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THE CANADA LUMBERMAN

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BY THE WAY.

THE lumber section of the Toronto Board of Trade is settling down to the business of the year. At a meeting a week ago the following officers were elected: Executive Committee, Ald. Jos. Oliver and James Scott, and Geo. Gall and John Firstbrook; Arbitration Committee, J. Donogh, Robert Laidlaw and C. Beck, of Penetanguishene. With an executive possessing men as thoroughly representative of the trade as is indicated by the names here recorded there is likely to be some active work done during the year. It is useless to say that lumbermen are different from those of other commercial bodies and have little or no occasion to get together at intervals and talk over and plan trade matters. We fear that sometimes this feeling takes hold of them and there is less of the *esprit de corps* than there might be among so important an interest. We do not take much stock in the Hoo-Hoo concatenations of the lumbermen of the United States. There would seem to be a lot of nonsense in connection with the affair, and yet back of it is the idea of lumbermen, whose relations with one another become sometimes a little strained through business transactions, coming together in fraternal intercourse and learning a little more of each other. Some Hoo-Hoo kittens might be brought to light in this country with gain in this particular.

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Those who are interested in the British Columbia lumber trade complain that so far they have been unable to enlist the influence of the Provincial Government in the way of inducing the Dominion authorities so to modify the regulations relating to towage and pilotage as to relieve them of the disabilities under which they labor when competing with the lumber mills of the Sound for the California and foreign trade. They claim—and very properly—that British Columbia lumber is superior to the article against which it has to compete, and in consequence is more highly esteemed, but the disability referred to is a most serious one, and ought to be removed.

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As indicating some of the changes of recent tariff legislation, Graham, Horne & Co., of Fort William, say: "Our trade heretofore has been wholly in Manitoba and the west. Free lumber brought Duluth and Minneapolis mills in direct competition with Canadian mills supplying that trade. The Americans have cut into the trade to some extent and probably will to some extent keep on sending lumber into Manitoba, so we look for no improvement as a result of free lumber west. On the other hand, our mill being on Lake Superior, with facility for shipping by water to the east, we think we can market a portion of our cut in the U. S. Having this in view, we have increased our log output this winter."

x x x x

The little value that is often placed on an article of great value has found frequent illustration in all lines of commerce. We see cases in point every day in the lumber business. A news item tells the story that the farmers about Cadillac, Mich., are hauling bird's eye maple cut into stove wood into town and selling it at 90c. a cord. This timber would readily bring \$20. a 1000 in the log. But the farmers there are not much less short sighted than those in many parts of Canada, who persist in cutting hardwoods for firing, that if allowed to remain in the standing tree, would in a few years prove a little gold mine to them. And it is only a matter of degree the short sightedness that is shown by shrewd lumbermen in the manner in which the forest products are slashed and cut for the lumber market. These are the days when, in Canada, not less than in other places, the

little things count, and trees, that a few years ago lumbermen despised, are worth dollars.

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A despatch from Michigan says that Howry & Sons are about sending another gang of men from that State to Canada to push operations in the woods there. This firm now have a large interest in Canadian timber, and they are showing lots of push, both in the woods and other departments of lumbering. They have six camps at work and expect to supply 40,000,000 feet for their new mill at Fenelon Falls. At Little Current they have three camps going, and will get out about 11,000,000 feet, which will be rafted to Michigan to feed the firm's mills there. The output of the mills of this concern at Michigan during the past two seasons is shown in about 50,000,000 feet of lumber, the logs coming from Canada. The Howrys are old residents of Saginaw.

HARDWOOD DIMENSIONS.

IN the LUMBERMAN of January we published an article from Hardwood on "Hardwood Dimensions". To some of the statements there made Mr. H. R. A. Baughman replies as follows in the Wood Worker: There are a few points on which I differ with Mr. Crosby. One point is, where he advised the cutting of the three-inch culls from heart of logs, into wood. My advice would be to leave the logs in the tree in the wood, as they are of more value to the man that buys the land for the farm, than they are in the three-inch plank wood, or any where else. I have known of firms who paid from five to nine dollars per thousand feet to get their logs to the mill, when fully one-half the logs would make nothing but culls, and as there are always more or less culls from best logs it will readily be seen there is a heavy loss on the whole. Added to this must be the cost of cutting into lumber, piling, sorting, rehandling of culls and cuts, and loading on cars.

Another disadvantage that the northern mill man labors under (the north being the section of country that Mr. Crosby speaks of in particular), is that often their plant is too large and expensive for the amount of hardwood they cut; for after they have been running on pine a few years ago, many northern mill men said and believed that there would be more money in cutting off their hardwood than there was in pine. They did not realize that prices quoted for common and better meant that the grade should be in hardwood; a grade equal to a B select or better in pine, and for grade under this a price of not more than five or six dollars, and for a large per cent. of culls no sale at all. Most of them went into the hardwood business in the same way that they had been handling pine. They cut everything they could hold on the carriage, without regard to quality. Of course the sawyer must cut as much as he did in pine, which means thick and thin lumber. Then they barked large quantities of timbers and left them for worms to work on before they were cut into lumber. This would not be quite so bad in some of the states farther south, where more hardwood is used.

Building culls are selling from ten to twenty dollars per thousand feet, and best grades at forty to fifty dollars (these prices at retail), with demand for all lumber cut, of all grades. I have known farmers in these states to realize from one to two dollars per 100 feet this summer, for logs four to ten miles from the mills, and still the mill men seemed to be doing well, for the reason that they had good sale for this poor grade of lumber.

No doubt but the hardwood of the north will within a few years become so valuable as to make the cutting of common and cull logs profitable. It has been but some fifteen years since the writer saw many thousand feet of

good pine culls go to the "hell holes" simply because the mill man refused to take them for saw bill and there was no sale for them. Since then the writer has sold many thousand feet of this same grade in Minnesota for eleven dollars per thousand, and in Wisconsin from five to eight dollars per thousand feet.

There is no doubt but hardwood will become as valuable as pine gives out, and the carpenter and builder gets over the prejudice of using it on account of its being harder to work. Already hardwood is being more extensively used in the central and western states than pine. Being stronger, more durable, taking a better polish, and having a fancier figure for finish work, it will come rapidly to the front. As the pine becomes scarcer, and the use of hardwood increases, prices for better grades will go up and there will be a correspondingly higher price for the lower grades, and in time it will pay to cut the common logs in hardwood as it has to cut the white pine.

Until that time comes I would advise in the first place to let all small timber stand, and cut only the larger logs, those that have a large percentage of common and better in them, in place of paying the railway company for hauling many thousand feet that will not pay freight bill. Put smaller mills near timber and cut only logs that will yield a profit, and pay railroads for hauling only lumber sold. It does not pay to put in logs to make only small dimension, for there is a waste of at least fifty per cent. in cutting and grading, and manufacturers will not pay a price for short dimension that will pay to handle it, so long as they can buy common and better at the low price that it can be bought to-day.

RECKLESS USE OF STEAM.

PERHAPS few people who pay for producing steam are as reckless in its use as owners of wood-working plants. Because the fuel used is generally mill refuse, they think economy in the use of steam a trifling matter. The enormous loss by radiation from long, unprotected steam pipes is seldom considered. This is a mistake. To drive saws and planers takes a great deal of power, which means plenty of good steam. If the engine lags when the saw is in the log or the big planer is thrown on, because of insufficient steam, there is a direct loss. The boiler may make enough steam to keep the mill or factory humming, but if much of the force of that steam is lost before it enters the cylinder of the engine, because of unprotected steam pipes poorly arranged, the owner of the concern loses good dollars every day he allows such conditions to exist. Of course, ample engine and boiler capacity is necessary, but its effect may be to a great extent lost through carelessness in various ways.

The circular saw is a tool that needs watching all the time. An exchange tells that a workman was carrying a saw under his arm, when he fell. The points of the saw penetrated two of the main arteries of his arm and the man bled to death.

A great deal has been published in engineering journals about scale in boilers, and yet very little has been said about the accumulation of it, in feed and blow-off pipes. There are men who maintain that scale can not accumulate in pipes in which the water is circulating constantly, or nearly so, as in the case of feed pipes and external or internal circulating pipes; but cases cited will show how fallacious such opinions are. As a matter of fact these pipes often fill up in a remarkable way, the deposit choking them to such an extent that it becomes a source of positive danger.

TALKS WITH WOOD-WORKERS.

TRADITIONS, however dear and venerable, must "go" when they collide with disproving facts and actual experience, says the Lumber World. Their gray whiskers will not save them, for science and investigation have respect only for that which is true, just, exact and reasonable. Woodworkers and users of wood in general have many traditions, some reasonable, but most of them absurd.

Last month a planing mill operative insisted on my believing him when he asserted that "it makes all the difference in the world, in planing wood, either by power or by hand, whether that wood is dried slowly or quickly, by heat or in the open air." When asked to prove his assertion, he confessed that he had no proof at all. He was working on tradition. He could not tell, when blindfolded, which he was planing with a hand-plane, wood heat-dried or wood air-dried. His tradition was shaky.

Another workman insists that wood planes easier and more smoothly when worked from the butt end towards the top. I asked him to make a trial of it with the common plane. I blindfolded him and placed a piece of pine on the bench. When placed into position with the plane in his hand, he made the regular cuts with the tool. To his surprise, he found out that he was cutting more easily and leaving a smoother surface when cutting from top to butt than when cutting from butt to top. He really could not tell which way he was cutting, from the "feel" as the plane moved. His tradition was at fault. He had held it for forty years without ever taking the trouble either to prove or disprove it.

A certain "professor" in a recent lecture made this assertion: "All farmers know posts set top-end down last longer than those set butt-end down." of course while many believe that theory, not a single farmer knows it to be untrue. A farmer gives some interesting testimony in connection with this tradition. He writes: "I helped to build about 50 rods of fence with chestnut posts and white pine and hemlock boards. We picked out three of as good posts as we could find, marked them with three hacks and set them about the middle of the fence top end in the ground. Twenty years and six months after the fence was built, I helped build it over, and found that the marked posts, which were set top-end down, were rotted off at the top of the ground the same as the others set butt-end down. It is said that one trial is not sufficient to determine a fact, but this one trial satisfied me. The pine boards were mostly sound enough to use again, but the hemlock were too dozy. The butt-ends of posts are usually put down because being larger, they are not so likely to be heaved out by the frost, and being larger, and stronger where strength is required." That is strong evidence against that tradition.

That same "professor" lecturing on "Preservation of Wood from Decay," mentioned as a "fact" another mere tradition about "water-seasoning" making timber more lasting, saying that he "had seen an old wagon on his father's farm the hubs of which (of the wagon, not of the farm!) where 'water seasoned elm,' that lasted 50 years." That would be a beautiful proof of the "water seasoned" tradition, but for one element in the case. Had those hubs been left the fifty years without the penetrating and preserving applications of grease and tar usual to wagon hubs, they would have been rotted in less than a quarter of fifty years. Every old observer knows old wagons, whose hubs are warranted not to be "water seasoned," that have been in use fifty years, all on account of the preservative tar and grease. The tradition is good as far as it goes, but it does not go as far through the hubs as the pores, grease and tar goes.

This same "professor" goes on to say: "Dry-rot is caused by a fungus which begins on the surface and pushes the threads of its spawn into the pores, and in time they ramify through the mass." Has not the "professor" got the cart before the horse, the effect confused with the cause? Does the fungus cause dry-rot, or does the dry-rot cause the fungus to grow? If dry-rot begins on the surface, why is it dry-rotted wood is generally sound, to all appearance, on the surface, and spongy and weak inside? Recently I saw some wooden joists taken out of a building. When in position they had been almost completely free from contact with the air.

They look bright and sound on the surface, but a man of ordinary strength could break one of them with his hands. Is "Professor" William H. Brewer very sure that his assertion concerning dry-rot and fungus is scientific? Why do not small timbers dry-rot? Why is it generally only large timbers, imperfectly dry in the center, that dry-rot? Why does not the dry-rot destroy the surface as well as the interior of the timbers? Why should this discriminating fungus attack only large timbers, and attack them only in the interior? Is not this tradition quite as shaky and fungus-infested as any one of the foregoing.

Workers in wood have heard the traditions connected with wood in countless ways, but they have only to test them to find them utterly ridiculous. One general tradition is that persons who use toothpicks from a white pine tree splintered by lightning, will never thereafter have the toothache. The stipulation in this tradition is that the splinters are to be used within three days after the lightning has converted the tree into toothpicks, and that they are not to be touched by any metal tool. I have known many cases of trial of this tradition, and in no case did it ever give the believer any immunity from toothache or any ailment. It is a tradition pure and proper.

One of the really singular traditions connected with wood is the tradition that wood fired by lightning will continue to burn in spite of all the water that may be poured upon the blaze. This tradition seems to extend over the world. According to its terms, the blaze started by lightning can be extinguished only by the use of milk or vinegar. Some of the traditionists, who claim to have tried it, assert that only sweet milk will put out a blaze started by lightning, while others claim it is buttermilk alone that can put it out. In countries where neither sweet nor sour milk is handy, this elastic tradition permits vinegar to do the work. Who does not know at least one farmer who has saved his house, when fired by lightning, by toting up from the cellars the well-filled milk-pans and pouring their lactic contents on the lightning-bred blaze?

Even lumbermen, most of whom have seen this tradition refuted in the woods, where the lightning-started flames are promptly and invariably quenched by the rain, will let themselves cling to this tradition. They may see water put out a hundred such fires in a year, and yet some of them will go on believing and asserting that "fire started by lightning can not be put out by water." The believers in this tradition generally have heads harder than lignum-vitae and denser than lead. They are believers in spite of all visible, audible and tangible proofs of the falsity of their fad. Great is tradition. Particularly great is tradition relating to wood.

NEW USES FOR BABBITT METAL.

I SHALL attempt in this article, says a writer in the Tradesman, to give some of the numerous uses to which babbitt metal can be applied around the mill and workshop outside of its accustomed place in journal boxes. The writer of this was employed to fire a saw mill, and when I went and took charge of the machinery I noticed that the shaft of the rival pump that fed the boilers with water was sprung, caused by the plunger unscrewing from above, consequently lengthening it till it struck the bottom in running; the result was that when we started up the wobble of the eccentric soon broke that rod in two. As it was thirty miles to a machine shop we were in a dilemma. I took the broken parts and shaft out and took them to the proprietor and told him I would take them to the blacksmith and perhaps he could fix it. I told him also that if they could not, I thought I could make one-out of babbitt metal. I took them to the shop and had the shaft straightened, but when they commenced work on the eccentric rod they broke it and it could not be repaired there. I then took the pieces with me and took a key hole saw and made my moulds out of wood. I then cast the broken parts out of the babbitt metal and got back to the mill in time to put it together and be ready for sawing the next day. I ran that mill two years and that babbitt machinery was just as good when I quit as when I first put it up.

I do not advise the use of babbitt metal in every case, nor where a person is close to a machine shop, but in

cases like the above, where it would take a week or longer to get the repairs from the shop.

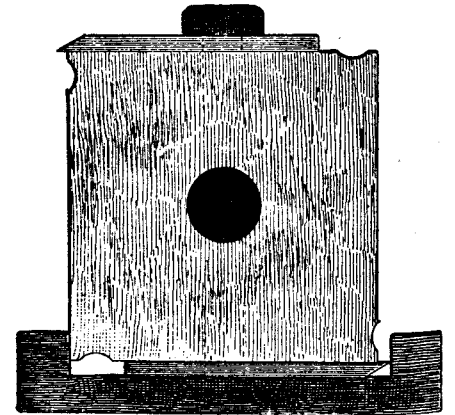
If you have a shaft to put up and have no cast bearings for it you can make them out of babbitt metal. I put up a two and one-quarter inch shaft and made the whole bearings out of babbitt metal, and it has been running six years and the bearings are apparently as good as when first made. I first made my bents and put them in place, having the top of the bents about one inch lower than the bottom of the shaft, when it was in place. I then put my shaft in place and got a cap block and cut a square notch in it about two inches larger than the diameter of the shaft. I placed this notch down over the shaft, the cap block resting on the bent with the shaft in the center of the notch. I then pinned the cap block solid to the bent. I then bored a hole down through the cap block to the notch to put a pin down against the shaft in order to have an oil hole when the box was run. We now fix the shaft in the center of the notch resting on outside supports. We now get some good clay and paste board to fix the ends of the notch ready to run, leaving a place at the top to pour the metal. If you have been careful, you will get a good boxing.

If your shafting is not perfectly round it is best to tie one thickness of paper around the shaft and run the metal around that, turning the shaft a few rounds by hand, when the babbitt gets nearly cold.

SETTING PLANER KNIVES.

A WRITER in Lumber tells of the following plan for setting planer knives, which he says he has used for a long time and found to be excellent:—

Simplicity in construction is the highest point in anything that has anything to do with the construction or



handling of machinery. Planing knives have for a long time been eyesores to many operators of planing machines. While we all know the good there is in making every knife cut alike, there are almost as many different ways of setting them as there are persons running machines. I never use this gauge on more than one wing, and the other knife or knives I set by the first one by holding the end of a stick up to the knife and, after throwing both belts off, turning the head by hand until both knives cut exactly alike. You don't want to screw your last knife down solid till you know that both knives do cut alike, for the bolt may draw the knife a little, or the knife may be sprung a trifle, so that, when the bolt draws the knife down, it will alter it a little. Draw down the knife a little and try it, and when it comes just right draw it down tight. For setting out the first knife I use the simple tool shown in sketch, made of a piece of three-sixteenths by one and one-fourth steel plate. I am always particular to use the same wing every time.

I challenge the wood-working fraternity for any tool more simple or more easily made than this one. The beauty of it is, there are no bolts or screws in it to get loose or break. I don't pretend to say, nor can any man say, positively, that every knife, however set, will cut alike, be there two or more. If they are set this way, however, they will cut so nearly alike that after once or twice sharpening and taking care to see which knife cuts, the operator can get them to cut very evenly. I never use but two knives on a four wing head for any kind of pine work. For oak it is well enough to add two more.

VIEWS AND INTERVIEWS.

Shoe Pegs.

The little town of Shelburne Falls, in Western Massachusetts, enjoys the peculiar distinction of having the products of its peg factory taken exclusively by parties in Germany as supplying a need which that country, for natural reasons, cannot furnish, there being no timber in Germany that equals the American white birch in the manufacture of pegs. The process of manufacture is simple. A four-foot stick is shaved of its bark and sawed into blocks the required length of the peg; the knots and dead wood are cut out with a pressure auger, and then the thin wheel of wood is ready for the cutting and splitting machines. One operator thrusts two or more blocks into the jaws of the cutter and splitter at a time, and the manufactured article comes out on the other side to be brushed right and left, according to quality, into barrels. The pegs are thoroughly dried in heated cylinders and bleached white and firm. It is no uncommon thing to secure thirty bushels of fine pegs from a cord of white birch, and sometimes a much larger quantity.

A Curious Oak Tree.

Among the ruins of the wall which formerly surrounded the Abbey of Beaulieu, stood an oak, contiguous to a part of the wall, and extended one of its principal limbs in close contact along the summit of it. This limb, at the distance of about three yards from the parent tree, formed a second stem upon the wall by shooting a root into some fissure, in which it probably found a deposit of soil. This root, running along the bottom of the wall, and finding some crannies in it, rose twice again through it, and formed a third and a fourth considerable stem, each at a distance of about three yards from its neighbor. The fourth of these stems shot a branch again along the summit of the wall, and in close contact with it, forming a fifth stem in the same manner that the parent tree has formed the second. This last stem was again making an effort on the wall to extend its curious mode of vegetation still farther. In a great storm which happened in February, 1781, a part of the wall was blown down, and those two stems with it which were nearest the parent tree. Each of these stems was about four or five feet in diameter, and the timber of them was sold for 30s, which shows their bulk was not trifling.

Circular Saw with Diamond Teeth.

A circular saw with diamond teeth is used for cutting up stone in the quarries of Euville, Meuse, France. These saws consist of circular disks of steel 0.27 inch thick and about seven feet 3 inches in diameter. Rectangular notches are cut in the edge of this disk at intervals of about 1½ inches, into which are fitted blocks of steel carrying the diamonds, these being the inexpensive Brazilian variety used for diamond drills. The blocks are secured to the body of the saw by screws with countersunk heads, while diamonds are fitted in these heads by heating the latter to a bright red heat and forcing them in by pressure. The diamonds are mounted in groups of eight, those on the first and eighth blocks being in the periphery of the disk, the second and sixth at the edges, the fourth and fifth at the sides, and the third and seventh in intermediate positions; and the instrument is said to be capable of cutting through blocks 3 feet thick, 20-horse power being required to run it. No statement is made as to the kind of stone cut by the apparatus, but it is recorded as having made a cut of 3¼ square feet in one minute. During the first twenty eight months it was at work it sawed over 420,000 square feet of stone, counting one face only, at a total cost of less than 2 cents a square foot, nineteen of the diamond carrier blocks being replaced at an average cost of \$2 each.

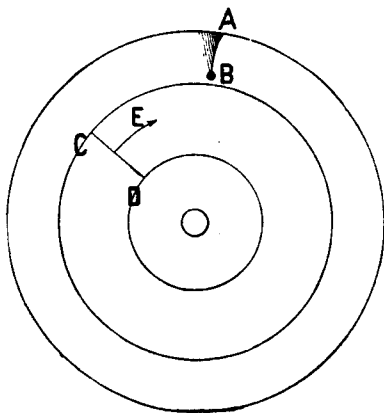
Uses of Teakwood.

The gathering of this timber store has been an industry ever since man of any color inhabited the country, says the Century Magazine. Teak grows only in India and Burmah, and in old palaces and temples it has held indestructible place for many generations. From the color of sandal wood it changes with age to walnut brown. Big unpainted bungalows standing upon pillars

of the wood, sided with it, shingled with it, latticed with it, defy heat and rain, and grow rich upon their poverty of oil and varnish. They stand, as brown as autumn, out of green compounds against summer itself. Vines wrap them, flowers garnish them, years add moss and lichen, but nothing destroys save flame. Railroad car wheels, spikes for laying track, pegs for bolts, implements of all sorts, are made of teak. No one save a shipwright knows just how many parts of a ship are built from this muscle of nature, but every one who has walked the deck of bark or steamer has a consciousness that no amount of holystoning or dragging of cargo over, or wear and tear of feet and traffic, can in an ordinary sense affect a teakwood floor. The Burmese wood-carver knows his art is almost hewn in stone when he coaxes leaf and flower, sacred cow and festival cart, grotesque sprites and elves, gods and Buddhas, out of rugged trunks. The little prow of the sampan, shaped like a wishbone, the stern of the paddy boat, as brown with age as the naked figure upon it is with the elements the strange plinths of stranger pillars, the embellishments of the temples, the playthings of the children—all these are carved from teak.

THE CARE OF CIRCULAR SAWS.

To locate and take out fast places in a round saw is one of the first and very important things to do. In fact, if the saw is very uneven in tension it will be found very difficult and sometimes impossible to level it up properly without first regulating the tension to a great extent. A case in which this principle needs to be applied is where a saw has been cracked down a piece from the rim by being caught in the timber, and the plate at one side of the crack has been bent out of line,



TREATMENT OF A CRACKED CIRCULAR SAW.

as indicated in the cut from A to B. I have found invariably that the saw would need to be opened between the lines C and D. The steel was stretched at A and B when the saw was broken, and hammering it back would stretch it still more. I have always found that when the "fast" was all taken out of the plate, or a little more between the line C and the center, that there would be no trouble in straightening the rim.

The method that many employ to find the fast places is not always sure. The plan most commonly used is to lift up on the rim and bear down with the straight-edge. But this method will not detect many places that can be found by another way, used by only a few of our best sawmakers. By using a bolt with a head for the opposite side of the saw to catch under, and bearing down on the rim, every fast place will seem to give way from the straight-edge. This process will bring to light many fast places that can not otherwise be found. By getting a nice, uniform tension to commence with, before the saw is made as open as is required for fast motion, the saw will be in much better condition when finished, because, if not done then it will have the same unevenness when opened up, and it will be much more difficult to regulate the strain then.

Before the saw is put on the mandrel the collars should be carefully examined, because they are very liable to wear out of shape. The first thing is to see that there is a good bearing on the extreme outer edge, and just the least bit concave. The loose collar should be a trifle the more so, for when the nut is screwed up it will spring it a little. One cause of the saw's appearing to be sprung when on the mandrel is from raised places

around the lug pins, caused by the pressure on them when the saw is in the cut. Of course, that must be removed.—A. Blackmer, in the Wood Worker.

PRACTICAL NOTES.

NOTHING helps the introduction of a new machine or device among practical mechanics more than simplicity of design and the absence of numerous joints and pieces, which tend to shorten the life of the machine as well as impair its efficiency. Joints are good things to avoid where possible, as the inevitable wear is followed by lost motion, which effects the accuracy of the machine.

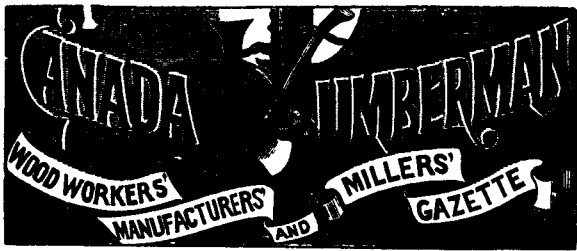
It is a bad practice to put an over-loaded belt down out of sight, especially where there is any inflammable material. The slipping of a belt on its pulley from overload is a good heat producer, especially if the belt hooks happen to stop in contact with the pulley. The writer saw a case of this kind several years ago, and the streams of sparks that came from that pulley rim would have done credit to a Chinese pin-wheel. Such occurrences are dangerous, and precaution should be taken to render them impossible.—Machinery.

A very bad habit in mills where there are large driving belts, is shifting belts with a square stick, no regular shifters being used. The result of this is the belts are more or less injured on the edges. All heavy machines should have shifters to act so that they shift the belt over steadily, not putting too much strain on the driving belt too suddenly. Two pieces of gas pipe just large enough to revolve on round iron supports, for shifters, will lessen the friction on the edges of heavy belts as these pipes revolve while the belt is being shifted. It effects a great saving in long driving belts; in fact, any belt at all, leather or rubber.

The transmission of power by ropes has been largely resorted to in England, the preference being given to what is known as the Lambeth cotton rope, which is made of four strands, the center or core of each strand being bunched and slightly twisted, the outside of the strand having a covering of yarns that are firmly twisted. The four strands are further laid with a core in the center to form a rope and twisted in the same way as any four-stranded rope. In this way a rope is formed possessing extreme flexibility, and the fibers will not break by bending on each other when run on pulleys, the rope also standing elongation or stretching some 12 inches in a length of 50 inches before breaking.

Rope transmission is an excellent thing in its way and is applicable under a great variety of conditions and in some cases it will give better results than belts. Where ropes are used the pulleys must be of the proper kind, and set in a manner to conform to the requirements, or the system will give considerable trouble. In one case the action of the ropes, where the distance was only nine feet between the centers of the shafts, was such as to condemn the use of ropes for any kind of transmission in that plant, because the superintendent and his men thought they should work in any way required of them. In this case the distance was too short for the ropes to get a good bearing on the pulleys, one of which was only 12 inches and the other 52 inches. The pulleys, also, were 2½ inches out of line. It was no wonder that the ropes slipped, unless drawn so tight that the bearings heated, and that the strands would fray and break after being in use a very short time. Where endless ropes are employed it is often noticed that one or more ropes are running slack; this will take place in every case where the pulleys have too many grooves and all are used. More than eight ropes on a single pulley generally cause one or more of the strands to run loose. A speed of more than 5,000 feet per minute will cause the ropes to tend to adhere less closely to the pulley, on account of the centrifugal action, and will not drive as much with the same tension. At speeds lower than 5,000 feet per minute the ropes will give good results if the machinery is properly arranged.—Stationary Engineer.

A despatch from Winnipeg states that two Chicago capitalists are endeavoring to purchase the entire lumber cut of Rat Portage district mills for this year. The pine forests of Minnesota are rapidly being depleted, consequently the United States lumbermen are looking to the Northwestern Ontario woods for their supply.



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— BY —

C. H. MORTIMER

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ADVERTISING RATES FURNISHED ON APPLICATION

THE CANADA LUMBERMAN is published in the interests of the lumber trade and of allied industries throughout the Dominion, being the only representative in Canada of this foremost branch of the commerce of this country. It aims at giving full and timely information on all subjects touching these interests, discussing these topics editorially and inviting free discussion by others.

Special pains are taken to secure the latest and most trustworthy market quotations from various points throughout the world, so as to afford to the trade in Canada information on which it can rely in its operations.

Special correspondents in localities of importance present an accurate report not only of prices and the condition of the market, but also of other matters specially interesting to our readers. But correspondence is not only welcome, but is invited from all who have any information to communicate or subjects to discuss relating to the trade or in any way affecting it. Even when we may not be able to agree with the writers we will give them a fair opportunity for free discussion as the best means of eliciting the truth. Any items of interest are particularly requested, for even if not of great importance individually they contribute to a fund of information from which general results are obtained.

Advertisers will receive careful attention and liberal treatment. We need not point out that for many the CANADA LUMBERMAN, with its special class of readers, is not only an exceptionally good medium for securing publicity, but is indispensable for those who would bring themselves before the notice of that class. Special attention is directed to "WANTED" and "FOR SALE" advertisements, which will be inserted in a conspicuous position at the uniform price of 25 cents per line for each insertion. Announcements of this character will be subject to a discount of 25 per cent. if ordered for four successive issues or longer.

Subscribers will find the small amount they pay for the CANADA LUMBERMAN quite insignificant as compared with its value to them. There is not an individual in the trade, or specially interested in it, who should not be on our list, thus obtaining the present benefit and aiding and encouraging us to render it even more complete.

BIRCH TO THE FRONT.

VARIOUS circumstances go to show that birch is rapidly forging to the front as a wood that will be in strong demand in the future. The opinion of a Canadian lumberman was quoted in our weekly issue of a fortnight ago, that the time was near by when birch would hold a more firm position on the market than is the case with lines of hardwood that to-day are looked upon as being first in the list. As a cabinet wood birch is certainly coming into increased demand. Furniture manufacturers find that it fits in for their work in many desirable ways. To quite a large extent it is taking the place of cherry, and is susceptible of a degree of polish that enables it to fill a popular place where the price bars out cherry. One hardwood dealer, whose experience covers a knowledge of all classes of domestic hardwoods, has said that birch, with its susceptibility to a hard, highly polished and beautiful finish, even excels mahogany and is vastly better than oak, walnut, poplar, and, of course, the softer woods. Messrs. McRae & Co., of Ottawa, have found it to be better than any other wood for their special use in "mahoganizing," "ebonizing," etc., by their patent process.

A good-sized straw, that may be taken as showing which way the wind blows, is found in the statement made by Hardwood, of Chicago, that immense quantities of birch in New Brunswick and Nova Scotia are likely to pass into the control of Boston capitalists. These men are evidently taking a long view, and see that there is a good future ahead for this wood. An important question is, to what extent birch is to be found in any considerable quantities in Canada. An answer is suggested in the action of the Boston capitalists, here reported. This wood is found also in generous supply in the eastern sections of Ontario, and Quebec. An examination of the hardwoods that still exist throughout many of the counties of Ontario show that birch is there in, perhaps, as large quantities as any other class of timber. The mistake ought not to be made, however, of sacrificing this wood as though the supply was absolutely endless.

LUMBER A TRADE BAROMETER.

GOOD reason exists for the hope of business men that the lumber industry will show an encouraging revival this year. To what extent other lines of business rest upon the lumber industry can be, to some extent, understood, when it is known that according to the census of 1891 there are 34 industries or occupations which depend entirely or in part upon wood or timber as their raw material for manufacture or commerce. The total number of these is 17,577, all told employing 95,741 hands, the manufactured articles from which represent within a fraction of a hundred millions of dollars. The census figures are \$95,029,828. Chief among these industries, according to the census report, the number of employees, and value of output, are:—

TIMBER INDUSTRIES.	FACTORIES.	HANDS.	VALUE PRODUCTS.
Agricultural implements.....	234	3,656	\$ 4,406,397
Cabinet and furniture makers.....	1,169	6,957	4,471,742
Carpenters and joiners.....	2,494	5,702	3,893,910
Carriage-makers.....	3,143	8,703	6,579,082
Cooperages.....	1,430	3,277	1,808,929
Sawmills.....	5,390	42,085	38,509,052
Sash and blind factories.....	356	2,878	4,872,302
Shipyards.....	227	4,454	3,557,258
Shingle factories.....	801	2,389	776,998
Planing mills.....	66	633	992,201
Broom and brush factories.....	91	957	762,884
Match factories.....	22	1,062	511,250
Wood-turning establishments.....	80	604	431,797
Carving and gilding works.....	82	500	516,675
Trunk and box factories.....	49	626	677,877
Shoek factories.....	35	80	228,785
Stave factories.....	31	265	168,520

The list does not include boat builders, basket makers, pump factories, pail and tub makers, and other lines of manufacture in which wood plays the leading part. Nor is there included in the list the car and locomotive factories of the Dominion, which number 17, and whose output is valued at \$3,956,000 and employ 3,154 hands.

When lumber is slow, as it has been the past year, a large percentage of the industries here named, are not working nearly up to their full capacity, or as in many cases, no work whatever is being done. The current market conditions, a principal feature of the WEEKLY LUMBERMAN each week, have shown that since the new year, manufacturers who use wood, and have done little active business for some time past, have either started their factories on full time, or are making preparations so to do almost immediately. This is one reason why enquiries of the past few weeks in lumber are increasing.

Lumber may be recognized as a safe commercial barometer. If the trade of the next six months will show that largely increased shipments of forest products have been distributed throughout the various provinces of the Dominion, and as is the case with lumber, in a large degree, to countries beyond its borders, of necessity it follows that business in many other ways is moving actively and encouragingly, for lumber is not bought, simply to be stored away. No class of raw material goes more quickly into manufacture than does lumber. It is, therefore, to be easily understood why banks, monetary institutions and capitalists take a roseate view of affairs when the report comes to them that business in lumber is reviving.

EDITORIAL NOTES.

A MONTH ago an opinion was expressed in the ELI page that the red cedar shingles of British Columbia were lessened in durability because of being kiln dried. This month on the same page is published a reply from a Pacific coast shingle manufacturer who is disposed to challenge Ontario criticism. It is natural, perhaps, that white pine shingle manufacturers should resent this intrusion, as they may deem it, of red cedar shingles into Ontario. But this is a free country. What we want to get at are the facts in the case. Mr. Scott speaks plainly from his point of view. It is to be remarked that the criticism of Mr. McBean of last month is joined in by Buffalo dealers, who are raising the complaint there that the Washington territory red wood shingles are being injured by excessive kiln drying. On the other hand it is claimed that at the best this trade is in its experimental stage, and will come down to a system soon.

If a large output meant always a paying business, Washington territory shingle manufacturers might lay claim to possessing the cake. The shingle shipments of that State for 1894 will not run far from 12,500 cars, or

about 2,000,000,000 shingles. And yet there is, perhaps, no other district in the United States or Canada, and in a year when unprofitable trade was the rule all round, where business was more completely demoralized than in Washington territory. Big sales of shingles were made—that seemed to be the one ambition of the trade. But with hardly any exception sales were placed at a price that meant that the heavier the shipments the greater the loss. The trouble did not end there. Shingles were cut to such prices in Washington, and were shipped everywhere at this cut price, that every other market shared in the demoralization. Over and over again efforts were made by combinations to stem this current of unpaying business, but the combinations never held together any length of time. The hope will be that these things will improve in the right direction in 1895.

WITH the bicycle fever at its height the manufacture of wheels is proving a growing industry in Canada. True a large number of wheels are imported, but the demand is great enough to permit of this and at the same time allow of a large consumption of the home article. Those who favor a protective tariff are asking why additional encouragement should not be given to the manufacture of bicycles by placing a heavy duty on the imported wheel. The lumber industry has an interest in the bicycle manufacturing from the fact that rock elm, and hickory, but more particularly the former, has proven an excellent wood for the rims of bicycles. A large quantity of this wood, is, as a matter of fact, being shipped to Europe for bicycles. This is a good thing for the lumber business in, at least, a restricted degree. It would look as though bicycles had come to stay and the bottom is not likely to fall out of the trade, as has been the case with other fads, if we may so call them, where wood has been used. For a time an immense quantity of wood was used in the manufacture of roller skates, but then the craze did not last long, the same as when everybody, young and old, men and women, in Canada, as well as in the States, ran wild over base ball. The statistics show that at one time the lumber consumed in this manner was something very large, but it also suffered the fate of other fads of the kind, and wood in the manufacture of base ball clubs does not cut any large figure nowadays.

IT is time that an official announcement had been made from Ottawa concerning the exemption of boom sticks from duty. The new ministry under Sir Mackenzie Bowell has been installed in office and business is supposed to be running along in proper shape. Of course, there is no immediate hurry in the matter, so far as the rafting of logs is concerned. This is not the season for that kind of business. The point, however, is this: the matter should not be allowed to remain in abeyance, as a delay in settling the question is open to a wrong interpretation by the Washington authorities. The treasury department of the United States has made a rule exempting boom sticks from duty when coming from Canada, and this on the lines of tariff legislation is supposed to carry with it the understanding that when such action should be taken by the United States our government would reciprocate. We believe it will. The United States government, on the other hand, is dilatory in righting the matter of the duty on red cedar lumber. There is no doubt whatever, and the Michigan deputation who visited Ottawa in connection with boom sticks made the admission to the Minister of Finance, that it was never intended that a duty should be placed on red cedar lumber. This delay is exasperating to lumbermen in British Columbia, and has already been the means of the mills there losing considerable trade, besides possessing a disheartening influence. The LUMBERMAN has a letter from one of the largest concerns on the coast saying: "We have had a contract for a considerable amount of cedar clap boards offered us by communication in the United States, and although we have delayed the matter for the past two months we are still unable to close until we know how this thing is to be decided." There is as little reason for delay at Washington as there has been at Ottawa. Let both governments now get down to business, for business needs all the encouragement that can be given it.



A VISITOR to Toronto during January was Mr. D. C. Cameron, of Rat Portage, president of the Ontario and Western Lumber Co., which, more than a year ago obtained control of the milling interests of the Keewatin, Rat Portage and Norman districts, and in connection with which important litigation is now in progress. Mr. Cameron claims, as a result of this combination, that lumber to the consumer has been reduced all round about \$1.00 per 1000. His company will continue on the lines on which it was organized. The removal of the duty on lumber has resulted in stimulating the bringing in of lumber to Manitoba from Minnesota, though he did not think that this was coming into the country in such quantities as to materially effect local trade. The lumber business of the northwest in the last two years, has shown a falling off of about 50%. The total consumption in 1892 in Manitoba had been between 80,000,000 and 100,000,000, whilst now it was under 50,000,000. This reduction in trade was attributed to the desire on the part of farmers to curtail expenditures on improvements and economize generally, because of the commercial depression. Time would right this difficulty, though Mr. Cameron does not anticipate any immediate boom in business.

* * * *

Quite a number of lumbermen, I find, are thinking along the line of establishing a supply yard in Toronto for the distribution of lumber. In my rounds the other day I met one man who longed for someone to drop in on him with \$50,000 to make a start in this direction. He said the necessity for such a movement was showing itself at every point. He was speaking specially of the hardwood trades. "Our firm," said he, "are receiving orders for hardwood constantly that requires an effort sometimes to strike the spot where we can secure the particular wood needed. Hardwoods are so scattered, a little here and a little there, that when an order is received for a mixed carload of hardwoods it is sometimes impossible to fill it. If there was a central yard in Toronto, where a supply was kept all the time, much trade that goes past lumbermen to-day would be secured." I told my friend that if I came across somebody with an odd \$50,000 I would let him know, but all the same I find that he voices the views of a good many others, though there seems to be difficulties in the way of getting such a movement set on foot. There is just too much want of cohesion amongst lumbermen in this part of the country.

* * * *

J. G. Scott, manager of the Pacific Coast Lumber Co., New Westminster, B.C., writes: "In your ELI column, January number, I observe you talk some about shingles and publish the opinions of one Mr. McBean as to the longevity, of the B. C. red cedar article. Now, I hold that it is eminently unfair for you to give any publication to a vague, indefinite statement made by anyone on this point. Despite adverse criticism by parties interested, I feel assured that these shingles have got into Ontario to stay and will make a record for themselves, but if anyone has any points to bring out against them it will be interesting to the B. C. shingle makers to hear it expressed definitely and specifically. We want to know the particular lot referred to; if there was a visible defect in the manufacture or in the quality of the timber; if in laying on the roof they were jammed close together as might be done with green white pine shingles or if common sense was used in laying and the shingles laid an eighth of an inch apart, to prevent bulging when soaked, as is necessary with kiln dried shingles. If a case of dissatisfaction exist and particulars such as above are furnished, we may be able to trace the reason to a specific cause. As to the test these shingles are put to by the weather in this Province, let some one express an opinion on that who has spent twelve moons in this

glorious climate and we may hear something of the intensity and penetrating powers of our rain storms; the east rains back home are simply not in it. No Mr. Eli we are not making a market for these shingles by abusing the merits of white pine or any other shingle but purely on their own merits and the users of them are the judges. We are not afraid of results where they are used and known, but we would just as soon you would not head us off where they are not known by prejudicing people against them before they have tried them."

* * * *

A week ago I dropped into the office of Mr. J. H. Eyer, lumber merchant, Toronto, and while we were chatting on lumber matters, Mr. D. C. Burke, of Hawkestone, Ont., joined us. Mr. Burke, at one time and another, has been an active man of affairs. Just at present he is operating a mill at the point named in Simcoe county. "I am cutting a good deal of black ash," said Mr. Burke, "though not having any very large quantity of this wood on my land; but what I have is of fine quality. There is also considerable birch where I am operating the mill, but the greatest drawback to cutting birch is the amount of culls that accumulate and are worth hardly anything. I shipped some birch culls to Toronto a few days ago that will hardly net me \$3 a 1000." I asked Mr. Burke what he thought of the future of birch, seeing that there is considerable talk of this wood taking a front position. His reply was that he believed that there would be a larger demand for birch in the years to come than there had been in the past. "It is like this," he continued, "birch is a close-grained wood, and it makes up nicely for mantels, closets, as well as general articles of furniture. Only a short time ago I got out a number of samples of this wood for a manufacturer of mantels and closets, to be sent to Great Britain, and now I am getting back good reports and will be able to place some of my timber for these purposes. In the manufacture of mantels and cabinet goods there is need for such stuff, and this gives a good opportunity to work up the small wood in birch." Mr. Burke is taken with the notion that there is an opening at a central point like Toronto for a mill that would make a specialty of cutting up hardwoods for manufacture. "The trouble is," he said, "when one operates a saw mill in a country district he is confined to the particular wood that is in his locality, and when it becomes exhausted he is obliged to get out and get somewhere else where there is a supply. In Toronto I could draw my supplies from a hundred different sources and obtain a good choice as well as a good variety." It was suggested by Mr. Eyer, in the conversation, that the trouble would be to secure favorable freight rates. Mr. Burke thought that this difficulty could be overcome if the railways saw that they were likely to secure a profitable trade for a continuous period of time, that it would be to their interests to make rates that would encourage this business. With some knowledge of how railways handle this kind of business, I am not so sure that Mr. Burke's sanguine expectations would be realized.

* * * *

Duluth, I notice, is bobbing up as a competitive point in white pine. We have heard of some shipments from there coming into Canada, but I do not know that there is anything to worry over in this particular. From a conversation, however, I had a few weeks since with Mr. C. H. Clark, I would fancy that Duluth pine is certain to come into competition on the American market with stocks from Canada and also Michigan. Mr. Clark, it will be remembered by many, was for a dozen years or more identified with the lumber trade in the Barrie section, and travelled extensively for Burton Bros. When their mill was destroyed by fire about a year ago, Mr. Clark found it necessary to look around for other fields to conquer. He made a trip through different parts of the States, and finally struck Duluth. He is quite enthusiastic of the possibilities of that country for lumbermen. There is no end of lumber there, he tells us, and some of the best mills in the country, in his judgment, are found in that district. Mr. Clark has about made up his mind, I think, to hang out his shingle in Duluth. At present he is spending a few weeks in Canada. He says that the pine of that district will compare favorably with Canadian white pine. In the better grades probably Canada is ahead, but for aver-

age quality they run parallel. A good deal of Duluth lumber has in the past gone into the western states, but the trade now are bidding vigorously for business in the eastern states, and it is there that it comes into competition with Canadian pine. I fear, as is the case too often with all new territories, the disposition is to make sales, without full regard to the real value of the timber sold. We see how this business is operating in southern lumber, as is remarked elsewhere by Mr. Meaney. Time rights all these difficulties, because after a while men see how foolish it is to throw away good money, but at the particular time havoc is played with trade by this constant throwing on the market of stocks at profitless prices. Speaking of Duluth conditions, I have come across an opinion expressed by Mr. J. J. Rupp, of Saginaw, who, with certain associates, owns about 400,000,000 feet of standing timber near Duluth. Mr. Rupp is also interested in Canadian lumbering, having a mill at Three Rivers, Que., which he is now working actively. So far as regards competition between United States and Canadian lumber, he has said: "Stumpage will average higher in Canada than in the Duluth district, and it costs considerable more to get in supplies and to manufacture; but, on the other hand, freight rates to Albany and New York are from \$1 to \$1.50 better than from the head of the lakes. There will be a continuous and good market for all the white pine now standing in Duluth."

* * * *

Speaking the other day with Mr. Thomas Meaney, manager at Toronto for Robt. Thomson & Co., I was interested in some of his comments on the change in lumber prices in a few years. To-day, everybody is bemoaning the condition of the shingle market. This has apparently been going from bad to worse for some time, so that the business to-day is a complete drug, whether one thinks of white pine shingles or of the red cedar shingles of British Columbia. On the admission of the lumbermen of the Pacific Coast no money is being made there, and it is hard to know how anyone can get a profit out of white pine shingles, when prices have, in some cases, been cut as low as \$1.70. "Go back eight or ten years," said Mr. Meaney, "and conditions were very different. Shingles were then bringing easily \$2.50, but on the other hand common lumber was down as low as \$6.00, where now shingles are down, and this lumber worth \$11. or \$12." I was interested in getting Mr. Meaney's view of southern pine. He said that certainly Georgia pine was being sold to no small extent in Ontario. Some of the southern mills are represented here, and their agents are doing all the business that will come along their way. He believed there was something in the complaint of the lumber section of the Board of Trade that architects and builders might, with advantage to their clients and help to the lumber industries of the country, use white pine, where in many cases they were recommending southern wood. It stood to reason that a pine that possesses as much resinous matter as yellow pine would help to feed a fire, as seems to have been proven by the unfortunate events in Toronto during the past month. The worst feature of business in southern pine and this view, as far as I know, is voiced by lumbermen in the eastern States as well as in Canada, is the ridiculous price at which it is sold. Just think of this pine being bought at the mills at \$4. a 1000. Where comes any margin for labor, and allowance for capital invested in mills, and cost of managing the same? I reminded Mr. Meaney that even the southern lumbermen themselves were complaining of these conditions. Only during the past month several meetings and consultations among leading men in this line in Missouri and Arkansas have been held trying to devise some way to better their condition and raise prices up somewhere near a fair living profit. A plan is on foot to form a permanent organization taking in these two states and Texas, Louisiana and Georgia, if possible. As the Tradesman, Chattanooga, Tenn., has said, the great trouble with yellow pine men in the past has been a mutual disposition and unwillingness to let each other know the situation. Each one has kept his output and business entirely to himself, and been unwilling to let anyone else know what his condition was. To-day a result of this policy is plainly manifest in the lumbermen's bank accounts and dividends.

OTTAWA LETTER.

[Regular correspondence CANADA LUMBERMAN.]

EVERYTHING connected with lumber has been exceedingly slow throughout January. The belief is that trade will open out encouragingly shortly, but there has been little for the lumber news gatherer to secure, so far, this month.

The St. Anthony Lumber Co. are pushing ahead with work on their new steam saw mill at Long Lake on the Ottawa, Arnprior and Parry Sound Railway. The machinery is now being put in position, and the mill will be ready to start operations in the early spring.

No information has yet been given out regarding the burning of sawdust and mill refuse. Lumbermen are anxious about the matter, as the change in the law, if insisted upon, for May 1st, will give rise to serious trouble with many of the mills.

OTTAWA, Can., Jan. 23, 1895.

NEW BRUNSWICK LETTER.

[Regular correspondence CANADA LUMBERMAN.]

IN certain sections of New Brunswick in particular lumbermen are anxious of the outcome of the sawdust difficulty. If, despite the protests that have gone up from the trade, the law is brought into force in May, it may be resented in practical shape by lumbermen on the St. Croix River, between New Brunswick and Maine. They say that it would force the transferring of sawing operations from the Canadian side to the American side where most of these same men have mills. The loss in this case would come directly upon the province itself. It appears almost certain that whatever may be the merits of the law on general principles that it will have to be amended to provide for exceptional cases like this now cited.

Knight Bros., and the Musquash Lumber Co., will get out 2,500,000 feet and 1,000,000 feet respectively.

Alex. Gibson will cut about 25,000,000 feet on the Nashwaak this winter, and the cut on the Tobique will be 20,000,000. In Queen's and St. John's counties the cut is expected to be quite heavy.

At Markhamville, King's County, a portable steam mill has been erected by John Lynch, who will cut in the vicinity probably 700,000 feet of lumber. Robt. Mill will put in about 400,000 feet in the same section.

Weather conditions, on the whole, are favorable to logging, though complaint is made of the heavy crust in the woods in some sections consequent upon heavy rains. A considerable quantity of snow has fallen at most all points.

ST. JOHN, N. B., Jan. 22, 1895.

BRITISH COLUMBIA LETTER.

[Regular correspondence CANADA LUMBERMAN.]

WITH the expectation that business will revive in the near future many of the mills have been undergoing repairs. Though not what might be wished for enquiries from foreign ports are improving, and it is expected that a more profitable trade will be done this year than in 1894. A fair trade continues to be done with California since the change in duty, and there is no reason why B. C. lumbermen should not ship with profit to that country.

The band mill is likely to be introduced into one or more of our mills the coming spring and the experiment will be watched with interest by lumbermen.

H. H. Spicer & Co., expect to do a profitable trade this spring throughout the New England States. Mr. Spicer has lately been on a visit to these states and formed, it is believed, some useful business connections.

Leamy & Kyle and George Cassidy & Co., operating mills on False Creek, Vancouver, have formed a business combination under the name of George Cassidy & Co., Ltd. In addition to the plants owned by the concern they have also about 10,000 acres of timber limits. The capital of the new company is placed at \$40,000.

The shingle situation does not improve. What the spring will bring forth it is hard to say. Mr. J. G. Scott, of the Pacific Coast Lumber Co., has recently expressed the view that there is no man in the trade in the province that is not of the opinion that a 16-in. six to two shingles made properly should bring at least \$1.50 net at the mills.

NEW WESTMINSTER, B. C., Jan. 18, 1895.

MICHIGAN LETTER.

[Regular correspondence CANADA LUMBERMAN.]

REPORTS from different parts of the state would indicate that loggers are in good heart, as recent heavy falls of snow have helped matters materially in the woods. It looks now as though there would be a good cut, and that everything would come along in fine shape in a short time.

No large amount of business has been done in this district during January. The proverbial dullness of the first month of the year has hung around here in all its completeness. A good feeling, however, exists and though the lumber business in Michigan is not what it used to be in the past, it is by no means at an end yet, and the amount of lumber likely to be handled during the

year 1895 will run into large figures. Bay City is the point that, more than any other, seems to be the active distributing center for lumber, and is a favorite point for buyers to visit.

BITS OF LUMBER.

The new Hardwood Lumber Co., at South Bay City, is likely to be an important industry for that locality.

The firm of Ring, Merrill & Tillotson, of Saginaw, has been dissolved and the company has gone out of business.

It is predicted at Saginaw that the business of Tittabawassee Boom Co. will be of insignificant proportions in 1895.

Geo. W. Hotchkiss, of Chicago, is gathering material in Michigan for a history of the lumber business of that state.

Six inches of snow fell at Menominee a few days ago and large numbers of woodsmen, who had left the logging woods, have started back.

The Central Lumber Co. has selected the following officers for the new year: A. T. Bliss, president; John Quinn, vice-president; A. J. Linton, treasurer, and A. F. Cook, secretary. The company expects to put in from 12,000,000 to 15,000,000 feet of logs.

Wm. Peter, of Bay City, who is well known as an active saw mill man in Canada, will test the question whether salt can be produced with a profit with coal as a fuel. What the influences are that have suggested this possible change to Mr. Peter I do not know, but on the face of it it would look as though wood was becoming scarce in this great pine state when coal is to take its place in salt manufacturing.

SAGINAW, MICH., Jan. 25, 1895.

WHAT SHALL IT BE CALLED.

WHEN timber is so placed on the carriage that it is cut across the annular layers of growth, thus making the edges of these grains, rather than the surface of them, show on the surface of the board, the lumber thus produced is variously called quarter-sawed, rift-sawed, vertical-grained, straight-grained and edge-grained. What is the use of this diverse nomenclature, asks the Timberman, and why would it not be good sense and good policy to settle down to some term that is as accurately descriptive as may be, and abandon the rest of them? We presume that a great many of our readers would cast their vote in favor of the term "quarter-sawed," for it has the warrant of long use and is derived from the method by which such lumber was originally produced.

Quarter-sawed lumber was made by cutting a log into four right-angled segments, longitudinally, thus making quarters of it; then placing the round side of each quarter down on the carriage and cutting the pieces up into lumber.

Theoretically but one, or possibly two, pieces from each quarter would be exactly quarter-sawed, yet for all practical purposes the larger part of the product will pass as quarter-sawed lumber: that is, the grain will be substantially perpendicular to the surface of the board.

By another method the board is cut into eight longitudinal sections. This is a more perfect way of accomplishing the desired result, but no one has as yet thought of adopting the expression "octagonal-sawed" lumber. The same result is obtained oftentimes by taking off cants each side of the heart and sawing them up into strips or boards perpendicular to the first line of cutting. In yellow pine much of the quarter-sawed stock (or whatever it may be called) is not cut with reference thereto at all, but the ordinary method of four-sided manufacture is used. In the vast majority of cases, therefore, the term "quarter-sawed" does not express the method used.

The term "rift-sawed" is also largely meaningless. The three other terms are used particularly in yellow pine manufacture, though expressing the same idea as to the character of the product.

"Vertical-grained" flooring is a term which appears in many price-lists, particularly in the eastern part of the yellow pine field, but not one per cent of the flooring is what may be strictly called "vertical-grained," for the line of the grain runs at all angles to the surface of the board from ninety to forty-five degrees; in fact, it has been necessary to make a definition which says in regard to quarter-sawed, rift-sawed, vertical-edge or straight-grained flooring, that the angle of the grain with the face of the board shall not be less than forty-five degrees.

The term "vertical," therefore, does not apply to it. The term "straight-grained" refers to the appearance of the surface of the board in which the lines of the grain appear approximately straight on the surface in contra-

distinction to the appearance of the pieces that are bastard or flat-sawed, where curved and returning lines abound.

The term "edge-grained" remains apparently the most accurate and descriptive of any. It does not refer to any particular manipulation of the timber in manufacture; it does not by implication limit the angle of the grain to ninety degrees; it does not, also by implication, require that the timber should necessarily be of absolutely straight growth and that the lines of the grain should run parallel to the piece; it simply means that the edge of the grain shall show on the surface of the board. This, with the customary limitations as to the angle of the grain seems to be all that is required in a universally applicable term.

We fancy that the hardwood branch of trade, particularly in regard to oak, would insist on the term "quarter-sawed," and yet quarter-sawed oak is not quarter-sawed in a majority of cases, and, moreover, when you have said quarter-sawed, you have still left it necessary to say "figured stock," because it is only in a comparatively few pieces that the surface runs directly at right angles to the annular rings of the tree.

We do not put forward this term "edge-grained" in any decisive way, but simply as the opinion of some well-posted lumbermen, who think that the customs of the trade in this respect should be unified, and who believe that this term best expresses what is intended by the various ones now in use.

DEATH OF TWO CANADIAN LUMBERMEN.

HON. DAVID McLELLAN, NEW BRUNSWICK.

During the month of January death claimed the Hon. David McLellan, formerly provincial secretary of New Brunswick. Mr. McLellan was born in the city of Portland on January 20th, 1839 and was therefore in his 56th year. His early undertakings in business were as a surveyor and dealer in lumber and afterwards he entered into partnership with the Hon. J. Holly. This firm carried on an extensive lumber business for years handling over 60,000 superficial feet of logs annually. In 1878 Mr. McLellan was elected to the provincial legislature. He was elected again in 1882 and in 1883 he became a member of the Executive Council and was appointed provincial secretary. At the general election in 1892 deceased was again returned. After the last general election he retired from politics and at the death of Mr. Drury accepted the position of registrar of deeds and wills.

MR. A. R. CHRISTIE, TORONTO.

Some years ago few men were better known in the lumber trade in Ontario than Mr. Alexander R. Christie, who died suddenly of heart disease at his residence, Toronto, a fortnight ago, aged 79 years. Mr. Christie was born in Perth, Scotland, in 1816 and in 1831 came to Montreal, where he engaged in the grocery business, under his uncle, Mr. Wm. Christie. In 1839 he came to Niagara-on-the-Lake and a little later purchased a large saw mill at the mouth of the Severn river. His partner in this enterprise was Mr. Andrew Heron. The mill was twice burned to the ground entailing heavy losses.

The mill later was rebuilt and enlarged, and in 1872 the property was sold to the Georgian Bay Lumber Co. The deceased about this time took up his residence in Toronto, and obtained a partnership in the firm of S. C. Kennedy & Co., lumbermen. Later a new partnership was formed under the name of Christie, Kerr & Co. This firm carried on an extensive lumber business, owning mills at Collingwood, Severn Bridge, Bradford and Michaels Bay. Their annual turnover in lumber amounted to over 50,000,000. Mr. Christie was also, for many years, president of the Michaels Bay Lumber Co. Some years ago the firm met with reverses and went out of business. Since then Mr. Christie has devoted his attention largely to marine matters, having the management of the steam barges, Africa and Severn, which he owned. Prominent among those who attended the funeral were many well-known lumbermen, including John Bertram, James Tennant, W. F. Tennant, W. N. Tennant, and H. Lovering, of Coldwater.

Subscribe for the CANADA LUMBERMAN, \$1 per year.

THE NEWS.

—J. A. Johnson will erect a planing mill at St. Mary's Ont.

A. Ferris & Co. are building a new planing mill at Sudbury, Ont.

C. Greason's planing mill at London, Ont., was sold by auction on the 12th ultimo.

Achison & Dolman have leased the saw mill at Petrolia, Ont., owned by Mr. Stirrett.

Richard Smith, of Beebe Plain, Que., is considering the removal of his saw mill to Sherbrooke.

Mr. McArthur has about 60 men at work in the Riding Mountain district getting out logs for his mill at Birtle, Man.

B. F. Young, who operates a planing mill at Stratford, Ont., is reported in financial difficulties and is asking for an extension of time.

J. H. Milton & Son, Moncton, N. B., have removed their sawmill to a new site at Foley Hill, on the line of the Albert Railway.

Alexander Scott, manager of the Buckingham Pulp Co., proposes to erect a saw mill a few miles up river. Chiefly hard woods will be manufactured.

H. Hetu of the Edmonton Saw Mill Co., Edmonton, N. W. T., is taking out two million feet of logs this winter to be sawed at the mill up the river.

McMillan & Haynes, saw manufacturers, St. Catharines, Ont., have leased the old battery factory adjoining their works, and will also extend their present factory.

The saw mill belonging to the Norris estate, St. Catharines, Ont., was sold at auction a short time ago to John Sully, representing a Canadian syndicate, for \$34,000.

A carload of pine from British Columbia has arrived at Quebec via the Canadian Pacific railway for the Marine Department, to be used in steamship decking.

Huge logs of hardwood are being hauled into the city mills at Chatham, Ont., some of them containing more than 1,000 feet of lumber. They will be cut into ship plank for export.

W. H. Schneider, of Mildmay, has sold his saw mill and flour mill property to Fred. Glebe, of Shelburne, Ont., for the sum of \$12,500. Mr. Glebe took possession on the 10th of January.

W. J. Munro, of Pembroke, has purchased the Snider limits from the Ontario Government, containing about 27 square miles of timber. It is the intention of Mr. Munro to commence cutting at once.

James Playfair & Co. have purchased from Burton Bros., of Collingwood, the tug Metamora, three barges and a large quantity of booms, which they will use in connection with their lumbering business.

J. A. Christie, of the Brandon mill, has two camps numbering forty men and twenty teams at work in the Riding Mountains, Manitoba, and expects to get out about one and a half million feet of logs this winter.

The McLaughlin Carriage Company, of Oshawa, has resumed operations. A new seventy-five horse-power engine and ninety horse-power boiler have been put in, also a large saw mill to cut lumber from the log.

The Toronto Hoop and Veneer Co., of Toronto, are applying for incorporation, with a capital stock of \$50,000, to manufacture hoops, staves, veneers, etc. The operations of the company are to be carried on at Eugenia, Ont.

The Niebergall Stave and Lumber Co., of Staples, Ont., are applying for incorporation, with a capital stock of \$45,000. Among the directors are G. Niebergall, of Goderich; G. M. McEwan, of Hensall, and D. R. Menzies, of Clinton.

W. W. Parsons, of Rankin, Ont., has purchased from Mr. R. Reeves a twenty horse power portable steam saw mill. He intends placing it on the mountain north of Lake Dore, where he has taken a contract to cut 500,000 feet of lumber.

We are informed that Findlay & Lewis, of Collingwood, have made preparations to start a sash and door factory in Parry Sound as soon as navigation opens. The factory will be equipped with the latest machinery for turning out dressed lumber, mouldings, sash and doors.

The Winnipeg Commercial states that a peculiar phase has developed in the lumber trade in Western Ontario lately, it being the presence on the market of pine lumber from the United States. This lumber was sawn in Michigan from logs originally towed across the lake from Canada. The lumber in question is understood to have come as far west as London, and to have sold at figures some fifty cents per thousand feet below the price at which it would cost dealers to lay it down there, leaving altogether out of the question the matter of profits.

—On the 11th of September last the Collector of Customs at Detroit seized a carload of pulp entered by the Laurentides Pulp Company, of Three Rivers, Que., for undervaluation. The company had entered it at \$13.44 per long ton of 2,240 pounds, and the collector held it at \$15 a short ton of 2,000 pounds. Shortly afterwards another carload was seized on the same grounds of under-valuation. The company appealed to the Board of General Appraisers in New York, with the result that a decision was given against the collector and in favor of the Laurentides Company, fixing the valuation of wood pulp at 60 cents a 100. This victory for the Canadian company will no doubt be the means of bringing American capital to Canada for investment in timber preserves and pulp mills.

A. Ferguson, an American lumberman, has recently been looking over the lumber business at Rat Portage and vicinity. In reply to enquiries, he said: "Forest fires will necessitate the cutting of at least one hundred millions of timber within the next fifteen months in Northern Minnesota, that from its location must find an outlet in the Lake of the Woods. The present companies doing business at Rat Portage, from having a large stock on hand as well as having extensive timber limits on the Canadian side, do not see their way clear to make any new contracts for American timber, so that holders of timber lands in Northern Minnesota must look after their own interests. I am advised of a meeting to be held in St. Paul in a few days to devise means to facilitate the handling of it. Although a great deal of the timber has been bought up by wealthy pine dealers, yet a large amount of it is still in the hands of homesteaders.

TRADE NOTES.

Messrs. Shurly & Dietrich, of Galt, Ont., have recently made extensive shipments of their saws to Tacoma and other points in Washington Territory.

Bingham & Finney's saw factory at the Chaudiere, Ottawa, which has been in course of construction for some time, is now completed, and the proprietors have commenced the manufacture of saws.

STACKING LUMBER.

By JOHN SHAW, in "LUMBER."

IN the preparation of lumber to be worked into any form, or for any process in which machinery is brought into use to partially or completely finish it for the builder's use, there is no part that demands more careful attention than stacking.

It is thought by a large number of persons, and many actually in the lumber trade, that if boards are only stuck up, that is quite sufficient for all purposes. They give no heed to the amount of waste and consequent shrinkage that there is in piles of poorly-slacked lumber of any kind. Whatever help we may employ in this work, it is very necessary that the man in charge should properly understand the whole business, from the blocking to the last board that is put on, and then to properly cover the pile up.

The foundation for the pile is of the first importance, and should be made on good, solid ground, or on good, permanent piling. Being satisfied that the timber is well anchored on solid foundation, the next thing is to level it up and see that the bearings are out of the wind and have the proper pitch. There is a great difference of opinion in this matter, as well as in everything else, but as a general thing not less than six inches pitch in stock sixteen feet long should be given. This is a good one for water to quickly flow off after a storm, so the piles can rapidly dry out. The process of drying should go on as uninterruptedly as possible, or, if the stock is already quite dry, it should be kept in such a condition that it can be worked into any desired shape.

The sticks for boards are very often too few. I contend that any stock of boards from twelve to eighteen feet long should not have less than four sticks, and boards from eighteen to twenty-four feet should have five. The stick in the front end should come flush with the end of the pile, so sticks and board ends should form one solid block. Front sticks should not be less than three inches in width. Now, while I do not claim that for all piles the whole of the sticks must be fully up to that width, I do claim that they should be of good width, and never less than two inches, and three inches is very much better.

One thing should be positively attended to, and that is that every picket should be exactly placed, one above the other, as the pile goes up. Very many concerns are

careless about this, and the consequence is that their stuff is full of short knks, and it is impossible to make good work of any kind with boards in such shape. Matched flooring will never come nice if stock comes along in such shape, and oftentimes it costs more to smooth up a floor than the lumber comes to. If many owners of lumber yards who own and run mills in connection with their places would take pains to stack their lumber well, they would often find a large margin in their favor when they balance their yearly account.

The necessity of covering up piles should receive particular attention, and it is strange that this part of lumber piling has not received closer attention. I know it takes quite an amount of stock to cover a large amount of lumber, but we must take into account the fact that it can be used over and over again. If it is properly cared for it loses but little from year to year. It is like everything else, however, if roughly handled it goes into the wood pile, or the wood pickers will gobble it up, and the owner will be grumbling at the cost of covering up his lumber. A boss never takes into account how much covering saves him.

Covering piles saves in two ways. If the lumber is to be sold again the top of the pile comes out good, instead of being warped and crooked and in many cases split so as to be partly or wholly lost. This splitting and warping always make trouble in the mill, if either being worked full width or being sawed into strips for flooring or ceiling, or perhaps for moldings. Splitting obliges us to put the lumber into either No. 2 or No. 3 stock or throw it away entirely.

There seems to be the greatest disregard of proper methods of stacking up planks of any thickness, from two to four inches. Men utterly disregard the idea that cross sticks should be put in the ends, and instead put them two or three feet from each end, and one only in the middle, of whatever length the lumber may be. It is no wonder that mills work stuff poorly under these conditions, or that men have hard work to get stuff through their mills at all without breaking them. Men expect that machines will do good work whether the stuff which is brought to them is crooked or straight, or flat or warped. If the stuff does not come out of the machines good, it must be the fault either of the machine or the operator, or both. Some people never take into consideration the condition the stuff is in. Very few dealers think of this, and expect mill men to get for them good gold dollars from poor and damaged stock. It is curious that these things are so rarely taken into account until the stock is either spoiled, or so far damaged that its value is made so much less than in many cases the first cost is not realized, much less the percentage of profit which should be made to pay the expense of handling.

It is too often said that a man, or the men, "only know enough to stack lumber."

I consider that any man who can stack up a pile of lumber well, from bottom to top, is a good workman, and ought to be well paid. If looks had anything to do with it we would say that, if only for looks' sake, the owners of lumber should insist that all the piles be of uniform width and height and of the same pitch, so as to have the whole row appear like a well-kept street, clean and free from broken pieces and all kinds of rubbish.

Of course the rubbish does not add to or detract from the value of the lumber in the piles. If, however, the surroundings are nice, the probabilities are that the proprietor uses a good system all through his business, and whatever he produces, whether by machinery or otherwise, will be well and thoroughly finished.

I have not written of this because it is a common custom for lumber dealers to be negligent about piling up lumber, for, as a general thing, they are not, but because among the great number we find many who have an idea that if the lumber is only piled up it will answer the purpose. I think, as a matter of fact, that such proprietors are always grumbling about hard times, are always slow in paying their bills, are slack in getting out orders, and that their work is always poorly done. Men show their character in their businesses, and there is no better business to show them in than the lumber trade.

dull in the markets of the United Kingdom, but under-sized firsts and all dimensions in other grades have been in good request throughout the season.

Table with 3 columns: Supply, Export, Stock. Rows for 1894 and 1893.

SPRUCE DEALS.—Opened in the spring of 1894, rather heavily, but improved as the season advanced.

Table with 3 columns: Supply, Export, Stock. Rows for 1894 and 1893.

SAWN LUMBER.—South American Lumber.—The market this season has been fairly active, both direct from the Province of Quebec, and via Portland, Boston and other North American ports.

Owing to the depression in the United States, the lumber market there has not been as good as expected; still all good lots of spruce suitable for that market have realized about the same price as in 1893, and manufacturers expect an increase of at least \$1.00 per M. for the 1895 cut.

FREIGHTS.—Opened at about 16s. Clyde and 18s. Liverpool, for sail from Quebec, and at 40s. for deals by steam from Montreal.

Timber rates remained without any change till advanced insurance towards end of season prevented timber shipments except by steam, for which the rates ruled from 62s. to 70s. per Petersburg Standard intake, according to port of discharge.

Steam freights from Montreal were greatly depressed during the greater part of the season, and for some time rates previously unheard of, such as 30s. for Glasgow, Avonmouth and Liverpool, with 35s. for London, were current, closing at some advance, especially for Liverpool.

COMPARATIVE STATEMENT OF SAILING VESSELS CLEARED AT THE PORT OF QUEBEC, FOR SEA, (LUMBER-LADEN,) 1879 to 1894, FROM THE OPENING TO THE CLOSE OF NAVIGATION.

Table showing sailing vessels cleared at the port of Quebec from 1879 to 1894, including columns for Year, Vessels, and Tons.

OCEAN STEAMERS.

Table showing ocean steamers from 1893 and 1894, including columns for Year, Steamers, and Tons.

STATEMENT SHOWING THE QUANTITY AND VALUE OF WOOD EXPORTED FROM THE PORTS OF MONTREAL, THREE RIVERS, BATISCAN AND SORREL, FROM MAY 1ST TO NOVEMBER 30TH, 1894.

Table showing wood exports from Montreal, Three Rivers, Batiscan, and Sorrel, with columns for Port, Articles, Quantity, and Value.

MARITIME PROVINCES.

The data found below, touching the lumber trade of New Brunswick and Nova Scotia for the year 1894, has been obtained from the annual wood trade circular of Mr. J. B. Snowball, of Chatham, N. B., a guarantee of its completeness and reliable character.

The year's business opened under the conditions existing for some time previously, and which were by no means encouraging, because of the continued general depression of trade in Great Britain and on the continent.

The winter of 1893-4 was the most severe on record for forest operations in New Brunswick. The result was a comparatively small output of logs, at a maximum cost of production.

The present stock of merchantable deals and logs on hand, on the Miramichi, only 4,200 standards, is the smallest ever held, and less than a third of an average stock.

Two cargoes were shipped from Chatham to Rio Janeiro the past season, and several enquiries are now in the market for cargoes for next season's shipment.

Twelve cargoes were shipped from this port to France during the past season—all by Marseilles—in the face of the disadvantage the trade was under as regards the import duty; but now that Canada is about to enjoy the favored nation clause under the recently ratified treaty, a large revival of our exports to that country is looked for.

In the exports from New Brunswick, there is an increase this year over last of nearly fourteen millions sup. feet.—Miramichi, Dalhousie and Moncton show increases; St. John, Bathurst, Richibucto and Shediac show a marked decrease, while Sackville and outports remain stationary.

In Nova Scotia, the export has decreased about three millions sup. feet. St. Mary's River and Liscomb have more than doubled their exports, while every other port in the Province shows a decrease.

The stock of merchantable deals wintering here is 3,600 St. Petersburg standards, against 7,600 standards last year and 7,000 standards in 1892. The stock of logs is only 600 standards, against 4,000 standards last year.

SHIPMENTS FROM MIRAMICHI FOR 12 YEARS, FROM 1883 TO 1894, INCLUSIVE.

Table showing shipments from Miramichi for 12 years from 1883 to 1894, with columns for Year, Sup. Feet., and Tons.

SHIPPERS FROM PORT OF MIRAMICHI, SEASON OF 1894.

Table showing shippers from the port of Miramichi for the season of 1894, with columns for Shipper, No. Vessels, Tons, Sup. ft. Deals, and Palings.

D. & J. Ritchie & Co., pine timber, 9 tons; birch timber, 7 tons. Clarke, Skilling & Co., spool wood, 1,539,733 pieces. Jas. Aiton, spool wood, 405,152 pieces.

DISTRIBUTION OF MIRAMICHI SHIPMENTS.

Table showing distribution of Miramichi shipments by country, with columns for Country, No. Vessels, Tons, Sup. ft. Deals, and Palings.

ST. JOHN, N. B., SHIPMENTS OF DEALS, &c., TO TRANS-ATLANTIC PORTS, 1894.

Table showing shipments of deals and other goods from St. John to trans-Atlantic ports in 1894.

DISTRIBUTION BY PORTS OF ST. JOHN SHIPMENTS, 1894.

Table showing the distribution of St. John shipments by various ports, including Australia, Barrow, and others.

SHIPMENTS FROM ST. JOHN TO TRANS-ATLANTIC PORTS FOR THE PAST 17 YEARS.

Table showing the total quantity of timber shipped from St. John to trans-Atlantic ports from 1878 to 1894.

TOTAL TRANS ATLANTIC SHIPMENTS OF NEW BRUNSWICK IN 1893, COMPARED WITH 1894.

Table comparing total trans-Atlantic shipments of New Brunswick in 1893 and 1894, broken down by port.

Table comparing total trans-Atlantic shipments of New Brunswick in 1893 and 1894, broken down by shipper.

The trans-Atlantic shipments from the Province of New Brunswick for the past ten years were :

Sup. feet.	Sup. feet.
1885—292 millions.	1890—293 millions.
1886—276 "	1891—253 "
1887—250 "	1892—325 "
1888—277 "	1893—312 "
1889—369 "	1894—326 "

SHIPMENTS FROM NOVA SCOTIA, 1894.

Ports.	No. Vessels.	Tons.	Sup. ft. deals &c.	Tons Birch Tbr.
Outports of Amherst. {	Pugwash 13	8,649	15,262,020	
{	Northport 9	8,209		
{	Tidnish 4	2,667		
Halifax	52	36,430	31,631,250	
Jordan River	1	474	422,798	
Parrsboro	40	43,496	39,519,639	
Pictou	10	8,259	5,491,000	1,180
St. Mary's River & Liscomb	15	10,565	10,151,760	
St. Margaret's Bay	3	1,481	1,454,295	
Ship Harbor	2	1,030	942,120	
Sheet Harbor	3	1,560	1,452,368	
Totals	152	122,820	106,327,250	1,180

The shipment of deals from Nova Scotia to trans-Atlantic ports for the following years were :

1883	77,918,000	1889	92,605,488
1884	69,159,000	1890	99,512,924
1885	79,647,765	1891	78,603,742
1886	87,280,125	1892	87,861,398
1887	82,959,589	1893	109,252,930
1888	85,070,005	1894	106,327,250

MANITOBA AND THE NORTHWEST.

No large amount of business was done in lumber in Manitoba and the Northwest in 1894. The consumption of lumber for the year is given at 40,000,000, which is from 25 to 50 per cent. of a reduction over the previous year. Trade in Manitoba and the Northwest depends, to a large extent, upon the condition of the farming community, and the disposition in 1894 was to withhold expenditures for buildings and improvements. After the change in the tariff, increased quantities of lumber were brought in from the United States, and it is, perhaps, to be expected that that thing will continue. Lumbermen in the Lake of the Woods district are pursuing a policy of restriction, not anticipating a large trade 1895.

BRITISH COLUMBIA.

The lumbering industry in British Columbia in 1894 was much depressed. Domestic trade, at the best, was not large, and what was done was not of the most profitable character. It was hoped early in the year that business would brighten up in Australia, and as an important export point for Pacific coast lumber that some gain would come from that source. This improvement, however, did not take place, nor did the trade of South America develop as was expected, though conditions there have been better than in the Antipodes. Another unfortunate feature of the trade was the unprofitable price at which lumber was sold. It is calculated that in the case of vessels loading for foreign points that a considerable loss was effected on some of the shipments. A policy of economy was practised by mill owners, the wages of employes and other items of expenditure being curtailed. After the tariff bill had been passed in the United States an opening was made for the shipment of stocks to California and some impetus was given to business in that direction. Quite a number of shipments were made during the closing months of 1894, and it looks as though a fair trade, at least, would be cultivated between British Columbia and California. If one turns to the shingle trade, which is a large item of manufacture on the coast, there is nothing of encouragement to be gleaned. All through the year the shingle market was in bad shape, and the product of the mills was, in many cases, sold without a profit. The situation is summed up in a sentence by a large shingle manufacturer of New Westminster: "We certainly are tired of consuming our handiest timber and wasting our work and energy in doing business without adequate profit, and if the truth be told, our bankers are just as tired of it as we are." Mill men are slow to speak of what the outcome will be for 1895. They are hoping for an improvement, and the year will likely show up better than that of 1894, but to what extent it is hardly safe to predict at this time.

Mr. Joseph Smith, a prominent lumberman of Ottawa, Ont., died early in January, aged 75 years.

SHOP TESTS FOR BELTS.

THERE are mechanics who believe that belts will sometimes get tired and cranky, and refuse to work. Whether that is actually true or not, the writer operated a little cross belt at one time that acted very much like it. At intervals of several days the belt would fly off without any provocation. I would put it on, and immediately it would fly off again, and would keep so doing for a number of times.

Finally, however, it would resume operations in a regular way without any more breaks, for days at a time, when it would take another fit and do the flying-off act again. I got used to it, and when it took the notion to fly off I curbed my temper, and drew upon my reserve of patience, and as often as it flew off I would quietly put it on, knowing that when the fit was over it would resume work, and it always did. I did not know then what caused the trouble, and do not know yet, unless it was of a cranky disposition, or was tanned from the hide of a Texas steer.

Speaking of that reminds me of cross belts in general. Take for instance, a cross belt running off a large driving to a small driven pulley. The first thing it does, when put to work, is to crowd over on the small pulley, and before the operator is aware of it, it will be running one-half on the pulley and the other half off. If not accustomed to the tricks of cross belts, he at once jumps to the conclusion that the pulleys are not in line, and so stops the machinery to investigate. A one-eye glance shows the pulleys to be all right, and he tries it again, thinking perhaps the first time was an optical or some other kind of a delusion. The second trial proves there was no delusion, for there it runs half on and half off. There being no other alternative, the pulley is moved on the shaft to accommodate the belt, and although the belt resents this interference with its right to run as it pleases, by trying to crowd still further over, still, if the pulley is moved far enough it can be kept fairly on it so long as it runs just that way.

By and by, however, it gets slack and needs taking up. It is unlaced, a piece cut off one end, and the belt is laced again. When put on the pulley this time, much to the astonishment of all hands and the engineer, it flies entirely off the little pulley on the other side, and no matter how often it is put on, it will just as often fly off.

In nine cases out of ten the parties operating it cannot tell what is the matter with the belt. They all think it is cranky, but in this case it is not; on the contrary, its actions are perfectly natural.

When a cross belt runs from a large to a very small pulley, the cross comes close to the latter and the taut fold of the belt presses hard against the slack side and crowds it over on the pulley, much as a shifter moves a belt from a tight to a loose pulley, or the reverse. That was the trouble in the first instance. In the second instance the belt had been crossed the other way, and hence the reason why it ran off on the other side of the pulley.

There was nothing cranky about the belt. It was simply obeying natural law. It is the mechanics who are cranky for crossing a belt on a large driving and small driven pulley. It should never be done when it is possible to avoid it. It is practically enough to cross belts on pulleys that are near the same diameter, or at least the small pulley should be large enough to throw the cross so far away from it that the tight side of the belt could have no effect on the slack side.

When so arranged a cross belt will work about as evenly as an open belt, and is a better transmitter of power, because it increases the lap of the belt on the pulleys. It is better not to cross a rapidly running belt except when actually necessary, as for reversing motion, etc.

Controversies as to the adhering and transmitting qualities of various kinds of belting are common, and makers of new kinds often take advantage of this difference of opinion among experts, and the users of belting in general, to make loud claims for the superior transmitting qualities of their belts; and without some way of demonstrating the truth or falsity of these claims the purchasers of belting have to take the word of the makers. It is, however, not necessary for any user of belting to take anybody's word on a question of that kind if he is

not afraid of a very small expense and a very little trouble.

Every shop and every mill can have a very simple tester rigged up in this way. Select a short piece of shafting, say three feet long, on which fit a pulley of from sixteen to twenty-four inches in diameter and six inches face. Fasten the pulley securely to the shaft, as is ordinarily done for work; then fix clamp supports as substitutes for journal boxes, and hang the shaft about four feet above the floor at any convenient place that will be out of the way. Clamp the shaft tightly so that it cannot turn, and the tester is ready for business.

Throw a piece of six-inch belt over the pulley and attach a tension weight to one end of it with the weight resting on the floor. To the other end, by means of a hook, hang a small platform on which all sorts, sizes, and descriptions of weights can be piled. Pieces of iron of any kind can be used, or lead, or anything that has weight to it. With these odds and ends the platform is to be loaded until the belt slips and raises the tension weight from the floor. The platform weights can then be weighed, and a record made of the weight.

The standard test should be made with a piece of new leather belt of good quality, and by its record all other belts should be measured. The bottom of the platform ought to be at least one foot from the floor when empty, so as to have some distance to fall through when a belt is being tested.

By this standard all other kinds of belts may be measured, and every dealer in belts desirous of placing his goods should be asked to furnish a short piece of six-inch belting with which to make a test. If it requires more weight to slip the belt on the pulley, with the same tension, then it is a better power-transmitter than the leather belt. If it slips with less weight, then it is not so good. In this simple way all kinds of belts can be tested in relation to each other, and records kept for convenient reference.—R. J. Abernathy, in Power.

PUBLICATIONS.

Albert Lynch, the famous French artist, who received the highest Salon prize for his panel of "Spring," has been engaged by the Ladies Home Journal to draw a series of designs for the cover for that magazine, which, as the reading public knows, changes its cover design every month.

Give credit where credit is due, and acting out the principle in this axiom, we have pleasure in complimenting the Tradesman, of Chattanooga, Tenn., in the appearance and character of the Tradesman Annual of 1894, which has come to our table. We have seen special issues of trade journals that evidence more glitter, but rarely has there come into our hands a trade annual so brimful of useful information, covering the particular field the journal represents. The Tradesman Annual is a complete cyclopedia of the manufacturing interests of the southern states. Every department of trade seems to have been covered, the special articles touching each being written by such men as Edward Atkinson and other recognized authorities on business and statistical topics.

TESTING OILS.

AN authority on oils gives the following easy method of testing lubricating oils: "Place single drops of each oil to be tested near the end of a piece of plate glass about two feet long, one end being about six inches higher than the other. The quality of the oil for lubricating purposes is shown by the distance travelled by each drop. Thus, on the first day sperm oil will be found in the rear, but it will pass most of the others in time and retain its power of motion after the others have dried up. A light-bodied oil flows quickly, like water, but soon dries, whereas, what is wanted is a good body combined with liquid flow. Many oils have a good body but tend to gum, which will be shown on the glass." This shows just one thing—to our mind—that is, the relative qualities of different oils for running down glass. As a test of lubricating value it seems quite unreliable. The conditions of an oil running down glass and of working upon a running bearing are widely different. No one would think of using sperm oil upon heavy work because it ran down a piece of glass quicker or better than some other oil!—Engineer.

CORRESPONDENCE

Letters are invited from our readers on matters of practical and timely interest to the lumber trades. To secure insertion all communications must be accompanied with name and address of writer, not necessarily for publication. The publisher will not hold himself responsible for opinions of correspondents.

IGNORANCE OR WASTE.

To the Editor of the CANADA LUMBERMAN:

Sir,—A certain mill-owner, well known to the writer, in reproving one of his employes, was met with the rejoinder beginning with, "I thought," but got no further, as he was promptly interrupted with, "You thought? Who told you to think? You have spoiled every piece in that pile. I want you to know that I am doing the thinking for this business, and if you do not do as I tell you, you will pay the cost of your thinking."

Without expressing an opinion upon the wisdom or disposition of the mill man, as shown above, I have often thought of the force of the sentiments expressed, when my business brings me into our country saw mills cutting hard woods. It is probably a safe assertion that ninety per cent. of the slabs other than pine go to the wood pile without so much as a "thought" being expended upon them, but I came across an instance of thinking and doing, backed up with experience and figures, which may be of benefit to many a mill, if the facts are understood.

In one of the mills of Macpherson & Schell, of Alexandria, is a saw-table of special construction upon which is worked up the slabs and edgings into marketable shape.

The basswood slabs are cut into cigar box stock 3/16 in. thick and of suitable widths and lengths, usually four feet long, and some into piling boards for rolling mills, trunk slats and other uses. Ash slabs and edgings were cut into wainscot lumber 3/4 in. thick, three and four in. wide and three and four feet long, and an examination of the finished stock showed a grain and surface not possible to equal from lumber from the body of the log. Birch and hard maple were cut into furniture stock, and soft maple into wainscot, making a fine white finish.

For working up small second growth basswood into box boards, drawer stock and other furniture uses, the same firm have a miniature sawmill, of their own special make, self-contained, easily removable if needed. We were informed that over two-thirds of the expense of operating the mill was cleared from the slab-sawing venture of the firm. Surely the above "experience" should cause many mill men to indulge in some thinking of a profitable nature, and if some of the "lumber merchants" would take up the matter with manufacturers, a more profitable trade awaits them than often is the case with larger operations.

We would say to the mill men, look up a market, stop the waste, and "pick up the money under your feet."

WHITE BASSWOOD.

POINTERS ON TRADE JOURNALS.

IT is a prominent and indisputable fact that those periodicals known as trade journals are great factors in individual success at the present day. This is owing to their educational character and to the care and judgment exercised in their preparation. And while the field of trade journalism may be in many instances overcrowded, still there are few papers of this class which do not possess a peculiar merit that entitles them to consideration.

In the distribution of advertising patronage the importance of trade journals as mediums is too frequently overlooked, or else a proper value is not placed upon the quality of the publicity which they can give their patrons. Few general advertisers give thoughtful consideration to the claims which such papers present, and consequently fail to do justice to their worth; but indefatigable efforts on the part of the journals themselves must ere long bring to them the recognition they deserve. When an advertiser prepares to dispute his patronage there are three facts in connection with the different advertising mediums which he takes into account—quantity of circulation, quality of circulation and space rates. These, then, are the facts to be considered in regard to the value of trade journals to advertisers.

First, as regards quantity of circulation. It cannot be

expected that a class publication will enjoy the same field favorable to the acquisition of enormous circulation figures that is accorded to newspapers. Being published for a class, it is of necessity confined to that class in securing readers, and its circulation is therefore limited to the magnitude of its class. But, notwithstanding this fact, a study of the American Newspaper Directory will reveal a number of trade journals that possess a clientage surprisingly large, and there can be no doubt that the leading exponents of each line of business go to a very large percentage of the members of its own trade brotherhood.

But the shrewd advertiser well knows that the true merit of a medium does not lie in the size of its edition only. He looks deeper than this before investing in its pages, and it is here that the trade journal will bear the closest investigation and comparison. In the quality of its circulation, it possesses an unquestioned superiority over any other sort of publication. It fills a place that no newspaper or magazine can occupy, because it is of individual interest, while the latter is of general interest. It talks only about subjects that concern its class of readers, teaching them new business methods and the most profitable manner of applying these methods, so that it becomes a veritable schoolmaster in its own particular field. Thus by its educational facilities it contributes to the final success of many a young struggling business man, helping him over the rough places and guiding him to safer paths. It therefore follows that each issue of such a journal is regarded by its readers as a thing of value and carefully studied as a source of profit to themselves. It is preserved for future reference, and the advertisement it contains bring forth fruit long after those that have appeared in a newspaper are forgotten. I think it will be admitted that these valuable characteristics entitled the trade journal to a high position among advertising media.

Now, a word about rates. It is true that class publications, as a rule, ask more for their space than newspapers, but take into consideration the quality of this space and then tell me if they do not deserve all they ask. Of course excellent judgment must be used in selecting the class of journals in which to advertise a certain kind of goods, but after this has been happily done compare the results with newspaper results in proportion to circulation. All articles can not be profitably advertised in class journals, but many can be, and to advertise the latter I would rather pay five cents per line per thousand of circulation of trade papers than one half-cent to newspapers. Results will justify this assertion.—Printers' Ink.

THE GROWING OF THE FOREST.

NOW, when the superabundant vegetation of summer no longer cumbereth the ground, is the time to walk along the edge of a woodland and learn how forests grow, rising through the grass, sometimes only a few inches, sometimes only a foot or more, one now sees the younglings of the forest, seedlings from nuts and every form of forest fruit sown last autumn, or perhaps the year before. Nature in her reckless profusion sows her forest seeds right and left, at the root of the parent tree and by the aid of the wind out beyond the edge of the woodland. Millions rot upon the surface of the ground or are eaten by birds, beasts or insects. Comparatively few are covered with earth and germinate. Many of those few perish by a thousand accidents when they first peep above ground. Some fractional percentage of the whole number of seeds sown alive to the end of their first year, and it is these that now greet the eye upon the woodland's edge, pretty mimics of their giant parents.

One gets a notion of the forest tree's tenacity of life when one attempts to uproot the baby tree. A yearling hickory is found with deep struck tap root thicker than the stem above ground and often longer. Only a strong arm can uproot the infant from the spot where he has set a firm foot in his native soil, as if he knew his destined towering height and six feet of girth. So the oak; his infant tap root exceeds in length its height above ground, and he braces himself with lateral rootlets, as if he felt the tempest in his locks a century hence.

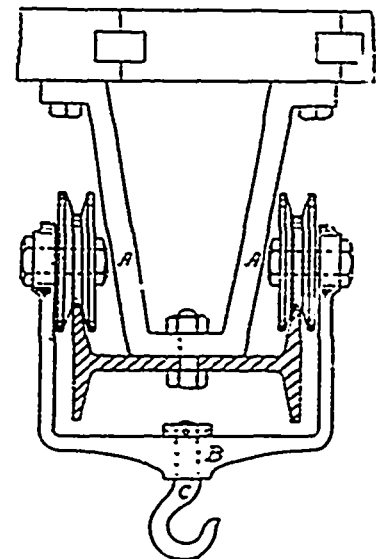
The nobler forest trees, too, in their youth have to make provision for the needs of age, to dive down into

the bowels of the earth and draw thence the stuff from which giants are molded, the water that shall serve for life and growth when droughts destroy the puny annuals towering in their mushroom growth of a season above the tiny oak, with its heritage of centuries. The birches are less firmly rooted. They content themselves with a modest depth and a wide lateral spread of branching roots. The beech spreads wide and sinks deep in preparation of the time when the secret alchemy of its cells shall transmute the food drawn from earth and air into the marvel of its giant limbs.

There is a peculiar charm in the infancy of these future giants. The tiny young oaks of the larger varieties sometimes exceed their parents in the size and richness of their leaves, and for some years the growing oak has a peculiar autumn splendor that comes late and lingers long. The leaves of the young pin oak are more delicate than those of the parent. They take on early the tints that glorify this variety of oak. The almost pentagonal leaves of the seeding tulip tree also are tiny, with a transparency unknown to the broad, rich greenery of the well-grown tree. The foot-high elm wears his dark-green flannel leaves far into the autumn and seems to escape the beetle. The baby birch when uprooted has a pretty secret to reveal of the way her kind grows in sisterhoods of three, four, five or more. All about the base of the baby trunks, just beneath the surface of the ground, are little buds that will in time develop into independent trunks, at least such seems their promise. The elms propagate abundantly. So do the maples, growing in single tall, straight wands. The tulip tree is also the parent of a great brood, and the young wild cherries spring abundantly. The oaks seem less prolific, probably because the acorn is an excellent food for a great number of creatures. So, too, the chestnut, whose seed escapes the worm only to fall into the clutches of the schoolboy. The birches spring up in all directions, but the beech is less commonly found in its infancy. The sassafras surrounds itself with a whole colony of young shoots from its far spreading roots. Hence the charm of the natural plantations of the sassafras. The beauty of its family groups should be a perpetual reminder to human families that few of us in the mass are so well worth the photographer's art as the spontaneous vegetable products of nature.

A HOME-MADE TRAVELLING CRANE.

THE travelling crane shown herewith is quite easily constructed and is of great utility. The frame AA is simply to hold the I beam which forms the track in place, and one is supplied at as frequent intervals as



A HOME-MADE TRAVELLING CRANE.

strength demands. The upper edges of the I beam form the track, and the rollers are cast iron, governed as shown, and are held in the yoke B by the studs shown. These are fastened solidly in the yoke and form the shaft or axle for the rollers. A swivel crane hook C completes the equipment and makes a very handy addition to almost any shop, mill or plant. The cost is very little and should not deter anyone from making it who has use for one.—Machinery.

SOME PECULIARITIES OF TREE GROWTH.

THE forest-lover and botanist can always find an abundance of vegetable curiosities that will escape the observation of less interested persons. While each of nature's kingdom has many things to attract and hold the undivided attention of its devotees, the student of botany, whether an amateur or a professional, will yield nothing in behalf of the vegetable kingdom. Especially is this true of him who makes a study of forestry. The forest-lover makes friends and companions of trees. He learns their moods, their habits and peculiarities of growth, while they in turn teach him wonderful lessons.

There is a beneficence about a forest that must always have its effect upon dwellers within its influence, where there is companionship in single trees, if familiar to one from day to day.

Even the brute creation acknowledges the former, the highest types being found in timber lands; only the lower ones approaching the reptilian in form, being found as permanent denizens of the vast sandy or alkali treeless plains of either hemisphere. It might be claimed that the buffalo, the splendid game quadruped of the western world, was, in history, exception to this rule. But the real fact is that he reached his greatest perfection in those prairie sections which were interspersed with natural shelter belts of heavy timber, such as forest-lined rivers and creeks, or wooded ridges, that gave ample protection from the fierce sun of summer, or the fierce blasts of winter.

Forest peculiarities include a mass of interesting knowledge which is withheld from the general public. For instance, who among the non-professionals can explain why the deciduous growth follows the destruction of conifera? Or why certain species accompany one another? And yet these are common, and every-day facts.

The more one studies this subject the more interesting it becomes, and a few illustrations may serve to draw attention to it. There is a tree, habitant of the foothills of the mountain ranges of the Pacific Coast, called the madrona (*Arbutus Menziesii*, Pursh.), that is always in foliage, though not a conifer. The old leaves roll up into brown balls during the heat of the dry season, after which the new ones have nearly matured, after which they separate from the branch with a sharp report, like the cracking of fire-crackers, producing a rather startling effect upon the uninitiated traveller.

In addition this tree sheds bark early in the summer, previous to changing its foliage. At the proper time the bark splits from the ground up to the extreme points of the last year's growth on the minutest twigs, whence it rolls up and falls to the ground. At maturity the old bark is of a rich coffee color, and smooth and hard. The new bark presents a beautiful shade of dark pea green when first exposed, which darkens from day to day to maturity.

In the Sierra Nevada Mountains the flowering dog-wood grows to the size of a respectable tree. In the eastern part of Amado county, Cal., at an elevation of 37,000 feet, at a bend in a road built to a lumbering camp and saw mill, there stands two such trees, about 16 inches in diameter at the ground, and about thirty inches apart. At the height of ten feet from the ground the trees are joined together by a regular Siamese union. At the points of junction the trees are fully 12 inches in diameter, and the connecting growth is upwards of five inches in diameter in the center, increasing largely toward each trunk. Examination shows that the trees have no connections at the roots, being two separate and distinct trees.

The location was a wild and unfrequented one, away from any trail, until the road was located less than five years ago. There is no appearance of two branches having been grafted together artificially, but there is every evidence of its being a simple freak of Dame nature herself.

Again, certain trees, like certain animals, become extinct in particular localities, without any apparent cause. This giant sequoia of California will never be reproduced. They are the survival of a prehistoric age that could alone produce them, being the oldest living specimens of forest growth on the continent—older than large areas of the continent itself.

Certain trees are inimical to others, it being impossi-

ble to make them grow side by side, while on the other hand certain species exert a benign influence over others to such an extent as to almost necessitate their planting together, if the best results are desired.

Who can explain why the conifera as a rule (the sequoia being an exception), can be propagated only by seeds, while a large majority of deciduous trees renew themselves from sprouts, from old roots, or can be propagated from slips?

Men, clearing a black ash swamp in Northern Michigan, discovered a white pine stump of great size, inside of which was a hemlock stump, also very large, and inside the hemlock two yellow cedars of good size, joined at the roots. The stump puller took the whole mass out together, when an examination showed that the shell of the white pine was still about 16 inches thick and sound, while the hemlock had a shell of over a foot in thickness, hard and sound, the cedars being sound with the exception of a small heart and each about one foot in diameter.

Computing the age of each from the number of rings in the shells, the pine must have been at least 1,500 years old when it ceased growing; the hemlock was fully 600 years old, and the cedars were 140 years old.

A reasonable allowance for an interim between the death of the pine and the seeding of the hemlock, and the death of the latter and the seeding of the cedar, makes it appear that the pine must have sprung from a seed more than 3,000 years ago.

This clashes with the theories of the geologists as the formation of that part of the State, which arises a question between them and the believers in the "ring" theory of annual growth.—Hardwood.

FORETHOUGHT VS. AFTERTHOUGHT.

By W. H. WAKEMAN.

IT is said of some men that their "foresight is hindsight" and their "forethought always comes afterward." This is not a very handsome expression, but it answers the purpose very well in describing the characters referred to. When one of these men is put in charge of a steam plant, there is trouble almost continually, and the plant is frequently shut down, that his hindsight may be made use of and his lack of forethought made prominent. Such a man never makes it his business to inspect the lacings in his main belt at short intervals to see that it is in good order, but allows it to run as long as possible, and when all the machines in the factory are running, thus bringing a heavy strain on the nearly worn out lacing, it fails and the whole factory is shut down for about an hour while a new lacing is put in; or perhaps a part of the lacing gives way first and the belt is thrown to one side of the pulley, is caught by the floor or wall and badly torn, making it necessary to get a new piece and put it in, and as the job must be done in a hurry, there is no time to properly scarf, cement and rivet it, so that it is laced on, and ever afterwards there are two lacings to care for instead of one. It does not really need to be a very large factory to make such a shut down cost as much as is paid the engineer for a week's work, consequently a man who watches such things and avoids the shut down saves his employer many dollars.

It is a good plan to draw in pieces of old lacing over the new simply to protect the lacing which holds the belt together from wear as it runs over the pulleys. These pieces will then wear out first and so give warning, when they may be renewed and the others kept intact.

Such a man as forms the subject of this article, does not remove small accumulations of sediment from his sight-feed oilers, but waits until the dirt is about half an inch deep in them and the oil passages choked up with it, and as the bearings are not oiled, hot boxes are the result. He is then not slow in applying some heroic remedy and boasting of his skill in curing the evil. The flange joints in his cast iron main steam pipe are leaking drops of water while his engine is shut down, but he has not foresight sufficient to enable him to know that unless they receive proper attention, the packings will be blown out and it will be necessary to shut down to renew them.

If the packing around his piston rod begins to leak, he simply screws up the nuts which hold the gland in place, and when it leaks again he repeats the process,

but does not heed the warning that new packing is needed, until some morning after starting up he finds that he can no longer stop the hiss of steam in this way, consequently throughout the entire day, at each revolution of the engine it sounds as if it were about a hundred geese in the engine room, and visitors and employes are not slow to take note of it and rate him accordingly.

This man has an injector in his boiler room which formerly worked very well, but of late it will break occasionally, and frequently he finds it difficult to make it start as it should. This tells him that it is becoming coated with scale on the inside. He should have foresight to enable him to determine that in a short time it will become so filled up as to make it useless, but he lacks this most desirable qualification, and when his pump is being repaired the injector refuses to work and he can not feed his boilers. To cover up his blunder he advances the idea that no injector will last long anyway, and that they fail without giving warning, when the truth is that they do give such warning, but he either does not understand the story they tell, or is too indifferent to profit by it. It matters little which it is, as the result is the same in either case.

With a man in charge who lacks foresight, when the girth seams on the under side of his boilers commence to leak, he does not look ahead and calculate what the result will be if this leakage continues, but proceeds to calk up the leaky seams, and continues the same practice that caused the trouble in the first place. He can not foresee that if he fills a hot boiler with cold water, severe contraction will be the result, or that if he feeds cold water into the bottom of a boiler while under steam pressure, the cold water will settle to the bottom and cause the seams to leak.

His boiler is badly scaled and he introduces some scale solvent to remove it, but does not possess sufficient foresight to enable him to see that if his remedy is of any value whatever, it will throw down a large quantity of scale which will lodge on the parts immediately over the fire and prevent the water from coming in contact with the iron, the consequence being burned plates and leaky seams.

If a small hole appears in the blow-off pipe, he puts a slip patch over it to stop the leak temporarily, but does not have forethought enough to show him that if corrosion has weakened the pipe in one place it soon will be in others; but when this pipe fails and his boiler room is filled with clouds of steam and the boiler is unceremoniously emptied of its contents, his afterthought has a chance to secure a prominent position.

If an oil agent offers him a commission on all of the oil that he buys of a certain kind, he repeats the old axiom that "a bird in the hand is worth two in the bush," without taking into consideration the fact that he has made a wrong application of it. He can not see into the future enough to discover that he will soon be no longer a free man, but will be under obligations to those from whom he has taken bribes, forgetting that all of these deals are brought to light sooner or later and always to the disadvantage of those who are concerned in them. The engineer who is capable of getting out of scrapes in short order, often passes as a hero, while the unassuming engineer who is thoughtful, and by his thoughtfulness keeps out of scrapes, attracts but little attention and frequently fails to get as much credit as is really his due. When he leaves a situation where he has had but little trouble, and where shut-downs were few and far between, and is replaced by a man whose forethought comes afterward, the difference is often plainly to be discerned without the aid of a magnifying glass.

There is one more point which I wish to mention, as follows: When a man takes charge of a steam plant, he should have foresight enough to study out the characteristics of his employer, know just what his ideas are as far as possible, and then govern himself accordingly. By this I do not mean that he should sacrifice any of his own opinions or ideas which are proven to be correct, for this is not at all necessary, but he should adapt himself to circumstances and by skillful management of affairs, secure the respect and confidence of his employers.

MOLDING CUTTERS.

THE care and skill required in fitting up a pair of molding cutters so that each may be the exact counterpart of the other and perform the same work in every part, and still be in perfect running balance, has led many operators into the pernicious practice of using but one perfect cutter and upon the opposite side of the head a piece of iron of the same weight, to act as a counterbalance. If this were a practical thing, and the feed reduced accordingly, there would be no particular objection to this practice, but it is simply impossible to properly balance a cutterhead in this manner. A standing balance may be obtained in this manner, but a running balance never. To obtain a running balance the counterbalance must not only be of same weight but every part of it must revolve in the same circle, for the centrifugal force of a body moving with different velocities in the same circle are proportioned as the square

of the velocities, and a body revolving 1,000 revolutions per minute has four times the centrifugal strain as one revolving 500, while the centrifugal force of two unequal bodies moving with unequal velocities and at different distances from the center, are in compound proportion or ratio to the quantity of matter and the square of their velocities. So it is evident that, though the weight of the counterbalance may be the same as the cutter, still as the shape is not the same and every part of it can not revolve in the same circle, a good running balance is out of the question.

SPLIT PULLEYS.

HAS it ever occurred to you, says a writer in the Iron Trade Review, that there are some methods coming into vogue that are cheaper in the long run to use than to be without? Among these is the split pulley. It costs money, and big money, too, at times, to cut a key-

way in a shaft when a new pulley is to be located. Have you ever used a good split pulley? If not, do so. A short time since I fitted out a whole shop with pulleys and shafting, and used nothing but split wooden pulleys. Hold? Well, not at first. Each pulley was tightened as well as we could do the work at the start and then watched. At the first indication of a slip the wrench was put on again and that settled the matter for all time. I had those pulleys driving every conceivable kind of ironworking tool, from a light drill to a heavy hammer, and never had the slightest indication of trouble. Then, when new tools were bought and old ones had to be shifted, ten minutes sufficed to take down the pulley. But when I did that job, I did not know as much as I do now. I allowed builders to sell me tight and loose pulleys on the counter-shafting, so that for every machine having a four-inch belt I had to buy a nine-inch split pulley. In future I will specify clutches.

LUMBERMEN'S SUPPLIES

H. P. Eckardt & Co.
 WHOLESALE GROCERS - TORONTO.
 A call from buyers when in the city solicited.
 Letter orders have careful and prompt attention.

Scatcherd & Son
 105 SENECA ST.,
 BUFFALO, N. Y.

WE want to contract with mill men for their winter's cut of SOFT ELM, BLACK ASH, BIRCH, BASSWOOD, and ROCK ELM, to be sawed to our order. Our saw-bill will get as much good lumber out of the log as any . . .
WRITE US

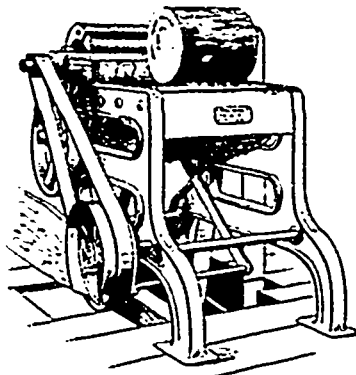
CAMP SUPPLIES

Being extensive operators in the lumber business, as well as Wholesale Grocers, we are exceptionally well qualified to fill orders for Lumbermen's Supplies.

MAIL ORDERS GIVEN PROMPT ATTENTION.

DAVIDSON & HAY
 Wholesale Grocers - TORONTO

... STEARNS BROTHERS ...
Patent Rossing Machine

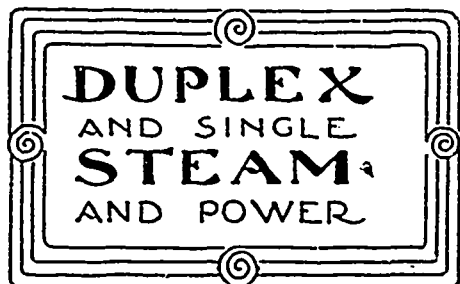


Why you should use this Rosser.

- It will do double the work of any other.
- It is the only machine made that will peel Cedar Shingle Blocks.
- It will peel dirty blocks without taking the edge off the knives as they cut from the clean bark or block out.
- It is a self-feeder, and very easy to operate.
- It requires less power than a face wheel.
- All iron and steel, very simple and durable.
- It will ross knotty and uneven timber without waste.
- It occupies about the same space as an ordinary planer.
- You can have a chance to try a machine before buying it.

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SUPERIORITY OF WIRE ROPE.

WIRE rope making is a comparatively recent industry, at least its production upon a commercial scale has been limited to the last half century. Its manufacture in England during recent years has been growing rapidly, says the Machinery Market, and this may be largely accounted for by the many advantages derived from the substitution of flexible or rigid material, which has naturally widened the field of its application. Early attempts at wire rope making from either charcoal or B. B. iron were soon improved upon when steel was substituted, and now iron ropes are seldom used at all, whether for haulage or collieries or for the rigging of ships.

The principal objection urged against the use of wire rope in the earlier days was its stiffness; but, as we have already said, recent developments have removed this drawback. The flexibility of any rope can, of course, be largely increased by the multiplication of the number of wires of which it is made, and by the method of uniting them. The number of wires of which a rope is made in England generally falls between thirty-six and four hundred. The fewer the number of strands the easier to make the rope, of course, and vice versa, great skill being called into requisition in the arrangement of the wires when a large number are employed.

The superiority of steel wire rope is generally admitted. As an instance of this may be mentioned the towing of the armor-clad Caledonia from Liverpool to Plymouth by a 4-inch steel wire hawser, weighing 12 cwt.; a 1 1/2-inch hemp hawser, weighing 45 cwt., and a 1 1/2-inch stream chain, weighing 130 cwt., having broken in the endeavor to do the same work.

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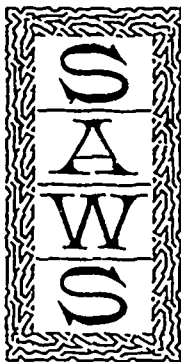
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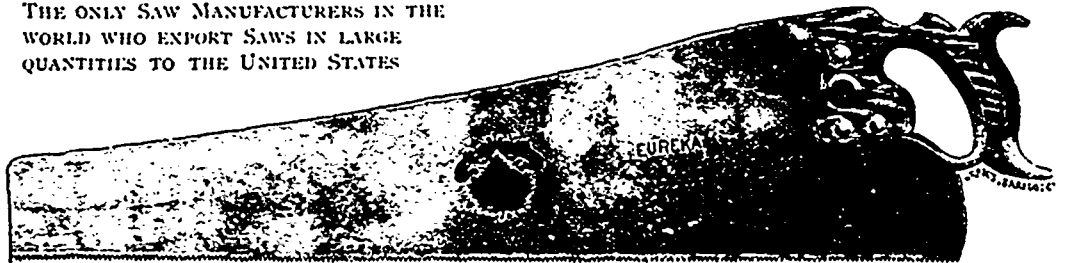
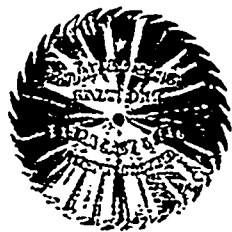
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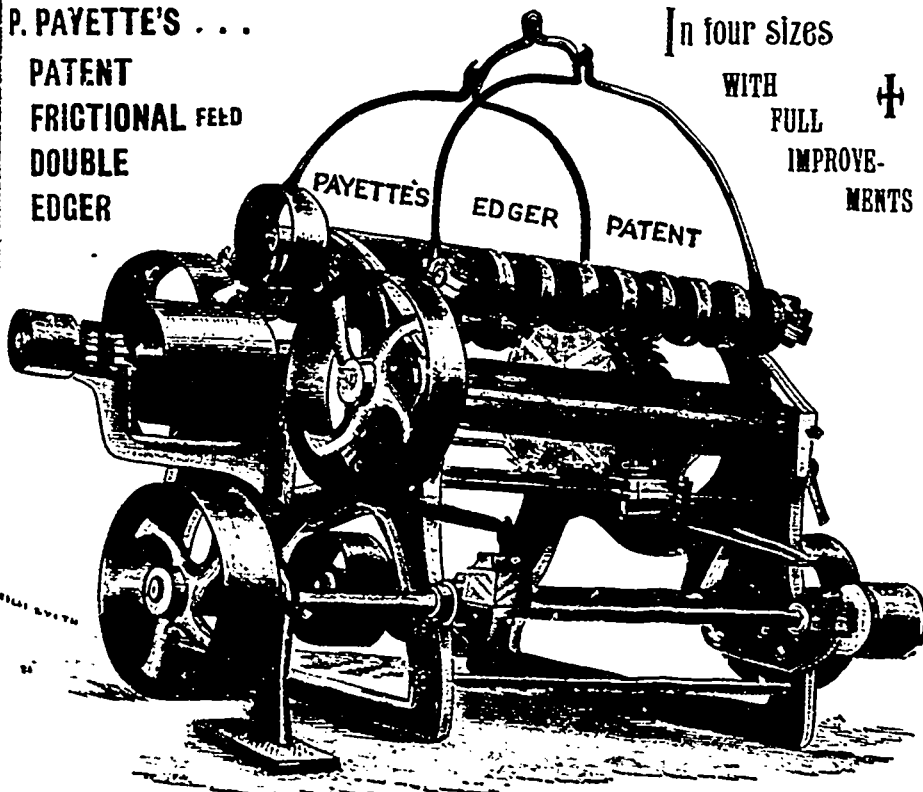
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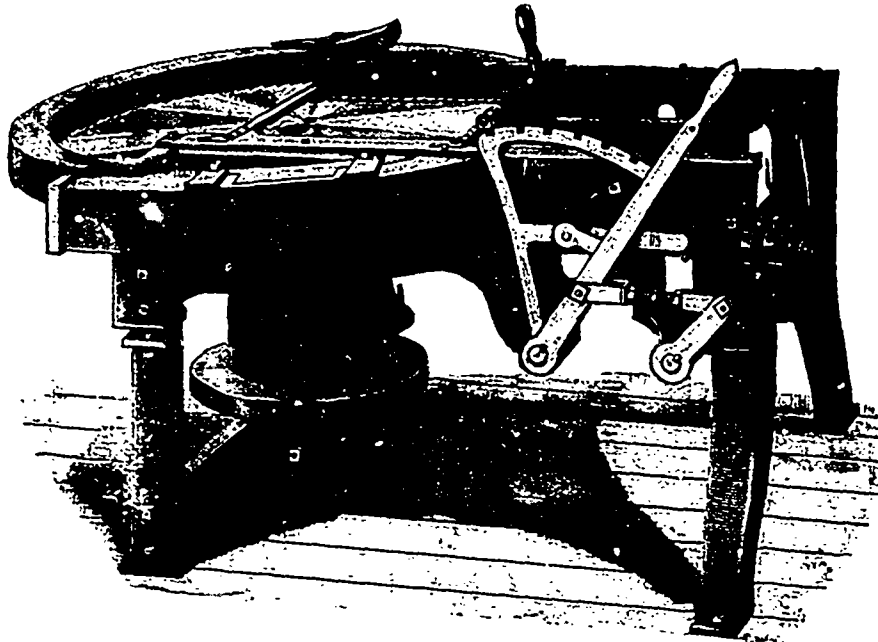
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