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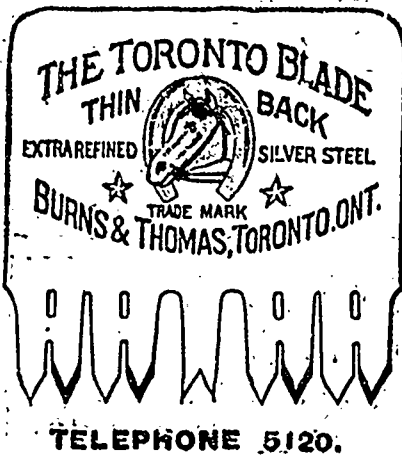
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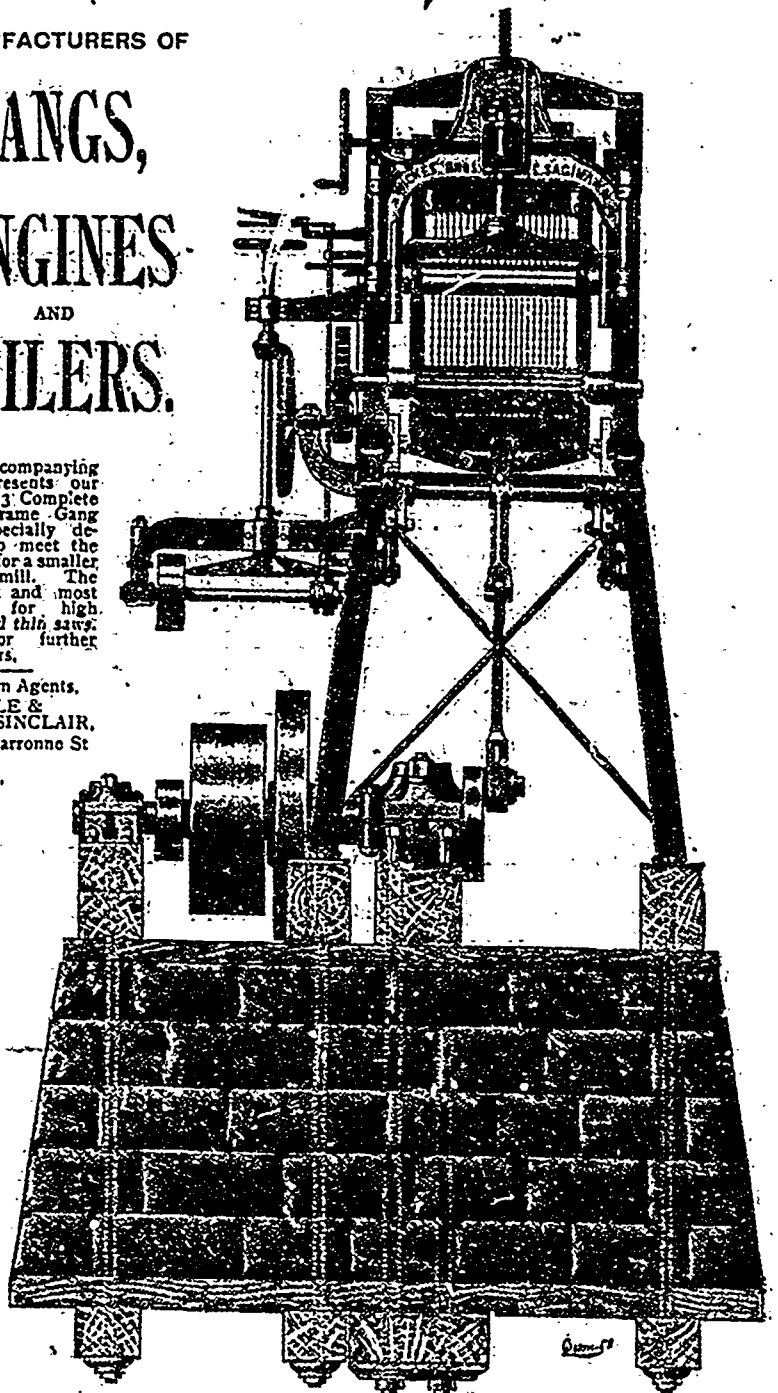
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FOREST FIRES.

A CAMPER'S fitful fire burns low,
Then starts afresh with lurid glow.
Unwatched, unchained, with fuel nigh
The flames grow wide, and broad and high!
With rush and roar, and swoop and crash,
O'er field and forest, fires now dash.
They're here and there, and everywhere—
The sky grows thick with pall and glare.
The tall trees fall, and house and field
To all-consuming fiends must yield.
The men like demons fight the blaze—
Back-fire and chop—and structures raze.
Repulsed somewhat, but reinforced,
From ruthless ruin, death, despair—
On wings of red they ride the air.
Through choppings dry, o'er town and lea,
There surge the waves of a burning sea.
Will they never cease to onward sweep?—
The heavens now in sorrow weep!
First gentle rain—then torrents fall,
To drench the wood, the field and all.
The fiery march at last is staid—
The boon for which men hoped and prayed.
But, count the lost and find the dead—
Gaze on the ruin 'round us spread;
Then on the camper's work reflect—
The careless one who nothing recked;
The man who thoughtless left the fire
That grew and spread destruction dire,
One heedless act to forethought turned,
And never a forest fire had burned

BACKWOODS LUMBERING IN FLORIDA.

BY JAMES F. HOBART.

THERE are many fine mills in Florida, but these are to be found near seaports, or other good shipping facilities, and cut lumber chiefly for Northern shipment, leaving local demands to be supplied with lumber by innumerable light saw-mills which are scattered everywhere through the state.

Along the line of the Florida Southern Railway are scores of these mills, and a description of one will answer for nearly all of them. A very few of these mills rival in construction and appearance the larger concerns, but as a rule they are thrown together in a very rough manner, and operated equally as rude.

These little mills are built with an aim to get out as great an amount of lumber with as little first cost or running expense as possible. Ample power is at hand in these mills, and they are never troubled by boiler inspectors. In fact, a boiler is never inspected here until after it has blown up.

One mill is built near the North branch of the Florida Southern Railway. It is but four years old, but from its weather-beaten appearance would easily pass for one hundred and four.

The first noticeable feature is the log truck, with its big wheels, eight feet in diameter, and tires six inches wide, which are not welded, but are lapped two or three feet and then riveted. A pole sixteen feet long admits of carrying a forty foot log, without its interfering with the mules.

At the extreme front end of this long pole is the "drag wheel," a unique apparatus, which skates over the sand and to a measure guides the long pole. The drag wheel also serves to prevent excessive sidewise jerks of the pole, and saves the mules from unnecessary labor.

A windlass is mounted on the axle of the wheels, and is worked by means of a long lever and rope. The "log dog" is dropped over a log which it firmly grasps upon the ice tongs principle, then both log and dog are raised by the lever and windlass, and are ready for the journey.

Into the forest for miles these log trucks penetrate, going further and further as the choice logs get scarce, forming a picturesque sight, and each double span of

mules, with its mounted driver, pace sedately along the sandy trail.

"All teams off to the forest," says the foreman, as the teams all unload before the mill, and away they go, a ponderous procession, to fetch the mighty yellow-pine logs.

With a five pound axe, fixed to a long straight handle, the Florida woodsmen cut down the huge trees with a vigor and vim unknown to the Northern chopper. It is seldom that a crooked axe helve is seen here, and the crooked Canadian axe handle is unknown. It is a singular fact that the latitude in which an axe belongs can be almost invariably determined by the amount of curvature in the handle or helve.

There is a nice calculation needed by the Florida axeman to fell timber to an inch in any given direction to escape rocks, or to allow of easier loading. It is unnecessary here, and vigorous blows throw out huge chips until the tree falls in any direction it chooses upon the level sandy plain.

The interior of the Florida saw-mill plainly shows that tasty design has never even been thought of, and combines in a ludicrous manner ingenious makeshifts, and slovenly negligence. The shafting is very much too small for the work it is required to do, and it is not uncommon to see a one and one-half inch shaft driving a double surfacer with beader and matcher heads, the small shaft driving from a forty inch pulley and only running two hundred revolutions per minute.

A bar of railroad iron held the furnace front in place, and two three-fourth inch bolts prevented the whole boiler front from tumbling down. Semi-portable boilers of the locomotive type are in general use. They are run for all they are worth and last until they burst or burn out.

The circular saws in these mills are peculiar, they must be very strong, especially at the roots of the teeth in order to stand the strain of cutting the terrible hard knots which are constantly being met with in yellow pine. The hemlock and spruce knots bear no comparison with the yellow pine knots, and even a good axe will be spoiled unless great care is taken when cutting a knot.

As lumber falls from the saw, it is received by a line of dead rolls, and pushed under a swing saw, when it is cut to the desired lengths. Logs thirty to forty feet long are mostly cut, making two or three bounds from each length cut off by the saw.

A gang jointer stands near the swing saw, and upon it the boards can be cut the desired width of square edge lumber, and, at the same time, a picket cut from either side, should any part of the round edge board be of sufficient width to make it.

From the edges the boards naturally pass to the surfacer, and odd corners about the mill are occupied by a lath machine, shingle mill and a superannuated jig saw. Upon this machine, and held in place by wire, is a board bearing a notice which flavors decidedly of the true Florida "cracker."

The homely ingenuity displayed by the "repair men" of these mills is well worthy of study. The throttle valve got to leaking, the stuffing box bolt threads stripped, and in trying to remove the studs they broke short off, leaving a very bad leak of steam.

The valve stem was repacked very full, the gland put in place and held by two pine wedges driven in, one on each side of the valve stem.

A boiler tube got to leaking and was promptly suppressed by topping a thread in either end, then common pine plugs were screwed therein, stopping the leak with only the loss of the tube's heating surface.

The saw dust conveyors around these mills contain the very essence of mingled ingenuity and laziness.

They are usually made out of a worn out rubber belt, or perhaps a new one of canvas, and run from a hopper beneath the saw to some place outside the mill, where, instead of running 100 feet further and delivering the waste upon a heap, the belt stops short and is supplemented by a negro and two wheelbarrows, one of which is filling while he empties its mate. The fireman also is kept busy by wheeling his dust and shavings entirely around one end of the mill, together with a dozen piles of lumber.

About once an hour the saw dust conveyer gets too slack to be driven by frictional contact with its drive pulleys. This is quickly cured, however, by two quarts of water, which is dashed upon the belt, forming an efficient but short-lived tightener.

The output of these mills is often used green, as it comes from the saw, but it often lies in shiftless piles exposed to sun, air and wind, until it is twisted out of half its resemblance to lumber. Florida lumbering has many "points well worth imitating, also many which should be improved."

TREE OIL AND TALLOW.

BRITISH Consul Hsieh, in his report on the trade of Wenchow, China, for the year 1890, gives the following information relating to vegetable tallow and oil derived from the tallow tree, "Stillingia sebifera," which is largely cultivated near Wenchow, and still more widely within the Ch'u-chou prefecture to the west: "It is not generally known that the fruit of this tree produces oil as well as tallow. The berries which resemble coffee beans in appearance and size, are first steamed and then pounded in an ordinary rice trough. By pounding, the soft mealy mesocarp is partially separated from the kernels. The mass is then placed in a bamboo sieve, the meshes of which are just large enough to allow the mealy matter to be scrubbed through, and small enough to keep back the kernels, which are hard, black and about the size of peas. From the mealy matter the tallow is expressed in primitive wooden presses. The oil is derived from the kernels in the following manner. They are dried and passed between two millstones held at such a distance apart by means of a bamboo pivot as to crush the hard shells of the kernels without injuring the white interiors. The mass is then passed through a winnower, which separates the broken shells from the solid matter. The latter is then placed in a deep iron pan and roasted until it begins to assume a brownish color. The crushed shells make an excellent fuel for the purpose. It is then ground by a huge steam roller in a circular stone well, steamed, made into circular cakes with bamboo and straw casings, and passed through the wooden press. A good lighting oil called 'ching yu,' of a brownish-yellow color, is thus obtained. The tallow is 'pi yu,' that is skin, or external oil."

WHERE THE LUMBER GOES.

WHERE does all the lumber go that is cut each year? Hundreds of millions of feet go into the thousands of houses built each year in city, town and country. The agricultural implement makers consume 100,000,000 feet yearly, mostly oak, ash, maple and hickory. The furniture manufacturers use 300,000,000 yearly, nearly all hardwood. The waggon, carriage and buggy makers consume more than 100,000,000 feet annually. These are a few of the places where it goes.

A man's chances for life are good and his glory magnified when he enters the forlorn hope for a charge on the enemy's works. He has no chances for life, and is written down a fool, when he engages to set a screw on a revolving shaft.

SAW MILL BUILDING.

BY J. H. MINER.

IN BUILDING a saw mill or medium mill to manufacture good lumber cheaply, we will begin first at the engine and boiler. A good center-crank engine and straight tubular boiler are best. An engine of this kind possesses many advantages, in that it is set and keeps in line, and is more compensating than a side-crank, and is less expensive to set. The fire-box boiler will not steam well unless dry fuel is at hand, and will not burn the saw dust. They are difficult to clean, which few mill men pay close attention to. The slabs, in many cases, can be worked into lath, which means money, or sold for fuel. In some places the dust commands a good price. The idea is, burn the worthless stuff. It is cheaper to get rid of the slabs and edgings with a burner, as no mill can burn all the slabs, but can burn the dust, which is cheaper firing, as an intelligent boy will keep steam.

To burn dust the boiler must be set with the end say two feet ahead of the discharge of dust from the saw. The conveyor will traverse this route. It must be made of link chain belting with an iron cleat every eight or ten feet, with two spouts, one on each side of the boiler, made of sheet iron, with cut-offs. Have stack plenty high and there will be good draft if there is ample grate surface, and after getting your furnace hot your dust will disappear without a cent of outlay except a fireman at fifty cents per day.

If slabs are to be used for fuel, set your boiler the opposite way. Have a glass water or float gauge in sight of the sawyer. Use a good plunger pump or an injector that can be regulated.

Set the engine on a heavy piece of timber, well bedded in ground and of good length. Build up from this the height you wish engine, using bolts clear through, with all timbers keyed firmly together. A brick foundation is not good unless set very deep, with broad base, which costs considerable more. On every bearing of your engine have a thoroughly reliable oil cup and use a sight-feed cylinder lubricator, all which should come with the engine and will if you insist. Only a drop of oil occasionally will keep your engine cool. Use a cup that will save oil, and that you can depend on while at the saw.

By all means exclude your engine from dust and dirt—its enemies. A few sash cost but little and the lumber is handy. Build an engine room, having the light so arranged that the sawyer can see the engine. Use a reliable compound ring packing for rods; it will last four times as long as hem, no friction nor cutting of rods and is quickly inserted. Your engine properly set requires no engineer but the sawyer's attention morning and noon. Exclude the dust and use reliable oilers and you will have a new engine when your neighbors' has burned, thumped and worn itself out.

A high speed engine is the best. They cost less per horse-power, as a 40-horse slow motion will cost as much as a 60-horse fast engine.

Buy a saw mill with a heavy husk and steel mandrel with long bearings. The driving pulley should have a heavy rim, which should be well balanced. Turning a pulley inside does not insure perfect balance. The heavy rim will add to the cut and will carry a slacker drive belt. A thin-rim pulley has no momentum in it to relieve the saw in knots and tough places.

The feed works should have very broad face pulleys, that they may be easy to regulate and quick in operation. The feed-belt should not be less than four inches on a small mill, while six inches will be better. Broad face frictions give the sawyer a variable feed, while narrow pulleys quickly wear from excessive pressure, slipping and burning. There are a great many dollars annually lost on trifling feed works.

The carriage should run on planed ways, with large tracks with axles extending across. Use a good ratchet set works with reliable dog. Put in an overhead log turner. Put in live rollers, which can be cheaply gotten up for small mills, and swing cut-off saw, with a measure on each side, so that defective lumber may be trimmed. Use a light car and ironed track for distributing lumber.

Ground mills seldom have an edger, and mills of less than 10,000 capacity do not need one. Buy the best

extra rubber belting. Use belt hooks properly and every belt in your mill will be endless and reliably fastened. Use a good inserted tooth saw and top saw, if timber is large.

MILL FIRES AND INSURANCE.

BY C. R. TOMPKINS, M. E.

THE good working qualities of almost any piece of machinery frequently depends upon the foundation upon which it rests. It is not only much easier to arrange and adjust the several parts of a new machine in the first instance, but it is much less trouble to keep the machine in perfect adjustment afterwards, where a good foundation is provided. But aside from this it becomes doubly so in case of fire. Machines that simply stand upon the floor, no matter however good and strong it may be, when it is burned away they will settle down so as to frequently stand upon two legs, if they are not thrown over; with such conditions it does not require a very hot fire to warp them so much out of shape that but little is available for the purpose of rebuilding.

It is a well-known fact to all iron-workers, that cast iron will stand considerable heat without material injury, where there is no strain upon it; while, on the other hand, where it is submitted to a strain, it requires but a moderate heat to produce a permanent set. For this reason, machines that have passed through a fire are more frequently ruined than from the actual heat they are submitted to. Heavy planing machines standing upon a good stone foundation have gone through a pretty hot fire without permanent injury, except to some of the lighter portions and pulleys, that may be replaced at comparatively a small expense; while others, equally as heavy, without an independent foundation, have settled down in such a shape as to be completely ruined by warping and breakage, with much less heat than the former.

With steam engines this is more particularly the case. The method of placing an engine upon a wooden bed and supporting the end of the main shaft upon a wooden support, which is extensively practiced in all parts of the country, especially in saw mills, can not be too severely condemned by practical engineers. Frequent cases are met with where engines thus set up have passed through fire and been totally ruined by being warped out of shape and cracked; whereas, if they had been mounted upon a good stone or brick foundation, and the end of the shaft also permanently supported upon the same kind of structure, the damage from the same fire would have been slight, and a few dollars would have made the loss good. By being put up in this manner, without permanent support to the end of the shaft, as soon as that burns away the whole weight of not only the shaft, but the fly-wheel and pulleys, is thrown upon the main box. The result is the engine bed, which is one of the most important parts, is twisted out of shape and ruined. If no other part but the bed is totally ruined, the expense of putting in a new bed will frequently amount to nearly as much as a new engine.

As a rule, however, if the engine and boiler are properly set up, with good foundations, in case of fire they suffer less damage than any other part of the machinery in a mill. Yet we frequently find mills that carry a large amount of insurance upon the engine and boiler, and much less in proportion upon the lighter machinery which is always liable to much more damage by fire, if not a total loss. In a large majority of cases where a mill is burned, especially a planing mill or a saw mill, it will be found that the insurance will seldom cover the loss on the machinery and tools, while the engine and boiler, if properly set, are not as a rule damaged more than one-half that amount.

Therefore, where a certain amount of insurance is carried, it is for the advantage of the mill owner to place the engine and boiler in a one-story detached building. Place them on good substantial brick or stone foundations, and carry a small amount of insurance. Put the bulk of the insurance upon the machinery in the mill, that is more liable to be totally destroyed in case of fire.

THE PRESERVATION OF TIMBER.

IN THE history of attempts at prolonging the life of timber some very curious expedients are met with. In 1836 Dr. Boucherie, a French chemist, tried to impregnate timber by vital suction—that is, by tapping the tree and allowing the ascending sap to carry up a preserving solution. This, however, did not give satisfactory results, and in place of it a cap was supplied to the end of a newly-cut log, and the solution forced along the sap ducts by hydraulic pressure. Sulphate of copper was the chemical used, and when it was applied to newly felled timber it gave good results. Lime water has been tried, and also salt, but the effects have not been such as to encourage the repetition of the treatment. There is a strip of road in the Union Pacific railroad, in Wyoming, where the sleepers do not decay at all. The analysis of the soil shows that it contains sodium, potassium, chloride, calcium, and iron, which act as preserving agents. An inventor named Foreman brought out a process by which dry arsenic and corrosive sublimate were inserted in holes in sleepers and covered with plugs. The materials became dissolved and effloresced on the surface, when the cattle licked them and died by scores. The farmers rose in arms and forced the railroad company to burn all the sleepers. One of the best of recently devised methods of preserving timber consists simply in soaking the timber in melted naphthaline for a period varying from two to twelve hours, depending upon the bulk of the piece. A temperature of 180 to 200 Fahrenheit is obtained by placing steam pipes in the bottom of the tank which contains the material. Simple as the process is it possesses a still more valuable feature. It can be applied to green timber, thus obviating the necessity of a long and expensive process of seasoning. The naphthaline penetrates the pores of the wood, decomposing the albumenoid compounds and displacing both sap and water. It then becomes fixed, and the whole substance is thoroughly permeated with an anti-septic of a permanent character.

ANTIQUITY OF THE CARPENTER'S PLANE.

A VERY interesting discovery has been made at the Roman city of Silchester. The excavators came across a dry well, which, on being explored, proved quite a little museum of antiquities. Some fifteen feet down, a correspondent says, the diggers found an urn-shaped pottery vase, about a foot in length, quite intact, and curiously enough, protected by lumps of chalk built around it. The vase, which probably originally contained some precious substance, was, however, quite empty. Above it were deposited a great number of iron implements, most of which were in a wonderful state of preservation. They seem to have been the tools of a carpenter and a coppersmith or silversmith, with some miscellaneous objects of blacksmith's work thrown in. The principal specimen is a carpenter's plane of quite modern type, although unquestionably more than 1,500 years old, three or four axes retaining their fine cutting edges and quite serviceable, a number of chisels and gouges of all shapes and sizes, hammers, adzes, saws files, etc. In the smith's department may be specified a brazier for burning charcoal, quite complete; two or three anvils of different sizes and shapes, a fine pair of tongs adapted for lifting crucibles, a curious tripod candelabrum lamp, or candlestick, and several other curious objects the precise uses of which have not yet been determined. In addition there are several large bars of iron. Probably more will be found deeper down in the well. This is undoubtedly the most important find at Silchester since the discovery of the bronze Roman eagle, now at Strathfieldsaye, some years ago.

One very important cause of deterioration in boilers is due to the fact of their becoming too small to do the work without forcing, so that the pulsations of the engine cause a well marked succession of shocks on the boiler, which result in the weakening of the material. By placing one's hand on the head or shell of the boiler, the vibrations of the metal can be felt similar to the rising and falling of a man's chest while breathing.

USEFUL INFORMATION

Have all your boilers well inspected,
And never let them be neglected;
Keep your water well in sight,
Never below the proper height.

An insurance man of long experience declares that milk is the best obtainable extinguisher for petroleum fire. If milk is not at hand flour will answer nearly as well for putting out the flames.

When a belt breaks from a fair strain, it bursts nearly straight across at the weakest part. When a belt is broken diagonally across the solid leather, then be sure it is torn by something else than fair strain.

A German engineer has devised a new method for fixing a foundation under water. By means of a powerful blast of compressed air he drives powdered cement down into the sand or mud at the bottom of a stream. The action of the water immediately fixes the cement, and it becomes like solid rock.

Twenty-five per cent. economy in the use of steam does not mean the same degree of economy in fuel. Owners of steam plants have been deceived in this way and very often look upon meritorious devices with suspicion because they did not use one-quarter less coal after buying a device recommended as above.

Some operators make endless leather belts by using common glue to make the joint. One of the advocates of this method says: "Bevel the ends nicely and smoothly. Put the glue on and place the splice in a vise for some time. I have had such splices on the heaviest kind of work, but it has never yet failed to hold."

It is my opinion, says Edward N. Dickson, that with our present knowledge of machinery, a steam engine can be built that will produce a horse power with three-quarters of a pound of coal an hour, if of sufficient size to reduce the percentages of loss by radiation to a minimum. Under those circumstances your fuel expense would be less than one-third of what it now is.

If the grate surface under a boiler is larger than is necessary to burn the required amount of coal, it is neither economy, convenience nor good judgment to retain the full surface, as better results with less labor and more economy in fuel, would be obtained by shortening the grates to such an extent that from eight inches to twelve inches of fire would be required at all times.

In summing up the things that a man should look out for in caring for a steam plant, a man should first study his plant thoroughly. He should know just where each pipe goes, its condition, and the condition of the boiler. He must study the results of other people's work and methods, and apply them to his own work. He must see that there is no waste of steam or of coal, either directly by leakage and carelessness, or indirectly by dirty tubes and laziness. He should also study his engine, read what such a machine can and should do, then try to bring his own engine as near as possible thereto. The machinery should be kept up in such condition that no shutdown and general overhauling will be necessary. To do this, all little repairs must be made "just before they are needed," and not wait until just after. To do all this a man must be a good engineer. He must learn something everyday, and such a man will pick up knowledge as easily as a shaggy dog picks up dirt. The man who "knows it all" will never make a good engineer. A man must always be ready to learn something new, and often does it from an engineer who knows less than he does.

When a nail or spike has been driven into a live tree, or into timber, after a year or more the fibers of the wood will have contracted so tightly about the metal that it will be exceedingly difficult to withdraw the iron. But, strike a nail or spike a sharp blow with a hammer and drive it in a trifle so as to break the wood fibers around the metal, and a nail can be drawn with only a little force. Iron gate hinges are frequently driven into a living tree. When one is not in possession of a strong claw bar, bore a hole close to the hinge on the under side and the hinge can be easily crowded down into the hole and withdrawn. When a large nail has been driven head and all beyond the surface of the timber, bore a hole close to the nail, and with a nail set crowd the nail into the hole. When nails have become rusty, they will usually break in two, leaving a portion of the iron in the timber. But, strike a rusty nail a sharp blow, and one can sometimes withdraw it with his fingers. In tearing down an old building, if it is desirable to take off the boards or casings without splitting them, place a nail set on the head of each nail, and with a hammer start it inward about the eighth of an inch. One blow will break the hold of the nail so that most of the nails will come out when the boards are driven off.

THE SETTER'S PLACE IN THE MILL.

MUCH has been written of the important places among the operating force of the saw mill. The filer has been written up and written down, and hand books have been compiled for his benefit. As a general rule he gets credit for a great deal more than he deserves, whether of blame or praise. If all goes well and the mill turns out well-manufactured lumber, with a good profit to the owner, the filer is patted on the back. If, on the contrary, the mill does poor work and little of it, he gets more blame than even the foreman.

The sawyer comes next for his share of blame or praise. In fact, he, too, gets both, often unmerited, especially in the matter of blame. More especially is he blamed for faults which should be charged to bad fitting, machinery out of line, rickety carriage, a sprung mandrel, or similar causes which should be charged to the neglect or ignorance of the foreman or superintendent.

The edger man comes next in the category, and, indeed, often gets quite as much attention as either of the others; and, it must be confessed, he seldom gets more, than he deserves. The edger man can pretty nearly make or unmake a saw mill, and can thrust his hand deeper into his employer's pocket than any other employee about the establishment.

The trimmer also gets a good deal of attention, and rightfully; while the engineer is generally the most petted man of the entire crew, often assuming the lordly air of a hotel clerk.

But there is one man in the mill whose position and importance is hardly even appreciated. That man is the setter, who rides back and forth from morning till night, plying the lever that gauges the entire output. His work in a bill mill, or in any mill cutting fractional thicknesses, can hardly be overestimated. Of course he is, to a certain extent, under the orders and direction of the sawyer. But from that view of it his quickness of perception in catching the sawyer's ideas as signaled him, and his promptness in execution, are strong points.

The setter's work is arduous, especially in a bill mill. The wear and tear of riding back and forth on the carriage 11 hours in a day, subject to the jerks and dizzy see-sawing, often unnecessarily aggravated by a nervous sawyer, is no light thing of itself, even after months of experience. The muscular effort of throwing the lever, supplemented by the muscular tension necessary to his balance on the rapidly-moving carriage, requires great physical endurance and an almost involuntary command of every part of the body.

In addition to an eye quick to comprehend the sawyer's signals, the setter must have the half-dozen bills on his bulletin board thoroughly in mind, and be quick to see what item the log will fit; or, if defects develop, as it is sided up, to see what next best to put into without a moment's stop of the carriage. To hesitate is to lose a cut, and perhaps spoil the whole log. He should also be a good judge of qualities, and especially of the quality required in special bills, like bridge and car material. This is a point too often neglected. More attention to this, and a better knowledge on the part of the setter would save many a log from being run into a bill and sent to the dock, only to be rejected by the shipping clerk or by the inspector at point of destination. A log having once been cut into a special size for a bill it is next to impossible to convince even the proprietor that it should not be shipped. Of course he is expected to have a correct eye for lengths, or to be able to catch the word quickly from the scaler on the log deck.

But it is in the cutting of good logs into graded stock that the setter can make or lose his wages with a facility only equalled by the sawyer and edger man. It is astonishing how little this point is understood, and how little attention is paid to it. No matter how well up the sawyer may be in his respect, his best efforts will be rendered comparatively useless, unless the setter responds quickly and intelligently. This has come to be especially true of the setter in the band mill, which is now doing the highest class of work, superseding the gang in many instances.

That education can be got on the carriage, but in that case it will largely be at the expense of the mill. The setter should learn his qualities in the yard or on

the shipping dock before mounting the carriage. In fact, the only thing that he should have to learn after that should be the actual mechanical work of the plane and the sawyer's signal code. His errors would thus become only such as a little practice, in the application of what he has already learned, would readily and quickly correct.

It is a wonder this subject has not received more attention from mill men and log owners, and that the setter was not long ago accorded his true rank in the working force of the saw mill.—*Northwestern Lumberman.*

THE IMPORTANCE OF SMALL THINGS.

ONE of the most important things in modern engineering of all kinds is the accuracy employed in measurement. The thousandth part of an inch is exceedingly small when examined by the eye, but there are places in engines and other machines where this amount of lost motion would be all but ruinous. The difference between a good working and a good driving fit may be about twice the amount in most places. People who are accustomed to measure with a two-foot rule generally consider that one-half of a sixteenth is as close a measurement as can be conveniently made, while the machinist working at the lathe and testing work by calipers can readily detect a difference of much less than one-thousandth part of an inch, and then again there are cases where more space than this must be allowed, as for instance between journals and their bearings to permit the flow of the lubricant. Occasionally it will be noticed in the adjustment of caps on journal bearings, that there will be a space of one-eighth of an inch or more left between the cap and the journal. This, of course, is not good practice, as the oil supplied to the bearing is not spread over the top of the shaft, but rather is carried over and spread out by the lower half of the box and the oil or other lubricating material is wasted. Where a journal is heavy enough to maintain its seat in the bearing, no special harm is done further than the waste of oil, but if the weight on the shafting be insufficient to hold in position, as is frequently the case with a light shaft, more or less trouble usually follows such a careless adjustment. Take for instance the fit between the valve and its seat. There must be absolute contact between iron and iron at all points, or considerable leakage of steam will be the result. To make this closer fit requires considerable more work and closer attention than the rougher job, but the results obtained in less wear and economy of operating, more than pay for the extra work required. This may readily be observed in the case of all high grade machinery. The greater excellency of workmanship necessarily make the machines cost more, but this is soon paid for by their more economical operation, as a person in charge of a machine, if he be a mechanic, will take a certain amount of pride in devoting considerable attention to keeping it clean and in the best of order, and the better the grade of workmanship that has been put on the machine the more attention and better care he will give it. High-class machinery includes fine workmanship and should only be placed in the care of men who are able to appreciate the reasons for putting the finer finish on such machines.

RICH MAHOGANY.

A MAHOGANY tree lately cut in Honduras made three logs which were sold in Europe and brought \$11,000. The mahogany tree ranges from one to seven feet in diameter, is often sixty feet to the first branches, and frequently exceeds ninety feet in height. The Honduras mahogany comes to market in logs from two to four feet square and twelve to fourteen feet long, planks sometimes being obtained that are seven feet wide. The weight of a cubic foot mahogany varies from thirty-five to fifty-three pounds. As compared with oak, which is called 100 per cent., the strength of mahogany is 67 to 97, its stiffness is from 73 to 93, and its toughness from 61 to 99 per cent. The Government engineer of Honduras estimates the total value of the trees, such as are regarded fit to be cut, at \$200,000,000, while the smaller trees, not ready to be cut, are also worth a large amount.



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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 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 upon 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 effecting 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 15 cents per line for each insertion. Announcements of this character will be subject to a discount of 25 per cent, if ordered for three 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.

WHO IS BLAMABLE?

A PAINFULLY unpleasant section of the news columns of this journal each month is the "Fires and Casualties." The items published tell of serious loss of property, coupled sometimes with loss of life, and always with great inconvenience and distress to the owners of the property destroyed, and the hundreds of workmen dependent upon them for a livelihood. Is all this inevitable? We may be Calvinists in religion, but when we get down to business, we are convinced that more fires occur as the result of downright carelessness and ignorance, than because it has been decreed, that they should take place. An item is before us at this writing, of a lumber yard, stores and other buildings burned down. How? The old, old story—children, matches, fire. Could not be helped. Children will be children—we are perhaps told. Do not talk arrant nonsense of this kind, when the matter is so serious. Children will not play with matches, if those who are responsible for their management, teach them different; and if this teaching is neglected, then care can be exercised to keep matches out of their way. It may be that a fire occurs because something that is capable of generating combustion is thrown down among the saw dust of a mill, there to remain until, in the stillness of the night, when the thoughtless act has gone from memory, the mill is discovered a mass of flames. "Did not know that any harm would come from this simple act?" Somebody should know; and it should be his business not only to impart this information to all directly concerned in the work of the mill, but to place it in so conspicuous a place that no man or boy could say he did not know. THE CANADA LUMBERMAN, through its "Useful Information" column and other departments is constantly imparting information

of this character. Excuse can be taken from no man in this age of magazines and books, devoted to special interests, for not knowing all that he should know concerning his special business.

Reference is unnecessary surely to the fires that are constantly occurring through the carelessness of a smoker, or the negligence of a fireman, or oversight or indifference of some employee, whose especial duty it is to be careful, exact and faithful in his work. Unsympathetic as the words may seem, acts of this character, when freighted with so terrible results, can only be described as bordering on the criminal; and punishment commensurate with the evil done should be meted out to the guilty ones. And what apology shall be offered for the "campers' fitful fire:"

The careless one who nothing recked;
The man who thoughtless left the fire
That grew and spread destruction dire
One heedless act to forethought turned
And never a forest fire had burned.

Every one will sympathize with the man who loses a limb, or breaks a leg, or suffers the loss of even a finger, while engaged in his daily work. It would seem cruel not to extend to him this sympathy, when physically he is a sufferer, and besides he must lose time and money consequent upon the accident. And as the work of our saw mills grow and the number of employees is multiplied, these unfortunate fatalities increase. Yet, one who is at all observant and follows the causes of a large percentage of the chronicled accidents of each day, must be satisfied that gross carelessness is at the bottom of much of the trouble. Fatalities of this kind differ from fires in that, while the individual loss and suffering may be greater, the disaster in its entirety will hardly be as widespread, either as to numbers concerned or financial loss.

But the same causes give birth to both, and proper carefulness and thought applied in the two cases will act alike, in a large measure, as a preventative and remedy.

LABOR TROUBLES.

THE labor troubles among the mill men of St. John, N.B., particulars of which were given in the July LUMBERMAN, still remain unsolved. The mill men refuse to return to ten hours per day, whilst the mill owners are just as firm in their position that unless the change is made, they will not re-open their mills. One can readily understand, that having been granted nine hours a day last summer, the men do not readily see the point of going back to longer hours this summer. In labor circles this would indicate a retrograde step, as the policy of labor reform is to hold fast to every advance made and press the agitation for something better. But circumstances are not always the same. New Brunswick is near enough to the State of Maine, and the lumber products of the two countries are near enough alike, to bring the one country into competition with the other. In Maine the mill men work from 10 to 12 hours a day. Can New Brunswick hope to meet the competition of Maine with the disadvantage of from 6 to 12 hours labor a week on each man employed? Besides, there is little activity in lumber circles in New Brunswick this year, making the conditions of trade just to that extent unfavorable to them. Deals which a year ago were selling for \$20 a thousand bring only \$14 to \$14.50 now. A drop of this kind is a serious affair to a mill owner. One has said in an interview, that with his firm it would take \$100,000 off the season's business.

What have the mill men to do with this? Not a little. Capital and labor have got to be in sympathetic touch with each other, or else there will ever be discord, and continued loss and worry to both. We take the New Brunswick troubles for the purpose of illustration. Who more than the mill men of New Brunswick are interested in having the mills kept open? This is the source from which they obtain a livelihood? We are told that as a result of the present shut-down, 1,200 men are idle, and wages to the amount of \$21,000 a fortnight are stopped. Are not the mill men affected by these conditions? To many with families depending upon them, it means the difference between comfort and starvation. It means, besides, if the strike is continued for a lengthened period, that every day that a striker is out he is fixing a mortgage on every day's

work of the future, when work is resumed. Do workmen ever consider the extent to which a strike always hypothecates the future? The history of the labor strikes of this continent for a single decade present a record in this respect that is simply appalling.

In saying this much, we have not a word of justification for the monopolist, who would make every man his serf, rather than one with him, in extending his business. Commercial history, sad to say, contains too many blots of this character. But we go back again to the New Brunswick case for illustration. If trade is in such a shape, that it becomes a question with the mill owners, whether they shall curtail expenses, or may be close down business altogether, are not the men, as one of the parties interested, showing the better "horse sense" in lending their aid to keep the mills open? Our strongest sympathies go out with the workmen in their efforts to improve their conditions, and we believe that every day shows a greater desire on the part of capitalists to help in this direction. Despite even cases like the present the preponderance of facts in the labor world prove that employer and working man are being drawn closer together. But there is no reason why one's sympathies should not be broad enough to cover the capitalist and employer of labor. Has he no troubles? The records of trade tell of too many fortunes wrecked, and whilom capitalists, who in their struggle to keep things going have been obliged at last to give up all, and take a place in the ranks themselves. "It is not all gold that glitters," nor is the man, whose name appears on the sign above some large manufactory, the one who is finding the struggle for existence, the easiest.

The dark ages tell of a life for a life, even among gentlemen of aristocratic blood. Gentlemen do not settle their troubles to-day with an order for "pistols and coffee for two." International difficulties in the past could only be settled at the edge of the sword. Nations arrange their differences to-day around the arbitration board. Strikes and shut-outs only remain a barbarism of the present.

CANADIAN BANKING.

THE new Banking Act, which became operative on the 1st July contains several features of importance to the commercial and general public. One of these, and every one is interested here, is the large measure of protection it secures to note holders. Not only must the notes of the bank constitute a first lien on the assets, but each bank is called upon to contribute annually to what is to be known as a redemption fund. Many know from dearly bought experience, that the heavier losers, in the case of a bank failure, comes not unfrequently on those, who cannot afford to hold on for any time to the bills they may have in their possession, and their position being taken advantage of by speculators, they are influenced to dispose of this money at, what is to them, a ruinous sacrifice. It is expected that this redemption fund will be helpful in remedying this evil, as it is to be used, in the case of a bank's insolvency, for the purpose of meeting the notes of the defunct bank within sixty days. Another valuable feature is that all bank issues in Canada are payable at par. It is absurd that a Canadian bank bill should be worth one hundred cents on the dollar in one town, and be subject to a discount in some other town. The provision of the new act, which removes this anomaly, will be welcomed as a piece of common sense legislation. Playing at banking by novices, or starting a "money shop" by unscrupulous money sharks will not be so easy a thing in the future. A quarter of a million of dollars has to be paid in before opening, and no one is eligible as a director of a bank of \$1,000,000 capital or under, unless he has fully \$3,000 of paid-up stock. For a bank of over one million capital a director is obliged to have \$4,000 of fully-paid-up stock. Whilst it would be unwise to enact any legislation, that would have a tendency to hamper so important an adjunct to trade, as the banking system of this country, yet from the very direct relationship, that it holds to each individual citizen of the commonwealth, and because so disastrous are the results to the entire community, when a false step is made, too great exactness cannot be insisted on, and the people can be depended upon to support all wise legislation in this direction.

EDITORIAL NOTES

IN ANSWER to an enquiry from Hon. Senator Flint, the Premier, Hon. Mr. Abbott has stated, that in view of the proposed reciprocity negotiations with the American Government in October next, no tariff changes affecting lumber would be introduced at Ottawa this session.

A SUPPLEMENT of the New York *Lumber Trades Journal* has been printed containing a complete account of the contest of the New York lumbermen with the representatives of the trade unions, telling how the fight began, how it was fought and how it was won. It is known to our readers that this fight was the means of paralyzing the lumber trade in the east, just on the opening of the present season. Thanks, however, to the courage of the lumbermen, the fight was of comparatively short duration, and victory was theirs.

A TRIAL in the United States courts has developed the fact that there is considerable wealth embraced in the sunken logs in the logging streams of Michigan. In dragging the Au Sable River for sunken logs, 100,000,000 feet was secured within a very short distance, and now the statement is going the rounds that it is believed there is 150,000,000 feet of logs sunk in the Au Sable alone. These have been calculated at \$6.00 per thousand, which amounts to \$900,000. And the query arises, if this is the wealth at the bottom of one river, how much wealth is lying at the bottom of the various streams, not alone in Michigan, but in logging streams elsewhere as well? An explanation may here be found for the shortage which lumbermen have been unable to account for, when the scale of the boom companies have run hundreds of thousands of feet short of the scale in the woods. As this deficiency never shows itself in logs brought in by rail a strong argument is made for the transporting of logs by rail.

VERY considerable attention is given at the experimental farm in Manitoba to the cultivation of young trees. A recent report says, that millions of native maples are now coming up in one patch. Besides there are 10,000 small elms, which are doing well. The cotton wood from Dakota is hardy and grows very quickly. White birch is doing well and the native spruce trees show an encouraging growth. Some idea of the manner in which the people of the northwest are interested in tree culture is further indicated in the report of Prof. Saunders, of Ottawa, who states that one hundred thousand trees had been secured for these territories, and an announcement was made to this effect. Within five or six weeks after the announcement applications were received covering another hundred thousand. The government have arranged to meet the additional demand. Let this spirit continue and the time is not far remote when the plains of Manitoba and the Northwest will, metaphorically speaking, blossom like the rose.

EXAMINATIONS under the Ontario Cullers Act have been in progress in different sections of the province during the past month. The act provides that no one will be allowed to measure logs cut on the crown domain in Ontario without a government license, and to obtain this license candidates for the position of cullers must first undergo an examination conducted by government examiners. The examination is a written one throughout and consists of twenty-nine questions. (1.) How long have you been engaged in culling and for whom? (2.) How would you measure a log without defects? (3.) How would you measure a defective log? Eleven of the papers had diagrams of logs attached, showing peculiar defects in each. There were a few "catch" questions, two particularly—12 and 18. Number 12 was a diagram of a log thirteen feet long and nineteen inches in diameter, showing seven punk knots on the sides and rotten at both ends. The question

was asked, what would you do with it? and answered, "If I met that fellow in the bush I would not recognize him." No. 18 was, "How should a log thirteen feet long, fourteen inches in diameter at top, and seventeen inches in diameter at the butt, having several case knots on sides, and showing indications of rot at both ends, be treated?" Of course the log was a dead cull. The last paper was making out the culler's return of measurements with affidavit attached.

THE lumber interests of the continent will receive good prominence at the coming world exhibition in Chicago. Canada has received an invitation to make an exhibit and we have no doubt that the lumber section will bear the marks of the enterprise of Canadian lumbermen. We certainly hope so, and will be glad to know that they are already making a movement in this direction. The lumbermen of Washington have promised to contribute all the material necessary for the construction of the building of that State and the Northern Pacific has agreed to transport to the exhibition free of charge. Tulare, California, proposes to furnish a very novel exhibit for the fair. From a gigantic redwood tree, 390 feet high, and 26 feet in diameter, will be cut two lengths forty-five feet long, and these will be transformed into full-sized railway coaches by hollowing out the interior. The rough bark of the tree will be left on the roof and on the sides and ends the natural wood will be left unpolished. The interior will be finished after the style of Pullman cars. One will be a buffet dining car, with bath, barber-shop and kitchen, and the other a sleeper, with observation room. Ordinary car trucks will be put underneath, and the men of Tulare, with their wives and children, will make the trip to Chicago in these strange coaches and live in them while there. The intention is to keep these cars in the exposition grounds, and to sell as mementos the portions of the tree cut away in their construction.

THE sawdust question made itself known at Ottawa this year, though nothing more definite was attained than a promise from the Hon. Mr. Abbott, that next year the government would do something. The question came to the front by Senator Clemow introducing a bill, which proposed to take from the government the power it has at present to exempt any rivers or parts of rivers from the operations of the law against allowing sawdust and other mill refuse to fall into them. The Senator afterwards withdrew the bill on the strength of the promise of the Premier. Hon. Mr. Snowball, the well-known lumber king of the Maritime provinces, placed himself on record in a speech which indicated plainly where he stands on the question. He pointed out that the Miramichi river is one of the most important of the lumbering, as well as of the fishing rivers in the Dominion. Twenty five years ago the local government made such regulations as prevented the mills on that river from throwing their refuse into the water. The regulations were carried out so faithfully on the part of the mill owners that on the main river, where Mr. Snowball stated there are more sawing powers than there are on the Ottawa, there is not one shovelful of sawdust thrown into the river. He deprecated in vigorous terms "the disgrace, that right under the Parliament building, right in the face of the government, this evil has been allowed to exist to the present day," and expressed himself as delighted to hear the Prime Minister say, that action is to be taken in the matter.

AMERICAN lumber exchanges report more than the usual movement of Michigan lumbermen into Canadian pine districts. They are favorably impressed with the conditions for cutting timber in this province, whilst the stumpage with us is cheaper than in their own pine States. Mr. Wm. Ryan, of Brown & Ryan, Saginaw, Mich., is one of the latest visitors to our pine limits, and is likely to make some investments. We suppose there are those who look upon this movement by American investors with a certain measure of dissatisfaction. Why, we hardly know—only that they do so. English gold is to-day largely controlling the manufacturing interests of the United States, and the past year has witnessed a remarkable and increasing influx of British capital into the States. No tangible

reason would seem to exist for the exclusion of foreign capital from any country, and if our American friends see opportunities for investment in Canada whether in the woods, the mines or commercial pursuits—so long as we have the article to sell, why not sell it? Their greenbacks these days count one hundred cents to the dollar, and our people will lose nothing by the circulation of these in the country. In turn, our merchants are prepared to cross the border with Dominion bank bills, subject to no discount either, and buy those products which conditions in that country make it profitable for us to buy. That Chinese wall is about the only thing that hits either party.

A DECISION has been given in the case of the Bank of Montreal vs. the J. E. Potts Salt and Lumber Company, of Detroit, Mich. The bank asked the foreclosure of mortgages aggregating \$700,000. This step was opposed by the unsecured creditors, who knew that an adverse decision meant that amount less in assets to be distributed among them. The decision given by Judge Kelly at Detroit on 6th ult., affirms the validity of the mortgages thus leaving the other creditors out in the cold. The common notion has been that an insolvent corporation has no right to distribute the assets, except pro rata among all the creditors. The judge does not do away with this belief, but makes the point that temporary financial inability to tide over a stringent money market or to meet maturing notes without borrowing, is not conclusive evidence of insolvency. In the Potts case he considers that, instead of being in the light of preferred creditors, those who secured mortgages were bona fide creditors. The mortgages, furthermore, did not cover all the property of the corporation. "Until proceedings to dissolve the corporation under the statutes," stated the judge, "or upon sequestration of the corporation assets and appointment of a receiver, the corporation has control of its assets and may sell and mortgage like any individual." The failure of this firm is fresh in the minds of Canadians from the fact that it was supposed to be responsible in a measure for the suspension of the Federal Bank of this city from which a large credit had been obtained.

AT the present time when activity is general among Canadian shingle mills, something may be learned by reference to the work of Mr. Charles Boyden, who ten years ago was the shingle king of the world, and owned a mill at Grand Haven, Mich., with a capacity of 1,000,000 shingles and 50,000 feet of lumber daily. He had his own views of conducting the shingle business, and his own ideas of what should constitute a good shingle. In conversation with a representative of the *Northwestern Lumberman* he once said:—"There are some who see no merit in a shingle unless it is long, clear and thick. I may liken shingle manufacturing to tailoring. One man may want a suit of clothes that cost \$75, but at the same time there are a hundred men who want suits that cost \$15 each. We let the high-priced men buy some where else. We make shingles for the masses. Last year we closed our mill several millions behind on our orders. If there is any man who thinks that a shingle is better for having a planed butt, he is, of course, entitled to his opinion. But let me ask you to experiment a little. Take two shingles; with a buck saw cut a piece from across the butt of one of them, and with your knife make the butt of the other smooth and even. Place them side by side in the sun, and the one that is finished so nicely will check an inch or two, while the rough sawed one will not check at all. Then again, go on to an old roof, and notice where the shingles wear out first. The wear is right in front of the lap, and is caused by the water running from the shingle above it. The thicker the shingle the greater the force there is to the water. A shingle with a thin rough butt will outlast a fancy shingle every time, and when on a roof looks just as well from the street." This is the philosophy of only one man, it is true, but of a man who made a conspicuous success of the work he had undertaken. Of late Mr. Boyden has given his attention more particularly to lumbering, being to-day, president and treasurer of a large lumber company at Neelyville, Mo.



A STATEMENT has been given general circulation in Canadian newspapers, based on a letter to the *Timber Trades Journal*, of London, Eng., from its Ottawa correspondent, saying, that "the shipment of deals from Ottawa to England, is far greater this year than it has been for any previous year." "A Shipper" gives this an emphatic denial. He says the statement is "utterly wrong, reckless and absurd. It is implied that Liverpool takes the Lulk, if not the whole of these magnified shipments. If this correspondent had not cut short his remarks where he did, he might eventually stumbled on something approaching a fact."

I have a letter from a Peterborough lumber firm asking for the latest information relating to the preservation of burnt pine. Canadian lumbermen, of late years, and this year has been no exception, have suffered severely from forest fires. Our American lumbermen have in the past been great sufferers in this respect, and I understand, that some of them have made a study of the question, and are in possession of the best information that is desired by our correspondent. For the general benefit of the craft in Canada, I should be glad to hear from any of our friends

"With all this talk about the great amounts invested in southern timber by Michigan men," said Walter T. Peale, of Saginaw, Mich., a few days ago, "one would think that our timber was nearly all gone. That is a big mistake. We were so very foolish at the start as to ship a great deal of timber away in the rough, but this is stopped and factories for manufacture of doors, blinds, etc., are increasing wonderfully all over the state. The abolition of the Canadian export duty on logs is already being of great benefit to us. Over 100,000,000 feet of lumber will be sawed in Saginaw this summer. Every year this will increase. We have many years of prosperity before us yet."

"Business is slow," said Mr. Willard W. Brown, the wholesale lumber merchant of Buffalo, N.Y., whom I met a few days ago. "But we look for good trade in the fall. Crops are good. We are just going to have big crops this year. Wheat is looking splendid. Then we send our wheat across the Atlantic, and back comes British gold for it, and things commence to hum. Yes, the New York strike and boycott affected our trade somewhat. I commend the lumbermen of New York for the bold and united front that they showed in this trouble. If they had not acted in this spirit, the boycott might have been in existence to-day. If the men had succeeded they could have gone on and closed every yard in New York. When workingmen organize, capital must organize too."

Meeting Mr. R. B. Joyce, a few days since, and knowing that for some years he had been actively identified with the lumber trade of New Brunswick, I queried him in regard to the strike among the mill men of St. John. Said he: "I can remember when eleven and twelve hours was a mill man's day. He would start work at 6 a.m. and keep it up till 6 or 7 p.m., with only the break of an hour for meals. This was simply killing. The work makes too great call on the physical man for even the strongest man to keep this up long. Other employers more considerate would have a break of an hour in the forenoon for a meal, besides the regular dinner hour, which reduced the working hours to ten, rather more reasonable. On the other hand there are and have been cases where the work was kept up until 7 p.m. and a day of twelve hours made up. I know how hard it is for the mill owners to get their money out of their investments on a short working day—at least they think so—when

eleven and twelve hours is the day in Maine. But my own opinion is that the reserve of strength on a nine hour day would be such as to produce more actual work within the week than on the longer day."

To what uses will the products of the forests not be put? I have learned of an hotel in Hamburg built entirely of compressed wood as hard as iron and rendered absolutely proof against both fire and the attacks of insects by subjection to chemical processes. Then what a close relationship is growing up between the wood and paper trades. Sixty-seven cords of poplar is used, for example, to print a single edition of the *Philadelphia Record*—150,000 copies of a twelve page paper. In 22 hours from the time of felling the tree it had been turned into printed papers. A paper averaging 50 cords of poplar daily would consume 15,250 cords annually. In Japan, where the best paper in the world is made, mulberry bark is used. The bark grows on a sort of bush. It is stripped from the young shoots at certain times of the year, just as willow is gotten in this country to make baskets with. The shoots are allowed to grow about three feet long before they are clipped

Where is the man without a sweet tooth—somewhere? Editors possess them, I suppose, like other mortals. The mail clerk of the LUMBERMAN has shown me a letter from an American lumber firm, renewing their subscription to this journal, and adding: "The CANADA LUMBERMAN is a credit to journalism in your country. It is ably edited, and tastily gotten up. We could not do without it in our office." I know of no one who has a better right to sweetmeats than this self same editor. I say eat the candy my friend and relish it. A hearty cheer does every man good in his work. My readers all know the oft told story of the fireman who was ascending a high story to save a child, who was hemmed in by fire and smoke, and must soon have perished. It hardly seemed possible, that the fireman would be able to reach the top of the ladder. He was about giving up in despair. A hearty cheer came from the crowd below. He made one desperate effort inspired by the enthusiasm below, secured the little one and descended safely with her in his arms. The rough places of life with everyone—for who meets not brambles and thistles in his pathway?—is made much the smoother by the heartfelt cheer such as cheered on the fireman to save the little child. These things had far more to be given in the present time than in the obituaries that follow after one is consigned "dust to dust, ash to ashes."

Wonderful finds are not always the most wonderful things in the world. "A wonderful find" always makes a good newspaper item, especially in the "silly season," and the item is often more wonderful than the "find." But there are some good stories extant that can be authenticated sometimes by ones own eyes. The attention of visitors to Toronto has no doubt been attracted by a peculiar "find" that is on exhibition in the emigration offices of the C.P.R., on the corner of York and Front Sts. It will naturally have a special interest to lumbermen, because the "find" was found in a tree—and trees are the stock-in-trade of the lumber business. In one of the windows of these offices will be seen a good sized round of timber sawed from a tree that had its home at one time in the Assiniboine section, near Portage la Prairie. Placed in the heart of this piece is a bone of a buffalo, about eighteen inches in length. How came it there? The tree which was cut down a few years ago, is supposed to have been about 170 years old. The theory is that when a mere sapling, Indian children, who had been playing in the locality, and perhaps had had Buffalo for dinner—aye?—took this bone and set it in a recess in the tree. No more was thought of the affair. The tree grew and grew and the bone was incased in the growth. But in later days, when the woodman had gone forth to slay these giants of the forest, this tree was cut down and the bone discovered. Another good story of interest to the lumber trade comes from Prince Edward Island. Fifty years ago a valuable silver watch was lost by Mr. Holland, the son of Major Holland, well known in the provinces

in those days. A week ago the watch, which was identified by the initials, E. H., on the cover, was found under the roots of a large tree, which had then been chopped down. The watch, I am told, is almost as good as new after its long burial.

The annual period for holidaying has come around and the answer "out of town" meets one more frequently from the business man's office these days than does any other. Going away for the summer has in some cases I believe become a mere fashionable fad. Those who live in the lap of luxury ten months in the year cannot urge, that they must needs spend the other two months in increased luxury, as a means of recuperation from the toils and burdens of the ten months. But my business does not take me among those who spend their days on beds of roses and feed daily with a silver spoon on gold jelly. If there is any lumberman in Canada who finds that he can successfully carry on his business on these lines I want to see him, and I promise him that you shall hear all about him in these pages. No, the business man of the present day has got to have lots of "get up" about him, if his business is to prosper. I am satisfied, that nowhere is the mental tension greater than in mercantile life in the present day. And the more extensive the business man's undertakings, and often the more successful these are, the greater the strain and the heavier the mental burden. "A breaking up of the humdrum of life," as one writer has put it, "and an entire change of life for a couple of weeks once a year is of wonderful benefit to man. It shakes him up, gives him new ideas of life, takes him out of the ruts and delivers him from the charge of becoming a mere machine." I get disappointed in my news gathering, when I find the majority of my clients are summering it, but I know that when I see them on their return, they will fairly bristle with new ideas as an outcome of their summer's outing.

Suggested by an interview in the ELI column of the July LUMBERMAN a New Brunswick reader writes. "I recollect over 50 years ago when ships came from foreign countries into St. John harbor and unloaded their cargo of lumber into British waters and reshipped it and took it to the English market to save the duty they imposed to protect our lumber trade, when our forests were clothed with the most majestic pine and spruce. Sir P. Thompson was at the time sent from England to look into our lumber trade. On his return he recommended the reduction of the duty on foreign lumber and the sons of New Brunswick burned his effigy on the square in St. John. Now our forests are denuded of pine and almost of spruce and the only valuable wood left is our cedar, which is getting slaughtered right and left for shingles; and Americans are allowed to cross our lines and drive it by our mills by the million feet and manufacture it in Maine to save American duty. And O'Leary the great dealer in our short and small spruce, is taking it out of our forests and towing it out of our country in rafts of 3,000,000 ft. at a time; all goes to kill and damn our future lumber trade, all for the want of a protective export duty. Compel the manufacture of our lumber at home and secure our lumber trade for Canadians instead of Americans. Not one stick of lumber should be allowed to leave our shores unmanufactured. Speaking of the Baltic lumber, perhaps it is not generally known that there they haul their lumber in many cases 15 and 20 miles before it is shipped and the wages are less than one shilling per day. Well they may compete under such circumstances, so long as their lumber lasts. We hear considerable blathering about preserving our forests from destruction, and tree planting to meet future demands, but an ounce of prevention is worth a pound of cure. Exact an export duty at once and stop the slaughter of our forests to play into the hands of syndicate lumbermen and give our local mills a chance to secure a few sticks on their streams to saw."

It is estimated that one building at the World's Fair, Chicago, will take 30,000,000 feet of lumber. This will probably be about half of the total consumed by these buildings.

OTTAWA LETTER.

Conditions of Business—Views of a Leading Lumberman.—Speech by Col. O'Brien M. P. for Muskoka on the Export Duty.—Work of the mills.

[Regular correspondence CANADA LUMBERMAN.]

The general outlook of the lumber trade is, in the opinion of a leading lumberman of the Chaudiere, very satisfactory. "For the past year or so business" said he "was very dull and purchasers were slow in buying, but now since there is a stir in the market they will begin to lay in a good stock, especially when it is known that the output of lumber here is to be very small this summer. In my long experience in the business I do not remember any season in which so little lumber was being cut as at present, and the quantity will not only increase any, as a large number of logs belong to different firms got stuck in creeks while on the drive, owing to the lowness of the water this spring. It is more than likely, however, that with a good spell of shipping now, the lumbermen will become encouraged and will work their limits heavily next winter, and make the manufacture of lumber lively here next summer. All the shipping accommodation to local points is being eagerly snatched up, and large numbers of men are engaged loading lumber on cars." This opinion is confirmed by the depleted condition of the lumber yards, for never perhaps have they looked so destitute, showing that shipping must have been brisk during the spring.

In the debate on the budget, Col. O'Brien M. P. for Muskoka made a capital speech, dealing largely with the condition of the lumber trade, as a result of present tariff regulations. He took the ground, that whilst certain advantages were obtained by the abolition of the export duty on logs, or rather because of the reduction of the import duty on lumber which followed this step, that yet the general result to the country was most disastrous. He had excellent authority for saying that the export of saw logs during the season will amount to from 80,000,000 to 140,000,000 ft. This means so large a diminution in the employment of labor and capital on our side of the lines, that the country must feel its baneful effects. Further it means a diminution in the production of our forests, so rapid and extensive, that serious consequences in the near future will follow.

Our people are looking forward with eager expectancy to the starting of J. R. Booth's new mill, which will add in a large measure to life around the Chaudiere. Five band saws and the twin circular saws have started, but we wait the buzz of the whole thirteen band saws and the other machinery with which this mill is so splendidly equipped.

Though the E. B. Eddy Co. are rapidly withdrawing from the lumber trade, the well-known energy of this firm is showing itself in other directions and where the product of the forest will be called into use. The old sash factory, of late used as a pulp mill, has been raised one story higher, and a new metallic roof put on. The big saw mill is dismantled, and the mill will be fitted up as another paper factory, though it will likely be January before operations will be commenced, as nearly this time will be needed to put in all the necessary machinery. The workshop in rear of St. John's church is being partly torn down and fitted up as a mill for sawing staves for the pail factory.

Though reports are not very favorable as to the getting out of logs, owing to the low condition of the water, yet a number of the drives are making their way along.

MINOR MENTION.

Eighteen men of the Egan Lumber Company are also haying along the DesMoines river.

Mill fire wood has been increased 25 cents a load. This will make a difference to Ottawa householders who use mill-wood of \$20,000 per year.

Word has been received here of the death of a well known Ottawa boy named "Jack" Gunnan, who was killed while at work in a Michigan mill.

Mr. J. R. Booth has sent a gang of twenty-five men to his farms on his Upper Black river limit to cut hay for the shanties on that limit next winter.

A lad 12 years of age from Gilmour's mill at Chelsea, stole fifty dollars from a boarding house of that place a short time since. He started for Ottawa, stopped a

night in the Flats, and made away with a watch from a fellow occupant; he next went to Hull and stole a pair of boots; and so far this amateur Jessie James has evaded capture.

Ottawa July 25th, 1891.

BRITISH COLUMBIA LETTER.

A Big Lumber Deal—English Capital on the Coast. A Budget of News Notes.

[Regular correspondence CANADA LUMBERMAN.]

The transfer of the Moodyville Saw Mill Company to an English syndicate to be known as the Moodyville Land and Saw Mill Company has finally taken place. The money has been paid over and the new owners are in possession. The transaction amounts in value to about one million dollars, and is probably the most important which has occurred in the commercial history of Vancouver. The board of directors is a very influential one, comprising the following noblemen and gentlemen: The Earl of Chesterfield, the Earl of Durham, Mr. Arthur Heywood Lonsdale, Colonel, the Hon. Oliver Montague and Mr. Edmund Evan-Thomas. Messrs. Wulffsohn & Bewicke, (Limited), will be the general agents in British Columbia, and Mr. Johann Wulffsohn of that firm the general manager of the company.

The property acquired by the new company is a very extensive and valuable one, including large and valuable tracts of land besides that embraced in the mill property itself. On the north shore of the Inlet, surrounding the mill, there is 1,786 acres, with a valuable water frontage of three miles. Other valuable agricultural lands are situated at Mud Bay, Strainer Island in the Coast District and elsewhere, aggregating 9,384 acres. There are also no less than 31,448 acres of valuable timber limits included in the purchase. The local management of the mill and the general conduct of the business will be the same as at present, the results of the operation of the business having given results that show this policy to be in accord with the interests of the concern. The successful completion of the negotiation by Mr. Wulffsohn cannot fail to be of great advantage to Vancouver.

A BUDGET OF NEWS MATTER.

The construction of the Nicaragua Canal is expected to consume considerable lumber from Puget Sound and B. C. ports.

A new industry, the British Columbia Paper Manufacturing Co. have decided to locate at Alberni, on Vancouver Island.

No bush fires of a destructive nature are reported yet and as the summer is advancing very little damage will likely be done by them this year.

The Canadian Pacific Lumber Co.'s new wharf on Lulu Island is nearly completed. Their portable mill is ready and soon will be cutting for the main mill.

The Vancouver Manufacturing and Trading Co. are building a dry kiln 40x35 feet. They have lately added a boiler house and put in a new Corliss engine. The mill will be taxed to its fullest capacity when it starts again.

The Taylor Mill Co., Ltd, have very much increased their output of lumber, sashes, doors, and everything in the building line. This is the concern that took over the plant and buildings of the Queen City Planing Mills, Victoria.

During the month the long expected ship *Duke of Argyle* arrived safely, discharged her cargo and went to Astoria, on the Columbia river, to load wheat for Great Britain. The *Lanarkshire*, *Morayshire*, *Noddleburn* and *Rothsaw Bay* are expected now.

The *Louisa Maria* has completed loading for Sydney, at MacLaren-Ross Lumber Co.'s mill. The *Leonor* will finish for Melbourne by the 18th inst. This is the first work the mill has done and gave the greatest satisfaction. Not a hitch occurred and all the machinery worked smoothly.

All the mills continue taxed to their fullest capacity to fill orders. The Brunette Saw Mill Co. and B. C. Mills F. & F. Co. ship from three to five car loads daily to the Northwest, Manitoba and Ontario. The shingle

mills are all increasing their outputs and shipping largely to Manitoba and the Northwest.

The representative of a large lumber firm in Adelaide, Australia, is now here for the purpose of arranging for a line of lumber steamers between British Columbia and Australia. The *Remus* and *Eton* have been chartered, but another is wanted. This is a most important matter for the lumber trade in British Columbia and it is to be hoped the venture will be successful.

H. G. R.

New Westminster, B.C., July 25, 1891.

VIEWS AND INTERVIEWS.

Sweden has an area of 170,900 square miles, 64,000 of which is timber lands.

One of the interesting objects which will be exhibited at the World's Fair is a table, made from the timber of the house in Funchal, Madeira, in which Columbus lived for a time before he began his voyages of discovery.

The average annual time of employment for mill hands, according to the United States census report, is 7.11 months in Michigan, 6.43 months in Wisconsin and 5.72 months in Minnesota. Has the climate anything to do with making this result as shown?

Practical lumbermen who have visited Mexico say those great forests of mahogany and other woods fail to materialize. Others, who made efforts to build up a trade in South American woods, tell how the difficulties of getting the really valuable timbers out of the impenetrable wood, almost, if not quite, overcome all advantages.

It is worthy the attention of Canadian lumbermen that the output of North Carolina pine during this year is expected to be about five hundred millions of feet, estimated as worth \$6,000,000. In addition to this the production of cedar, poplar, cypress, holly, ash and gum is valued at about four and one quarter millions of dollars.

Mr. Wolfred Nelson, who is writing a series of papers in the *Montreal Gazette* on commerce with Jamaica, gives a deal of valuable information relative to the conditions of trade with this country. Touching the subject of lumber he tells us that there is a steady demand in Jamaica for Canadian white pine, which is everywhere to be seen there, but that it was purchased in New York through middlemen. Very naturally Mr. Nelson asks, why not reach the Kingston market direct? The spruce of the Maritime provinces is almost useless in any hot climate, as wood borers soon reduce it to a perfect honeycomb. "In fact any wood that holds its sap is only food for the many voracious and destructive insects that infest the tropics." There were shipped from the Maritime provinces last year to the British West Indies \$150,000 worth of planks, boards, joists and scantling, "while Jamaica alone imports over five million (5,000,000) feet of white pine, almost every foot of which comes from New York. All this can be changed if Canadian lumbermen wish, and Canadian vessels could easily secure return cargoes of sugar, fruit, dye woods, etc. It awaits Canada."

The notable suit of Simpson Rennie v. the Utterson Lumber Company will go to the Supreme Court. The defendants are not discouraged because already twice beaten, but are prepared to put up security for costs to carry the case to the Supreme Court. The facts are as follows: Some years ago Simpson Rennie, who is a Scarborough farmer, loaned \$4,000 to two men who were running a saw mill on the shores of Mary's Lake. Rennie took a mortgage, as he supposed, on the mill property and adjoining lots. The mill men assigned subsequently to R. H. Gray, Toronto. At this stage the Utterson Lumber Company was formed by J. W. Lang, Ald. W. W. Park, Wm. A. Mitchell, of Toronto, and other men. They bought out the mill, and ever since have been endeavoring to establish the fact that Simpson Rennie's mortgage did not apply to the mill, but only to the adjoining land. The mill is built on piles in the lake and no part of the building proper touches the land, which facts were not made clear in the mortgage. Nearly two years ago Mr. Justice Falconbridge gave judgment in favor of the plaintiff, and lately the Court of Appeal sustained this decision.

THE NEWS.

ONTARIO.

—J. H. Sharp, saw mill, Sudbury, has assigned.
 —James Bateman, planing mill, Toronto, is dead.
 —Delaney has 30,000 logs stuck in the Spanish river.
 —The big saw mill at Burk's Falls, is again running.
 —M. L. Killam, lumber, Scotch Settlement, has failed.
 —W. F. Kay is operating a portable saw mill at Otterville.
 —The saw mill of the late J. W. Brisly, Flesherton, is to be sold.
 —Shaw's new shingle mill at Novar will soon be in operation.
 —Mr. Grenside, Mitchell, is to start a saw mill in Mount Forest.
 —The saw mill at Cheesville is running full time and trade is good.
 —Thos. Hiscock, a speculative builder of this city has assigned.
 —Malins & Carter contemplate the erection of a saw mill at Burgessville.
 —Thomas Rosewames mill at Cottom is in charge of Mr. Robert Quinn.
 —McKechnie & Co., will put new machinery into their mill at Glenora.
 —Wm. Willis & Co., lumber, London, have sold out; firm now Willis & Kernohan.
 —Hurdman & Co's mill at Ottawa which had ceased work for want of logs is running again.
 —The mill at Thompsonville, which has been undergoing repairs, is now in running shape.
 —Orr Brothers, of Maidstone, are shipping lumber in considerable quantities to Detroit, Mich.
 —A sneaky thief stole \$46 from the till of the Masson timber mill at Hintonburg a few days ago.
 —The P. S. L. Co's mill at Parry Sound, which has been shut down for some time, has again started.
 —Shipping is fairly brisk at Parry Sound, the lumber interests contributing a good share to the trade.
 —It is said that an Ottawa contractor has bought all the slabs from the mills and will form a corner in wood.
 —Wm. Emery, of the Emery Lumber Co., Wahnapitae, was fined \$10 and costs for taking moose out of season.
 —A Stratford lumber dealer, by name, F. S. Miller, has levanted, leaving private banker Kane, of Gorrie, \$265 short.
 —One of the Howry camps at Little Current, has disbanded for the meantime. The firm intend to start in the woods in August.
 —Eight million feet of logs from this province will, it is said, be received by the Detroit mill at Bay City, Mich., this season.
 —James Shand, of Creemore, has sold his foundry to Hawkins Bros., of Sundridge, and taken a saw mill at Eagle Lake as part pay.
 —Mr. Charles Bell, of Colchester south, has traded his saw mill and \$1,000 cash for a 60 acre farm, the property of Mr. John Larabee.
 —A lot of trucks and chains seized from the Essex Land & Timber Company for undervaluation, have been sold by the custom's authorities.
 —An old lumberman down from the Kippewa states that the water in that tributary of the Ottawa is only falling an inch a day at present.
 —W. I. Waddifield and C. Dike, mill owners of Port Perry, have been fined \$26, for allowing saw dust to have gathered in the stream at Siloam.
 —Thistle, Carswell & Mackay have got their full stock of logs down the Constant Creek and Black Donald. They will cut about 65,000 logs this year.
 —A man named Celestier Pleret, an employee on E. Moore's raft, Pembroke, has been committed to jail to await trial for house breaking on 19th ult.
 —All the engines, boilers, machinery, waterpipes, hydrants, etc., from Gilmore's mills, Ottawa, have been purchased and removed by Law Bros. & Co.
 —The logs of the Dickson Company, of Peterboro', have come through all right and will be cut at the Company's mills at Lakefield, Harwood and Peterborough.
 —The drive of the Rathbun Co., Deseronto, has been a difficult one to move owing to low waters. One hundred and

seventy-five men were employed in bringing it down. With energetic work however, it has at last reached its destination.
 —Mr. Playfair, whose mill was recently destroyed by fire at Sturgeon Bay will cut his stock this year at the Ontario Lumber Co.'s mill at Dollarville, Midland.
 —Donald Martin of Flesherton, has contracted for the cutting of over a million shingles for the Messrs. Tanner, of Sturgeon Bay. His sawyer is Mr. Joel Smith.
 —R. Arnel, with a gang of men is driving pulpwood at Iron Bridge, Algoma. The water in the river is lower than it has been for some years, making driving hard work.
 —The new saw mill at Thessalon, erected by S. Maguire, is nearly ready to commence operations. It will cut the logs taken out last winter for the Sault canal contractors.
 —Five of the Rathbun Company's men at their yard in Gananoque took from the dock and stowed on a steam barge 24,500 feet of lumber in 24 minutes and 10 seconds.
 —The Windsor Planing Mill Company is in financial difficulties. The business will be wound up, and Mr. James Campean, one of the firm, will return to Amherstburg.
 —A large steam barge loaded with paper wood taken out of the woods last winter, has been anchored at Thessalon. The wood, it is said, will be taken to Detroit and Cleveland.
 —The Casselman Lumber Co., of Casselman, state that their loss by the recent fire will be \$60,000 over insurance. They have bought a mill across the river and have commenced work.
 —The Detroit Sulphur and Fibre Works are taking out pulp wood in large quantities from the Algoma section. Before the season is over they will have expended about \$50,000 in and around Thessalon, the centre of their operations.
 —Stave works are to be added to the Buchanan mill at Stables. This will make four stave manufacturing in the village. The Old Company mill of this place has changed hands, and is to be remodelled with a hoop and stave apparatus added.
 —Sibley & Beringer, the Michigan lumbermen, are working away at 11,000,000 feet of logs which are hung up in the Spanish river. They hope to get them down, but the water in the stream is said to be at a lower stage than ever before known.
 —The partnership heretofore existing between W. P. Keiran, Samuel McAdam and Andrew Shannon, all of the city of Toronto, Ontario, carrying on business under the firm name of "The Shannon Shingle Manufacturing Company" has been dissolved by mutual consent.
 —A man named William Howe, who has been engaged by Loper and Rumley, lumbermen in the logging camps on Battle Lake, about 25 miles from Big Forks, reports that the crops on the Rainy river are looking well and the settlers are happy and contented. The country is well watered and timbered and easily cleared for settlement.
 —It is doubtful, says the Lindsay Post, if there is a mill of its size in the whole Midland district that turns out as large a quantity and as varied a list of products as does Rathbun & Co.'s little mill at the lower wharf. The average daily output is 800 tamarac, hemlock and cedar ties, 20,080 of shingles, 4,000 ft. of lumber, 4,000 lath and 3,000 feet of square timber.
 —A man representing himself as from British Columbia engaged over 100 workmen at good wages among the mill hands at Ottawa to go west. He collected \$1 from each as a guarantee they would turn up at the railway depot. The men turned up, after losing their jobs, at the station, but the man who had engaged them had decamped with the funds he collected. Those who had no money gave him their watches.
 —Royal assent has been given to an Act of Parliament granting power to the "E. B. Eddy Manufacturing Co. of Hull, P. Q.," to change their name to "The E. B. Eddy Co. Ltd." President Eddy, in a circular to his correspondents, hopes that the trade relations, extending in some cases over forty years, may be continued and increased. A branch establishment has been opened in Toronto, in charge of Mr. Weldon.
 —A wood pulp mill and paper factory on a large scale is to be built by an American company on the Niagara river, presumably using the power of the waters at the Falls. General Sooy Smith, who will draw the plans for the buildings, says that the company intends putting in a plant that will cost \$500,000. The company has leased sixteen acres of land from the Niagara Tunnel Company. It appears that John L. Newton is at the head of company, and Mr. Hall, of Sault Ste. Marie, who owns one of the largest spruce forests in America is a member.

QUEBEC.

—Lumber shipping by large is reported dull in Quebec.
 —The mills at Magog have been shut down for a few weeks for repairs.
 —A demand of assignment has been made upon Daniel Riopel, a Montreal builder, who owes \$15,582, of which \$13,000 is secured by mortgage, the Jesuit fathers being interested to the extent of \$5,000.
 —A number of American families will be brought into Hull from Massachusetts, by the E. B. Eddy manufacturing company, to operate their large paper mills. There is a rumor afloat that the company are considering the advisability of purchasing a parcel of land adjoining Eddyville.
 —NEW BRUNSWICK AND NOVA SCOTIA.
 —The Misener mill at Edgar, Colchester north, N. S., is again running, Mr. Misener having made fresh purchases of logs which are being trucked to the mill.
 —The new saw mill at Burlington, N. S., the property of Messrs. F. A. Clark & Sons, is doing a lively trade, considerable lumber being shipped to Boston.
 —Or gang in Gibson's lumber mill at Marysville, N. B., cut 87,133 feet of deals on a recent Saturday. This is claimed to be the largest day's cut ever done in the province. The logs were taken as they came.
 —The Leary raft of logs which left St. John, N. B. on June 28th, in tow, reached Long Island, N. Y. on 15th ult. The raft is 4,000 feet long from the tugs to the end of the raft and contained about 3,500,000 feet of lumber. The rafts are differently constructed to those of a year ago. The cribs are sixteen in number.
 —Lower Stewisacke is one of the flourishing villages of Nova Scotia. Lumbering operations are conducted on an extensive scale. Alfred Dickie's mill has cut 3,500,000 feet of lumber since last summer. Mr. Dickie's mill was completely destroyed by fire a year ago, but he immediately rebuilt and has a thoroughly equipped mill for the productions in all shapes. Fifty hands are employed. In the winter season some seventy to eighty hands and about thirty horses are employed in the woods getting out logs. In addition to Mr. Dickie's work, large lumbering operations are carried on by Jacob Harvey and Messrs. A. Bigelow & Sons.
 —The shipment of spruce deals, etc. from St. John to the United Kingdom and the European continent to June 30, '91, compared with shipment for half of the previous year was as follows: The total was 59,359,941 feet of deals, which is 8,600,000 feet more than in the previous time.

Ports.	1891.		1890.	
	Deals, S. ft.	Deals, S. ft.	Beh., tons.	Pine, tons.
Liverpool	21,501,810	15,018,403	2,596	681
Bristol Channel..	19,287,513	16,669,074	187	..
Ireland	9,889,546	8,526,466
Fleetwood	2,239,225	5,889,726
Continent	4,593,637	1,801,792
Other ports	1,845,210	2,843,406
Total	59,359,941	50,748,867	2,783	681

Besides these deals there was shipped 2,678 tons birch timber and 1,228 tons pine timber, during 1891, where in 1890, same time, 2,783 tons birch and 681 tons pine was shipped. The largest shippers were M. M. Mackay, Alex. Gibson and George McKean.

—MANITOBA.
 —D. Brundrit, lumber, Balder, is moving to Melita.
 —A saw and planing mill will be erected at Lockington.
 —Lumber mills at Rat Portage are doing a good summer's business.
 —Mr. Chaloner, of Rat Portage will open a lumber yard at Napiwka.
 —The Brandon saw mill will have a gang of thirty men at work on their drive of logs.
 —The Northwestern, Ontario & Manitoba lumber association excursioned by steamer from Rat Portage to Rainy River on the 22 ult.
 —Cameron & Kennedy's mill at Norman, is again running having received a tow of 10,000 logs.
 —Rutherford & Co., of Stonewall, are putting in a saw, boiler and engine and increasing the capacity of their mill.
 —There is a jam of logs at the Assiniboine bridge, about three miles north-east of Virden. They extend back for a mile and a half, some places three feet deep. They are owned by Mr. Christie, of Brandon.
 —J. Hanbury, of Brandon talks of converting his planing mill business into a large joint stock company with a capital stock of \$100,000 for the purpose of doing all kinds of sash and door manufacturing.

—Work has been commenced with a large force of men on what is termed the Rainy river extension of the Duluth & Winnipeg, but which is in fact the new logging railway of the Itasca Lumber company, of Minneapolis. The point of junction is at Bass brook, six miles west of Grand Rapids, Mich., and the road as now projected and in process of construction will tap an exceptionally fine tract of timber belonging to the Akeley and Itasca companies.

—A. H. VanEtten, lumber dealer, Winnipeg, is in trouble and his stock has been sold by the sheriff, bringing 60 cents on the dollar. There is likely to be some further litigation over the matter. Judgment was confessed in favor of the Western Lumber Company, and other creditors propose contesting the case. Lake of the Woods mills are mainly interested. Liabilities are largely in excess of the stock, which is estimated at about \$4,000, but book accounts amount to considerable.

BRITISH COLUMBIA.

—A saw mill is to be erected at Mission.

—D. F. Adams has established a lumber yard at Victoria.

—Ward's shingle mill on the North Arm is doing a large trade.

—The Slater shingle mill at Vancouver has been purchased by H. H. Spicer.

—Another saw and planing mill is to be started at Chilliwack at an early date.

—A shingle machine has been placed in the mill of McLaren & Co., Edinburgh.

—The McLaren-Ross Lumber Company are carrying on logging on an extensive scale.

—The mill at Nanaimo is unable to supply sufficient lumber to meet the demand there.

—A \$75,000 saw mill is going up on the New Saanich town site, near the Brethour property.

—The mills at Chilliwack are taxed to their utmost capacity in supplying the local trade.

—A new sash and door factory is being erected at New Westminster by J. Galbraith & Sons.

—The barque *Leonor* will leave New Westminster for Australia shortly with a load of lumber.

—Alderman De Pencier, of Vancouver, intends going into the lumber business near New Westminster.

—The British ship *Leading Wind* will sail from Vancouver for Melbourne, Australia, with lumber, early this month.

—The steamship *Zambesi* left Victoria on the 10th ult., with a shipment of 700,000 feet of lumber for Japan and China.

—A company is being formed in British Columbia to build a fleet of large lumber ships to ply between that country and China and Australia.

—Richardson and Heathorn, Victoria, are no longer interested in the West Bay Saw Mill Co., which is now owned by the estate of Wm. Heathorn.

—A. McLaughlin is surveying new limits near New Westminster. On his return, arrangements will be made to start a number of new logging camps.

—A sale of 160 acres of the government reserve on Burrard Inlet, took place on 15th ult. The property is known as part of the Moodyville Saw Mill Co.'s timber limit.

—A week since, the Hastings mill at New Westminster, made the largest run in their history, namely 165,000 feet and for some time past it has averaged 150,000 feet per day.

—W. L. Tait & Son's shingle factory on False Creek, near Vancouver, employs 18 men and manufactures about 80,000 shingles per day. They find a ready market in the Northwest.

—Another new mill is being erected at New Westminster, under the direction of Mr. Wilson, formerly millwright for the Brunette Saw mill Co. It is expected to be ready for operation by Oct. 1.

—The Canadian Pacific Timber and Lumber Company have commenced driving piles for their new mills on Lulu Island, Fraser river, near New Westminster. The building of the mill will be pushed ahead with all possible despatch.

—L. Geo. Brown, for many years engaged in the export timber business in the Philippine Islands, has been holidaying in Vancouver. From thence he returns to London, Eng. His business in the east, which he conducted for 27 years, he has sold to Smith, Bell & Co. of Hong Kong.

—The new mill at Chemainus, the property of the Victoria Lumbering and Manufacturing Co., has started work. The machinery used is of the latest and most improved pattern, and capable of cutting 250,000 per day when running at full blast.



FIRES.

Trigger's mill, West Lorne, Ont., was injured by fire on 14th ult.

The steam saw mill of H. Ross & Co., Orford, Ont., is an entire loss by fire.

J. H. Larkin's saw mill at Terranora, was consumed by fire a few weeks ago.

Great devastation is being caused by fires along the valley of the Madawaska, Ont.

Hitchcock & Foster will suffer severely by the bush fires on Cockburn Island, Algoma, Ont.

The shingle mill of A. Van, of Foxmead, Ont., has been destroyed by fire. Loss, \$1,500.

The Imperial Lumber Company are heavy losers through bush fires in the vicinity of Warren, Ont.

Thos. Kinread, door and sash factory, Moncton, N. B., was burned out; loss about \$2,500; no insurance.

The Rathbun Company had 12,000 feet of lumber on Queen's Wharf, this city, burned on 24th ult. Loss, \$400. Insured.

Great bush fires have been raging around Bark Lake, Ont., in North Hastings and much damage has been done to timber limits.

The Pettit Bros.' mills four miles from Comber, Ont., have been destroyed by fire. Loss, \$12,000. Insurance, \$4,000.

Archer & Co., lumber dealers, of Quebec, Que., lost \$10,000 to \$15,000, by the destruction of their lumber yard by fire on the 10th ult.

Bush fires have been doing considerable damage in the Lake Superior region. Near Fort William there was danger at one time to outlying buildings.

Forest fires are raging everywhere on the North Shore. Advices from Cockburn Island point to the entire destruction of all standing timber. The loss will run up into hundreds of thousands. Indians are blamed. White people are also very careless.

Montreal, Que., had a big blaze on 13th ult., resulting in the destruction of the lumber yards and sash factory of Charles Brouillette & Co., St. Catherine St.; Roberts & Co.'s lumber yards and the property of Prolontaine, lumber and building supplies.

The extensive mill plant of Mitchell Bros., at Jennings, twelve miles north of Cadillac, Michigan, was burned. Eighteen million feet of lumber, the big planing mill and eight dwellings were destroyed, involving a loss of over \$200,000. The property was insured for \$150,000.

The fire on the Pembroke limits, Pembroke, Ont., has almost spent itself. A fire is raging on the old Capt. Findlay limits on Black River, now owned by Mr. Booth. A tremendous fire is raging on the Temiscamingue Government limits, and Bush Ranger, P. McGaughey, has taken down a gang of men to fight the fire. A fire started in Mr. W. Inglee's bush just outside the town.

The extensive saw mill of the Georgian Bay Consolidated Lumber Company, Byng Inlet, Ont., was completely destroyed by fire on the 3rd ult. The loss is about \$5,000. The following is a list of insurances: On the saw mill—Aina, \$2,500; British America, \$2,500; Mercantile, \$2,500; Royal Canadian, \$2,500; Hartford, \$2,500; Phoenix of England, \$2,500; Scottish, \$4,000; Liverpool, London & Globe, \$5,000; London & Lancashire, \$5,000; Western, \$5,000. On stores and stock—Royal, \$1,000; Manchester, \$2,000; Aina, \$3,500; Western, \$2,500; Lancashire, \$3,000. On tramways—Royal Canadian, \$5,000. On storehouse—Lancashire, \$1,000; Aina, \$1,500; Western, \$1,500. On lumber—Aina, \$5,000; Manchester, \$4,000; Phoenix of Brooklyn, \$4,000; Western, \$5,000; London Association, \$2,500.

CASUALTIES.

Alex. Young, of Essex, Ont., fell from a load of logs and was seriously injured.

A. E. Armstrong lost the fingers of his right hand in a planing mill at Peterborough.

A lumberman at Bickly Bay, B. C., had two ribs broken and was otherwise bruised by a falling tree.

A lad fourteen years old, named Vance, had his knee horribly mangled in Ryckman's planing, Waterdown, Ont.

Mr. John Sublier, Booth's foreman, got his leg broken at Sturgeon's Falls, Ont., by a stick of timber falling on it.

A man named Bertrand had his fingers smashed a few days ago while at work in Eddy's mill factory, Hull, Que.

A despatch from Manitoulin Island, Ont., says that W. C. Latham, of Providence Bay, was killed while skidding logs.

A tree fell on Joseph Hopkins, of Vancouver, B. C., breaking one of his legs. He was connected with Tyler's logging camp.

Thomas White, a workman engaged in the Moodyville Saw Mill, B. C., had the end of one of his fingers crushed by a roller.

John Kingswood, an employee of Still's factory, St. Thomas, Ont., had his hand badly lacerated by a circular saw on 13th ult.

Recently, while giving directions in his factory, Mr. Schell, of Alexandria, Ont., had his left hand caught in the planing machine and lost two of his fingers.

A raftman named Ferdinand Fournier, was drowned in the rapids of Lake Deschênes, on the Ottawa, in attempting to spring from one crib to another.

Chas. Coch, an employee of the Union Furniture Co., Bass River, N. S., had his left hand badly cut in a circular saw in their factory, a week since.

William Walder, the head sawyer at Leary's saw mill, Whitechurch, Ont., had several arteries of the left arm severed by falling on a newly sharpened saw.

A young man named Thomas Nicholson, while working in the sash and door factory at Haslem's saw mill, Nanaimo, B. C., had his arm nearly cut off below the elbow.

On the 8th ult., Mr. Chas. Hebb had three fingers of his right hand taken off by a circular saw, while working in the steam mill of Mr. Alex. Nelson, Bridgewater, N.S.

A young man named Charbois, an employee of the Georgian Bay Co.'s saw mill at the mouth of the Severn, went out in a canoe on Sunday 19th, and upset and was drowned.

Wm. Parker, of Sundridge, Ont., met with a painful accident during the month, being struck on the head with the fragment of a large pulley, which went to pieces in Dunbar's mill.

John Chambers, employed in Senkpeil & Hauser's broom handle factory, Elmwood, Ont., was struck in the stomach on the 17th ult., by a piece of board thrown by the circular saw and died from the effects.

Theophile Carriere, an employee of Ross Bros., Buckingham, Que., was drowned a week since, owing to the bank of the river giving way, while he and a gang of men were busy excavating for foundations for a new slide. Five others narrowly escaped.

A logger named Thomas Michand, in the employ of the Hastings Saw Mill Co., Vancouver, B. C. was killed in the woods on Valdez Island, a few days ago, by a falling tree. His head was crushed into a pulp and death was instantaneous.

A promising young man, named Jas Malouze, of Parry Sound, Ont., lost his life on the Sequin River, a week ago. He was working on Wilder's drive and took a step forward to get on the capstan crib within reach of him, when his foot slipped on the driftwood and he fell heavily on his side on a pin which stuck up at the corner of the crib, receiving injuries from which he died in a few hours.

Mr. George Gordon, of the Deseronto, Ont., machine shops, was the victim of a serious accident on 6th ult. He was engaged putting up a Sturtevant steam heater at the Napanee Cement Works, Napanee Mills, when suddenly it fell, crushing him beneath its weight. Though the injuries are severe, they are not likely to prove fatal.

—The British Columbia Iron Works are now engaged building a logging engine for Mr. J. M. Stewart's logging camp on the North Arm of the Inlet. It is of an American pattern, the first of the kind ever made or used in British Columbia and will be of 75 nominal horse power.

—A small saw mill is being erected at Tulameen for the Tulameen Gold and Platinum Mining Co. The mill will be erected on the property of the company, and there used for cutting timber for the flames and sluices used in hydraulicking. The company expects to be washing out the gold and platinum in a few weeks, and from last reports the shareholders are more sanguine than ever of rich returns. The headquarters of the company are at New Westminster.

TRADE REVIEW

Office of CANADA LUMBERMAN, July 31, 1891. THE GENERAL SURVEY.

REPORTS from the leading centres of the lumber trade, both in our own Dominion, the United States, and from over the sea, do not tell of anything remarkably active or momentous.

Local trade, speaking for the moment of our own city, is quiet. Building operations on the larger scale are active. Seldom in the history of the city have so many contracts for buildings of an extensive character been in active movement all at one time, as is the case this year.

If things are slow in the city, no different tale can be told of the country. In Western Ontario trade is unquestionably quiet. But there is good reason for this in country trade everywhere, for the farmers are busy harvesting a grain crop, that will undoubtedly be the largest and finest that Canada has seen for many years, and this means good business in the fall.

A considerable business in Canadian lumber is being developed with New York city and other American points, that had not been done before, and the trade have reason to expect that these new openings will continue to grow and broaden.

In New Brunswick trade has been woefully disturbed by the strike among the mills of St. John, and which at this writing shows no indication of a speedy termination. This is more than unfortunate, for no too great activity in lumber has prevailed in this province for some time.

It can hardly be said that the same life in lumbering is a distinguishing feature of British Columbia trade, as was the case some months ago. The loss of the South America trade, because of the internal troubles of that country, has curtailed the market to no inconsiderable extent.

UNITED STATES.

The special information, which we are enabled to furnish in connection with the quotations of prices current at the principal lumber points of the United States, show that nowhere at present is business rushing.

holidays in many instances—waiting for the future. Business circles almost everywhere have felt, either directly or indirectly, the failure of S. R. Howell & Co, who conducted business on a gigantic scale at Chicago, Omaha and Atchison.

FOREIGN.

The tendency of the English market is to lessened trade. Says the Lumber Trades Journal, of London, Eng. "London shows a marked decrease for the five months compared with 1890; Liverpool keeps fairly animate, but the other great depots, more or less, betray a lassitude of business that does not argue well for a heavy import.

France, it is thought, has finally adjusted the duties on wood imports. These will be 65 centimes to 1 franc on timber and sawn goods above 35 millimetres in thickness, and 2 to 3 francs on sawn wood 35 millimetres and under, all per hundred kilogrammes.

Toronto, Ont.

TORONTO, July 31, 1891.

CAR OR CARGO LOTS.

Table listing lumber prices for Toronto, including items like 1 & 1 1/2 in. Cut up and better, 1 1/2 x 12 dressing and better, etc.

YARD QUOTATIONS.

Table listing yard quotations for Toronto, including items like Mill cut boards & scantling, Shipping cut boards, Scantling & joist, etc.

Ottawa, Ont.

OTTAWA, July 31, 1891.

Table listing lumber prices for Ottawa, including items like Pine, 1st qual., 2nd, shipping culls, etc.

Montreal, Que.

MONTREAL, July 31, 1891.

Table listing lumber prices for Montreal, including items like Pine, 1st qual., 2nd, shipping culls, etc.

St. John, N. B.

ST. JOHN, July 31, 1891.

Table listing lumber prices for St. John, including items like Spruce deals, Pine, Deal ends, Scantling, etc.

Table listing lumber prices for New York City, including items like Flooring, Dressed, Miscellaneous, Staves, etc.

New York City

NEW YORK, July 31.—A certain measure of summer quietude marks trade this month. Lumbermen and their customers, both, are doing as much holidaying just now as anything else.

White Pine—Western Grades.

Table listing lumber prices for White Pine—Western Grades, including items like Uppers, 1 in., 1 1/2 & 2 in., etc.

Saginaw, Mich.

SAGINAW, MICH, July 31.—Buyers are few and far between this month. The docks contain abundance of lumber, but there it rests for the present.

Finishing Lumber—Rough.

Table listing lumber prices for Finishing Lumber—Rough, including items like Uppers, 1, 1 1/2 and 2 in., etc.

Siding.

Table listing lumber prices for Siding, including items like Clear, 1 1/2 in., 2 in., etc.

Timber, Joist and Scantling.

Table listing lumber prices for Timber, Joist and Scantling, including items like 2x4 to 2x10, 12, 14 and 16 ft, etc.

Shingles.

Table listing lumber prices for Shingles, including items like XXX 15 in. Climax, XXX Saginaw, etc.

Lath.

Table listing lumber prices for Lath, including items like Lath, No. 1 white pine, etc.

Albany, N. Y.

ALBANY, N. Y., July 31.—No life in lumber exists at this point at present. Trade is very quiet, and orders are light.

White Pine.

Table listing lumber prices for White Pine, including items like 1 to 2 in. good, 2 to 4 in., etc.

Thirteen Foot Stack Boards and Plank.

Table listing lumber prices for Thirteen Foot Stack Boards and Plank, including items like 12x10 in. up dressing, etc.

Shingles and Lath.

Table listing lumber prices for Shingles and Lath, including items like Shingles, shaved pine, etc.

Buffalo and Tonawanda, N. Y.

TONAWANDA, N.Y. July 31.—We are looking for a fairly lively trade during August, but throughout July the market has been featureless. We certainly hope for the anticipated improvement, for a long continued siege of quietude in so important a lumber point as this tests even more than the patience of many a dealer. The banks are decidedly conservative in their operations and are not disposed to encourage business based more on speculation than substantial merit. The docks are all pretty well filled up, and yet to do the trade that we anticipate later, and should do, and need to do, greater purchases will be necessary. Prices for coarser grades of lumber have a drooping tendency; for the better grades they remain firm. A good deal of Canadian lumber is being bought by our dealers.

Table listing lumber prices for Buffalo and Tonawanda, N.Y. Includes categories like 'Whits Pine', 'Box', 'Shingles', and 'Lath' with various sizes and prices.

Boston, Mass.

BOSTON, MASS., July 31.—The general situation is without any noticeable features. Business can hardly be called fair—it is possessed of thorough summer quietness. Southern pine in which we are somewhat interested is selling in small lots, nothing more. Trade in cypress lumber is quite active. The output of spruce lumber from the yards is decidedly small, to the extent even of having a depressing effect upon the market. Spruce boards are moving freely. Pine boards are dull and box boards are quiet.

Western Pine—by car load.

Table listing lumber prices for Western Pine by car load, including items like 'Uppers', 'Selects', and 'Moulding boards'.

Eastern Pine—Cargo or Car Load.

Table listing lumber prices for Eastern Pine, including items like 'Nos. 1, 2 & 3', 'Ship's bds', and 'West'n pine clappds'.

Spruce—by Cargo.

Table listing lumber prices for Spruce by cargo, including items like 'Scantling and plank', 'Yard orders', and 'Clear floor boards'.

Lath.

Table listing prices for Lath.

Shingles.

Table listing prices for Shingles, including items like 'Cedar, sawed, extra' and 'Cypress, No. 1, 1 1/2 in.'.

Oswego, N. Y.

OSWEGO, N. Y., July 31.—No change in prices. Trade is only fair. We are resting on "great expectations" to be cashed later.

White Pine.

Table listing lumber prices for White Pine, including items like 'Three uppers', 'Pickings', and 'No. 1 cutting up'.

Siding.

Table listing prices for Siding, including items like '1 in siding, cutting up' and '1 in dressing'.

12 to 16 ft.

Table listing prices for 12 to 16 ft. lumber, including items like '12 & 16 ft. mill run' and '12 & 16 ft. No. 1 culls'.

12 to 16 ft.

Table listing prices for 12 to 16 ft. lumber, including items like '12 & 16 ft. mill run, mill culls out' and '12 & 16 ft. dressing and better'.

Table listing lumber prices for 14 to 16 ft. culls, mill run, and various other grades.

ACROSS THE BORDER.

The mammoth lumber interests represented in Omaha, Neb., by the Howell Co., are in financial distress.

Isaac Beringer, the Michigan lumberman is about to begin the erection in Saginaw of an eight-story building for offices to cost \$300,000. This is to serve as one way of "blowing" off some of his surplus cash.

In Western Valentia, in New Mexico, the lumber industry promises to be a very important one within the next two years. Michigan lumbermen have bought up great tracts of timber land in that section and propose erecting saw mills there at an early date.

The market for United States lumber in South America has been very much interfered with by the financial collapse in the Argentine Republic and by the civil war in Chili. Heretofore South America has taken from 300,000,000 to 400,000,000 feet, and now a prominent Savannah lumberman said he did not believe it had taken 2,000,000 within the past six months.

President Oakes of the Northern Pacific refuses to make any reduction in lumber shipments east from Washington over his road although the lumbermen proved to him that cars with a capacity of 103,000 tons went back empty last year. It is estimated that if these only took back 20,000 feet of lumber daily it would have brought \$180 per day of eastern money to the state at only \$9 per 1000 to the mill men.

A single black walnut tree in West Virginia was sold recently to a New York veneer house for \$2,000. Land owners in other Southern States, who have sold similar trees at 50 apiece in recent years, should now fertilize the stumps and build stone fences around them to keep cattle off the sprouts—which will be valuable some day when they grow up. This the Charlestown News calls "eleventh hour wisdom."

Alger, Smith & Co., of Detroit, will extend the Mud lake branch of the Detroit, Bay City & Alpena road a number of miles, to reach a considerable quantity of timber that has been run over by fire. They have a force of 300 men cutting and peeling the timber. There is about 200,000,000 feet in the track, but only a portion was injured by fire. The same firm has about 30,000,000 feet in the upper peninsula which has been damaged by fire.

Michigan cities, which have heretofore been noted on account of the immense production of lumber are taking great strides in the direction of being manufacturing towns. Improvement associations have been formed, which are working hard to secure manufacturers to locate there. These improvement association are answering the question so often asked by the alarmists. "What will become of the saw mill towns after the lumber is all saved?"

Col. D. Soper, member of a Chicago lumber firm, was sent out to the Pacific coast about four weeks ago by a prominent brewing company to obtain, if possible, a stick of timber over 100 feet long and four feet square. After spending some little time in prospecting, he finally found a tree in Snoqualmie Valley, in Washington, which filled the bill. The job of cutting down the tree and trimming and loading it on the cars was let to a contractor, who successfully did the work. A half mile of railroad track had to be laid to the spot where the tree stood in order to load it on the cars. The stick from this tree is 112 feet long. It is cut square, each

side being four feet. It was loaded on three 34-foot flat cars, its weight being 90,000 pounds. The cost of getting out this stick of timber has been so far \$1,300. The cost of moving it to the cars was \$100, and the tarpaulin to cover it cost \$100. At Tacoma yesterday the stick was viewed by Sidney Dillon, S. H. H. Clark, Edward Dickinson, and other Union Pacific officials. It will be placed in a big beer hall, in which it is to be used for a counter. It will be polished up in the highest style of the art.

The output of lumber in Washington, Oregon and California for the past year was much larger than that of any previous year. Washington produced 1,820,171,000 feet; Oregon, 829,283,000 feet; California, 864,916,000 feet; total output for the Pacific coast states, 3,522,370,000 feet. The cuts of the leading lumber counties of Washington for the year 1890 were as follows: King, 266,042,000; Jefferson, 229,000,000; Pierce 168,000,000; Chehalis, 122,229,000; Kitsap, 117,518,000; Lewis, 116,500,000; Snohomish, 114,500,000; Spokane, 105,000,000.

The United States census figures show that it cost 1.08 per cent. of the total net value of the product of mills making over five million feet to market their lumber, 2.10 per cent for mills from one to five million capacity and for smaller mills the amount is considerable. The average amount of borrowed capital employed by concerns making more than 5,000,000 feet of lumber annually is found to be \$114,683, and the cost of repairs for mills of this class is found to be 7.38 per cent. of the amount invested in buildings, machinery, etc.

The control of the Knapp, Stout & Co. lumber enterprise, employing seven thousand men, reported to have been purchased by an English syndicate, is to remain in America. It is announced that a new company, to be known as the Knapp-Stout Lumber Company, is being organized. The present management is retained in all departments, with John H. Douglas of St. Louis, in charge of distribution and finances, and T. B. Wilson, at Menominee, Mich., in charge of the manufacturing interest. A portion of the stock of the succeeding company is to be open to subscription. All the bonds and \$500,000 of the stock are taken.

PERSONAL.

Mr. A. H. Campbell, president Muskoka Lumber Co. with his family, are at their summer residence, Muskoka Mills, Ont. Capt W. O. McKay, the well known lumberman of Ottawa, Mrs. McKay and family are at their summer residence below Montreal, Que.

Mrs. Dierks, wife of a successful lumber merchant of Broken Bow, Neb., is holidaying at the home of her parents, Mr. & Mrs. Waters of West Toronto Junction.

James Noble, formerly lumber inspector for Judd & Judd at Tonawanda, N. Y. has taken up his residence in Collingwood, Ont. where he will follow the business of inspecting lumber.

Mr. H. B. Warren of the Imperial Lumber Company, Warren, Ont. is home from a visit to Manitoba. He reports crop prospects good. Mr. Warren owns an extensive farm near Turtle Mountain.

W. D. Cargill, only son of H. Cargill, ex-M. P. and junior member of the firm of H. Cargill, & Son, lumber merchants, of Chesley, Ont., was married last month to Miss Lizzie Kyle, of Chesley.

Secretary Wills of the Toronto Board of Trade has been granted leave of absence for a month to visit England, and Mr. John Donogh of Donogh & Oliver, lumber merchants, will be acting secretary in his absence. A better or more popular appointment could not have been made.

Mr. David Tennant, lumber merchant of this city, died at his late residence 76 Spadina Ave. on 13th ult. Deceased was in his 57th year, and leaves a wife and three children. He was a prominent member of the Ancient Order of United Workmen, of the Select Knights of Canada and also of the Freemasons.

FOR SALE—A RARE CHANCE.

A VERY desirable mill property in the town of Essex, Ont., known as the Hanlan Mills, for the manufacture of staves and lumber. The daily capacity of 20,000 feet of lumber and 34,000 staves. Twelve acres of land for mill yard, on which is located 4 charcoal kilns, 1 boarding house, two tenant houses, barns, sheds and other outbuildings, with an unlimited supply of pure well water; with or without horses, trucks, wagons, etc. Also six million feet of standing timber, one-half elm; balance oak, cottonwood, ash, maple and sycamore; from one to three miles from the mill; and other timber in easy reach can be bought. The mills are on the line of Michigan Central Railway, with two spurs running into the mill yard, and within fifteen miles from Detroit. Terms liberal. Good reasons given for selling. Write or call on the proprietor, T. H. DECEW, Essex, Ont.

NOTABLE ENGLISH OAKS.

THE last number of the "Transactions of the Royal Scottish Aborigicultural Society," gives a description of a number of famous English Oaks, the most notable among which are the "Cowthorpe" Oak, whose age has been variously estimated at from fifteen to eighteen centuries. It stands about three miles from Wetherby, in the West Riding of the County of York. In 1829 Dr. Jessup measured it, and gave its dimensions as follows: Circumference at ground 60 feet, at three feet from ground 45 feet, height 45 feet, extent of principal limb 50 feet, greatest circumference of principal limb 8 feet.

The "Royal Oak" at Boscobel House, in the ancient forest of Brewood, Staffordshire, celebrated in history for having given shelter to Charles II, after the battle of Worcester, on September 6, 1651.

The Earl of Bradford, in a letter dated Weston Park, May 6, 1878, tells the story as follows: "On one occasion when the king was out with one or two of the Penedrills, sounds were heard of horses' feet not very far off. There was not much time for consideration, but his attendants thought he might not be able to get back to his hiding place in the house quietly, or perhaps thought that, even if he did, he might be discovered there, recommended him to go into a thick part of the wood, where they helped him into an Oak tree, and implored him on no account to come down until they returned to him and told him all was safe. They then went as if to their work or ordinary occupation. The troopers of Parliament fell in with them, and made all sorts of enquiries about the house and its inmates, and its neighborhood, and ultimately rode on without discovering how near they were to the king. The Penedrills returned in due time and conducted the king to the house. A pension was bestowed by the English government on this family, which is continued down to the present date, one of the descendants, now a resident of St. John, New Brunswick, being in receipt of it, as the writer is informed. This tree is in a field near the garden of Boscobel House, is surrounded by an iron palisading. It has a circumference at 4 feet up of 12 feet 3 inches.

The "Parliament Oak," in Clipstone Park, Notts, is so called from an informal parliament having been held under it by King John in 1212. Another parliament is said to have been held here in 1290 by Edward I.

This tree stands in a nook by the side of the highway leading from Edwinstowe to Mansfield. It has a circumference at three feet up of 28 feet 6 inches, but is only a living ruin.

William the Conqueror's Oak—beyond the fact that this tree has been associated with the Norman's name from time immemorial, its history is unknown. The main stem has long been decayed, and is supported with props. It is situated in Windsor Park, and has a circumference of 37 feet 5 feet up.

In Ampthill Park, Bedfordshire, stand the two Ampthill Oaks. They are nearly of the same girth, a little over 35 feet at three feet up. On one of the two trees

a short poem of eighteen lines is fastened. The first two of these are as follows:

"Majestic tree, whose wrinkled form has stood
Age after age the patriarch of the wood."

This provoked the following retort from Lord Wensleydale:

"I'll bet a thousand pounds—and time will show it—
That this stout tree survives the feeble poet."

"Queen Elizabeth's Oak" stands in Hatfield Park, Hertfordshire. On the morning or afternoon of November 17, 1558, for Mary died between 4 and 5 a.m., Elizabeth was sitting under this tree, when a deputation arrived from the council to apprise her of her sister's demise, and to offer her their homage. She fell on her knees and exclaimed: "*Domino factum est illud, et est mirabile in oculis nostris.*" "It is the Lord's doing, and it is marvelous in our eyes."

Mr. Smith, of Romsey, Hants, the writer of the article referred to, says that he has no measurements of this tree. His paper is full of information, and its reading will amply repay those who wish information on the subject of British Oaks. EDWARD JACK.
Fredericton, N.B.

AN OLD PICTURE.

THERE are times when a dream delicious

Steals into a musing hour,
Like a face with love capricious
That peeps from a woodland bower;
And one dear scene comes changeless;
A wooded hill and a river;
A deep, cool bend, where the lilies end,
And the elm-tree shadows quiver.

And I lie on the brink there, dreaming
That the life I live is a dream;
That the real is but the seeming,
And the true is the sun-flecked stream.
Beneath me, the perch and the bream sail past
In the dim, cool depths of the river,
The struggling fly breaks the mirrored sky,
And the elm-tree shadows quiver.

There are voices of children away on the hill;
There are bees thro' the flag-flowers humming;
The lighter-man call to the lock, and the mill
On the farther side is drumming.
And I sink to sleep in my dream of a dream,
In the grass by the brink of a river,
Where the voices blend and the lilies end
And the elm-tree shadows quiver.

Like a gift from the past is the kindly dream,
For the sorrow and passion and pain
Are adrift like the leaves on the breast of the stream,
And the child-life comes again,
O, the sweet, sweet pain of a joy that died—
Of a pain that is joy forever!
O, the life that died in the stormy tide,
That was once my sun-flecked river.

JOHN BOYLE O'REILLY.

—H. P. Morse & Co., of Vancouver intend soon to put in additional machinery. At present both mill and sash and door factory are running to their full capacity, the former turning out 75,000 feet per day which is expected to increase shortly to 100,000 feet. Not counting those employed in the lumber camps this firm have now 115 men on the pay roll.

BRITISH COLUMBIA RED CEDAR.

THE annual report of the Vancouver, B. C. Board of Trade furnishes some valuable particulars relative to the trade of that progressive province. The following remarks concerning the red cedar of the province, which comes next in importance to the Douglas fir, will be found of more than usual interest to the lumber trade. "For inside finish the British Columbia cedar is unequalled in color and beauty of grain, and some handsome and striking effects can be produced by the use of this wood. To-day some of the most palatial residences of Canada and the eastern states are finished in British Columbia red cedar, and with excellent effect. It is susceptible of a high polish, which, apart from its rare and beautiful grain, makes it all the more valuable for panel work and ceiling. It is durable beyond belief, and is exceptionally easy to work. In common uses it is manufactured into doors, sashes and shingles, and an extensive market has been found in the Northwest Territories and the eastern provinces for these uses, and the demand is constantly growing. Shingles cut from red cedar are absolutely free from knots and they neither curl, warp nor split, and dampness has little perceptible effect on them. For the same reason the wood is particularly adapted to the manufacture of sash and doors. Fort Nesqually built in 1841, was covered with split cedar shingles which are still sound. Roofs laid thirty years ago in Westminster, and for many years covered with moss, have never leaked and appear little the worse for wear. The red cedar has always been in great favor with the Indians, who hollow their canoes out of the wood, because it is so light, splits so true and works easily. The early inhabitants of Queen Charlotte Islands built their houses from red cedar, they being able even with the rude tools then in use among them to split the logs to any thickness required. It is an invaluable timber for the many purposes mentioned, and it is bound to extend until it is found on every market on the continent.

TRADE NOTES.

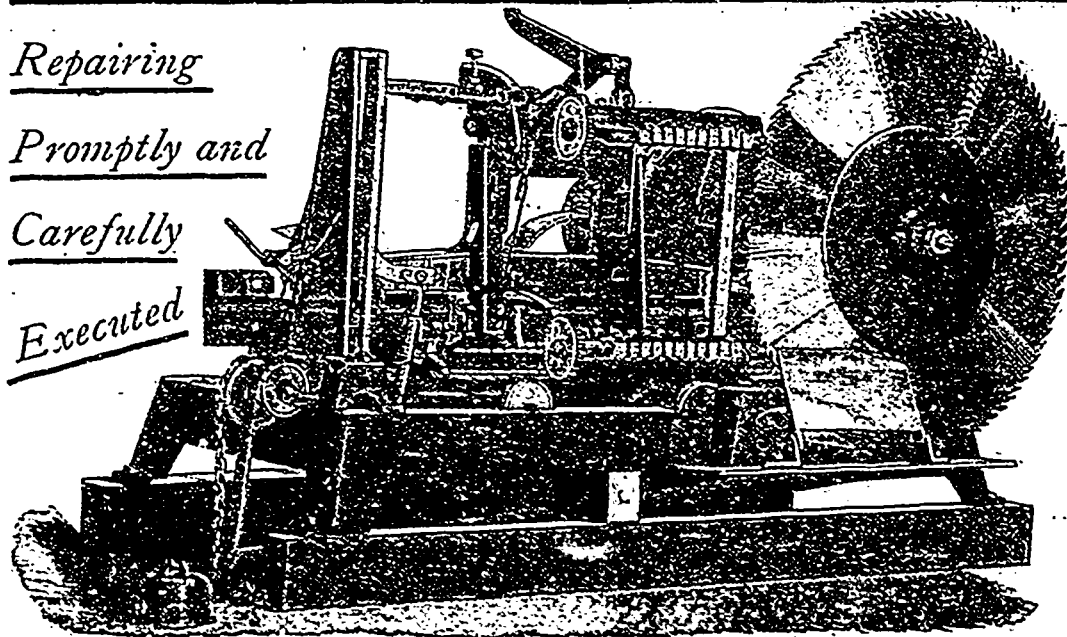
A manufacturer writing to an exchange says: "Manufacturers are fast coming to the conclusion that to use any other than a split pulley is one of the things of the past, as changes in machinery, and locations of the same, are so frequent, even in the best regulated factories, that the annoyance and expense of changing a solid rim pulley, by taking down shafting, removing couplings, etc., is so great that most manufacturers prefer to burst them off with a sledge hammer and replace them with properly made split pulleys, or pulleys made in halves. It is, however, so recently that good and well-made split pulleys could be obtained that many have put up with the inconveniences of solid rim pulleys rather than with that "wandering Jew" the cumbersome iron split pulley. But now that a good, light and durable wood split pulley has been introduced, and has been thoroughly tried by many of the representative concerns of the country, and found not wanting in any of the requisites of an ideal split pulley, it would be folly to use any other." In this connection we have pleasure in drawing attention to the advertisement of the Dodge Wood Split Pulley Co. of this city.

Repairing

Promptly and

Carefully

Executed



B. R. MOWRY & SON
MANUFACTURERS OF

**Saw Mill
and Shingle Mill
Machinery.**

Shingle Machinery a Specialty.

The "BOSS" SHINGLE MACHINE

Manufactured by us is acknowledged by practical men to be the best machine in the market.

GRAVENHURST, ONT.

WANTED AND FOR SALE.

Advertisements will be inserted in this department at the rate of 15.00 per line per week. When four or more consecutive insertions are ordered a discount of 25 per cent. will be accorded. This notice shows the width of the line, and is set in Nonpareil type. Advertisements must be received not later than the 27th of each month to insure insertion in the following issue.

For Sale or Will Exchange for Saw Mill Machinery.

REAL ESTATE. valued at \$1,000. The above property consists of lots 1 and 2 Havelock street in the village of Oxenden on which there is a large two storey dwelling house and store with large cellar, wood chime, fresh water pumps and every convenience; besides store house, stables, sheds, and good plum orchard, bearing. Address, W. J. MALLARD, Oxenden, Ontario.

WANTED—TO BUY.

GOOD Canadian Timber Limits and Georgian Bay saw logs. Address, BEN BIRDSALL, Whitney Building, Detroit, Mich.

HARDWOOD lumber, bought, sold or received on consignment, TUCKER DAVID, lumber commission merchant, 202 Eleventh Ave., N.Y.

RAILS AND CARS FOR SALE.

Light Ralls for Tramways, good order. Cars in good order, cheap. JOHN I. GARTSHORE, 49 Front St. West, Toronto.

WANTED.

QUEBEC BIRCH—Those who can furnish choice lumber are invited to correspond with JOHN S. MASON & CO., 210 Eleventh Avenue, New York City.

Timber Limits

BRITISH COLUMBIA.

FOR SALE!

\$5,000 to \$50,000 of shares in a Stock Company owning and operating Saw and Planing Mills Sash and Door Factory, etc. Valuable Timber Limits in connection. This is an exceptionally good chance to make money

Address—LIMITS, Care of CANADA LUMBERMAN, Toronto.

Muskoka and Georgian Bay Navigation Company.

Muskoka Division.

For all ports upon Lake Muskoka, Rosseau and Joseph, close connections are made daily at Muskoka Wharf with mail and express trains of G.T.R. from Toronto and Hamilton as under: On Mondays, Wednesdays and Fridays at 7.15 a.m. the Muskoka leaves for Rosseau and intermediate places, and at 1.15 p.m. the "Nipissing" and "Kenosha" leave for all points on the three lakes.

On Tuesdays, Thursdays and Saturdays the "Muskoka" leaves at 7.15 a.m. for Port Cockburn and intermediate places, and at 2.45 p.m. the "Nipissing" and "Kenosha" leave for all points on the three lakes.

Georgian Bay Division.

The Str. "Maitou" leaves Parry Sound daily at 7 a.m., calling at Midland on Tuesdays and Fridays and at Penetanguishene on Mondays, Wednesdays, Thursdays and Saturdays. Returning she leaves Midland for Parry Sound on arrival of mail train at 1.49 p.m. on Tuesdays and Fridays, and Penetanguishene for Parry Sound on arrival of mail train at 12.45 p.m. on Mondays and Wednesdays, Thursdays and Saturdays.

The "Maitou" is the only daily boat to Parry Sound and the only boat running the famous South Channel among the islands where the best of fishing is to be had.

Magnetawan Division.

The "Wenonah" leaves Burk's Falls daily at 7 a.m. for Magnetawan, Abmie Harbor and intermediate ports, returning arrives at Burk's Falls at about 6 p.m.

Good Fishing—Safe Boating and Bathing.

Full information from any G.T.R. agent. Send for folders with map and full information as to rates &c.

J. S. Playfair, A. P. Cockburn, President, Toronto, Gen. Mgr. Gravenhurst. J. A. Link, Sec.-Treas., Gravenhurst.

For information respecting the Georgian Bay Division apply to J. Wilkinson, Purser "Maitou," Penetanguishene P.O.

E. F. Ames & Co.

Lumber Commission Correspondence solicited from Canadian manufacturers.

Room 3, Lumber Exchange, Chicago, Ill.

J. D. SHIER,

Manufacturer of

Lumber, Lath and Shingles

BRACEBRIDGE, ONT.

WILLIAM FOSTER
Lumber & Commission Merchant
Receiver and forwarder of
LUMBER, LATH & SRINGLES
Correspondence Solicited.
OWEN SOUND, ONT.

Peter Gerlach & Co.,

Manufacturers of

ALLIGATOR CHISEL-BIT SAWS

The Champion Stave, Heading and Shingle Machines.

Ice Tools and Mill Supplies.

CLEVELAND, OHIO.



ROCHESTER BROS.
Commission Agents.

Limits bought and sold on commission. Limits travelled and carefully prepared estimates given. Some first-class berths on the north shore of Lake Huron and on the Upper Ottawa now in our hands for sale. Communications confidential. References given.

36 ROCHESTER ST., OTTAWA.



A. T. ANDERSON & Co.,

CONTRACTORS FOR

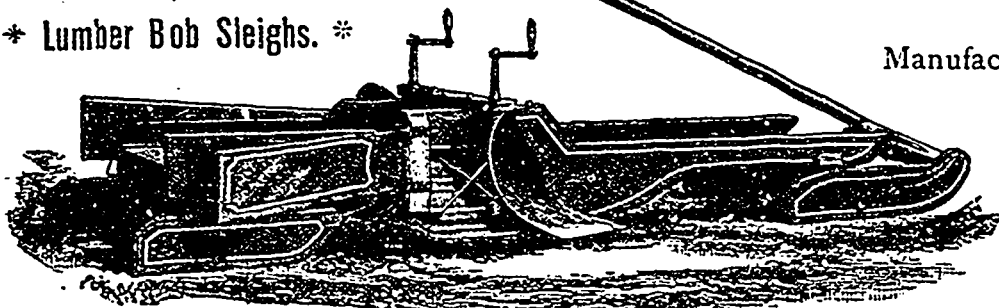
ELECTRICAL AND GENERAL MACHINERY.

Complete installations of team and Hydraulic Power, Electric Light and Power Plants, Wiring and Construction for Arc and Incandescent Lightings. Agents for the celebrated "C. & C." Electric Motors.

75 Adelaide Street East, Toronto, Ont., Canada.

Estimates furnished and every information cheerfully given to intending purchasers. N. B.—Only first-class work on which a full guarantee will be given

Cant Dogs, Peavics, Skidding Tongs, Pike Poles, Coldshuts, * Lumber Bob Sleighs. *



J. Muckleston & Co.

Kingston, Ont.

Manufacturers of RED TOP LINE

LUMBERMEN'S * TOOLS.

Are Sole Licences for the Manufacture in the Dominion of

BRAZEL'S PAT. SNOW AND SIDEWALK PLOWS.

Investment Bonds.

THE DOMINION SAFE DEPOSIT WAREHOUSING & LOAN CO., LTD.

Head Office—The Canadian Bank of Commerce Building, King St. W., Toronto.

CAPITAL, ONE MILLION DOLLARS.

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M. C. Cameron, Esq. Robert Kilgour, Esq. Alexander Nairn, Esq.
Thomas McCracken, Esq. Robert Davies, Esq. Eugene O'Keefe, Esq.
Aaron Ross, Esq.

This Company is now issuing \$10, \$200, \$300, \$400 and \$500 investments in bonds, payable in five, ten and fifteen years from date of issue, with participation in profits, affording all the advantages of compound interest accumulations on small sums of money. These bonds are the obligations of this Company and are especially protected by a sinking fund invested in first-class real estate mortgages. They are plain definite contracts, subject to no contingencies whatever, are non-forfeitable after one annual payment, with values definitely stated thereon. For a small outlay they secure a fixed and generous return.

To bondholders who complete their contracts the Company guarantees compound interest at the rate of Four Per Cent. Per Annum. The Company is prepared to receive applications from reliable agents at all points where it is not already represented.

The Safe Deposit Vaults of the company cannot be surpassed for absolute security. Call and examine or write for circular WM. KERR, Manager

Our FRICTION GRIP PULLEYS

ARE THE ONLY SPLIT GRIP PULLEYS & CUT OFF COUPLINGS MADE. GIVE EVERY SATISFACTION AS DRIVERS OR DRIVEN PULLEYS. FULLY GUARANTEED.

WATEROUS ENGINE WORKS CO.
BRANTFORD, CANADA

The Only Successful Kiln for Drying Oak and other Hardwoods

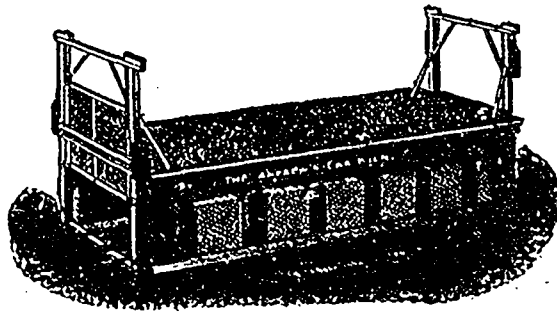
"THE ANDREWS"

NEW LUMBER

DRY-KILN

Its remarkable efficiency depends upon its peculiar mode of applying heat to, and eliminating moisture from, the air used in drying. We use no costly fan, engine or other device that requires constant attention, nor do we waste heat by a special chimney. The air circulates through the lumber, and the moisture absorbed from it is extracted from the air by natural methods. You can not afford to be without it.

Our Process Duplicates Nature.



Outside View of the Andrews Kiln.

The following well-known furniture manufacturers have recently purchased the "ANDREWS KILN."

- Estey Manufacturing Co., Owasa, Mich.
- East Shore Furniture Co., Manistee, Mich.
- Universal Tripod Co., Grand Rapids, Mich.
- Grand Rapids School Furniture Co., Grand Rapids, M.
- New England Furniture Co., Grand Rapids, Mich.
- Milwaukee Chair Co., Milwaukee, Wis.
- Oshkosh Furniture Co., Oshkosh, Wis.
- Skandia Furniture Co., Rockfork, Ill.
- Story & Clark Organ Co., Chicago, Ill.
- Rock Falls Manufacturing Co., Sterling, Ill.
- Courey & Birely Table Co., Shelbyville, Ind.
- Southern Spring Bed Co., Atlanta, Ga.
- Sidney School Furniture Co., Sidney, Ohio.
- New Richmond Church Furniture Co., N. Richmond, O.

A. N. Andrews & Co., Proprietors and Manufacturers

215, 217, 219, 221 Wabash Ave., CHICAGO, ILL.

The Casselman Lumber Co.

CASSELMAN, ONT. Successors to FLATT & BRADLEY.

ESPECIAL GOOD FACILITIES FOR SHIPPING.
HEMLOCK BILL STUFF OF EXCELLENT QUALITY.

ALSO MANUFACTURERS OF
PINE, SPRUCE, ASH, MAPLE AND OTHER HARDWOODS.

CORRESPONDENCE SOLICITED.

GEO. HASTINGS. JOHN GRAY. H. HANCOCK.

GEO. HASTINGS & CO.

Lumber Merchants

TRUST BUILDING CHAMBERS,
Cor. Yonge and Colborne Streets. TORONTO.

All Kinds of Pine and Hardwood Lumber.

BILL STUFF CUT TO ORDER A SPECIALTY.

J. W. MAITLAND
H. RIXON

J. G. AINSLIE
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Maitland, Rixon & Co.,

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Saw Millers & Lumber Dealers

All kinds of Building Material kept in stock.

WE MAKE A SPECIALTY OF

LONG BILL STUFF IN ROCK ELM, PINE, CEDAR AND HEMLOCK
QUOTATIONS FURNISHED ON APPLICATION.

DONOGH & OLIVER,

Wholesale Dealers in

LUMBER

OFFICE:

Nos. 213, 214 and 215, Board of Trade Building,

COR. YONGE AND FRONT STS.

TORONTO, ONT.

THE "LEADER"

The Finest Tempered, Fastest Cutting
and Best Saw made on the Continent.



Manufactured of Triple Refined Silver Steel,
Rolled specially for us from Superior Ingots.

THE KING OF CROSS-CUT SAWS.

R. H. SMITH COMPANY, LTD., ST. CATHARINES, ONT.

Sole Manufacturers.

Friction Pulley Board.

The Best Materials ever used
for Frictions of all
* kinds *

MANUFACTURED BY

Asbestos
Mill
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The **DOMINION LEATHER BOARD COMPANY,**
Montreal, Quebec.

Steam
Packing.

SAMPLES FURNISHED.

PLEASE MENTION THIS PAPER.

CORRESPONDENCE SOLICITED.

The Gold Medal,
Toronto, 1883

WOOD WORKING MACHINERY

The Gold Medal,
London, 1883

For Door, Sash, Blind and Furniture Factories

PLANERS.

MOULDERS.

TENONERS.

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SAND PAPERERS.

BAND SAWS.

BAND RE-SAWS.

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DOUBLE SPINDLE BORER.

BUZZ PLANERS.

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BLIND MACHINERY.

BAND SAW FILER.

BAND SAW SETTER.

ETC., ETC.

The Galt Bros. Co., Limited.

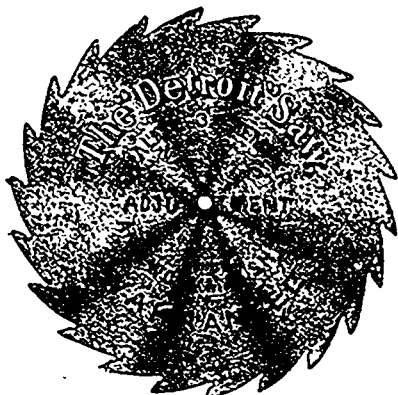
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Write for Circulars
and Prices.

Correspondence
Solicited.

Established 1849.

Incorporated 1884.



Detroit Saw Works

MANUFACTURERS OF

Circular, Gang, Mulay, Drag and Cross-Cut Saws.

MOLDING AND PLANING KNIVES,

We use nothing but W. J. & Sons' English
Steel in our saws and the name speaks for itself.

French Band Saws, Emery Wheels and General Mill Supplies.

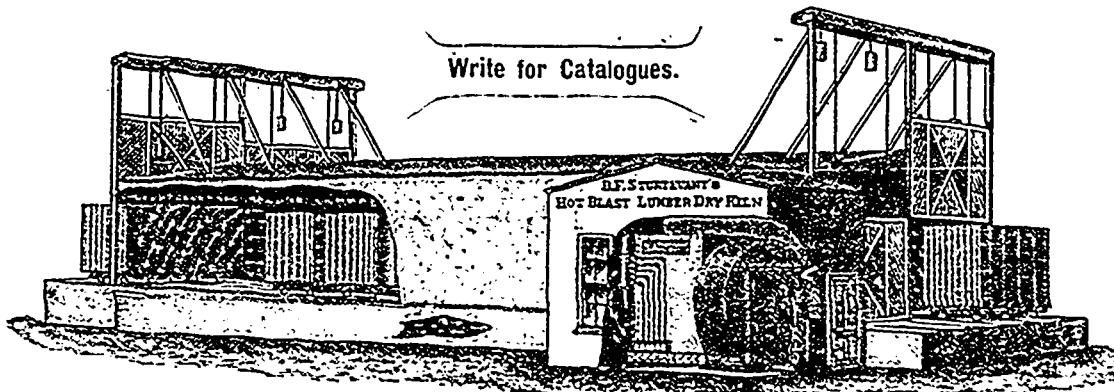
66, 68, 70 and 72 Fort St. East, DETROIT, MICH.

THE STURTEVANT PATENT PROGRESSIVE LUMBER DRY-KILN.

DRIES HARD AND SOFT WOOD LUMBER WITHOUT WARPING, CHECKING OR BLUING.

The Sturtevant
System of
**Heating
MILLS
and FACTORIES**

BOSTON,
34 OLIVER STREET.
NEW YORK,
91 LIBERTY STREET.



Steel Plate Plan-
ing Mill
Exhausters
For Removing
Chips, Shavings and
Sawdust.

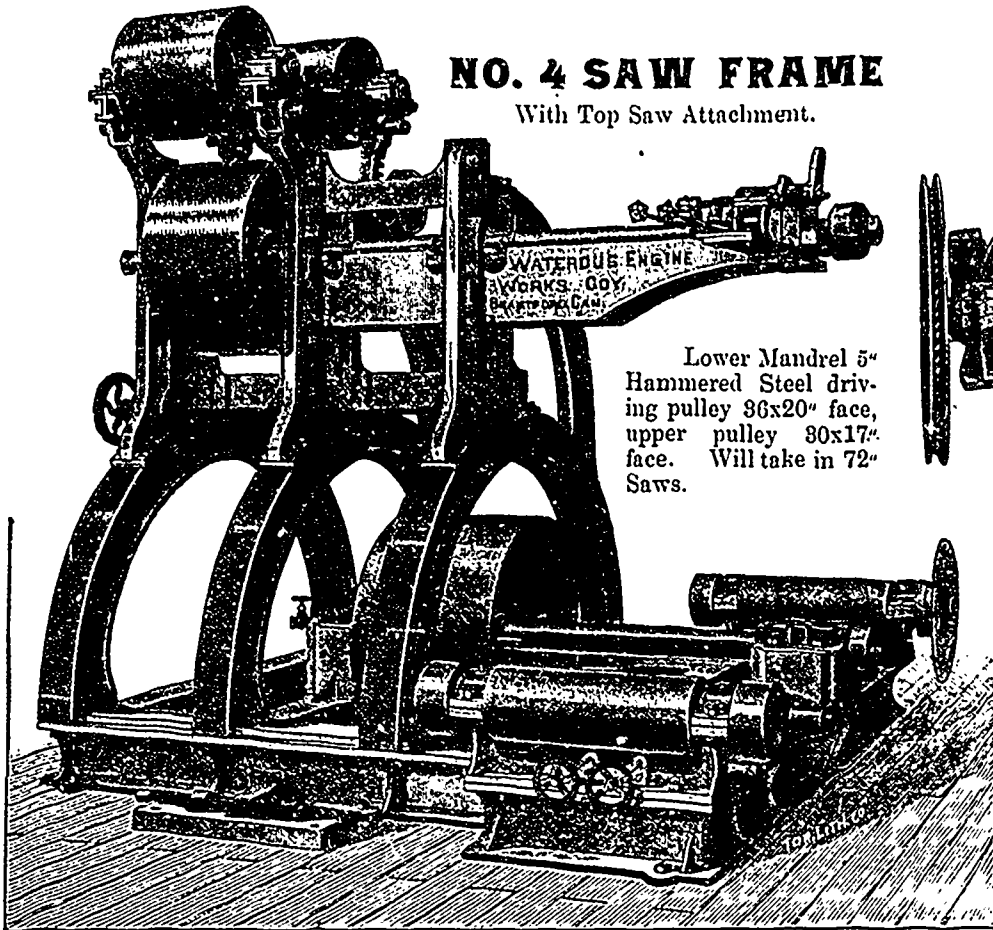
CHICAGO,
16 South Canal Street.
PHILADELPHIA,
135 North Third Street.

B. F. STURTEVANT CO., BOSTON, MASS., U.S.A. | A. R. WILLIAMS, Soho Machine Works, Toronto
GENERAL AGENT FOR THE DOMINION.

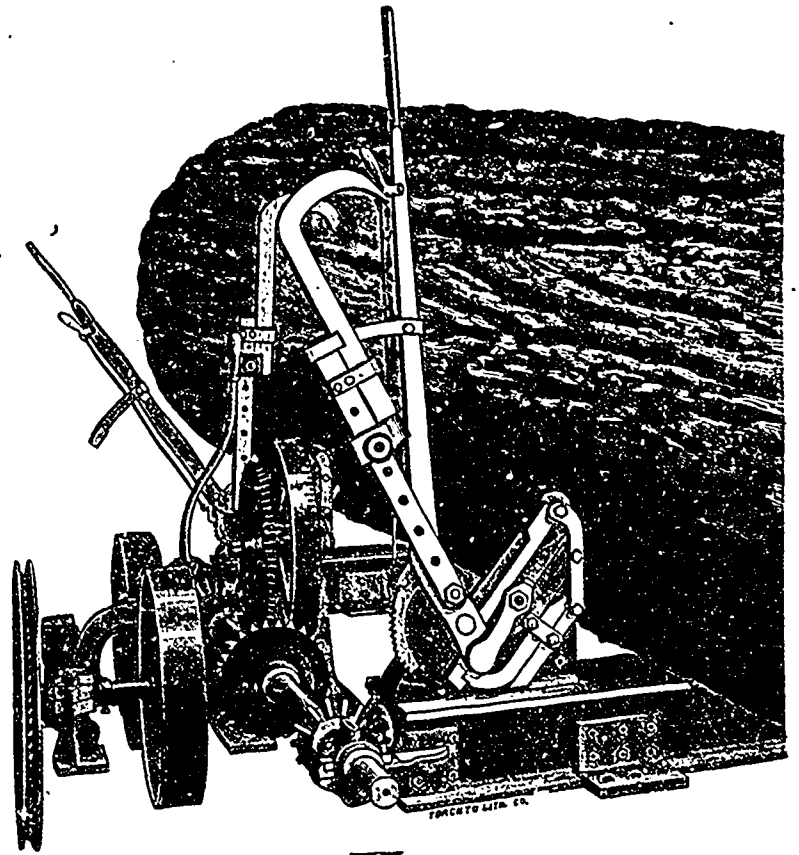
HEAVY SAWMILL MACHINERY

NO. 4 SAW FRAME

With Top Saw Attachment.



Lower Mandrel 5" Hammered Steel driving pulley 36x20" face, upper pulley 30x17" face. Will take in 72" Saws.



No. 6 Steel Log Carriage

Made of Wrought and Cast Steel throughout.

SHORT HEAVY KNEES, with roller at top, moved with heavy steel screws.

SET WORKS are our improved power set, actuated by steel cable and entirely under the control of the setter.

LOGSEATS open any distance from saw desired. Carriages made any length.

FEED; Carriage is driven by our Oscillating Engines, with 14 x 20 cylinders, making an exceedingly strong and uniform feed.

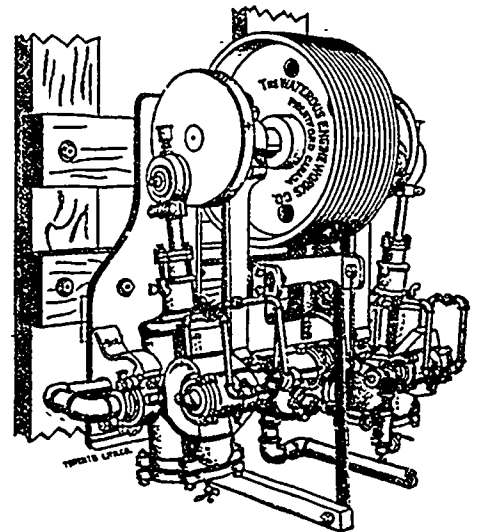
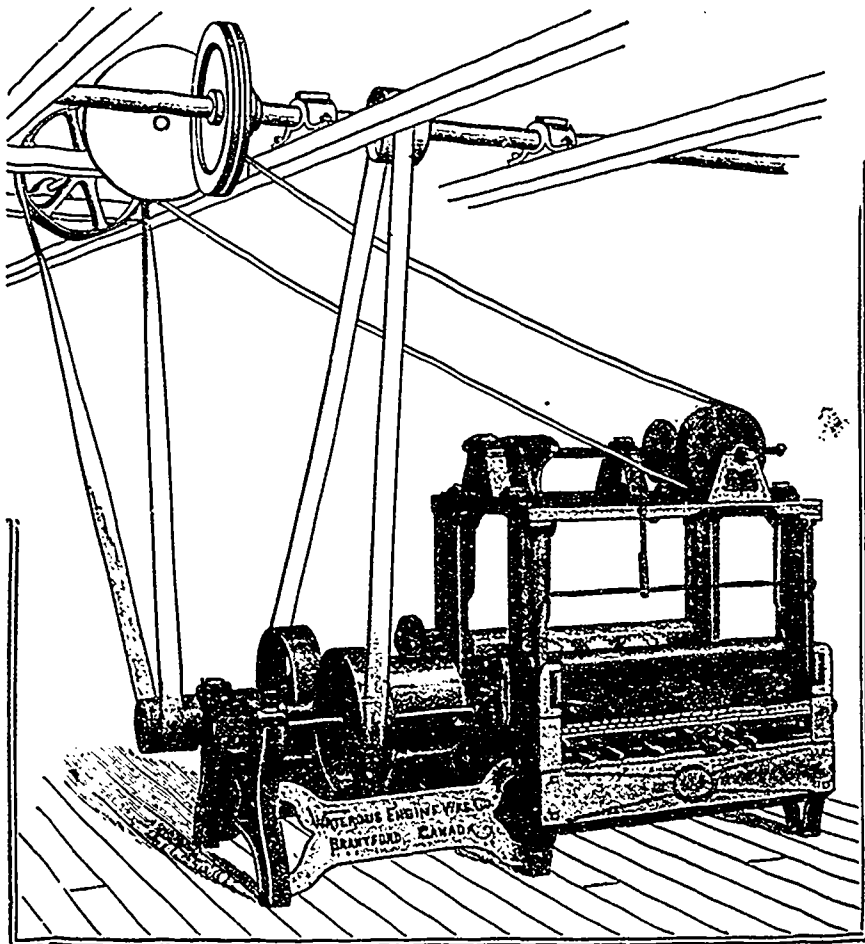
Champion Gang Edger.

The wide Cants 50 to 60 inches wide, 6 to 9 inches thick, are dropped on rollers and run through the 6 saw Champion Edger, using 6 Hoe bit tooth saws, ripping them into all sizes of dimension timber.

The 4 machines described above, with 6 blocks in the carriage, will weigh in the vicinity of 35 tons.

Send for Circulars and Estimates on full Sawmill Plants.

*Waterous Engine Works Co.,
BRANTFORD, CAN.*



A. M. DODGE & CO.
MANUFACTURERS of and Wholesale dealers in all kinds of Lumber, Lath and Shingles. Tonawanda, N. Y.

COWPER & GREGORY.
RECEIVERS and Forwarders of Lumber, Lath, Shingles, &c. Unexcelled facilities for shipping by canal or rail. Tonawanda, N. Y.

CHEESMAN DODGE
TIMBER and Lumber Merchants. Ship and Boat stock, Railroad Ties, &c. Office, 16 West Seneca Street, Buffalo.

EMMET FLEMING
INSPECTOR and Commission dealer in Lumber. Office, 151 Louisiana Street, Buffalo, N. Y.

LAYCOCK LUMBER CO.
MANUFACTURERS of Pine, Hemlock and Oak Timber up to 2 1/2 feet in length. Saw Mills: Ackley, Pa., Black Rock, N. Y., Gravenhurst, Ont. Office, corner Main and Seneca Sts, Buffalo, N. Y.

J. & T. CHARLTON
WHOLESALE dealers in Masits and Spars, Canada Round Pine, &c. Tonawanda, N. Y.

WILLARD W. BROWN.
 202 Main Street, Buffalo, handles all kinds of Hard Woods.

A. P. & W. E. KELLEY CO.
WHOLESALE Lumber dealers. Yards at Tonawanda and Chicago. Correspondence invited.

C. P. HAZARD.
WHOLESALE dealer in Lumber, Shingles, Lath and Fence Posts. Correspondence invited from the Canadian trade. No 92 River Street, Buffalo, N. Y.

L. A. KELSEY LUMBER CO., (Ltd.)
MANUFACTURERS and dealers in Hardwood Lumber of all kinds. Describe stock and write for prices. Office Tonawanda, N. Y.

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**LUMBER
 TRUCK * WHEELS.**

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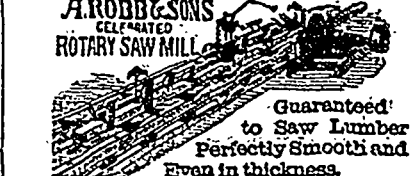
WE make a Specialty of Wheels suitable for the requirements of Lumbermen and Street Car Service, and can supply them Bored, Finished and Balanced.

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251 GEORGE AND 154 KING STREETS,
PETERBOROUGH.
 Canoe, Yacht and Boat Sails made to order. Perfect Fits guaranteed.
 Every description of Lumbermen's Suddies and Waterproof Clothing.

**THE MONARCH BOILER
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Guaranteed to Saw Lumber Perfectly Smooth and Even in thickness.
 Portable from 6 to 70 horse power. Surpass portable steam power heretofore produced for strength, durability, compactness, and the ease with which they can be moved.
 The 70 horse power can be taken over thorough roads, or into the forest, and set up as easily and quickly as an ordinary 20 horse power portable engine, and as firm as a brick-set stationary engine. Engines and boilers of every size and description. Rotary Saw Mills, Shingle and Lath machines, Law Grinders, Planers, etc. Mill machinery and supplies of every description. Every boiler insured against explosion by the Boiler Insurance & Inspection Co. of Canada. Write for circulars.
A. ROBB & SONS; Amherst Foundry and Amherst, N.S. Machine works.
 ESTABLISHED OVER 40 YEARS.

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DRESSED LUMBER, FLOORING
 Ceiling, Sheeting, Siding, Shelving, Mouldings of all Descriptions.

Office and Yard:
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STOCKS	WHOLESALE	HARDWOODS
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**35 * Adelaide * Street * East,
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- MANUFACTURERS OF -
Hydraulic Cement

PARTICULARLY adapted for Dams, Smoke Stacks, Foundations, Culverts, Cisterns, Cellars, etc.
 ENDORSED BY LEADING RAILWAYS AND CONTRACTORS.

ROACH * LIME,
 For Building, Plastering, Gas Purifying, Paper Making, &c.

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MANUFACTURERS OF
***TERRA * COTTA * FIRE-PROOFING ***

For Use in Old and New Buildings.
 Endorsed by Leading Architects. Absolutely Fire-proof. About as Cheap as Wood or Brick. Weight One-Third that of Brick. Does not Crack on application of Heat or Water.
 Deadens Noise. Gives Warmth in Winter; Coolness in Summer.

Galt * Machine * Knife * Works.



MACHINE KNIVES
 OF EVERY DESCRIPTION FOR
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 SEND FOR PRICE LIST

PETER HAY, - - - GALT, ONT.

Do you want a MACHINE? ENGINE? BOILER?



Cheap?

If so

READ THIS LIST AND WRITE FOR PARTICULARS AND PRICES TO

H. W. PETRIE, 141-145 FRONT ST. W., TORONTO. TELEPHONE 2590.

Wood-Working Machinery.

ONE new eclipse planer and matcher, Galt make.
CHAMPION planer, matcher and moulder, McGregor, Gourley & Co. builders; nearly new.
NO. 6 planer and matcher, Cowan & Co's build.
LITTLE giant planer, matcher and moulder. Price, \$300.
NEW pony planers and matchers, only \$175.
FOUR 20-inch pony planers; Harper, Cant Bros., Watrous, and Ross make.
24 inch pony planer, Frank & Co's make.
NO. 4 pony planer, McKechnie & Bertram's build.
24 inch pony planer, Ross' make, Buffalo
24 inch wood-frame planer, Kennedy & Son's make
24 inch wood-frame surface planer, Cheap.
24 inch surface planer, Rogers' make, Norwich, Conn.
21 inch wood-frame planer, Kennedy & Sons' build.
22 inch surface planer—McKechnie & Bertram.
12 inch diagonal buzz planer, new; Galt make.
DANIEL'S planer, R. Ball & Co's make.
BEADING and moulding attachment for planer, Ross make, Buffalo
NO. 0 four-side moulder, McGregor, Gourley, builders.
8-inch four-side moulder, Dundas build.
NO. 1½ three-side moulder, McGregor, Gourley builders.
NO. 2 three-sided moulding machine. Galt make.
THREE-SIDE moulder, Rogers' make, Connecticut.
ONE-SIDE moulder, Dundas build.
NO. 0 shaper, McGregor, Gourley, builders.
SHAPERS No. 1 and 2, Galt make.
NEW power morticer, Galt make, also several second hand.
8-BORING machines—by different makers.
RESAWING machines—I have two band resaws, one circular resaw, all Galt make
TENONING machine—one each, Goldie & McCulloch, McKechnie & Bertram, Ross & Cant Bros' make.
TWO broom handle lathes, with cutters and countershafts.
ONE axe-handle and spoke lathe.
WOOD turning lathes, several sizes, new and second hand.
IMPROVED power rod feed machine, McGregor Gourley, Galt builders.
SAND papers and knife grinders, several of each.
IMPROVED saw arbors, all sizes, Galt make, large stock
ONE improved iron frame swing saw, new, Buffalo make.
NEW 30-inch, also 36-inch, band saws, Galt make.
NEW 25-inch band saw, Cant Bros. make, Galt.
HI SCROLL and jig saws, at various prices.
NO. 1 universal saw bench, H. B. Smith, build.
COMBINATION saw bench, Haggis, builder, Uxbridge.
IO WOOD frame saw benches at very low prices.
THREE blind slat tenoners, all Galt make.
DODGE wood split pulleys at manufacturer's price. Quick delivery.
FOOT and hand mitering machines, latest designs
FOOT and hand wiring machine, Galt make
ONE set cheese box machines.

Miscellaneous Machinery.

TWO sets match machines. Also set clothes pin machinery.
2 DRY CLEAN outfits, also several fans by different makers.
FULL particulars of any machine in above list on application.
TWO sets cracker or biscuit machines with fine assortment of dies.
RUGER & CO., builders.
ONE leather rolling machine
ONE corn husker, Sell's make
SEVERAL buhr stone chopping mills.
ONE ditching machine.
ONE clover huller and thresher.
ONE bobbin winder, Georgetown make.
ONE laundry hand shirt ironer.
ONE power and two hand paint mills.
SEVERAL wrought and cast iron tanks and kettles.
BONE mill for green bones. Capacity ½ lb. per minute.
ONE lot canning factory tools, presses, solder moulds, etc., etc.
ONE galvanic battery, (McIntosh) Chicago, Ill. make.
HAND and power meat choppers, also sausage stuffers.
100 PRESS plates for cotton or woollen mill use.
ONE soda water fountain.
4 GREEN corn cutting machines.
2 SETS felling mill crank shafts with bearings and wheels.
PORTABLE forges; genuine Buffalo make.
ONE Eureka smut machine and one purifier.
NO. 2 Calligraph writing machine, also a World typewriter.
ONE Ronald steam fire engine
TWO village hand fire engines
ONE Silbysteam fire engine.
TWO Diamond mill stone dressers.
SEVERAL large iron band wheels, turned and balanced.
ONE 62 gallon Gasoline tank, Buffalo make.
ONE sugar cane mill, Cincinnati build.
ONE stump machine screw, also three cloth press screws complete
NEW hand corn shellers, only \$4 each.
CENTRIFUGAL pumps, all sizes.
COMplete steam heating plant for public or private building; a bargain.
ONE clay crusher, Galt make.
ONE shooting gallery tube.
BOILER tube expanders and brushes; all sizes.
ONE new 60-foot steam pleasure yacht at a bargain.
HYdraulic rams, several sizes, Seneca Falls build.
TWO set plate bending rolls for boiler shop use.
ONE derrick hay press, good order.
ONE lot new bolting cloths, Goldie & McCulloch make.
ONE lot woollen machinery, cards, pickers, etc.
BBRICK and tile machines, one of each.
TWO fire proof safes, both good as new.

Engines.

225 HORSE power pair of engines, Northy & Co., builders.
75 HORSE power horizontal engines, Galt-shore build.
50 HORSE power horizontal engine, Goldie & McCulloch builders.
45 HORSE power horizontal engine, White-law, builder.
35 HORSE power horizontal engine, Northy make.
30 HORSE power horizontal engine, Northy & Co., builders.
25 HORSE power horizontal engine, American make.
25 HORSE power horizontal engine, Watrous Engine Company build.
25 HORSE power horizontal engine, McRae build.
20 HORSE power pair of twin engines, Montreal build.
20 HORSE power horizontal engines, F. G. Beckett & Co., build.
20 HORSE power rotary steam engine, Erie Iron Works make.
20 HORSE power horizontal engine, Kilo, builder.
18 HORSE power horizontal engine, George White's build.
16 HORSE power horizontal engine, American make.
16 HORSE power horizontal engine, Beckett make.
16 HORSE power horizontal engine, Tiff & Sons, builders.
15 HORSE power horizontal engine, F. G. Beckett, builder.
15 HORSE power horizontal engine, Mount Forest make.
12 HORSE power horizontal engine in good order.
12 HORSE power horizontal engine, American make.
12 HORSE power horizontal engine, Kelley, maker, Hamilton.
10 HORSE power horizontal engine, F. G. Beckett builder.
10 HORSE power vertical engine, Swamscott Machine Co., make.
8 HORSE power vertical engine in good order.
6 TO 8 horse power twin engines, marine; American build.
6 TO 8 horse power new double cylinder engine; marine.
6 HORSE power automatic vertical engine; Berlin make.
6 HORSE power new champion engine, Watrous make.
6 HORSE power oscillating engine, Beckett build.
5 HORSE power upright engine, Cline make, Alliance, Ohio.
6 HORSE power horizontal engine, Held & Barr, builders.
4 HORSE power horizontal engine; good order.
3 HORSE power horizontal boat engine, Moakins make.
3 HORSE power vertical marine engine, good as new.
3 HORSE power vertical yacht engine; new.
2½ HORSE power rotary engine; new.
2 HORSE power horizontal engine; refitted.
1½ HORSE power yacht engine, vertical; American build.
1 HORSE power horizontal engines; three in stock.
1-4 HORSE power horizontal engine, Yankee make.
TWO rotary engines, Josiah Ross patent and make; send for cut.
IRON and brass castings for model steam engines.
ENGINE governors, all sizes and by different makers.
FULL particulars regarding any of above engines on application. I also have a large stock of portable and semi-portable engines and boilers.

Boilers

BOILER 16 feet x 48 inch, 50 tubes 3 inch
BOILER 15½ feet x 53 inch, 76 tubes 2½ inch.
TWO boilers 15 ft. x 60 in., 84 tubes 3 inch.
BOILER 14 ft. x 51 in., 62 tubes 3 inch.
BOILER 14 ft. x 49 in., 53 tubes 3 inch.
BOILER 14 ft. x 38 in., 28 tubes 3 inch.
BOILER 13½ ft. by 36 in., 33 tubes 3 inch.
BOILER 12 ft. 9 in. x 36 in., 33 tubes 3 inch.
BOILER 11½ ft. x 3 ft., 32 tubes 3 inch.
BOILER 11½ ft. x 3 ft., 30 tubes 3 inch.
BOILER 11 ft. 6 in. x 30 in., 33 tubes 2½ inch.
BOILER 11 ft. x 43 in., 55 tubes 3 inch.
BOILER 11 ft. x 40 in., 34 tubes 3 inch.
BOILER 10½ ft. x 40 in., 33 tubes 3 inch.
PAIR of boilers each 10 ft. 4 in. x 26 in., 11 tubes 3 inch in each.
BOILER 10 ft. x 44 in., 50 tubes 3 inch.
BOILER 8 ft. 10 in. x 30 in., 31 tubes 2 inch.
BOILER 8 ft. 3 in. x 25 in., 16 tubes 3 inch.
BOILER 8 ft. x 35 in., 28 tubes 3 inch.
BOILER 7 ft. x 25 in., 18 tubes 2½ inch.
BOILER 6 ft. x 30 in., 20 tubes 3 inch.
BOILER 6 ft. x 22 in., 9 tubes 3 inch.
BOILER 57 in. x 30 in., 17 tubes 2½ inch.
UPRIGHT boiler 7 ft. 4 in. x 36 in., 31 tubes.
UPRIGHT boiler 65 in. x 24 in., 21 tubes 3 inch.
UPRIGHT boiler 4 ft. 10 in. x 32 in., 40 tubes, 2 inch.
UPRIGHT boiler 42 in. x 30 in., 37 tubes 2 inch.
UPRIGHT boiler 33 in. x 19 in., 4 tubes 2 inch.
UPRIGHT boiler 30 in. x 15 in., 19 tubes 1½ inch.
PORTABLE fire box boiler 16½ ft. x 54 in., 53 tubes 3½ and 4 inch.
PORTABLE fire box boiler 12 ft. x 3 ft., 29 tubes 3 inch.
PORTABLE fire box boiler 11 ft. x 45 in., 29 tubes 2½ inch.
PORTABLE fire box boiler 10½ ft. x 25 in., 13 tubes 3 inch.
PORTABLE fire box boiler 10 ft. x 3 ft., 35 tubes 2 inch.
PORTABLE fire box boiler 8½ ft. x 30 in., 36 tubes 2 inch.
FOR full particulars and prices of the above boilers, apply to H. W. Petrie, 141 and 145 Front Street West.

Remember The Address.

H. W. Petrie

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Two Minutes Walk From
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