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VOL. 5.

PETERBOROUGH, ONT., APRIL 15, 1885.

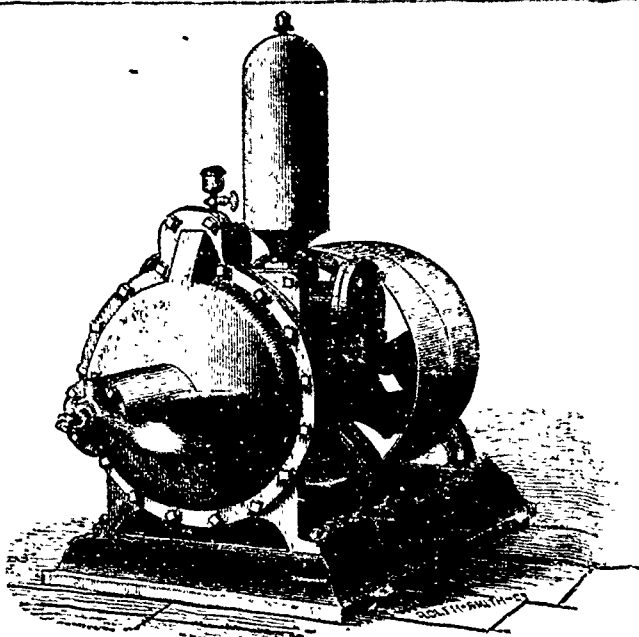
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NO. 8.

ON THE MANAGEMENT OF LOG BAND SAWS.

The first and most important point in the management of band saw mills is to have the saws in perfect order, and to have them in perfect order it is imperatively necessary for the man having charge of them to know what is needed to be done to them to put them in proper shape for running.

1. You must have a good, solid, steel-faced anvil, as is commonly used for hammering saws. Put up a bench the height to suit operator, with anvil in centre. You must have two hammers, one a cross peno, about 2½ pounds in weight, the other round-faced, with face a little oval, weight about two pounds; also a straight edge made of steel, one-eighth of an inch thick, five or six feet long, and about four inches wide in the centre, perfectly straight on one edge. Put the saw on the bench with the back next to you, and straighten the back of the saw perfectly straight, using round-faced hammers, hammering on back edge if the saw is hollowing, on teeth edge if rounding. Continue around the saw until it is perfectly straight.

2. Put the saw on the bench so the bottom side will be on the bench, and top side on the hangers above. Take a short straight-edge in the left hand and a piece of chalk in the right, or vice versa, as suits operator. Go to end of the bench where the saw bends up to the hanger: put the straight edge crossways of the saw, holding it so as you can see plainly; then move the saw around, always keeping the straight-edge on the bent part of the saw; observe closely, and where the saw is a little rounding, say one-sixteenth of an inch in width of four inch blade, that part is right; but where it is not, mark with chalk on the inside in such a way as you will know when you come to the mark in hammering. Be careful to mark so you will know where to hammer light. Go all the way around the saw in this way, marking where the saw is tight and where it is loose.

3. Take a cross peno hammer (be sure, first, to have it nice and smooth, and just a little rounding, so as not to cut the saw in hammering) and commence hammering at the weld or mark where you start, so you will know when you get around. Strike the saw with long way of hammer crossways of the saw, and be sure not to strike closer than one inch of either edge; hammer around the saw in this way, striking light and heavy or not at all, according as your chalk marks indicate, being sure to always strike with your hammer square crossways of saw, otherwise you might put a twist in the saw.

When you have got around the saw as described, change the saw, putting the side on the bench under it, and side on the hangers on the bench, first marking on the outside of the saw opposite to the mark on the inside so as to show where you hammered on the inside; then take

a round faced hammer and go over the saw and hammer back where you hammered from the inside; after you have done this, take a short straight edge and a round faced hammer and go over the saw, taking out all bumps on both sides, always hammering the last time on the outside. When this is done, examine the back of the saw to see if you have made it crooked. If so, straighten it up, and then examine the tension wherever you straightened the back.

You will readily understand from the above what is intended, is to open up the saw in the centre, or in other words to make the saw long in the centre. When the saw is thus opened up nice and even and at the same time straight on the back, it is in perfect shape for running, so far as hammering is concerned; and I will say just here that that is the most important point in the management of band saws. Without this a band saw cannot be made to cut quantity and quality.

Filing is not the most important part, as I have said, yet it is necessary to have them filed well also. The more perfect you can keep them the more and better lumber you can cut. Consequently, I would recommend in all kinds of timber to swage about full, setting every other tooth right and left just a little, as to swage full and side file takes too much time. When the saw is swaged and set, I would recommend an automatic saw sharpener to do the sharpening, as that makes every tooth exactly alike and also of uniform length. The welding, as it is commonly called, though brazing is more proper, seems to bother a great many. My experience in that has been as trying as most men I guess, though of late I have no trouble whatever. I have tried brass, spelter and silver solder, with hot and cold tongs, cooling with water and letting them cool off themselves, with borax and muriatic acid. Some advocate the use of stencil brass on account of its cheapness, but my experience is that the heat does the saw more harm than the difference in cost of brass and silver, as it takes a white heat to melt brass while a live cherry red is sufficient for silver solder.

In brazing, first file ship lap on each end of saw, about three quarters of an inch long, and so as to fit perfectly together, and make the lap the same thickness as the rest of the saw; then clamp the saw in such a way as to hold it rigid on each side of lap, leaving room for tongs above and below; then cut a piece of sheet solder a little larger than the lap, put it on between the lap, and pour on chemically pure muriatic acid (use no other), use it freely, it doesn't cost much; have your tongs made five inches wide, and half inch thick. Be sure to have them true on the inside. After you have prepared the lap in the way described above, put your tongs in the forgo and heat them to a live, cherry red, then take them and scrape up all dust from inside and apply them to the weld

pinching them down well on both edges of saw with two pinch tongs, and hold them in that way until the red has all died out of the tongs, and then remove them, letting the saw stay as it is until cool; then put it on the bench, take a file and hammer and true it up so it will be like the rest of the saw, and your work is done. By following the above instructions closely you will keep your saws in proper shape for running right.

Then, in connection with this, it is necessary to have the mill in proper shape to receive the saws. To do that, put the wheels in perfect line with each other, tipping each wheel just a little, so as to make the tooth edge of the saw a little the tightest. When the saws and mill are kept in perfect shape as I have described above, with a pushing sawyer, a band mill cuts in good logs any reasonable amount of lumber—say from 15,000 to 30,000 feet in ten hours, owing to the kind of timber.

My reason for writing this is, that I know the scarcity of experienced band saw men, and as we are selling quite a number of mills I take this plan of enlightening all who do not not thoroughly understand band saws. The handling of band saws is very tedious, yet very simple, when once understood properly.—
D. Hanson, in Southern Lumberman.

THE ELM TIMBER BUSINESS OF NORTHERN MICHIGAN.

Getting out and shipping elm timber is a growing industry in the Grand Traverse, Mich., region. The Grand Traverse Herald, which has been investigating the business, and collecting facts and figures concerning it, says:—

"This elm timber is found scattered through the other hardwoods, the maple, beech, etc., in some localities the elm of all varieties forming the principal growth, but in most cases ranking third or fourth, while in other localities but little is to be found. The buyer's prospects as he does for pine, with the difference that his object is to purchase the timber only, and not the land. In very rare cases the timber is bought to be delivered at point of shipment, the farmer receiving so much per thousand cubic feet delivered. The plan almost always adopted is to buy the timber in the tree at so much per tree, or in some cases by the thousand feet as sealed, the purchaser taking all there is upon a given track of land suitable for the purpose. The price varies from \$1.00 to \$1.50 per tree, depending upon the quality, locality, length of the haul, etc. The usual price is \$1.25 per tree, or \$30 per thousand cubic feet. A few years ago the going price was 75 cents to a dollar per tree. Only rock elm can be taken. Grey or soft elm, or other varieties often met with, cannot be made use of. A yield of 30 to 40 trees to a 50-acre lot of rock elm, of suitable size, is considered a good yield. Sometimes it is less and in some cases may be more, but the average

is hardly up to the above, and this is found scattered with the other hardwoods named.

"After the farmer need have no further care or thought in the matter, unless he wishes to contract for cutting or hauling. The operator usually furnishes his own cutters and hovers, as this work requires experienced hands. Frequently, however, these are not to be found here. The length of the stick varies with the tree, and runs from about 20 feet for the shortest to 60 or 65 feet for the longest, sometimes, but not often a little longer than this. It may, if desirable, be squared with a slight taper, to measure not less than 9 or 10 inches at the top end. In such cases the measurement of the stick is taken in the centre.

"The timber so prepared is ready for removal and is hauled to the nearest place of shipment. If along the line of the railroad it is brought to Traverse City by rail. At this point it is piled on the banks of the river, below the depot bridge, and in June or July is rolled into the river, taken out into the bay and loaded into vessels prepared especially to receive such freight, the huge timbers being taken into the vessel through great port holes near the water line. The experiment of rafting has been tried, but several wrecks of valuable rafts in crossing Saginaw bay have made shippers cautious, and they generally prefer paying the large additional cost of freighting to the much cheaper but more risky mode of rafting. As \$5,000 to \$10,000 in a single season or even more may be saved in rafting, there is a strong temptation to shippers to adopt this plan. A vessel of 300,000 feet lumber capacity will carry 18,000 to 20,000 cubic feet of square elm timber. These vessels carry their cargoes to Kingston, Ont. There the timber is unloaded and made into large rafts, known as drams. These drams are about 50x200 feet in size, three logs deep. These drams are then run through the St. Lawrence river by 25 to 30 men to each dram, using oars. At Montreal the drams are taken in tow by steamers to Quebec, and there the timber is usually sold to dealers, or, in some cases, shipped to Europe direct by the operators. The ultimate destination is either Liverpool, Dublin or Glasgow, an occasional shipment going to some other port.

"Upon reaching its European destination the timber is carefully sawed, with scarcely any loss in sawdust, as every square inch saved is valuable. The lumber so made is put to various uses. Some of it is used in shipbuilding, and much of it is used in wagon shops and the like. The value of this timber in the European market is about \$600 per thousand cubic feet."

On April 3rd Fred Carroll, of Missouri, Ontario, had his leg broken by a tree falling on it while chopping in a bush. It was amputated below the knee.

A DOWN HILL LOGGING ROAD.

FOOT OF PLANE, Pa. March 30.—Our logging road is different from anything I have ever before seen; it is a very cheap way for us to get our stock in. Our loads are all one way, and the only thing we have to be particular about is the brakes, which work on all eight wheels, and can slide them all at once, if necessary. We use two cars, which are drawn into the woods by one horse. The horse is started back at once in charge of a boy. With a man to each car, they load, make the run and unload by the time the horse can get back.

Our cars are not coupled except when going back empty. They are adjusted to suit the length of the logs, which vary from 12 to 40 feet, and sometimes longer. The brake on the front truck is operated by a small rope extending back to where the man stands to operate the rear brake. The axles are placed 24 inches apart from centres, which makes the sharp curves very easy. We never take into consideration curves, but put the road where we want it, regardless of the curves. We have two branches. On one of these we get motion enough to send the cars out on the main track, on the other we draw the cars up a grade of two feet to the 100 feet, a distance of 400 feet. To show what can be done with a road of this kind, last summer we had about 300,000 feet that had to be loaded at a certain place, or drawn considerable of a distance. We put a branch to the loading place, with a grade of 13½ feet to the 100 feet, for 300 feet. We put wood rail on this heavy grade, but could not hold the cars when the rails were wet. We changed to a T rail, and had no more trouble in holding at any point, no matter whether the rails were wet or dry.

It seems to be a great convenience to be able to build a cheap road into these bad places on which to get out our logs.—*Minor & Parker, in Northwestern Lumberman.*

DISAPPEARANCE OF PINE FORESTS.

The great groves of white pine which once constituted the glory and pride of Canada are narrowing their limits so rapidly that the final extermination of large trees is but a question of time. This is evidenced by the great value now placed upon the first qualities of this wood.

The log hauler is gradually extending his operations until he has reached the very headwaters of most of our rivers. In his track follows the settler, who, in consequence of the value of provisions which are grown in places where they can be hauled readily in winter to the lumbermen's camps, where they command high prices, clears a spot, perhaps alongside of some hay road, or on the banks of a river, where, among a vast quantity of bad land, he finds a little patch which will yield him some return. Here he erects his hut, cuts down the trees, and makes a clearing. The first settler is usually an old lumberman and is cautious about how and where he does his burning. When one man makes a settlement, however, others quickly follow. The latter, not being as cautious as the former, too often allow fires to extend from their clearings, and thus hundreds of thousands of acres, covered with the most valuable of pine groves, have been destroyed. Indeed, the thicker the growth of pine the more readily does the fire run, and consequently the more danger it causes. Early in the spring and late in the autumn are the periods when these fires are the most destructive.

Such being the result of settlements made among timber lands, which in general are poor lands for farming purposes, and in view of the great destruction to timber from this cause would it not be well that the various provinces should enact some law whereby settlement in the vicinity of tracts of pine should be prohibited?

Forest fires are frequently caused, too, by the carelessness of river drivers, especially of cooks, who do not take the pains and time to quench those which they have been using. This is a matter which the forest fire guardians should have control over, and they should be required to report to the proper authority any neglect on the part of river driving parties to extinguish fires which they may have been

using, with a view to the punishment of the offenders.

There is a sad lack of knowledge in all the Provincial Crown land offices with regard to the extent and character of the timber under their control. Before, therefore, any effective system of forest conservation or protection can be originated, some accurate knowledge of these things for general use must be first acquired. It might be well to make a commencement on the Ottawa, by ascertaining as nearly as possible where its pine lands are situated, where the country is chiefly hardwood, but also, above all, the locations which have been devastated by fire. As this information is acquired at the Crown timber offices from time to time it could be transferred to a plan which, in the end, would enable one to take in at a glance the extent of country yet unburnt. At the same time the proper authorities would at once see the country which required protection, and the service of men could be engaged for a month or two, in the spring and fall, to prevent settlers from locating near bodies of pine, as well as for the purpose of extinguishing incipient fires. The merchant takes an account of his stock; why should not governments do the same with theirs? And as the merchant takes precautions against the occurrence of fire among his goods, should the public protect their timber lands as far as possible from the same destructive agent. If our timber lands be worth anything they are worth protecting.

The subject of the prevention of forest fires is one which demands the attention of both Dominion and Local Legislatures. Indeed, in view of the very rapid disappearance of our forests, more especially of those of pine, the subject of legislation in regard to forestry and forest protection loudly calls for immediate action.—*Montreal Herald.*

VENERABLE BUILDING MATERIAL.

A New York paper of March 22nd had the following, written from Dingman's Ferry, Penn.—"Moses C. V. Shoemaker, of this village, has one of the newest houses in Pike county, but its floors are laid with what is undoubtedly the oldest manufactured lumber in the Union in actual use for a similar purpose. The boards are made from yellow pine lumber. They are an inch and a half thick and almost two feet wide. The trees from which they were cut were felled along the Delaware River at Dingman's more than 160 years ago. The boards were sawed out by hand by ancestors of Mr. Shoemaker and were used as the floor in a stone house which they erected in 1724. This building also served as a fort, those early settlers being constantly exposed to Indian raids. The ancient structure was demolished a year ago to make room for the new shoemaker residence. It was in as good condition as when first built. There was not an unsound stick of timber in it, and not one which had been in it over since the house was built. No lumber like the floor boards could be found in any lumber yard in the state to-day, for native yellow pine is now entirely extinct, and yellow pine lumber two feet wide and an inch and a half thick would be almost worth its weight in gold. When the old floor was taken out of the stone building a wealthy Philadelphian who was spending the summer at Dingman's offered shoemaker a price for the boards which would have almost paid for the new house, but he refused to part with them, and used them in his new residence. To all appearances they are good for use for another century and a half. From the timbers in the old stone house over 100 pounds of wrought iron nails were taken. They were four inches in length, and had evidently been made with rude implements. The work of forging must have been done on the spot, as there was no place nearer than Minisink settlement, near the present site of Port Jarvis, where the nails could have been obtained, and that was 24 miles up the river."

MANY soft timbers, especially walnut, are more destructive to the cutting edge of planes than harder wood, such as oak. The reason has been found to be the presence of extremely minute crystals of silica in these soft woods. These particles of uniform size and evenly distributed through the tissue of the wood.

NATIONAL PUMP WORKS

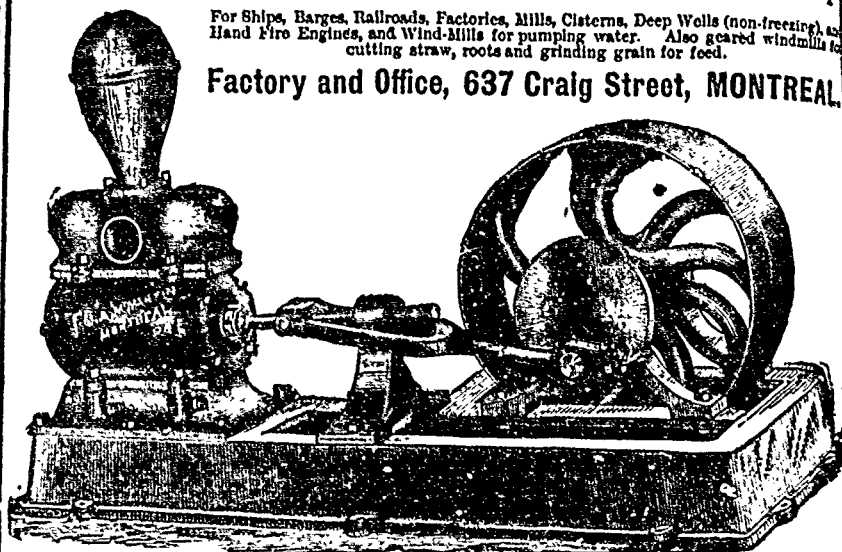
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The above cut shows our Double Acting Brass-Lined Horizontal Suction and Force Pump, mounted on a Cast Iron Bed Plate with light and loose pulleys, 4 inch face, 18 inch diameter. This is one of the most compact and powerful pumps of the kind yet out, with Bed 4 feet long and 2 feet 2 inches where the pulleys are placed, all being in good proportion. The pump has a guide to the piston rod, and is driven by the connection rod attached to the disc with steel pin and wrought iron connections. The valve seats and valve are made of gun metal, and easily got at by bolts on either side of the pump, so that access to the bottom or top valve can be had without any difficulty. We make two sizes of these pumps, which are adapted for mills, factories or tanneries. We make these pumps with a clutch to drive them direct, when so ordered, and dispose of the pulleys and belt. All enquiries will be promptly answered, by addressing the above, and catalogues of our pumps sent out.

SUBTERRANEAN WOODS.

Clarence Deming, in his "By-ways of Nature and Life," says of the swampy regions of southern New Jersey:—"The huge trees which lie under the swamp to unknown depths are of the white cedar variety, an evergreen, known scientifically as the Cypresses Thyoides. They grew years ago in the fresh water, which is necessary for their sustenance, and when in time, either by a subsidence of the land or a rise of the sea, the salt water reached them, they died in numbers. But many of them ere they died fell over as living trees, and were covered slowly by the deposits of muck and peat which fill the swamp. These trees that fell over by the roots, and known as 'wind falls,' to distinguish them from the 'break downs,' are the ones most sought for commercial use, and they are found and worked as follows: The log digger enters the swamp with a sharpened iron rod. He probes in the soft soil until he strikes a tree, probably two or three feet below the surface. In a few minutes he finds the length of the trunk, how much still remains firm wood, and at what place the first knots, which will stop the straight split necessary for shingles, begin. Still using his prod, like the divining rod of a magician, he manages to secure a chip, and by the smell knows whether the tree is a windfall or a breakdown. Then he inserts in the mud a saw like that used by ice cutters, and then saws through the roots and muck until the log is reached. The top and roots are thus sawed off, a ditch dug over the tree, the trunk loosened, and soon the great stick, sometimes five or six feet long, is brought to the surface and it is split by hand and worked into shingles, as well as into staves used for poils and tubs. The wood has a cross grain and splits as straight as an arrow. The shingles made from it last sixty or seventy years, are eagerly sought by builders in southern New Jersey, and command in the market a much higher price than ordinary shingles made of pine or chestnut, which lasts for roofing usually not more than twenty or twenty-five years. In color, the wood of the white cedar is a delicate pink, and has a strong flavor, resembling that of the red cedar, used in making lead pencils. The trees, once fairly buried in the swamp, never become waterlogged, as is shown by their floating in the ditches as soon as they are pried up, and what is more singular, as soon as they rise they turn invariably with their under sides

uppermost. These two facts are mysteries which science has thus far left so. The men dig the logs up and split them earn their money. The work is hard, requiring, besides lucky manual labor, skill, and experience; the swamps are soft and treacherous, no machinery can be used, and long stretches with mud and water must be covered with boughs or bark before the shingles can reach the village and civilization."

A happy combination of best Grape Brandy Smart-Weed, Jamaica Ginger and Camphor Water, as found in Dr. Pierce's Compound Extract of Smart-Weed, cures cholera morbus, diarrhoea, dysentery, or blood-stix, colic or cramps in stomach, and breaks up colds, fevers and inflammatory attacks.



NOTICE.

SEALED TENDERS, addressed to the undersigned, and endorsed "Tender for Indian Supplies," will be received at this office up to noon of MONDAY, 25th MAY, 1885, for the delivery of Indian Supplies during the fiscal year ending 30th June, 1886, consisting of Flour, Bacon, Groceries, Ammunition, Twine, Oxen, Cows, Bulls, Agricultural Implements, Tools, &c., duty paid, in Manitoba, and the North-West Territories.

Forms of tender containing full particulars relative to the Supplies required, dates of delivery, &c., may be had by applying to the undersigned, or to the Commissioner of Indian Affairs at Regina, or to the Indian Office, Winnipeg.

Parties may tender for each description of goods (or for any portion of each description of goods) separately or for all the goods called for in the Schedule.

Each Tender must be accompanied by an accepted Cheque in favor of the Superintendent General of Indian Affairs on a Canadian Bank for at least five per cent. of the amount of the tenders for Manitoba, and ten per cent. of the amount of the tenders for the Northwest Territories, which will be forfeited if the party tendering declines to enter into a contract when called upon to do so, or if he fails to complete the work contracted for. If the tender be not accepted the cheque will be returned.

Tenders are required to make up in the Money columns in the schedule, the total money value of the goods they offer to supply, or their tender will not be entertained.

Each tender must, in addition to the signature of the tenderer, be signed by two sureties acceptable to the Department, for the proper performance of the contract.

In all cases where transportation may be only partial by rail, contractors must make proper arrangements for supplies to be forwarded at once from railway stations to their destination in the Government Warehouse at the point of delivery.

The lowest or any tender not necessarily accepted.

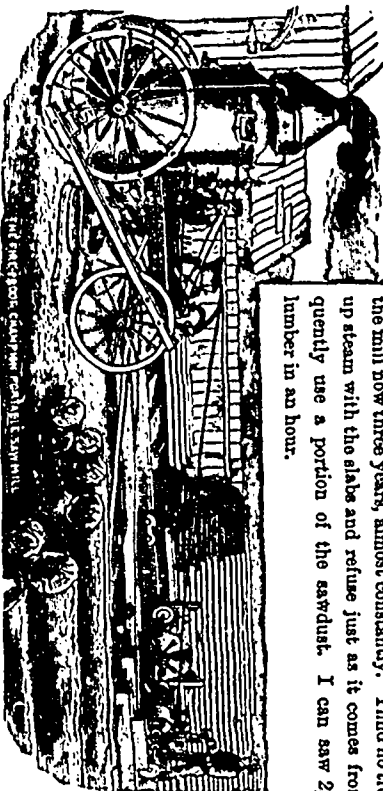
L. VANKOUGHNET,
Deputy of the Superintendent-General
of Indian Affairs.
DEPARTMENT OF INDIAN AFFAIRS,
OTTAWA, 19th MARCH, 1885.

American Saw-mill Machinery, PORTABLE AND SEMI-PORTABLE Direct Action & Belted Saw-mills

CHAMPION PORTABLE SAW-MILLS

12, 16, and 20 H.-P.

GEORGE BOOK writes as follows:—"St. Ann's, Ont., July 27th, 1882:
I have just finished sawing with your 20-horse Champion Engine, and No. 3 mill before harvest. At the last place I set down, we cut 345,000 feet, mostly inch, 70,000 being oak, in nine weeks. We were just ten weeks from time we moved mill till we returned home with it. We sawed above without an accident or delay of any kind. I have run the mill now three years, almost constantly. I find no trouble in keeping up steam with the slake and refuse just as it comes from saw and frequently use a portion of the sawdust. I can saw 2,000 feet 1-inch lumber in an hour.



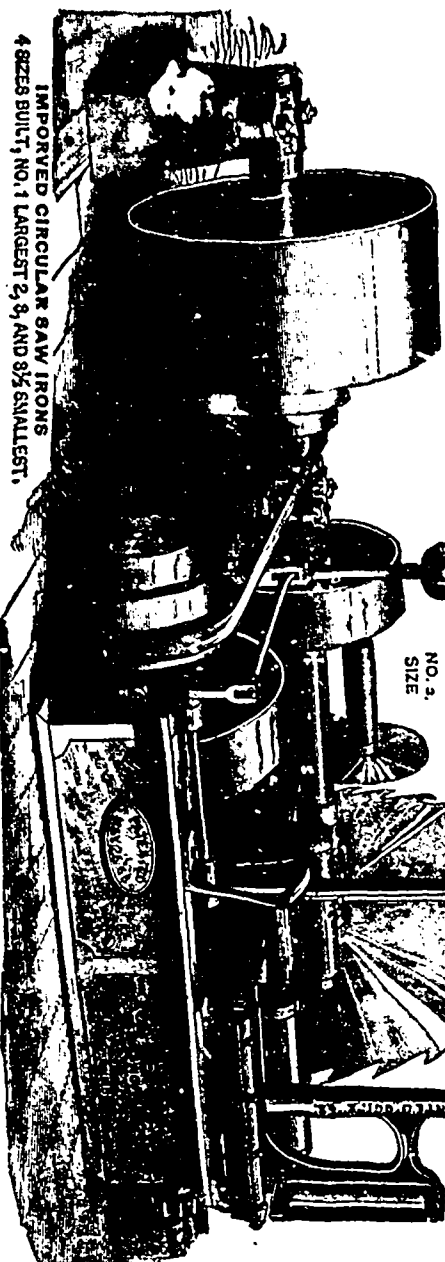
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IMPROVED SAW FRAME.

Using 4 to 12 in. Face Frictions: Steel Mandrels; Reservoir Oil Boxes:—Donble Leather Belts, from 2 1/2 to 6 in. wide, takes 72 in. Saw feed and under.

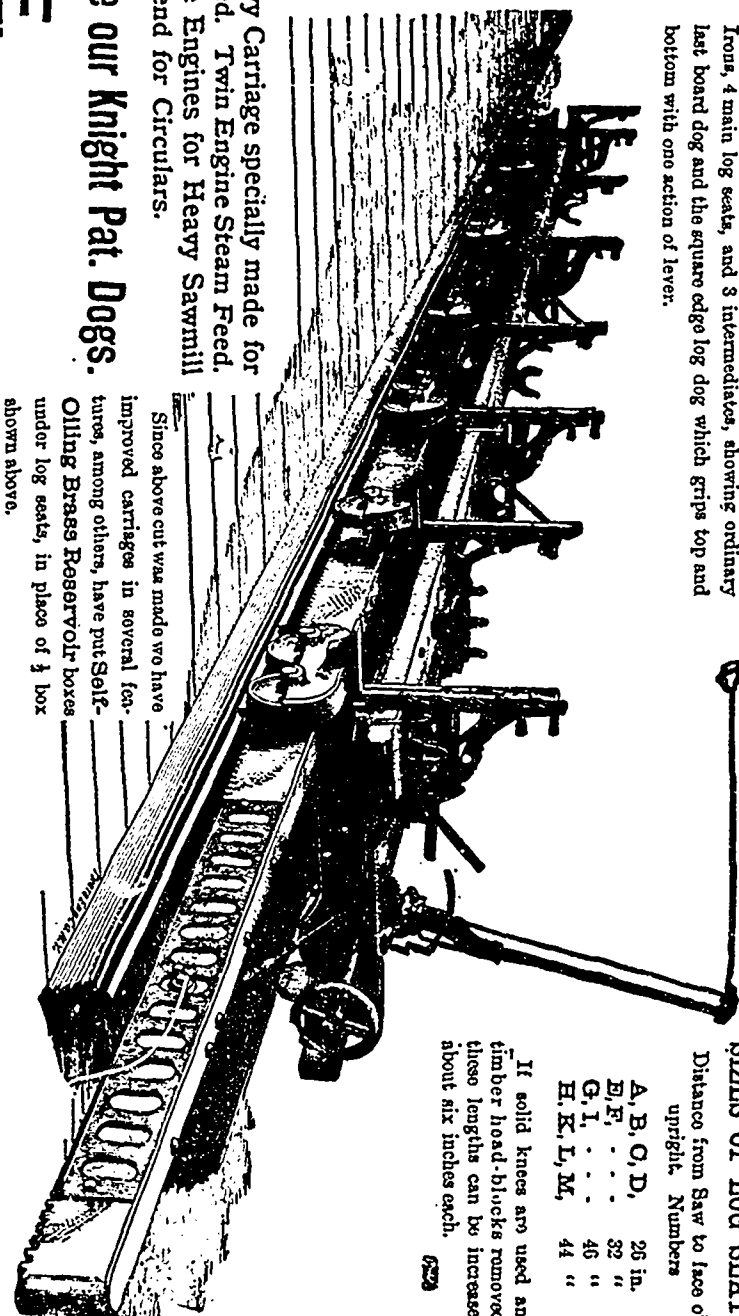
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NO. E SIZE.



IMPROVED CIRCULAR SAW IRONS
4 SIZES BUILT, NO. 1 LARGEST 2, 3, AND 3 1/2 SMALLEST.

Represents Log Carriage to cut logs 40 ft. long. No. E Saw Irons, 4 main log seats, and 3 intermediates, showing ordinary last board dog and the square edge log dog which grips top and bottom with one action of lever.



Heavy Carriage specially made for Steam Feed. Twin Engine Steam Feed. New Style Engines for Heavy Sawmill Work. Send for Circulars.

Examine our Knight Pat. Dogs. Since above cut was made we have improved carriages in several features, among others, have put Self-Oiling Brass Reservoir boxes under log seats, in place of box shown above.

From 16 to 200 horse-power, and from a capacity of 2,000 to 80,000 feet per day of 10 hours.

SIZES OF LOG SEATS

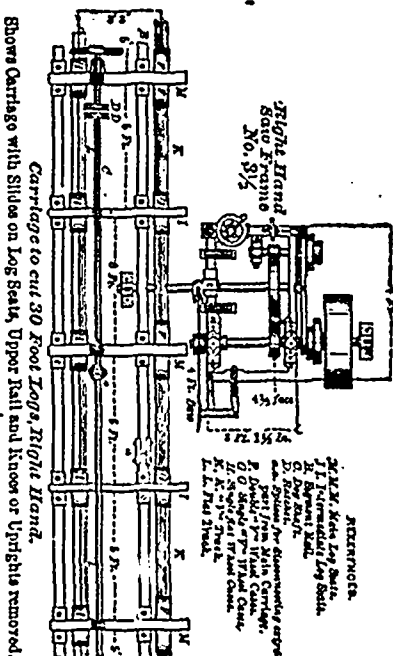
Distance from Saw to face of upright.	Numbers
A, B, C, D,	26 in.
E, F,	32 "
G, I,	46 "
H, K, L, M,	44 "

If solid knees are used and timber head-blocks removed, these lengths can be increased about six inches each.

By direct practical experience of over forty years in the lumber woods of Canada we have gained an intimate practical knowledge of what is necessary to produce a cheap, practical, efficient saw-mill, and have so built and improved our machinery that no mills can compare with them to-day in these respects.

Send for Prices and Illustrated Catalogue.

This view of our smallest Saw-Irons illustrates fairly all the eleven larger sizes that we make.



Send for Sawyers and Lumbermen Handbook. A new treatise on Saws and Saw-mill furnishings, just published. Free to all using Saws.

The Waterous Engine Works Company, Brantford, Canada.

CANADIAN WOODS USED IN MANUFACTURE.

We continue our quotations on the above subject from Mr. R. W. Phipps' Forestry report.

From an Orilla barrel factory.

I may state that I use oak, elm, ash and basswood in my business, which is that of preparing material for both light and slack barrel work, principally about barrels. The timber is original. Any size of trees from six inches to sixty inches are used. The second growth timber would not do, as it is too tough.

From a match factory at Buckingham.

The wood used in our business, matches, is pine, and the very best at that. My stock I obtain in this section of the country, Ottawa. Much that I use is the buttlogs from three inch deal, the piece that is cut from the deal to bring it to length. When the supply of that kind of stock is not sufficient I use the deal. Of course you know that deal is cut from the best and largest logs. Lumber that I use for my cases is largely spruce, as that is cheaper and I think makes a tougher case, although sometimes I use pine.

From a grain cradle factory at Mount Forest.

I get my supply in this neighborhood, but find it getting scarce and require to go some distance now to get the required quality. The timber used for snaths is elm. I prefer white ash, but it is not to be had in this vicinity, only in very small quantities. For fingers I use maple, natural crook. That also is getting very difficult to get. The size of elm trees should be from six to fifteen inches in diameter, maple any size. I might say all kinds of merchantable timber, such as pine, rock elm, cherry, and basswood are scarce. Of maple and hemlock there is a fair supply in this neighborhood, that is within a radius of about six miles. Of course, in the immediate neighborhood, there is little or no timber to be bought, the farmers requiring all they have for their own use.

From the veneer factory at Harriston:—

We use mostly soft and rock elm, also birch, which after cutting into proper lengths and steaming, we set up into veneering and barrel staves and cheese box material. We also use basswood for manufacturing into barrel heading and tops and bottoms of cheese boxes. All the timber used in the factory is grown in this township (Minto), of which two inches up to four and five feet in diameter, the soft elm especially attaining good size. We use no foreign timber of any kind.

From a prominent piano manufacturing firm in Guolph:—

We give herein a list and description of the wood used by us in our business, as piano manufacturers. Black ash of the largest size and best quality, used for tops and rims of pianos, to be veneered with rosewood. Basswood and whitewood of the largest size, and best quality, carved into legs and lyres for pianos. Pine of the best and softest quality, (white), for keys, and also for bottoms and blocks used in building cases. We also use cherry for upright piano cases, and small parts of all pianos, this of the best quality. The foreign wood used is spruce, (American), for sounding boards, and rosewood veneer. We have found our Canadian spruce too hard and gummy in its nature to answer our purpose. It does not give to the piano that sound which the American wood does, and is much more difficult to work. You see all the wood we use requires to be of the largest size and best quality, soft grain, not liable to warp or twist, and easily worked. Cherry veneer could be used, but there are no mills in Canada that can cut veneer; we get cherry veneer from New York, yet most of our best Canadian cherry lumber goes into the American market.

The following is from a leading furniture factory in Toronto:—

Concerning the kinds of Canadian wood we use in the manufacture of furniture in our business, I will class them according to their respective value. First, black walnut, which is principally used in the better class of furniture, grows in the western part of Canada, especially in the counties of Essex, Kent, Elgin, Norfolk, Lambton and Middlesex. In all these sections the walnut has become nearly exhausted, and if there is not an effort made in planting this

valuable wood, it will not take many years to become extinct for commercial purposes. The price we pay for first class walnut is from \$86 to \$100 per thousand. Cherry is another wood that is used for the better class of furniture. It grows generally all over Ontario, more or less and is becoming very scarce, owing to the demand for it in the United States, where most of it has gone. Its market value is from \$40 to \$50 a thousand. Oak is used by us, but not very extensively, it not being always very suitable for furniture. Value about \$30. White pine is much required in our business, but it needs no comment from me, as no doubt you are well acquainted with that class. Hard maple, or sugar maple as it is sometimes called, grows extensively throughout the whole of Canada. From it we make our inferior class of furniture, such as chairs, bedsteads, etc. Value about \$10. Rock and soft elm are getting to be very much used for a certain class of furniture, because it is so easily worked. It is cheap and abundant. Price, about \$12 to \$14 per thousand. Soft maple and whitewood are woods that we handle a large quantity of, especially the maple. These grow luxuriantly in the western part of Ontario, and are always found abundant where there is walnut. Their price per thousand is from \$16 to \$18. Butternut is also used in cabinet making. It grows generally all over the Province, is not very abundant and is getting scarce. Price, from \$25 to \$30 per thousand. White and black ash are valuable woods for our business, and very much used. They grow generally all over the Province in large quantities, especially the black ash, which has a very beautiful grain. Its price ranges from \$18 to \$20 a thousand. Basswood also is in much use in our manufactory and is from \$14 to \$16 per thousand. Original growth and old trees we prefer for our business, as they are better adapted and easier worked. Second growth is better for bending purposes. Of it we use a little, but it is more adapted for wagon and carriage making.

Some further details of the uses of woods in furniture, may be interesting. For instance, chair and table legs are made of maple and birch, those of the better class of tables, of walnut; the curved portions of chairs, such as arms and backs, of rock and soft elm. Seats formerly made of basswood are now water elm, except those of rocking-chairs, which are still basswood. All visible portions of first-class tables are generally made of one wood, such as walnut or cherry. The inside machinery of extension tables, as of other furniture, where great strength and freedom of movement is required, is of white ash. Swamp elm is largely used for the tops and sides of tables, the legs being generally maple. Wash-stands, visible portions, of soft elm, concealed ones of pine or basswood. In bedsteads displaying the large smooth boards which are now fashionable, walnut, ash, red oak and water elm are used, the upright portions being often maple, ash or walnut. Sideboards and wardrobes are made of cherry, red oak, water elm, and walnut. Some of these woods are used for such purposes, veneered with more showy ones, frequently of foreign importation. In common chairs, cheap tables and bedsteads, the woods generally used are basswood, whitewood and water elm.

The next is from a similar firm in Belleville:

The descriptions of Canadian woods used in my business, are black ash, black birch, cherry, soft and hard maple (beech is also used for chair work), grey or swamp elm; this last of late is coming into extensive use, and has a beautiful grain, and makes a fine cheerful finish. The objection which formerly prevailed against elm was the difficulty of drying it to keep straight, which is now entirely overcome. Basswood is largely used, our black walnut nearly all comes from Indiana. All the other kinds named are native woods, and except some basswood and some ash, are all of original growth, in fact the two latter, in my mind, are the only ones which would reach a size fit for use in less than about seventy years. From casual observation, basswood will grow to a diameter of ten to thirteen inches in from seventeen to twenty five years in favorable ground. Soft maple is very useful, but comparatively scarce. Birch is next in value to cherry,

which is next in price to black walnut. Cherry is not abundant in this section, but birch is found in abundance just north of us, and is yearly increasing in demand.

Though scant of space I am persuaded to give my readers the following well written little essay by Mr. J. B. Smith, gentleman connected with one of our principal Toronto lumber firms. It is a mass of valuable information, and comes from a thoroughly practical man.

The reckless waste of woods which has been going on for years, must eventually find an end in the total destruction of the timber with which this Canada of ours was once so beautifully endowed. The losses incidental to the getting out of logs have been partially estimated, but the consequential damages, such as the changes in the climate, water supply and others, cannot be computed. Let any Canadian of middle age recall the appearance presented by the forest in the days of his youth, and compare that with the present. He will remember the immense monarchs of the forest that stood towering in their rugged strength. "The Monarch Oak, the patriarch of trees," the wide spreading beech, the ash, Venus of the forest, with the feathery lightness of its foliage, the noble elm, the butternut, hickory, and the birch, with others, many of which have disappeared. And what will our Canadian now see? No well guarded young trees replacing those which fell before the unrelenting woodman's axe, but dwarfed specimens of unhealthy progeny, or the fast decaying stump, a memento of departed greatness. Our duty is clear, not to mourn over the past wanton destruction, but to be up and doing, providing for the reproduction of woods each year becoming more scarce. Reproducing is our sole recourse. This cannot be too strongly urged upon our farmers. We know what description of timber grow in certain localities, why not replant? In some counties walnut, whitewood, white ash, etc., were to be had in abundance. Now few of these trees are to be found. Necessary information can be obtained and furnished to all wishing to engage in arboriculture. Few of the trees of our forests but have been manufactured into lumber and placed on the market. They are all used in the many industries—ash (white and black), birch, beech, basswood, butternut, balm of Gilead, cherry, cedar, chestnut, rock and soft elm, hickory, hemlock, hard and soft maple, red and white oak, pine, tamarac, spruce, sycamore, walnut and whitewood.

In agricultural implements, including wagons, are used white ash, oak, maple and rock elm.

Buildings—pine, hemlock, maple, oak, black ash, elm, birch, butternut, cherry and chestnut.

Boats—pine, oak, spruce, tamarac and cedar. For cabinet work—birch, soft elm, maple, cherry, walnut, butternut, oak, black ash, basswood, etc.

Car building—oak, pine, cherry, birch, maple, tamarac, walnut and whitewood.

Pianos and organs—walnut, whitewood, basswood, pine, chestnut, cherry, oak.

Tool handles—birch, maple, etc.

And a host of minor industries all contribute to consume the product of our forests. We are not content with our native woods, but go to far off climes for lignum vite, boxwood, mahogany, rosewood, baywood, tulip wood, holly, etc. These we cannot produce. The average diameter of trees manufactured into lumber is from 18 to 24 inches; this includes all the above mentioned kinds. These are, in the close grained woods, mostly the original; of a few they cut up the second growth.

The differ it species I have enumerated are to be found pretty evenly distributed. Walnut, whitewood, ash, maple, hard and soft elm, oak, balm, hickory, chestnut, sycamore, pine, basswood and cherry, are said to be had in greater or less quantities in the southwestern counties. For birch, rock elm, beech, maple, basswood, poplar, pine, hemlock, tamarac, we go to the northern and northwestern, as well as the eastern counties. Black ash is at present a plentiful wood and can be obtained in almost any part of the Province. Soft elm is abundant but even with our present plentiful supply, it will not long stand the demands made by American dealers, who, taking none but the

largest and choicest trees, use quantities of this and other timber in manufacturing staves. Each year sees a diminished quantity of hemlock. Our supply of bark for tanning will soon be exhausted. Cherry is very scarce, what we have is a poor quality. The demand for this wood during the past year has almost exhausted our supply. In the process of obtaining, so much in vogue, great quantities of cherry are used. White ash, butternut, and white oak, are also becoming woods of the past. Of walnut very little is to be had, and that is cut from partially rotten logs, which, when it was more plentiful, were cut, and, not being considered sufficiently good, allowed to decay. We regret in the abundance of our forest wealth and are now suffering somewhat of the evils attendant on such a course. To day we import whitewood and walnut from places to which formerly we exported large quantities of the same timber, much superior to what they are now bringing in.

We find the difficulty of getting a good quality of white oak, white ash and cherry increasing each year.

We are certainly opening up and clearing the country, but at a terrible cost.

In fine, unless we at once begin to reproduce the limit of our forest wealth will soon be reached. It is not inexhaustible. Fires, cattle, and men, not lumbermen alone, but campers, hunters, etc., seem combined to destroy the remnant of what seemed an endless supply, as well as to prevent the growth of young timber.

As to the prices of Canadian woods, it is difficult to give you, as prices differ so much, they being regulated principally by the general run of the stock under negotiation, and the average quality of stock in different parts of the Province are not at all alike. However, I will give you the prices we would pay for the different kinds, loaded on cars at point of shipment, per thousand feet, cherry, \$35 to \$40, butternut, \$30 to \$35; chestnut, \$19 to \$21; white oak and white ash, \$18 to \$20; red oak and black ash, \$12 to \$14; soft elm, \$8 to \$9; rock elm, \$10 to \$11; whitewood, \$19 to \$20, basswood, \$11 to \$12; sycamore, \$12 to \$13.

Above prices are for first and second quality, together to average not less than fifty per cent. of first. Cull cherry and butternut is worth about \$14. Culls in the other woods would be worth about one half the above prices. Pine is generally bought mill run, with mill culls out, and is worth from \$10 to \$14, according to the percentage of clear lumber in the stock. Mill culls are worth \$5 per thousand feet. Hemlock billstuff is worth (up to sixteen feet long) \$7, and an advance of fifty cents per thousand for every two feet over that length up to say twenty-two feet; over that length it is worth considerable more.

Power Wasted by Shafting Out of Line.

The amount of power wasted by shafting being out of line, badly lubricated, of insufficient size and imperfectly coupled, can hardly be estimated. Great as is this loss, that from badly laced, crooked, stiff, and generally outrageous belting is but little less. In some establishments a belt lacing of sufficient size for the main belt of the establishment is considered plenty good enough to lace a three inch belt with, and is used accordingly. A punch large enough to make holes for the biggest lacings is, of course, necessary, and it has the advantage of answering for all sizes of belts. The apparent advantage of having but one size in a large establishment is captivating to the business department. The result in belt efficiency, however, is something which would astonish the counting house if it could be made to understand the figures.—*Industrial American.*

For the Ladies.

Laughter is the poor man's plaster,
Making every burden light,
Turning sadness into gladness,
Darkest hour, too may dawn bright,
'Tis the dearest and the cheapest
Cure for ill of this description,
But for those that woman's hair to
Use Dr. Pierce's "Favorite Prescription,"
Cures all weaknesses and irregularities bearing
down sensations, "Internal Fever," bloating
displacements, inflammation, morning sickness
and tendency to cancerous disease. Price re-
duced to one dollar. By druggists.

Chips.

JAMES PRICE was killed by a falling tree at Elkaska, Mich.

SAGINAW mill men are making contracts to saw logs at \$1.75 to \$2 a thousand

JOHN MURRAY has put in 12,000,000 feet of logs at his camp near Roscommon, Mich.

It is stated that there are 400,000,000 feet of logs on and in the Monominee, Mich., river, ready to be run down to the mills.

The lumber piled at Selkirk, Manitoba, was lately removed to high ground to prevent its being washed away by the spring freshet.

ED. WHITE, employed in Bellant's camp, Cheboygan district, Mich., was so injured by a log rolling over him that his recovery was considered doubtful.

The farmers in Victoria and Madawask, Me., have got out during the past winter 45,000 railroad ties, which have found their way into the hands of A. B. Spence, of St. Stephens, N.B.

The largest cedar camp on the Lake Michigan shores is said to be that on Drummond Island, Mich., conducted by Warren Bailly for himself and Joseph Smith. About 80 men are employed.

JAMES DUNBAR is building a mill at Sunbridge, Muskoka district, Ont. There is pine in the vicinity tributary to the mill amounting to 60,000,000 feet, standing within McArthur Brothers' limits.

An effort is being made to save the Duluth & Winnipeg land grant by building the road within the required time—three years—and meetings in promotion of that endeavor have been held at Duluth and Grand Forks.

The total estimated value of lumber shipped from Puget Sound ports during Feb. was \$41,547. There cleared from Burrard Inlet, British Columbia, during the same month, five cargoes, mostly from Australia, containing lumber of the estimated value of \$43,229.

It is proposed to form a company with a capital stock of \$75,000, for the purpose of doing the towing on the Erie canal in a wholesale way. It will require 600 mules, and by the proposed system 350 boats can be towed at 13 cents a mile for the season, whereas under the present practice of individual towing it cost 23 cents per mile.

Some Wood-Work.

In the house of Potter Palmer in Chicago, which is approaching completion, the fine wood work is a prominent feature. Among the rooms of special design is one called the Japanese room. Not only is it Japanese in style but in construction also. The finishing and furniture is imported from Japan, all ready to be set up. The mantel and the rest of the trim is in Japan teak, elaborately carved. The wood is not particularly handsome, looking much like dark and coarse red oak, but the distance from which it was brought, and the work on it, brought up its cost to \$3,000, which is said to be the price paid by Mr. Palmer.—*Northwestern Lumberman.*

How Pale You Are!

A frequently the exclamation of one lady to another. The fact is not a pleasant one to have mention, but still the fact may be a kindly one, for it sets the one addressed to thinking, appraises her of the fact that she is not in good health, and leads her to seek a reason therefor. Pallor is almost always attendant upon the first stages of consumption. The system is enfeebled, and the blood is impoverished. Dr. Pierce's "Golden Medical Discovery" will act as a tonic upon the system, will enrich the impoverished blood, and restore roses to the cheek.

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 26 cents a bottle.

Catarrh—A New Treatment.

Perhaps the most extraordinary success that has been achieved in modern science has been attained by the Dixon treatment for Catarrh. Out of 2,000 patients treated during the past six months, fully ninety per cent. have been cured of this stubborn malady. This is none the less startling when it is remembered that not five per cent. of the patients presenting themselves to the regular practitioner are benefited, while the patent medicines and other advertised cures never record a cure at all. Starting with the claim now generally believed by the most scientific men that the disease is due to the presence of living parasites in the tissues, Mr. Dixon at once adapted his cure to their extermination, this accomplished the Catarrh is practically cured, and the permanency unquestioned, as cures effected by him four years ago are cures still. No one else has ever attempted to cure Catarrh in this manner, and no other treatment has ever cured Catarrh. The application of the remedy is simple and can be done at home, and the present season of the year is the most favorable for a speedy and permanent cure. The majority of cases being cured at one treatment. Sufferers should correspond with Messrs. A. H. DIXON & SON, 305 King Street West, Toronto, Canada, and enclose a stamp for their treatise on Catarrh. Montreal Star. 1912.

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LUMBER AND TIMBER.
Building & Bridge Timber Sawn to Order.
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BAKING POWDER.
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At Ottawa Exhibition, 1884. It is the most economical and the best in use. Perfectly Pure. 120-19



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

A FEW SIMPLE TESTIMONIALS THAT SPEAK FOR THEMSELVES.

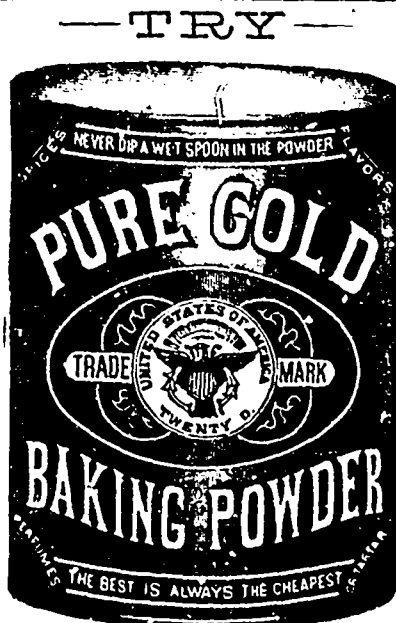
OTTAWA, September 3rd, 1883.
A NORMAN, Esq.—Dear Sir, I have experienced considerable benefit from your apparatus. I feel stronger and better every day.

Yours truly,
R. E. HALBURTON.

PETERBOROUGH, October 15, 1883
A. NORMAN.—Dear Sir, Soon after I commenced to use your Electric Appliances, they opened my bowels, cured my cough and cold, relieved my head and considerably relieved my catarrh in consequence. The discharge from my head and chest are now easy, and I feel altogether better. My digestion has improved, my stomach less sour and windy, and I am less troubled with lascivious and vivid dreams. I had previously tried almost all the advertised patent medicines without deriving any good.

Yours truly,
J. GREEN.
CURATIVE BATHS. Electric, Vapor, Sulphur and hot and cold Baths. Baths have been admitted in all ages by every school of medicine, to be one of the best means of curing ailments, maladies and diseases. The Electric Bath is the latest and best discovery in this line. Come and try them, at
4 Queen St. East Toronto.
A. NORMAN, Proprietor.

The American Hotel,
BARRIE, ONT.
Collier St., Adjoining Market.
RATES REASONABLE, CENTRAL LOCATION,
FREE BUS TO AND FROM ALL TRAINS.
Every accommodation for Commercial and LUMBERMEN.
W. L. McDONALD, Proprietor.



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WHOLESOMENESS,
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It stands without a Rival!

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Collect and Ship them to be
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BEFORE THE SPRING OPENS.
DO NOT WASTE
Your Money on Buying now, when the old ones will do. We pay Freight one way.
SHIP THEM TO-DAY
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The nourishing, palatable and with giving qualities of Johnston's Fluid Beef has caused this invaluable preparation to become a favorite and fashionable beverage for the winter season. It is now obtainable on draught at the leading hotels and restaurants throughout the Dominion. 6c



Is the Best and Most Economical article in use for raising all kinds of Biscuit, Rolls, Pancakes, Johnny Cakes &c. It is made from the BEST MATERIALS MONEY CAN BUY, and is perfectly pure and whole some. Bread made from the table can be prepared by its means in TWENTY MINUTES after wetting the flour. Next to salt it is the most useful adjunct to camp supplies.

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Tools and Plant for Mills and Factories, of every description.
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Machinery complete for Two Light Draft Steamers, taken from the Stra. "Milford" and "Huntley"
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PLANER KNIVES, Stave Cutter, Shingle do, Cheese Box, Veneer Cutting, Paper Cutting, Leather Splitting, Moulding and Tenoning Knives.
Send for Circular Price List.

1911 **PETER HAY, Galt.**

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Examine the list of "FARMS FOR SALE" AND "FARMS WANTED" in the **DAILY AND WEEKLY MAIL**. This Mail has become the recognized medium for Farm Advertisements. And contains more of them than all other Canadian papers combined. It has 300,000 readers of the right class. ADVERTISEMENTS: Farms for Sale and Farms Wanted. "Stock" or "Seed for Sale" or "Wanted" is set in THE WEEKLY MAIL. Five cents per word each insertion, or twenty cents per word for five insertions, or in THE DAILY MAIL at two and a half cents per word each insertion.
Address—THE MAIL, Toronto, Canada.

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English Extract of **BUCHU,**
One of the Best **KIDNEY** INVESTIGATORS IN USE.

It is a specific in the cure of all diseases of the Kidneys, Bladder, Prostatic Portion of the Urinary Organs, Irritation of the Neck of the Bladder, Burning Urine, Gravel, Gonorrhoea in all its stages, Haemorrhagic Discharge, Congestion of the Kidneys, Brick-dust Deposit, Diabetes, Inflammation of the Kidneys and Bladder, Dropsy of the Kidneys, Acid Urine, Bloody Urine, Pain in the Region of the Bladder, PAIN IN THE BACK, Urinary Calculus, Renal Calculus, Renal Colic, Retention of Urine, Frequent Urination, Gravel in all its forms, Inability to retain the Water, particularly in persons advanced in life. IT IS A KIDNEY INVESTIGATOR that restores the Urine to its natural color, removes the acid and burning, and the effect of the excessive use of intoxicating drink.
PRICE, \$1; or, Six Bottles for \$5.
Send for Circular. Sold by all Druggists.
W. JOHNSTON & CO.,
161 Jefferson Ave., DETROIT, MICH.



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:

Per line, for one year..... \$0 90
Per line, for six months..... 50
Per line, for three months..... 30
Per line, for first insertion..... 10
Per line, for each subsequent insertion to 3 mo's. 05
Cards not occupying more than 12 lines (1 inch) per annum..... 8 00
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Special rates will be made per 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. SIMON, DRACON & Co., 164 Leadenhall Street, London, England, who also receive advertisements and subscriptions for this paper.

PETERBOROUGH, Ont., APRIL 15, 1885.

THE Little Bob mills, Bobcaygeon, commenced running on April 7th.

A MEETING of the Province of Quebec Forestry Association was called to meet at the Parliament buildings on April 11th.

A PULLEY heated and burst in Baker Bros.' saw mill at Blenheim on April 6th. One piece struck John Graham, a member of the firm, in the eye, completely cutting his eye out.

ELLIOT Bros' saw mill, Westminster township, Middlesex Co., was burned on April 2nd. A flaw in the furnace was the cause. The contents were also burned, but the lumber was saved. Loss, \$1,000; no insurance.

THE Duluth Herald is responsible for the statement that the log crop in the Duluth district has been curtailed to such an extent that the lumber cut the coming season will be only about 50 per cent. of that of last year.

AND now comes the report that a syndicate has been formed to buy all the pine lands on the market in the upper peninsula, of Michigan, to keep up prices. The Marquette Mining Journal says that 3,000,000,000 feet has already been secured.

Two far north men have gone to the rescue of the east coast of Florida from isolation. A. D. Chappel, of Eau Claire, and J. C. Thwing, of St. Paul, are respectively president and vice president of the Blue Spring, Orange City & Atlantic Railroad Company, that purports to build a road in Florida south of St. Augustine, along the coast. The charter is an old one, and gives the company 100,000 acres of land, a large portion of which is covered with pine and cypress timber. Three miles of road is already completed, that section between Blue Spring and Orange. It is proposed to have the entire line finished inside of 10 months.

REPORTS from Chicago are to the effect that the lumber market is continuing to exhibit a gratifying state of activity.

THE Lumberman's Gazette says. - From actual scales in many of the camps on the Au Sable and Pine rivers, and careful estimates of the balance, the amount of white pine and Norway logs harvested this winter on those streams is set down at 130,410,000 feet. This is nearly 23,000,000 feet less than last year's crop, but taking into consideration the fact that the Smith, Gratiwick & Fryer Lumber Company have 26,000,000 feet which are manufactured for their yards at Tonawanda, Albany and Cleveland, and the product of which is not on the Michigan market, it will be observed that there is a reduction of about 50 per cent.

THE FORESTRY ASSOCIATION.

QUEBEC, April 11.—The Forestry Association of the Province met this morning in the Parliament buildings, under the presidency of Mr. Joly. Among others present were the Crown Lands Commissioner, Mr. Lynch, Messrs. S. Lesage, S. C. Stevenson, Charles Gibb, Abbottsford; Barnard, Proulx, Chapais, W. Little, L. Beaubien, and a number of members of both houses. The Chairman delivered a most interesting opening address which was much applauded, and was followed by Messrs. Lynch, Beaubien, Little, Gibb, Stevenson, Cassavan and Morin. A resolution proposed by Mr. Little, that the Association respectfully recommend that early action be taken by the Government to arrive at an approximate idea of the quantity and quality of pine and spruce timber still remaining on the Crown lands of the Province, and another by Mr. Stevenson inviting all educational establishments, whether for boys or girls, to observe the forthcoming Arbor Day as a complete holiday and for tree planting purposes, were unanimously adopted. Another meeting will be held this afternoon.

QUEBEC FORESTRY.

The forestry association of the Province of Quebec will meet on Saturday next at 11 o'clock a. m. in the Parliament buildings, Quebec. Since the first forestry convention was held in this city the subject of forest conservation and reproduction has received extended and, in many respects, fruitful attention from both the authorities and people of the Dominion and the Province. Several valuable works, the offspring of official or private study and enterprise, have given to the world. The lumber merchants, farmers and others, more particularly interested in the preservation of our forest wealth, have been awakened to the necessity of precaution on the one hand, of effort on the other. Altogether the subject of forestry never was accorded more practical attention than it has received during the last few years, and this happy result is largely due to just such organizations and meetings as that to which we now draw attention. It is to be hoped, therefore, that the interest aroused will be maintained and that all who are concerned in a subject of such far-reaching importance or who may have any suggestions to make in connection with it, will endeavor to attend the meeting of Saturday next, or, if unable to be present, will send in their names for membership. From all that we learn the meeting is likely to be extremely successful.—Montreal Gazette.

LIST OF PATENTS.

The following list of patents upon improvements in wood-working machinery, granted by the United States Patent office, Mar. 31, 1885, is specially reported to the CANADA LUMBERMAN by Franklyn H. Hough, solicitor of American and foreign patents, No. 925 F. St., N. W., Washington, D. C. —

314,666.—Planing machines, feed mechanism for wood—W. H. Gray, Brooklyn, N. Y.
314,637.—Saw arbor—W. D. Wolcott, Wrights, Pa.
315,562.—Saw handle—E. A. Buell, Brooklyn, N. Y.
314,650.—Saw mill carriages, steam brake for—W. A. Campbell, East Saginaw, Mich.
314,944.—Saw set—W. Kopf, Santa Rosa, Cal.
314,667.—Sawing machine, circular—W. H. Gray, Brooklyn, N. Y.
314,603.—Shingle sawing machine—W. J. Perkins, Grand Rapids, Mich.

314,792. Tonnage machine—J. R. Brumby, Marietta, Ga.

PATENTS ISSUED APRIL 7.

314,434. Barrel making machine—F. Myers, New York, N. Y.
315,032. Log turner—W. E. Hill, Kalamazoo, Mich.
315,073. Log turner—G. W. Robinson, Millview, Florida.
315,222. Molding machine, wood—H. Baxter & A. F. Anton, Memphis, Tenn.
315,014. Plane, bench—J. Duncan, Coshoc-ton, Ohio.
315,406.—Planing machine—W. H. Gray & A. Hutchinson, Brooklyn, N. Y.
315,372 & c. (3 patents)—Saw—E. Andrews, Williamsport, Pa.
215,229.—Saw guide—G. S. Black, Indianapolis, Ind.
315,132.—Saw jointing device—G. S. Black, Indianapolis, Ind.
315,133.—Saw mill dog—W. A. Durriu, Hersey, Wis.
315,033.—Saw straightening machine—A. E. Hoffman, Fort Wayne.
315,104.—Saw sawage—H. R. Wolf, Louisville, Ky.
315,419.—Saw teeth, protector for—A. Krieger, Columbus, Ohio.

THE TIMBER TRADE.

The winter that seems to be here still has been so long and steady that the cut of timber for shipment this spring is very large, and it is likely that the shipments from this port will be greater than last year. Very little lumber has yet arrived from the north, as dealers are waiting for some sign of the opening of navigation before sending their timber to the water. Mr. P. Murphy, of Quebec, who rafts or ships from Hamilton every year, has about twelve cargoes ready to send to this city as soon as the ice begins to break up. He has made charters at through rates to Quebec for his timber with the fleet of Calvin & Son, of Garden Island, and a couple of Toronto vessels. None of it will be rafted here. McArthur & Brother will ship several cargoes from Hamilton and will raft the remainder of their cut at Toronto. Messrs. Flatt & Brady will raft here as usual, and will send out a greater quantity than last year. Mr. McRea will also ship from this port, and the season will be a busy one for the timber vessels.—Hamilton Times.

FOREST DESTRUCTION.

Though the destruction of forests goes on with rapidity there seems but little concern manifested in such an important matter. Forests that required centuries to mature are swept away in a day and no adequate measures taken to provide a future supply. Wood will be a necessity to the human race for many years to come, if not for all time, to say nothing of the effect on climate of forest destruction, and a wise people would make provision for the future while consuming the supply furnished by the wilderness. Such provision is made in many European countries, where forestry has been reduced to a science, and where cultivated forests have long furnished a large proportion of the supply. In France, especially, forestry has received great attention, and a walk in the country often leads past beds of diminutive trees growing from the seed. Arbor Day, which is recognized in several States of the Union, and has received a start in Ontario, is a step in the right direction, but it is a very little step, and we should make a better one. Probably the establishment of a Bureau of Forestry would be the most effective step that could be taken. It would prevent needless waste on Government lands, instruct the people in the science of forestry and lay the foundation for large forests that in time would be a source of great revenue to the Government.—London Free Press.

MINNEAPOLIS LUMBER MOVEMENT.

A despatch from Minneapolis says:—In anticipation of the advance of rates on lumber to southwestern points the dealers in St. Paul and Minneapolis have been shipping out their lumber at a prodigious rate. In Minneapolis the railroads have been taxed to furnish cars. The receipts in St. Paul show also that lumber is freely moving from Wisconsin points. The

shipments during the past week from Minneapolis were 384 cars, to 339 cars for the preceding week, and from St. Paul 163 cars, to 128 cars the preceding week, an increase for the week of 72 cars. The receipts in St. Paul were 262 cars and in Minneapolis 135 cars.

There has been a steady improvement in all quarters of trade during the last month, and it has had the tendency the stiffen prices. Country dealers are still buying cautiously. Assortments are becoming badly broken, however, and there is some apprehension of low water. Anything that should keep back the logs would tend to advance prices steadily. The local trade is improving under the encouragement of mild weather, and it is apparent that there will be a very large amount of building in both St. Paul and Minneapolis during the season. The loggers have now about all come out of the woods.

THE LUMBER CUT.

It seems to be generally conceded that the cut this year will be just about one-half of what it was last winter. A Tribune reporter, during the last few days, has called upon a number of the leading men of the city, and from each he heard the same story. For the number of crews out, the cut has been good, especially latterly, until a week or so ago; but no exact figures are yet obtainable. Most of the houses have sent their men up to break up the camps. Some have already broken, while some firms propose leaving one crew out a while longer yet.

The prospects on all sides are reported as pointing to a lively building season. Little or no buying has yet been done, but the enquiry is unusually brisk and clerks are kept busy. "People all recognize," said one prominent lumberman, "that they may wait for a good many years without finding another season so for building operations as this. Material is cheap; labor is cheap, and with the business revival which is sure to come in the spring, new buildings in the Northwest are likely to be no bad investment."

The dislike to the scheme incorporated in the senate bill for the formation of a company to drive the upper river, does not appear to grow any weaker as the facts are better understood. The "surplus absurdity," or the provision for the repayment to the log owners of any surplus of net profits which might remain after company had spent all it saw fit "for the general convenience of its business," continues to be the laughing stock. The suggested rates, moreover, are regarded as altogether too high. On the one-third of a cent to the mile basis, log owners would have to pay about 50 cents for what they can now get done for about thirty. The only people who would be likely to gain much by it are the up river men, and Minneapolis owners still refuse to see the exact propriety of their being tolled for the benefit of the up river men.

In the course of a conversation on boomage matters one gentleman made some novel suggestions as to the Mississippi and Rum river boom company's position. The company has been a highly prosperous concern and on its 45-cent basis has made money enough to carry out some pretty large investments. One at least of those investments, it is hinted, the company had no right to make by the laws of its charter. The payment of the taxes of its shareholders, it is also suggested, is illegal, and, in case the company fails to reduce its rates to 30 cents or thereabouts, the log owners may think it worth while to reduce this question of legality and annul the charter to make room for a new company which will accommodate itself to the interests of lumbermen.—Minneapolis Tribune.

Lumbering.

The Port Hope Times says:—"Messrs. Thomson & Son, of Peterborough, have entered the settlement in the vicinity of Janetville, with a large gang of men, and are clearing the woods around there of all the valuable pine, for which they are paying very high prices, going as high as \$25, and very seldom less than \$10 a tree. In this settlement they have got 13 ship masts ranging from 72 to 85 feet long, for which they paid a very high price, and the square timber is of the best quality. They have a large number of teams employed hauling the timber to Franklin station. A large sum of money has been spent by this firm in Manvers."

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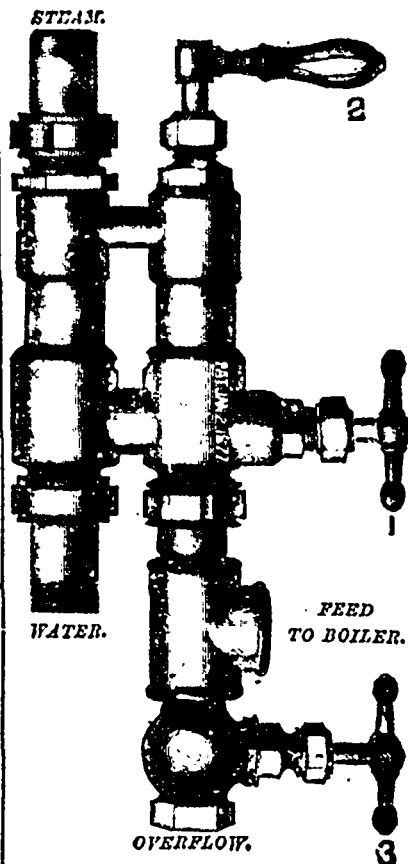
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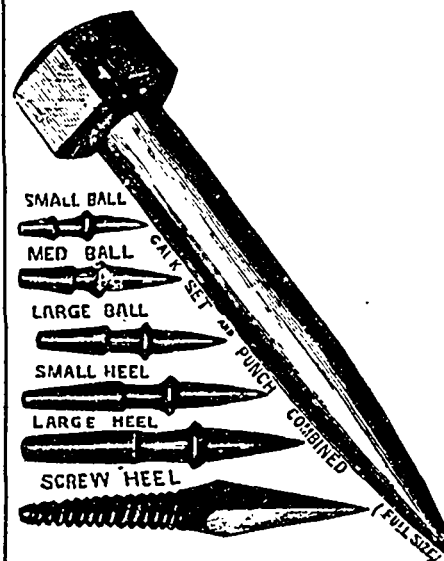
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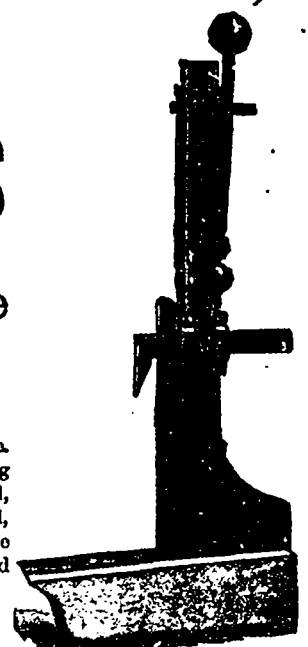
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These Milldogs I guarantee to give satisfaction in every case. They will hold a frozen log as well as a soft one, for cutting Scantling, Square Timber, &c. These Dogs cannot be excelled, I sell them all on their own merits, give ten or fifteen days 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.



Manufactured by HUGH GIBSON, CHATHAM. EXCELSIOR DOG.

AMERICAN LUMBER RAFTS.

The first recorded arrival of a raft of white pine lumber at St. Louis was in the spring of 1840, says the *Lumber World*. The raft was run by twenty men and contained 800,000 feet of lumber. The fleet came from near the mouth of the Wisconsin river and was thirty-five days in making the trip. The history of rafting on the Mississippi, however, antedates this period. It goes back to 1831-32. In those days all the rafting was done within 300 miles of the city. E. O. Shephardson, possibly one of the oldest Mississippi river raft pilots, gives it as his opinion that the first lumber raft arrival at St. Louis was in the spring of 1835. He describes the raft as having been 100 feet in length, 30 feet wide, and carrying 150,000 feet. The lumber was yellow pine, cut and rafted in the Gasconade river, about 125 miles from the mouth. The distance from there to St. Louis was 250 miles, and the time required in making the run was seven days. Up to 1840 the principal lumber arriving here in rafts was yellow pine and hardwoods. From 1835 to 1840 the receipts ranged anywhere between 1,500,000 and 3,000,000 feet per week.

In 1840 the receipts of white pine lumber aggregated 3,000,000 feet. The rafting business from that time on had a most remarkable growth, and the following two years numerous saw mill men of the North followed the example of the pioneer raftmen, and the result was that hundreds of men were furnished with work in new field, and the upper river was continually filled, in season, with moving rafts. In 1842, two years after arrival of the first fleet of white pine lumber, the receipts aggregated 75,000,000 feet, which gives a well defined idea of the rapid increase in the interest. The growth continued with each season until 1860, when the rafts landed 200,000,000 feet of white pine lumber at the North St. Louis landings. During the four years following there was a slight interruption, the result of the civil war. The urgent demand for lumber, however, during that bloody period, brought many new capitalists into the business, and some of them retired, after the war, with large fortunes. From 1865 to 1872-3 the raftsmen saw their best days. In 1866 the Schulenburg & Boeckeler Lumber Company invented a patent steam windlass, which enabled a steamboat to handle a raft of from 1,000,000 to 3,000,000 feet. This invention brought with it a great reduction in the cost of running a raft, reduced the danger of wrecking it, and also reduced the number of men required to handle it. The *Mollie Whitmore* was the first steamer to attempt to run a raft in this way, and she proved a success. Other steamers followed in the business, and last summer there were 160 boats employed in the trade, the aggregate value of which is put down at \$1,000,000.

The average raft boat carries a crew of 18, which includes the mate and captain. A good stout raft boat is able to push a fleet containing as much as 3,500,000 feet of lumber. To move this vast quantity of lumber by rail would require seven trains of fifty cars each. The time necessary to tow such a raft from La Crosse, Wis., 700 miles north, to St. Louis, is generally fourteen days, although runs have been frequently made in less time. Nearly all the white pine lumber received in St. Louis comes from the Wisconsin, Black, and Chippewa rivers. The rafting season opens in the spring as soon as the ice runs out. The first raft of the season, from the Upper Mississippi, usually arrives here at the beginning of May, and the season winds up about November 15th. The local season, however, has been known to extend into December. With the advent of raft boats, the days of floating rafts reached their end, and the business to day, compared with its former greatness, is but a shadow, there being very few floating rafts now seen. Where it formerly required two months' time and 35 men to run a raft from Wisconsin to St. Louis, a steamer now does the work in fourteen days, with the aid of 18 men, thereby reducing the cost more than one half. In the best days of floating rafts the cost of running one from Reed's Landing or Stillwater to St. Louis would reach as high as \$4,000.

From 1865 to 1870 lumber rafts were frequent-

ly taken as far south as Memphis and Vicksburg. Now not more than two rafts in a year go south of St. Louis, and these only as far as St. Mary's and Chester. The longest distance ever run by a raft on the Mississippi was from La Crosse, Wis., to New Orleans. The trip was made in 1870, and this lumber raft was the only one that ever went to New Orleans from the Upper Mississippi. The fleet was made up of ten strings, or about 1,100,000 feet. It was owned by the Gruner Brothers' Lumber Company, and was valued at \$30,000. Mr. E. O. Shephardson, at present raft superintendent of the Ganahl Lumber Company, piloted the fleet as far out as Vicksburg, where a Lower Mississippi pilot took charge. The run from La Crosse to New Orleans was made in ten weeks. There are eight regular raft boats coming to this port which bring in each season about 150,000,000 feet. This does not include what outside steamers tow in here, which swells the figures to 200,000,000 feet. The principal lumber landings are located in North St. Louis, and take in the principal part of the wharf from North Market Street to Bassell's Point. The landings are controlled by the Knapp, Stout & Co. Company, Eau Claire Lumber Company, Gruner Brothers' Lumber Company, Henry Lange, the Schulenburg & Boeckeler Lumber Company, and I. G. Buckley. The landing in the southern part of the city is in charge of the Ganahl Lumber Company.

These are dry details that do not by any means suggest the departed greatness of the days of floating rafts. The captain of a fleet was, as it were, monarch of all he surveyed. He was the political, religious and civic boss of the men in his employ, and he lorded it over them in a majestic, but, at the same time, quite a humane way. Usually a man of magnificent build, the shagginess of his exterior gives no idea of the bigness of his heart. Heavy-bearded, top booted, and filled with the bracing health of the riveries, his presence inspired awe for the moment. As soon as his mouth opened and the pleasantness of his coarse voice fell upon the ear, the feeling of sublimity gave way to one of admiration, and soon he held your heart in his hand. There were, of course, some rough captains in the old days, but they have quite perished out of memory, and only the agreeable characters remain behind.

There were many exciting times in the lives of the old rafters. When they made the shoot of the rapids there was danger in their positions, but, just like the men who court death in the log booms, these old chaps braved any danger, and their days and nights were often full of the enthusiasm and excitement that are born of the proximity of trouble. There were not, as a matter of fact, many such thrilling experiences as that related by the literary liar who wrote the "Pike County Folks," but there were some almost equally interesting. Shooting the rapids was frequently the least dangerous of their exploits. Pulling the channel or steering shy of a bridge called for as much care and coolness of nerve as any other effort put forward by the raftsmen. The forward sweeps had to be worked with great skill, as the slightest error of judgment or misapplication of strength might prove fatal to the rafter and injurious to the fleet. The cook was the canonized saint of the party. The sound of his dinner gong was sweet and welcome to the raftsmen's ear, and it always got a kind greeting from an overwhelming appetite. The cook's hut, with its V shape, its smoking stove-pipe and bough-trimmed apex—the temple in which about the only worship the rafters knew took place. Here they worshipped three times a day regularly. The culinary high priest took pleasure in tickling the palates of his devotees, and when at work, whether peeling potatoes on the shady side of his hut, or stirring the huge pots of boiling meat, kept their individual and collective tastes in view, and tried to make the meals and meal hours pleasurable to all. The time past so agreeably that it was really felt to be a moment of sadness when the "breaking-up" came and the rafts were picked to pieces, to be piled away in the lumber yards. Then their came the partings for awhile, often for ever, for in the early days raftsmen were as human as men are now and had their frailties. Whisky often

brought on fights, and then the knife and pistol came into play. Many a rafter died a violent death, and the story of his taking off furnished half-hours of gossip on future trips for those who had known and associated with the unfortunate fellow.

VALUE OF BAND SAW BLADES.

That a good blade is cheap at any price and an inferior one is dear, are propositions which no one with experience will dispute. To this we may add that a good blade operated on a properly constructed machine has a capacity for wear, and will do more work than the "same value" represented in a circular saw. The purchaser cannot, from the appearance of a band saw blade, tell much of its quality or temper, nor can he do so by experiment without injuring the blade, and he must therefore depend mainly upon the good faith, reputation and experience of those from whom he purchases.

In order to have good work done, it is absolutely necessary that the saw should be kept perfectly true in every respect.

To keep saws true, the points of the teeth, just before filing, should be jointed with a stone or emery brick.

Then comes setting. This should be produced by blows and not by bending. Setting by a blow, with the proper kind of a machine, is done very quickly and the teeth are set perfectly uniform.

Then, after setting, if the saw is touched up with a file, it will be in good order.

Now, as to the use. Do not attempt to use a small circle with a wide blade. Keep your saw sharp, with a good set in it, and you will get good wear out of it.—*The Wood-Worker*.

INDIFFERENT LENGTHS.

"Speaking of tricks in inspection," said Mr. Western Millman, "I was in Boston once, and dropped into the office of a hardwood dealer that I had some acquaintance with in a business way. While I was sitting in the office word came that there was five cars of walnut on the track from Mr. John Jones, of Jonesville, in a western state. Mr. So-and-so called up the surveyor general's office on the telephone and asked the party at the other end of the line to send 'Dick' over to inspect the walnut.

"The next day I went up into Vermont to visit some friends, but in a little over a week struck Boston on my way home, and stepped into Mr. So-and-so's office again to see if I couldn't sell him some lumber. While I was there who should bounce in but Mr. Jones, of Jonesville. It seems that he had received the report of Dick's inspection of that walnut, and it was so unsatisfactory that he determined to go to Boston and investigate the matter for himself. He waited not on the order of his going but went.

"And he was mad. As I said, he bounced into Mr. So-and-so's office, and opened up on him at once, without the ceremony of an introduction. He would be dashed if he would stand such dashed robbery. He wouldn't take any such money for his good lumber, and wanted his lumber back and was bound to have it re-inspected. Mr. So-and-so talked very suavely to him, told him that the lumber was inspected by a sworn surveyor who was under bond to make a true report, and that there could be no material difference between the report sent and a new survey.

"That didn't have any effect on Mr. Jones. He demanded the return of his lumber, and adhered to his purpose to have it re-surveyed.

"Mr. So-and-so made various ineffectual offers of compromise, and finally took back his check and transferred the lumber to Mr. Jones. Jones then went out, but he had no sooner got the door shut than Mr. So-and-so turned to his partner and said, 'I have got to be away this afternoon. Won't you step over to the surveyor general's office and tell him to put Dick on that job when Jones gets around there?'

"I suppose they did not think I heard the remark; but they did not make any great effort at secrecy and besides they would not

remember that I had any previous knowledge of the transaction.

"I am not given to interfering with another man's business, but the more I thought of this the more I wished I could find Mr. Jones and tell him what I know. I got back to my hotel just in time for supper and went into the dining room and sat down at a table. I was thinking how I could find out where he was stopping when who should take a seat right opposite me but Mr. Jones himself. I introduced myself to him by saying I was so unfortunate as to be a western hardwood manufacturer as well as himself, and that though he did not remember me, I was in So-and-so's office when called that afternoon. Then I told him all I know and advised him to go around to the surveyor general's office in the morning and demand that another man be put on that job in place of Dick, who had already been assigned to it.

"He asked me to go around with him to see how it came out. I agreed, with the understanding that he was not to disclose his real reason for wishing the change. Well, to make a long story short, when he made his request for a change of inspectors, the surveyor general was much surprised; said there could be no material difference; all the surveyors were under oath, etc. Mr. Jones said that it was a personal matter with him; he had had a personal difficulty with Mr. Richard—, and that if all the surveyors would give the same inspection it could make no difference with the result or with the office. The general said that certainly that if it were merely a personal difficulty he could have another man; and then assigned a surveyor waiting in the room to the job in place of 'Dick.' The new inspection was very satisfactory to Mr. Jones. It gave him about \$250 more for his lumber than the original inspection."

This is a true tale by one who was there.—*Northwestern Lumberman*.

THE CENTIPEDE IS QUICK.

Several Mexicans were in camp at the mouth of the Medina river in Texas, and were lying about the fire, when one of them, Selester Cruca, saw a large centipede, fully nine inches long, travelling slowly over his leg. Knowing that the least motion would make it sink its claws into his skin, without moving his leg, he got out his revolver and waited until the insect had almost reached his knee, slowly putting the mouth of his pistol to its head, he pulled the trigger, and the centipede was gone. But the centipede's claws are quicker than gunpowder, and Cruca began to cramp in a few minutes. The trace of the insect along his leg turned a brownish yellow, and the place where it was killed swelled up frantically. Cruca rapidly grew worse, and in a little over four hours afterwards he died in great agony. But the most singular part of the story is that the bullet from Cruca's revolver cut a small nick in the foreleg of a mule that was tethered near by, and at daylight the next morning the mule was also dead, with the leg so swollen that the skin had burst in several places.—*Larabee Boomcrang*.

A Singular Discovery.

While making improvements on land in Carver, Mass., a singular discovery was recently made. The workmen disturbed a small spring and some days afterward it was found to be throwing out a light substance, which on being examined, proved to be very fine silica. It was tested for polishing purposes and found to be excellent for cleaning silver, leaving not a scratch and giving a beautiful surface. The spring makes considerable deposit in a day. Examination proves that there is a large quantity of the silica, and other small springs have been struck, which can be made to discharge if given vent.

It Is Really Consumption?

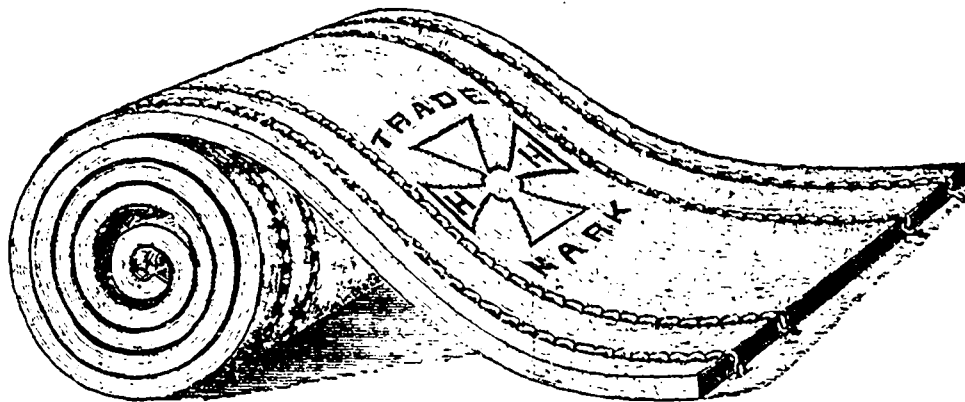
Many a case supposed to be radical lung disease is really one of liver complaint and indigestion, but unless the diseased liver can be restored to healthy action, it will so clog the lungs with corrupting matter as to bring on their speedy decay, and then indeed we have consumption, which is scrofula of the lungs in its worst form. Nothing can be more happily calculated to nip this danger in the bud than Dr. Pierce's "Golden Medical Discovery." By druggists.

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124 AND 126 QUEEN STREET, MONTREAL.

Patent Stitched—Steam Power Pressure Stretched—Oak Tanned

TESTIMONIAL.
 ISA. GOULD & SONS, CRTT MILLS,
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 Harris, Heenan & Co.
 DEAR SIR: 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 5 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. MARSHALL,
 Foreman City Flour Mills.



TESTIMONIAL.
 PECK, BERRY & Co., CASAL HOUSE SHOE AND
 NAIL WORKS, MONTREAL, 14th 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.

THE TEETH OF FRICTION.

In well constructed gear wheels, or gears with teeth in perfect mesh, there is but very little of that crowding action that tends to set the wheels apart or increase their distance between centers. In fact, they can be made to draw the wheels together by leaving the faces of the teeth of the driver as well as the flanks of the driven wheel of greater length than the remaining portion of the gear teeth; but in the teeth of friction this irregularity in construction is entirely done away with. They are not laid out in any regular order, and are of varying lengths without any regard to the pitch line or the shape of the gear teeth. The cycloidal forms and involute curves are entirely left out of the calculation; in fact, they are so flat that to keep their working surfaces in contact, and to hold them in mesh while the teeth are engaging with each other, requires a greater force than they are capable of driving. Beside, the teeth are liable to strike end to end as to fall within the spaces between them, and however they may strike, they are as likely to crowd each other forward or backward, producing a slip or a creep in the different portions of the surface of contact; and should this working surface remain at rest for a moment, these interlacing and irregularly arranged depressions and markings that form the teeth of friction settle into their places and increase their clinging power—as may be noticed in the starting force of friction—till they are thrown out of place in the sliding of one of these frictional surfaces upon the other. A locomotive weighing forty tons represents the forces with which these teeth crowd apart or are held in contact when a draft of ten tons is obtained, to be used in drawing the train, and are the means by which the drivers cling to the rail and friction wheel that transmit the power, not by gear girth, but by the teeth of friction. *Industrial World.*

OVERLOADED ENGINES.

There is a heavy responsibility resting somewhere on this overloaded engine business. There must be a halt called somehow and somewhere. It might as well be to day as after more lives are sacrificed, and the only way to know where we are is to ascertain carefully. There is no sort of use in risking human life—not only one, but dozens or hundreds in some cases—within reach of an engine that is liable to let go on account of having been overloaded, and perhaps scatter the fly-wheel all over the place, to say nothing of breaking off large steam pipes and scalding people. The judges tell us that diligence must be exercised on the part of the owner and proprietor of all these apparatus, and until that is done to the satisfaction of the court, then a responsibility exists, and it is a serious one in case of loss of life. In fact, the law is very plain on this point, very simple, and entirely too comprehensive for those who seek to evade it by supposing or ignoring. The cases in question will be anxiously watched by all manufacturers and users of steam power.—*Manufacturers' Gazette.*

Roofing Board.

The *Paper Trade Journal* says:—A board for roofing purposes is made from pulp made up of wood fibre, asbestos fibre, or any other mineral fibre, and suitable clay, in the proportion of six-tenths, three-tenths, and one-tenth respectively, which pulp is thoroughly mixed together and is then formed into sheets or boards by rolls or in a press, and is then dried. When thoroughly dried, and either before or after the boards are applied to roofing or other purposes, they are coated or saturated with asbestos, asphaltum, or any other fibre or waterproof paint. By this combination of ingredients the boards will be pliant and will not readily split or break, and at the same time will be practically fire-proof.

I had a Dreadful Cough.

and raised a considerable amount of blood and matter; besides, I was very thin, and so weak I could scarcely go about the house. This was the case of a man with consumption arising from liver complaint. He recovered his health completely by the use of Dr. Pierce's "Golden Medical Discovery." Thousands of others bear similar testimony.

• • • Delicate diseases, affecting male or female, however induced, speedily and permanently cured. Illustrated book three letter stamps. Consultation free. World's Dispensary Medical Association, Buffalo, N. Y.

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H. WILLIAMS,
 4 Adelaide Street East, Toronto

Market Reports.

TORONTO.

From Our Own Correspondent.

APRIL 9.—Trade is yet quiet. Winter is holding its grip so firmly on the spring that all outside work is kept back. Considerable lumber is, however, arriving here from various points. Quite a number of cars from Ottawa via the C. P. R. have come to hand during the past week, comprising chiefly 1 1/2 and 1 3/4 in. cut up, which is not plentiful in northern section of country. Prices rule low in consequence of the outdoor work being kept back, dealers and others do not wish to buy to any extent until a demand springs up.

Mill men are all looking for a considerable advance on last year's prices, but it is a doubtful question if they will be able to secure it except on bill stuff, which will rule higher than last year in all probability. It is more than likely, however, that the present troubles in the Northwest, unless speedily settled, will exert a disturbing influence on the building trade here during this summer. Some who intended having buildings erected this spring are now away with the troops, and all preparations that were under way are stopped, and it is extremely probable may not be resumed this season. A considerable number of carpenters and other artisans are also gone to the front, all of which tends to unsettle trade, and may, to a large extent, spoil the anticipations formed for a good season's work. Of course this of itself will not affect the prices of the better class of lumber, but doubtless there will be a sufficient demand on the other side of the lake for that description of lumber, but our home market has to assume most of the lower grades or it will remain on the mill men's hands, as under the present duty enacted only a small portion of lumber finds its way over the lakes.

Lath is in fair demand, quite a quantity of which is needed to complete contracts left unfinished from last fall.

Navigation will open late here, it is doubtful any vessel will leave our harbour with cargoes until the 1st of May.

Table listing lumber prices for various grades and quantities, including items like 'gull boards and scantling', 'plank boards, promiscuous widths', and 'lumber and joist, up to 16 ft.' with prices in dollars and cents.

Table listing lumber prices for various grades and quantities, including items like 'gull boards to dry', 'dressed stocks', and 'flooring, dressed', with prices in dollars and cents.

BOSTON.

Journal of Commerce of April 4th says. Trade is moving along very quietly, as the continues backward and unfavorable to operations. The general tone of the market is steady and unchanged. Pine just holds its own. Spruce is steady Southern as before. In hardwoods there is a little business doing with no change to note.

CANADA PINE.

Table listing prices for Canada Pine, including items like 'Dressed, 1st', 'Dressed, 2nd', and 'Shippers', with prices in dollars and cents.

MONTREAL.

From Our Own Correspondent. 9.—The spring trade in lumber is still and is fully one month behind. This is due for by bad weather and the fearful our streets. Considerable quantities ordered ahead, but not delivered, and

many orders which were booked for delivery on the 1st of April have been postponed till the 1st of May. Stocks are ample and so soon as locomotion is good there will be quite an active movement in lumber. Prices are steady and unchanged in value and concessions are difficult to obtain. We quote ex yard as follows:

Table listing lumber prices for various grades and quantities, including items like 'Pine, 1st quality', 'Pine, 2nd', 'Pine, shipping culls', and 'Spruce, 1st quality', with prices in dollars and cents.

CORDWOOD.

Stocks are pretty full, but the near approach of the opening of navigation renders holders not quite so stiff in their askings, and good wood can now be bought at less money than at the date of our last report. Business has been rather dull. We quote at the railway station ex cartage:

Table listing prices for cordwood, including items like 'Long Maple', 'Long Birch', 'Long Beech', and 'Tamarack', with prices in dollars and cents.

OSWEGO, N.Y.

From Our Own Correspondent

We cannot alter quotations. Trade has revived since our last report, a very fair demand for stocks of the better grades, and in inquiry we find the assortment is very much broken, and dealers are getting some from Michigan and Canada by rail to keep along until navigation opens, which, from present appearance, will not be much before 20th inst.

Table listing lumber prices for various grades and quantities, including items like 'Three uppers', 'Picking', 'Cutting up', and 'Fine Common', with prices in dollars and cents.

ALBANY.

Quotations at the yards are as follows:—

Table listing lumber prices for various grades and quantities, including items like 'Pine, clear', 'Pine, fourths', 'Pine, selects', and 'Pine, good box', with prices in dollars and cents.

BUFFALO.

We quote cargo lots:—

Table listing prices for Buffalo cargo lots, including items like 'Uppers', 'Common', and 'Culls', with prices in dollars and cents.

TONAWANDA.

CARGO LOTS—MICHIGAN INSPECTION.

Table listing prices for Tonawanda cargo lots, including items like 'Three uppers', 'Common', and 'Culls', with prices in dollars and cents.

LIVERPOOL.

The Timber Trades Journal of March 28th says:—The appearance of the timber trade docks has been very dull during the past week, few ships discharging cargoes, and the number of idle teams waiting employment on the quays shows how little is doing in the way of orders for the country. This is also borne out by the deserted appearance of the railway depots and the water carriers' wharves.

With no public sales of whitewood to arouse even a passing interest, the continuance of such a lifeless condition of matters is depressing indeed, and next week will in all probability be similar, as the Easter holidays will have some influence upon what business there is.

The preamble of the bill for constructing a subway under the Mersey to connect Liverpool and Birkenhead having been proved, this work will, no doubt, be pushed forward as soon as the bill itself has passed the Houses of Parliament, as there is little doubt the necessary capital will readily be subscribed. This project, if carried out successfully, will form a means of communication between Liverpool and Birkenhead, not only for pedestrian but heavy vehicular traffic, for which, admirably suited as they are for light conveyances, the present ferryboats are unable to cope. Thus heavy log timber, which now has to be first conveyed in carriages to be loaded in barges, and towed across the river at certain times of the tide, will, in future, be taken by the subway or tunnel by means of the customary trams or wagons, with a saving of expense in handling, and at any time that may be desired. The engineering difficulties will not probably be great. The success in boring the Mersey railway tunnel, now completed, shows the rock beneath the bed of the river to be sound and easily worked.

In consequence of the advance in freights from the pitch pine ports shippers are now unable to sell at the recent low prices, and many orders at the late rates have had to be passed by on this account.

CHICAGO.

AT THE YARDS.

The Northwestern Lumberman of April 4th says:—A steady-going fairly good trade is prevailing so far as volume is concerned. The general report is to the effect that the outward movement in the aggregate is heavy, but that prices are unsatisfactory. An analysis of the complaint in regard to prices develops that they are not weaker than they were a month ago, but are lower than the merchants would like to see them. The selling value of yard lumber is not a sufficient advance from the figures at which stock was laid in last season. The margin out of which to pay expenses and have a profit besides is too thin for the purpose. This seems to be the cause of the complaint. The condition in this respect is different from what calculated on at the close of the last receiving season, and at the beginning of the year, when, as will be remembered, there was much "big talk" about firmness. The extreme dullness of January, followed by the disappointment at the meagerness of February business, as a result of the severity of the weather, caused the holders of lumber to grow weary of waiting, and naturally relax their grip on values. Then came annual "selling out" evil which does more than anything else to demoralize prices in March. In view of what has transpired since January 1, we can easily arrive at the reason why prices have sagged since that date. But speaking from the present standpoint it is probable that prices are fairly steady, though there is still a range of considerable width in selling prices between yards, that narrows down when the bills are made to the country. Certainly there is no reason, that can be clearly defined, why there should be further weakness in the

value of dry lumber. There is much talk about the immense stocks over the lake, but it does not appear that the holders of them are making extra effort to sell. Inquiry fails to find that the manufacturers are importuning yards here to buy. It must be seen that navigation cannot open early, and that probably there will be few arrivals, if any, before April 25. By that time dry stocks in the yards will have become seriously broken, and that too, in the midst of the spring trade, when dry stocks are most wanted. The local carpenters' and builders' requirement has started in with much vigor, so that this branch of trade will materially conduce to the depletion of stocks before lumber begins to arrive by lake. Altogether it appears likely that there will be a lively scramble after the first cargoes of dry lumber, which will help the commission men to keep up prices. On this account, the part of business wisdom would seem to be for the dealers to realize as much for their lumber as they can between now and the opening of navigation.

Receipts of lumber, shingles, etc., from Jan. 1st to April 2nd as reported from the Lumberman's Exchange:—

Table showing receipts of lumber and shingles from Jan 1 to April 2, 1885, including items like 'Lumber' and 'Shingles' with values in dollars.

Table showing receipts of lumber and shingles from 1884, including items like 'Lumber' and 'Shingles' with values in dollars.

Table showing stock on hand for March 1, 1885, including items like 'Lumber & timber', 'Shingles', 'Lath', 'Pickets', and 'Cedar posts' with values in dollars.

FREIGHT RATES TO EASTERN PORTS.

Table listing freight rates to eastern ports, including items like 'New York and common points', 'Albany', 'Boston and common points', etc., with rates in cents per 100 pounds.

AUSTRALIA.

The monthly circular of Messrs. Lord & Hughes, dated Melbourne, Feb. 11th, 1885, says:

The last month has been only a repetition of the previous one, receipts being largely in excess of requirements in nearly every description of timber, and sales in a measure forced against a supplied trade, the consequences being lower prices and a dull market.

We can see no encouragement in the immediate future for importers, the trade being fully supplied, stocks in importers hands large, and expected arrivals heavy.

Business from the yards continues fairly active, and we look for no diminution in demand.

RED DEALS.—Imports: 539 standard, 37,036 pieces. The arrivals have been—Hermann, from Sundswall; Ephraim, from Arendal; Guldregn and Passat, from Soderham. Sales by auction have been a portion of cargo ex Fofarshire, and shipment ex Svea. The cargo Frigga was offered at auction yesterday, but there being no disposition on the part of the trade to buy, was withdrawn.

SPRUCE DEALS.—Imports. 693 pieces. These arrived per Antioch, from Boston, and are advertised for sale on 13th inst. The Lake Locman, from Quebec, has just arrived, but her quantities do not appear in our imports. The cargo ex Prince Frederick and balance ex Prior Hill was all cleared off at auction on 6th instant.

OREGON TIMBER.—Imports: 1,403,379 feet super. The arrivals have been, Coronae, from Tacoma; Williard Mudgett, from Burrard Inlet; Beulah, from Port Townsend; and Remijio, from San Francisco. The first mentioned three cargoes have been quitted publicly. The latest sale being ex Beulah on 3rd instant, at prices ranging from \$6 5s. to \$5 10s.

LUMBER.—Imports: Clear pine, 188,867 feet super; white pine shelving, 146,951 feet super; T. and G. ceiling, 76,858 feet super. The arrivals have been Antioch from Boston, James Pondleton and Highlands from New York. The small parcel ex James Pondleton was sold at auction on the 3rd inst., and shipment ex Antioch is advertised for sale on 13th inst. Other public quittances have been ex Eastern Monarch, Jupiter, S. F. Hersey, Prince Frederick and Prior Hill.

REDWOOD.—Imports: 126,000 feet super. This parcel arrived ex Romijio, from San Francisco, and has not yet been offered at auction. The only public sale has been portion of parcel ex Estella, at £9 to £9 5s.

FLOORING AND WEATHERBOARDS.—Imports: 2,647,656 feet lineal. The arrivals have been—Zenobia and Wilhelm from Drammen, and Java from Gothoburg. Sales have been ex Waaland, Regina, Svea, Ole Moller, and of spruce flooring ex Prince Frederick. Prices realized are as follows:—Red, 6x1½, 11s. and 10s. 6d.; 6x¾, 8s. and 7s. 6d.; 6x¾, 5s. 6d. and 5s. 3d.; 6x¾, 4s. 8d.; 4-out weatherboards, 5s. 3d; white, 6x1½, 8s. 5d. and 8s.; 6x¾, 7s. 6d. and 7s. 3d.; 6x¾, 6s. 5s. 3d.; 6x¾, 5s. to 4s. 9d.; 4-out weatherboards, 5s. 9d. and 5s. 6d.; spruce, 6x¾, 6s. 6d. and 6s. 3d. Since writing the above, the Arthurstone, from Montrose, has arrived with flooring.

KAURI PINE.—Imports: 1,066,465 feet super. The arrivals have been—Grassmere, Eilian Donan, and Jules Marie, from Kaipara; Mary Blair, from Hokianga; Cabarfeidh, from Mon goni. The cargo ex Grassmere has been sold privately. Sales by auction have been—cargo of logs ex Killarney, fitches ex Jules Marie, and portion of logs ex Claribel. The cargo ex Cabarfeidh was offered on 10th inst., but the trade showing no inclination to buy, was withdrawn.

CEDAR.—Imports: 48,300 feet super. The arrivals have been May Newton from Ballina, and steamers from Sydney. There have been no sales by auction.

DOORS.—Imports: 650. Sales have been made publicly of various parcels of American doors, ex Mohican and Antioch.

LATHS AND PICKETS.—Imports: Laths, 5,306 bundles, pickets, 2,717 bundles. Sales have been by auction of various descriptions.

SLATES.—Imports: 306,456. Imports continue heavy.

PLASTER.—Imports: 1,028 barrels. King's Windsor Mills plaster has been quitted publicly at 12s. 9d. and 12s. 6d. per barrel.

CEMENT.—Imports: 9,268 barrels. A moderate demand privately is reported, Knight, Bevan, and Co.'s and Gostling's being quoted at 14s. 6d. and 14s. 3d. respectively. There have been no sales by auction.

GALVANISED IRON.—Imports: 1,502 tons. Sales at auction have been confined to small damaged parcels, and cannot be taken as any criterion. Privately, favorite brands are quoted at £18 to £18 12s. 6d.

EXPLANATION.—Red deals and spruce deals are sold at per foot of 9x3; T. and G. flooring at per 100 feet running; Oregon timber, redwood, clear pine, shelving, ceiling, per 1,000 ft. super; Kauri pine and cedar logs at per 100 feet super; laths, pickets, and slates at per 1,000 pieces. Shorts are lengths under 12 feet.

LONDON.

The *Timber Trades Journal* of March 28th says:—Things this week look a bit more cheerful. The deliveries of deals have taken a forward movement, and though it may be only a flash in the pan, it may nevertheless prove the precursor of sustained activity.

There was a very numerous muster of the trade at the saleroom on Thursday, and the crowded benches seemed to give promise of better prices. It was expected that the unfavorable reports from Afghanistan would have stimulated bidding, but the sign of any activity did not come very prominently to the surface; at least, it was very difficult to trace in the low bids at which the majority of the goods started.

The 3rd Quebec white pine deals, Montmorency stock, ex Lydian were, we understand, sea damaged, having, we believe, been picked up from the wreck of the Marco Polo off the

Canadian coast in 1883, and subsequently shipped from Miramichi per the first-named vessel. Taking this into consideration, the price obtained was, we consider, a good one.

Among the bargains were the 4th pine boards ex Drammonseron Quebec, and at £6 15s. these were cheap to the purchaser, but being coarse-looking they are not particularly saleable just now, though at the prices they will pay to hold.

The mixed goods throughout fetched full prices, but this was no surprise as regards planks; but with 9 in., however, a slight improvement could be recognized. The common Swedish stuff offered met with a poor reception, the trade displaying no anxiety to acquire such goods, except at give-away prices. Of these the Neder Calix 4 in., 3rd, a very coarse parcel, were difficult of sale at £6, though prices for really sound wood, even if classed common, were not weaker. The Skelleftea 3rd battens ex Douglas fetched a remarkably good price, and the same may be said of the Domsjo ex Eustace 4th deals, with a big proportion of six to nine feet, changing hands at £8. Spruce prices, by the result, do not appear to have hardened at all, the 1st quality Quebec planks ex Romeo, falling at £3 5s., and 9 in. at 20s. less. 2nds of the latter size being knocked down at £0 10s. These were described as remaining after selection, but to judge by appearances the pile did not seem to have been disturbed since they were first stacked. The Gelle ex Black Sea S P 3x9 were cheap at £10 15s.; were cheap being a very fair class deal a bit sappy.

An Old Quebec Trader is Luck.

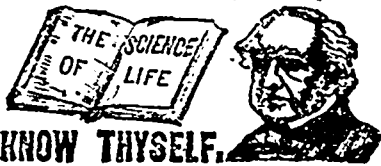
An important salvage claim by a Newcastle steamer has just been decided by the Admiralty Court. The claim for salvage reward was brought by the owner of the screw steamer Clevedon, of Newcastle, against the owners of the screw steamer Carranze, of Bilbao, which had sprung a leak at sea. The crew and steamer had been saved under trying circumstances. The Court awarded £5,000 apportioned as follows:—Second officer, £600; others of the crew, £1,600; divided amongst the owners of the Clevedon £1,600; Captain Robert Blanc, £300, and the remaining £1,700 divided amongst all the crew.—*Shields Gazette.*

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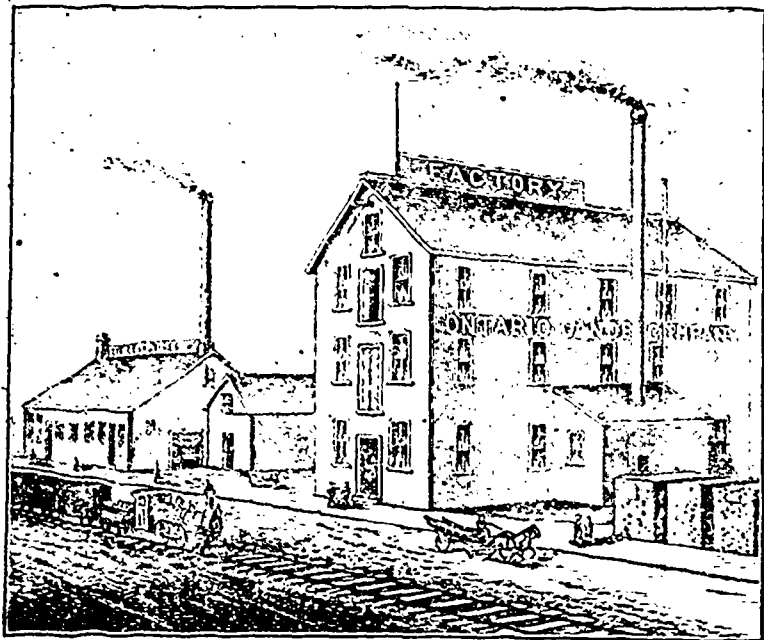
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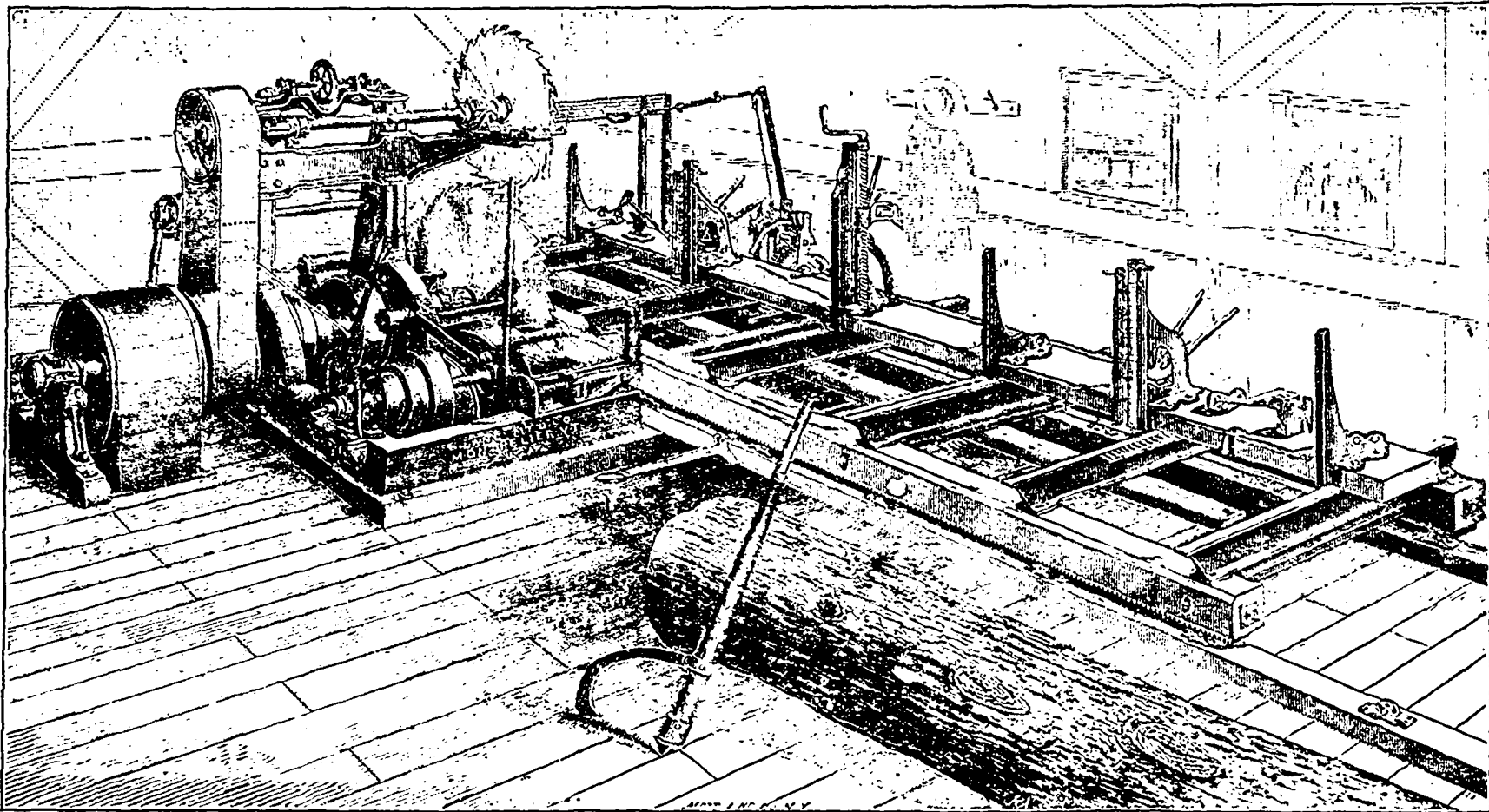
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Our Independent AIR PUMPS and Condensers will effect a saving of 30 to 50 per cent. when applied to high pressure Engines.

Simple.

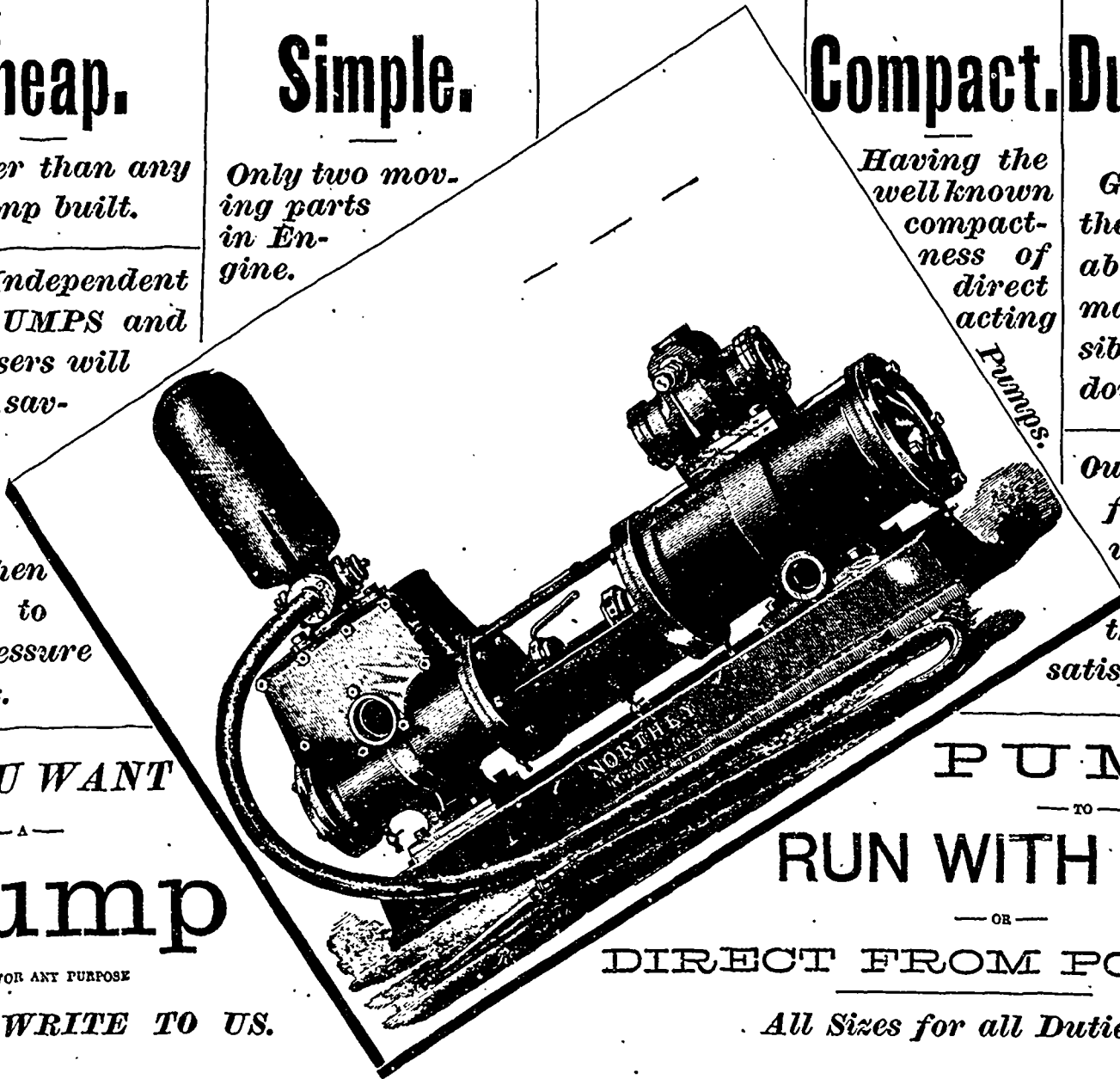
Only two moving parts in Engine.

Compact. Durable.

Having the well known compactness of direct acting Pumps.

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

Our PUMPS for general water supply give the greatest satisfaction.



IF YOU WANT

Pump

FOR ANY PURPOSE

WRITE TO US.

PUMPS

— TO —

RUN WITH BELT

— OR —

DIRECT FROM POWER

All Sizes for all Duties.

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

WE INVITE CORRESPONDENCE ON ANY POINT CONNECTED WITH PUMPS.

SEND FOR CIRCULAR AND STATE YOUR REQUIREMENTS.

NORTHEY & COMPANY,

Corner FRONT & PARLIAMENT STS.,

TORONTO, ONT.

—RENEW YOUR—

SUBSCRIPTION

FOR THE

Canada Lumberman

IT WILL PAY YOU, BECAUSE :

1. It is the only newspaper published in the Dominion of Canada devoted to the lumber and timber industries.
2. It is devoted to the development and utilization of our forest wealth.
3. It furnishes complete and reliable quotations of prices of lumber in all the leading markets.
4. Its columns are filled with interesting reading matter, valuable alike to the land owner, manufacturer or dealer.
5. It costs only \$2.00 per year to have it sent, post-paid, to any address in Canada, and no land owner, lumber dealer, manufacturer or individual in any way connected with timber industries, can afford to do without it.

TO ADVERTISERS.

It has a circulation among saw mill owners, manufacturers, lumber and timber dealers and all classes connected with the timber business.

Examine the field, count the cost, and you will at once decide that the CANADA LUMBERMAN is the

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

for placing your goods or wares before the saw-mill men and lumber and timber dealers of the Dominion.

The William Hamilton Manufacturing Co'y

MANUFACTURERS OF

(LIMITED,)

SAW MILL AND GENERAL MACHINERY

PETERBOROUGH, ONTARIO.

Our Saw Mill Engines

Are made strong, new and durable, knowing well the ever varying strain they are subjected to in driving a Saw Mill.

IRON AND STEEL BOILERS

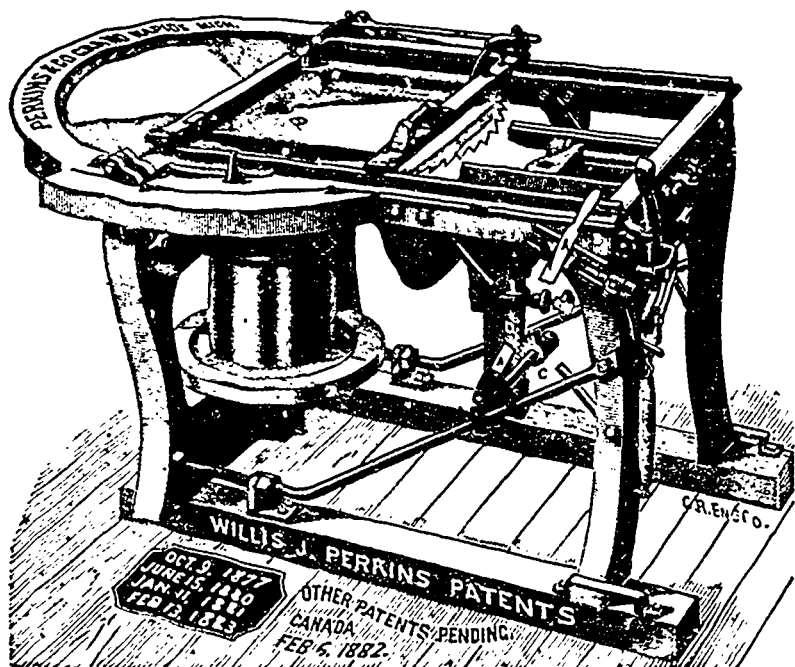
of the Best Material and workmanship.

We wish again to call the attention of our Canadian Lumbermen to our First Class IMPROVED SAW MILL MACHINERY, Heavy and Light Circular Mills; our Pat. Twin Circular, with Steam Rack or Rope Feed for Slabbing; Iron Oscillating Gang Mills of the most improved designs; besides our Patent Improved Long Cylinder Steam Feed. We would call attention to Cunningham's Oscillating Twin Engines for Feeding Long Carriages with Rack or Rope; our Patent Wrought Iron Jack Chain with Short Trucks; Heavy Wrought Iron Refuse and Sawdust Chains: Trimmers and Slab Cutting Tables; Lath Mills and Bolters; Lumber Markers; Trout's Patent Automatic Log Counter, to count the Logs as they come into the mill; Covel's Patent Saw Sharpener; Saw Swages and Improved Bench for Dressing and Hammering Saws; Perkins' Patent Shingle Mills; Bolters; Sappers; Jointers; Drag Saws; and Packers. We also forge a very superior ANCHOR for Lumbermen.

We are now introducing to those requiring Small Mills our IMPROVED SEMI-PORTABLE MILL, got up strong and durable, and are now adding to the many Machines for cutting Lumber MILNE'S IMPROVED HEAVY BAND SAW for cutting Lumber out of large logs. The small carse these Mills take out in using a No. 18 Gauge Blade, is a very important point in saving Lumber, besides the small amount of power required to drive it, making it a favourite in sawing lumber—capacity from 25 to 30 thousand per day.

We are prepared to submit plans and specifications, together with any information our many years of close application to the Saw Mill Business may have suggested to us; also when required to enter into contract for supplying the machinery and all material complete.

Communication from anyone intending to build Saw Mills solicited.



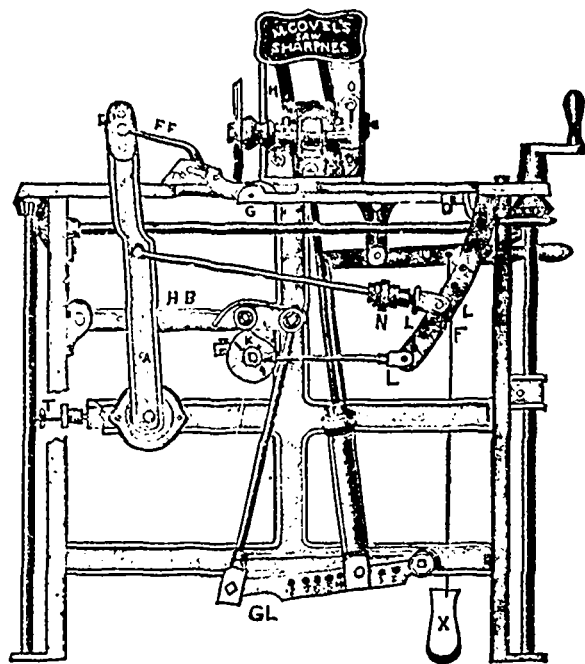
GRAND TRIUMPH!

WILLIS J. PERKIN'S DROP TILT

The only Horizontal Saw Machine on which a thick slab can be cut from the bolt. SECOND CUT ALWAYS A SHINGLE. Knots, rots, hearts, bolt squared rift-ways, and all irregularities cut off at one clip. This improvement will pay price of the whole machine every season by increase of quality and quantity cut.

OUR SPRING STOCK OF

The M. Covel Patent

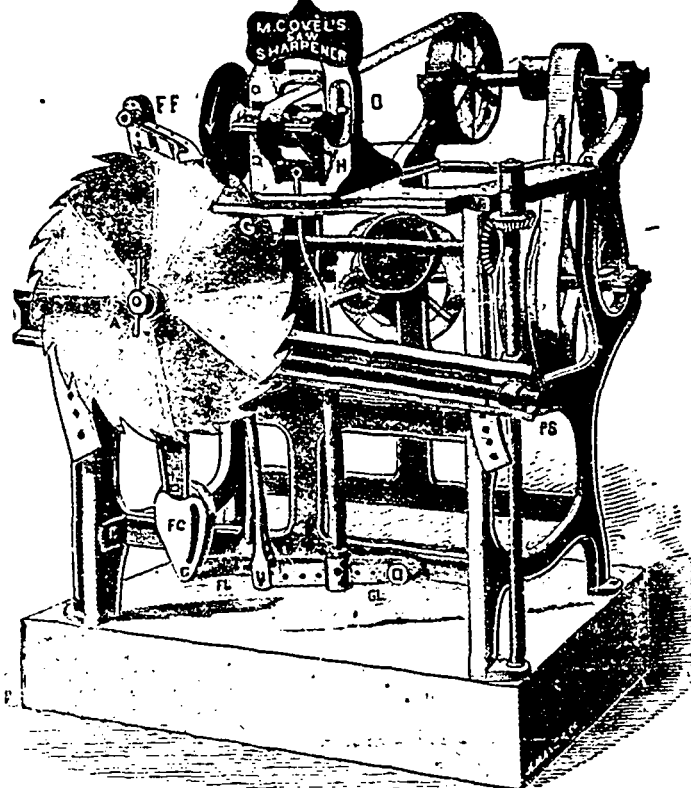


SAW SHARPENER

IS NOW READY FOR SHIPMENT.

They are now so well-known to the Lumberman, that their utility requires no comment.

The above Cut No. 1 shows some very important changes that have lately been made, which makes the machine far less complicated for new beginners to operate. Cut No. 2 shows this machine with a circular saw upon it ready for operation.



The Wm. Hamilton Manufacturing Co., Peterborough, Ont., Sole Manufacturers and Agents for the Dominion.

SEND FOR PRICE LIST AND CIRCULAR.

"POCONO" AND "PARADISE."

So many of our Mill Men and practical Sawyers have formed their opinions as to the quality of TANITE EMERY WHEELS for SAW GUMMING by a trial of one class only—our old and well-known CLASS 2 wheels—that we deem it necessary to call attention to the above comparatively new classes. All Mill Men should understand that there is no absolute and accepted standard as to Saw Gumming Wheels. The preference for one or another make is as much a MATTER OF TASTE as is preference for cheese, or wine, or music. Most of our competitors make but one class of Saw Gumming Wheels. We make FOUR, and there is about as great a difference among these four classes of Tanite Wheels as there is among the wheels of different manufacturers. It is quite probable that some who failed to be satisfied with our Class 2 may find some one of the other classes exactly what they want. It is equally probable that some who have been regular and well satisfied users of our Class 2 or 3 Wheels may be still better pleased with our "POCONO" or "PARADISE." We suggest your sending an order for four wheels, one each of Classes 2, 3, "Pocono" and "Paradise," in order that you may settle the question which does suit you best. We are furnishing the "Pocono" largely, and the demand is largely increasing. For the "Paradise" there is but a light demand, but it comes from experienced men. We also make a Special Class to suit the requirements of the AUTOMATIC SAW GUMMING MACHINES so largely used in the North-West.

THE TANITE CO., MONROE CO.,
STROUDSBURG, PA.

ST. CATHARINES SAW WORKS!

R. H. SMITH & CO.,

MANUFACTURERS OF EVERY DESCRIPTION OF

ST. CATHARINES, ONTARIO.

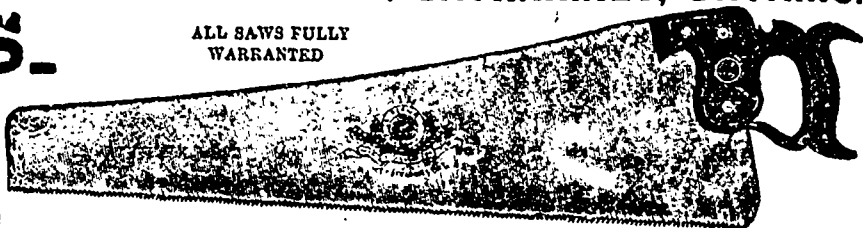
SAWS.

ALL SAWS FULLY
WARRANTED

Sole Manufacturers for the Dominion of
Canada of the

"SIMONDS" SAWS.

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



Dominion Saw Works!

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MANUFACTURERS OF SAWS

Circular, Shingle, Gang, Cross Cut,
Concave, Mulay, Drag, Grooving.

THURBERS ROYAL

Anti-Friction Babbit Metal

IMPORTERS AND DEALERS IN

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



EVERY SAW FULLY WARRANTED.
Prices on Application.

