of 2,000 patients treated during the past six months, fully ninety per cent. have been cured of this stubborn malady. This is none the less startling when it is remembered that not five per cent. of the patients presenting themselves to the regular practitioner are benefited, while the patent medicines and other advertised cures never record a cure at all. Starting with the claim now generally believed by the most scientific men that "the disease is due to the presence of living parasites in the tissues, Mr. Dixon at once adapted his cure to their extermination; this accomplished the Catarrah 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 Catarrah in this manner, and no other treatment has ever cured Catarrah. 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 Catarrah.—Montreal Star. 1yl22.

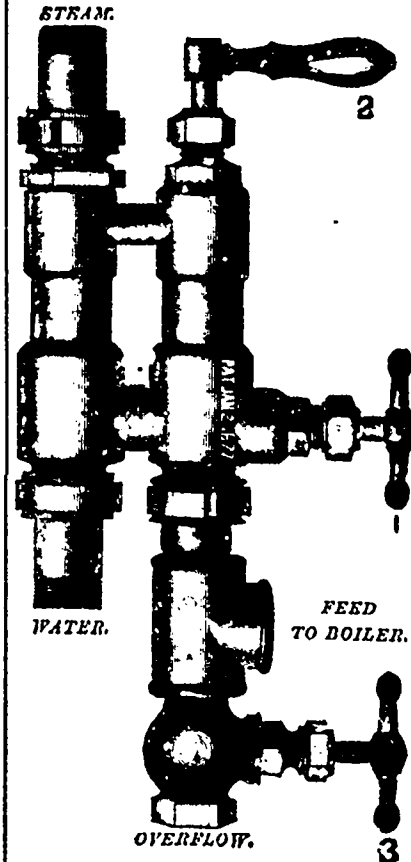
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THE MASKINONGE LUMBER COMPANY offer for sale their property consisting of Saw Mill at Maskinonge Bridge, P. Q., with a quarter mile of N. S. Ry. Station, also good facilities for shipping by water. Capacity of Mill 60,000 feet per day, water and steam power, saws and belting all complete. Two hundred and forty square miles of limits situated about thirty miles from Mill, which are intersected by a number of good driving streams, and are rich in Pine Spruce, Cedar, etc. Satisfactory reasons for selling out. For further particulars apply to

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All ORDERS Filled same days as received.



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Axes & Cross-Cut Saws.

CANADIAN AXES. Both inlaid and overlaid steels, 20 patterns, from \$7.00 upwards per dozen.

AMERICAN AXES. Both inlaid and overlaid steels eight patterns, from \$10.00 upwards per dozen.

SILVER STEEL LANCE-TOOTH CROSS-OUT SAWS.

Warranted to be good temper or will be replaced. Special three square and extra fine cut flat files for these saws.

BLOCKING AND BROAD AXES Of extra shape and quality. Samples of axes and saws sent to any address on approval and for selection.

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Collect and Ship them to be RE-CUT

BEFORE THE SPRING OPENS.

DO NOT WASTE

Your Money on Buying new, when the old ones will do. We pay Freight one way.

SHIP THEM TO-DAY

—TO THE—

ONTARIO FILE CO.

150 FRONT STREET, EAST, TORONTO. Agents Wanted Everywhere. 1yl2

Market Reports.

TORONTO.

From Our Own Correspondent.

Nov. 23.—The continued mild weather is prolonging the period of building operations much later than last fall, and the result is favorable to all dealers in building materials.

The above will show a total falling off of about 7,000,000 feet of pine lumber, but the decrease is in shipments, which is about 13,000,000 below that of last year, so that our local consumption will show quite a considerable gain, especially when we take into account the fact that the adjoining municipality of Parkdale was included in last year's statement, and this year the railroad station there was made an outside station, and therefore shipments to that place are not included in the present one, so that some 4,000,000 feet more may be safely added to the above, as much the larger part of the shipments to that station are consumed in the city proper.

Table listing lumber prices in Toronto, including items like 'Over haul of vessels', 'Sawn lath', and 'Sawn Shingles' with their respective prices.

Table listing lumber prices in Toronto, including items like '12-inch flooring, dressed', '14-inch flooring, dressed', and '16-inch flooring, dressed'.

OTTAWA.

From Our Own Correspondent.

Nov. 24.—What shall be the outcome of the present political crisis, and what shall be its bearing on the lumbering industries of this country, are questions quite pertinent to the hour.

capitalists more cautious in making investments. But of course all is conjecture as yet, and though some claim to see a cloud gathering which might prove detrimental to the staple of the Ottawa Valley, there is room for the belief that it will in no way effect the promising prospect of the trade.

Lumbermen from many points on the Upper Ottawa speak of the present fall weather as exceptionally good for operations in the woods and that things are going on most satisfactorily. Owners of limits are extending more this year than ever in entrusting log cutting contracts to jobbers, claiming that the work can be done much cheaper by this method than if the operations were carried on solely by themselves.

OSWEGO, N.Y.

From Our Own Correspondent.

Navigation may be considered closed for the season; dealers all have an abundant supply; the assortment is good in everything except 1x10 stocks, which is very light; demand still continues very slow and no change in quotations.

Table listing lumber prices in Oswego, N.Y., including items like 'Three uppers', 'Picking up', 'Cutting up', and 'Fine Common'.

TONAWANDA.

CARGO LOTS—MICHIGAN INSPECTION.

Table listing lumber prices in Tonawanda, including items like 'Three uppers', 'Common', and 'Culls'.

BUFFALO.

Table listing lumber prices in Buffalo, including items like 'We quote cargo lots', 'Uppers', 'Common', and 'Culls'.

CHICAGO.

BY THE CARGO.

The Northwestern Lumberman of Nov. 21st says: Cargoes to the number of 163 figured in the port list for the week ending Wednesday—This may be considered a large fleet for the last half of November. Receipts thus far this month have been fully as large as in November, 1884, and for one week, at least, larger.

close of the season must be wholly attributed to the fact that yards are shipping steadily and freely to satisfy a consumptive demand.

The larger share of the lumber arriving is going directly to the yards. There have been a number of loads at the sales docks each day, but the busy portion of the market season is over. A considerable amount of lumber now offered on the market is pick-ups from the mill docks, odds and ends that come in on the rag end of the season.

Quotations on lumber and shingles are as follows:—

Table listing lumber and shingle prices in Chicago, including items like 'Dimension, short, green', 'long green', 'No. 2 boards and strips', and 'Shingles, standard'.

AT THE YARDS.

There is no marked change in the condition of trade as compared to that of last week, either as respects volume or prices. Shipments continue to be heavy for the lateness of the season. A few yards complain of a recent falling off in orders, and are nursing their trains, so as to keep up a good show on track, but others report the amount of business being done fully equal to the average in October.

There has lately been great inquiry for the lower grades of shingles. Five-inch clogs that were bought in the summer for 40 to 50 cents a thousand are now selling well up towards \$1.

The report of stock on hand November 1st, issued by the Lumberman's Exchange, shows an increase of 26,970,238 feet over the amount in pile on October 1st, but it is 23,007,206 feet less than on November 1st, 1884—that is, in Chicago proper.

to be well maintained for at least a month longer, it is probable that there will be less lumber on hand January 1st, 1886, than there was at a like date this year.

Receipts of lumber, shingles, etc., from Jan. 1st to Nov. 10th as reported from the Lumberman's Exchange:—

Table showing receipts of lumber and shingles from Jan. 1st to Nov. 10th, 1885, and 1884, including items like 'Lumber, Shingles', 'Lath', 'Wood, cords', and 'Splits'.

EASTERN FREIGHT RATES.

Table listing freight rates for various locations, including 'To New York', 'Boston', 'Philadelphia', 'Baltimore', 'Washington', 'Albany', 'Troy', 'Buffalo and Pittsburgh', 'Shenectady', 'Wheeling', 'Suspension Bridge', 'Salamanca', 'Black Rock', 'Dunkirk', 'Erie', and 'Toronto'.

ALBANY.

Table listing lumber prices in Albany, including items like 'Pine, clear, 4 M', 'Pine, fourths', 'Pine, select', '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, 10 ft.', 'Pine, 12-in. boards, 13 ft.', 'Pine, 1 1/2 in. siding, select', 'Pine, 1 1/2 in. siding, common', 'Pine, 1 1/2 in. siding, select', 'Pine, inch siding, common', 'Spruce, boards, each', 'Spruce, plank, 1 1/2 in., each', 'Spruce, plank, 2 in., each', 'Spruce, wall strips, each', 'Hemlock, boards, each', 'Hemlock, joist, 4x8, each', 'Hemlock, joist, 2x4, each', 'Hemlock, wall strips, 2x4, each', 'Black walnut, 1 inch', 'Black walnut, 1/2 inch', 'Scaymore, 1-inch', 'Scaymore, 3/4-inch', 'White wood, 1-inch and thicker', 'White wood, 3/4-inch', 'Ash, good, 4 M', 'Ash, second quality, 4 M', 'Cherry, good, 4 M', 'Cherry, common, 4 M', 'Oak, good, 4 M', 'Oak, second quality, 4 M', 'Basswood, 4 M', 'Hickory, 4 M', 'Maple, Canada, 4 M', 'Maple, American, per M', 'Chestnut, 4 M', 'Shingles, shad, pine, 4 M', '2nd quality, 4 M', 'extra, sawed, pine', 'clear, 4 M', 'cedar, mixed, 4 M', 'cedar, XXX, 4 M', 'hemlock, 4 M', 'Lath, hemlock, 4 M', 'Lath, spruce, 4 M'.

LONDON.

The Timber Trades Journal of Nov. 14th says:—Trade in London still continues dull, and there is altogether an absence of animation. Values at the Baltic saleroom this week remained on the whole stationary, and we can scarcely chronicle any movement in either an upward or downward direction.

by week as fairly indicative of the present apathy of the trade. Towards this time of year an occasional stimulus is to be counted upon, but last year was without its sensations of that character, being a year of excessively dull trade. This year, but the war scare, has been even more devoid of such incidents in the consumption, and the deliveries fall flat as ditch water. Those recorded this week are less on the three chief items, deals, &c., flooring, and timber, than during the corresponding week's consumption of last year, and it will doubtless be so till something springs up from some unexpected quarter to alter the complexion of the market. Present dock stocks compare favourably with last year, but the demand certainly does not.

There was an unusually large quantity of whitewood submitted in the public sales held at the "Baltic" this week, and we have noticed this apparent plethora of that description. In view of this seeming over-stock, probably due to the falling off in the continental demand, it is hardly a matter of surprise that prices of spruce have not been influenced by the moderate dock stocks. With the market cleared of Baltic white, the Canadian wood will soon show an upward tendency, stocks being everywhere favorable for such a contingency.

Trade does not seem to be improving in the country, where the dulness is, doubtless, intensified by the approaching elections, and until these are concluded we can scarcely expect to see any revival in business. Politics scarcely interfere, perhaps, so much with trade as was the case in former times; but with everything in such a stagnant condition dealers are glad to avail themselves of any opportunity to discontinue turning over stock at either a nominal profit or sensible loss, in hope that, with the new Parliament, things may take a turn for the better. However this may be, there is undoubtedly a very prevalent feeling that business cannot be any worse, and therefore is likely to become somewhat better.

Messrs. Churchill & Sim had a big gathering of the trade to their sale on Wednesday, the large assortment of Archangel to be submitted being one of the chief attractions. Not only was the room itself fairly full of yard representatives, but the approaches throughout the day were occupied by members of the trade, discussing things in general, and the new limited company in particular. There appears to have been quite a rush to secure the shares of this new concern, but till the allotting takes place, which will not probably be until we are next in print, those who are their name down will not know if they are among the lucky ones. The whole thing seems to have created quite a sensation, and as things have gone the promoters and the management generally have every reason to be satisfied.

The St. John cargo ex Eleizer, was fairly well sold, planks fetching £7 and deals 5s. to 10s. less, the wood was sound, but, like most of the deals from the lower ports, the sawing was not of the cleanest description.

Quite a throng of buyers got together when the flooring parcels came under offer, but prices went no better than at previous sales, if anything hardly so well.

LIVERPOOL.

The *Timber Trades Journal* of Nov. 14th says:—It is very unsatisfactory to note the same unvarying depression week after week shown by the market, and the limited quantity of business done, although it is all in favor of consumers. Fortunately we are not swamped with new importations, but still moderate as they continue to be, they are ample for the legitimate demands made upon them.

Under these circumstances it is more depressing than usual to learn that a firm on the west coast of Ireland, engaged in the timber trade, has found it necessary to call a meeting of their creditors together, which was held privately in this city on Wednesday, where the principal brokers are interested. One or two houses in London are involved in the matter, but their amounts are but light. At the time of writing nothing has transpired as to the arrangements or the probable result of the meeting, but it is hoped a fair dividend will be forthcoming.

LIVERPOOL TIMBER SALES.

On Friday last, the 6th inst., during the interval for luncheon at their mahogany sale, Messrs. Farnworth & Jardine offered the parcel of 470 logs of birch timber, just landed per Alette, from Miramichi. The larger sizes were sold readily at good prices as things go at present, but logs under 18 inches went remarkably cheap; in fact 160 logs were withdrawn peremptorily, and were, it is understood, sold subsequently at higher prices than those offered at the sale.

On Wednesday, the 11th inst., Messrs. J. F. & D. Mackay held one of their usual sales of spruce and pine deals, birch and pine timber, and other woods, but with the exception of the few spruce deals and birch timber, per Guldoo, from St. John, N. B., hardly anything was sold, and the proceedings were soon over, no disposition being shown to bid for the Miramichi deals or pine timber.

WEST HARTLEPOOL.

The *Timber Trades Journal* of Nov. 11th says:—The reaction in the importation has visibly effected the general volume of activity in the trade, but in the sawn wood department there is yet seen on hand a considerable amount of business, as the heavy importations recently recorded were chiefly goods of this class, the greater part of which now occupy the quayside, and even without any material change in the condition of the imports, these alone will provide during the next week or ten days a steady continuance of activity to effect their removal. The stock of sawn wood is rather heavy, certainly in excess of that which we have seen for two or three seasons. Yard orders are likewise scarcer, and although a fair demand is apparent from the goods on the quaysides, the turning point has evidently not yet been reached which places the demand above that of supply. The sleeper cutting mills are doing next to nothing; no imports of sleepers have been recorded for nearly a fortnight, whilst the creosoting work in hand is now very slight.

When a lot of sawn wood goods are circulating plenty of work is invariably seen at those mills at which business of a general character is conducted, and this we find to be the case at the present time, as at two or three of these establishments the men are kept employed beyond the regulation hours. As regards large timber a brisk trade is doing in Settin oak, several cargoes being sent into the interior as quickly as they can be measured and loaded up; apart from this, however, there is not much going on, orders being very few for pitch pine, Swedish fir, &c. Stocks are light of Quebec timber, such as birch, oak, elm, ash, waney board pine, nor do we hear of any shipments now expected.

LIETH.

The *Timber Trades Journal* of Nov. 14th says:—The arrivals of wood goods have been smaller this week, and consist chiefly of steamer parcels of sawn goods, with lathwood and other oddments, the only arrival by sailing vessel being a cargo of whitewood battens from Borga. There are still a few cargoes expected, both from the Baltic and also from Quebec, but the quantity is not large.

There has been less business doing this week from the yards, owing to it being the term week, and the same cause effected the public sale held on Tuesday, at the east end of the Edinburgh Dock, by Messrs. A. Garland & Rodger. Notwithstanding that there was a large and varied assortment of American and Baltic wood goods advertised to be offered, the attendance of buyers was very disappointing, and there was a great lack of competition among those present. The broker, Mr. James Thomson (Messrs. Wm. Thomson & Co.), went faithfully over the various parcels, but the great bulk of the goods had to be passed, and the quantity actually disposed of was very inconsiderable.

Cholera Preventative.

In order to withstand Cholera and such like epidemics a perfect purity of blood, and the proper action of the stomach, are required. To insure that end, in the cheapest, most available and complete manner, use McGregor's Speedy Cure for Dyspepsia and Impure Blood. There is no purer, safer or more reliable remedy in existence for Indigestion, Dyspepsia, Costiveness etc. Ask your neighbor or any person who has used it. Sold by John McKee. Trial bottle given free.

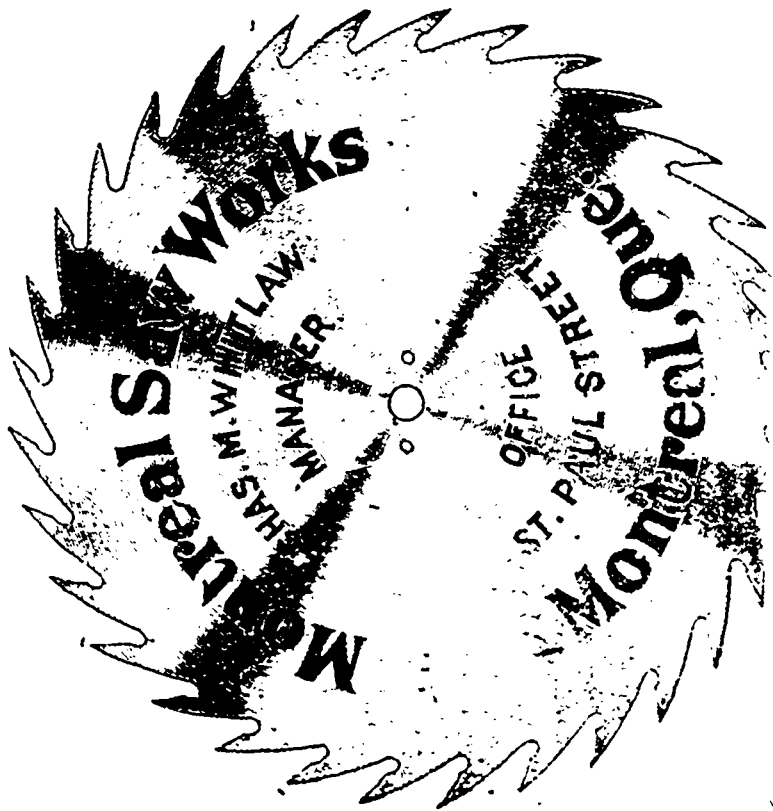
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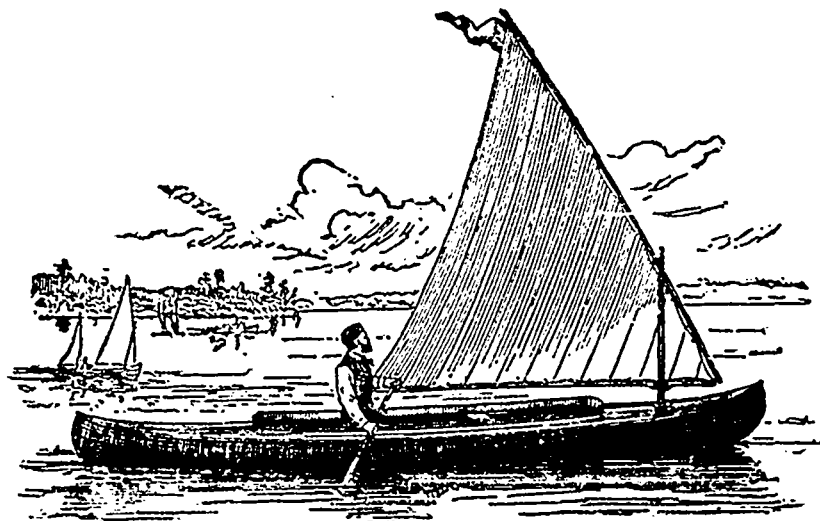
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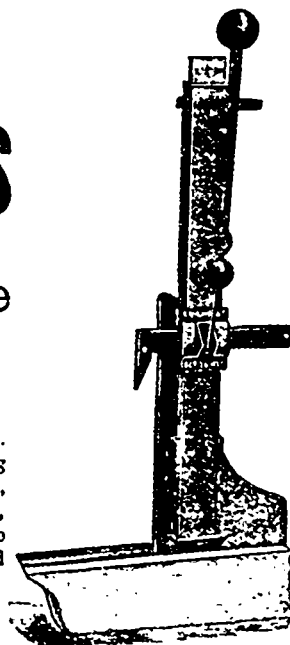
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For Holding Logs upon a Saw Mill Carriage while being Sawed into Lumber.

These Mill Dogs 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 Dogs 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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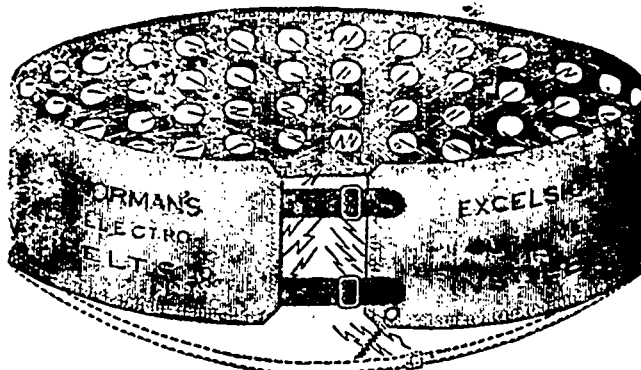
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To Mill Owners, Manufacturers & others requiring Leather Belting

Do not buy any Belting unless with DIXON'S PATENT LAP JOINT. It will last longer and do more service than any other. Please note the address, 70 KING ST. EAST, and send for Circulars and Latest Discounts.

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Acknowledged by all to be the

Best Belt ever offered

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EVERY BELT GUARANTEED

The Best Mills in the Country use it.

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

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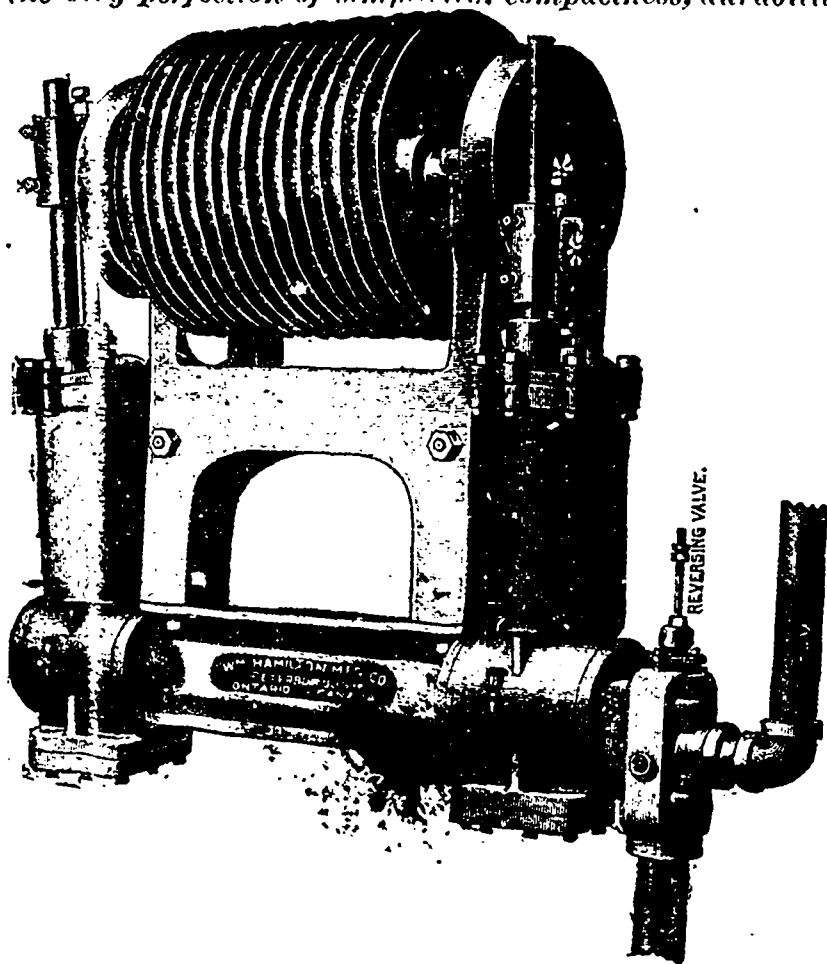
—CHEAPEST, BEST, MOST RELIABLE and ONLY TRUE MEDIUM—

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CUNNINGHAM'S PATENT OSCILLATING TWIN ENGINE

FOR STEAM FEED IN CIRCULAR MILLS WITH RACK OR ROPE.

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



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

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

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

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

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

The Wm. Hamilton Manufacturing Co'y, Limited

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Pumps for Fire Protection a Specialty.

SAVE INSURANCE.

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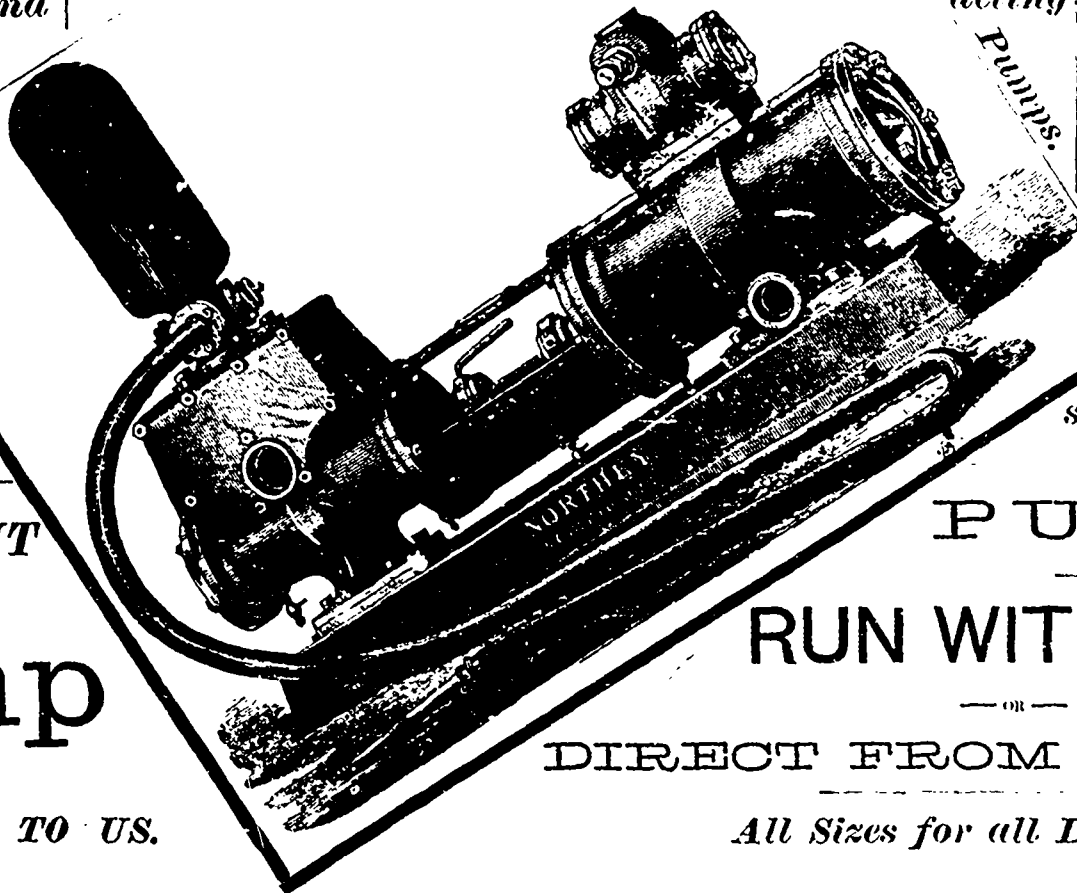
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All Sizes for all Duties.

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