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PUBLISHED
SEMI-MONTHLY.

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

SUBSCRIPTION
\$2.00 PER ANNUM

VOL. 3.

PETERBOROUGH, ONT., DECEMBER 15, 1883.

NO. 24.

A MAMMOTH BUSINESS.

A special correspondent of the *Toronto Globe* writing from Deseronto gives the following account of the great lumbering establishment there:—

In the evening I went out to obtain an idea of the appearance of a town which had struck me so oddly at first acquaintance, I didn't get over it; it seemed to cover much ground. The streets run at right angles, the north and south ones terminating in a ridge overlooking the town. The buildings are very scattered, apparently quite as much so on the main street as in the outskirts. Young trees are planted along some of the streets. The residences, several of which are large and of good architecture, are of wood and very new, the town having grown up from a very small village to a population of two thousand in a few years. There are several good hotels, full of boarders, for the Messrs. Rathbun, whose lumber and other business is centered here, employ 600 or 700 men, many of them young mechanics. Progress is visible everywhere. Several commodious and even expensive churches has been erected within the last few years; the latest, a R. C. Church, the site of which was donated by the Messrs. Rathbun, who have exercised a wise generosity in various ways in the community.

The business carried on by this firm of millionaires space does not permit me to describe. It includes the manufacture of fifty million feet of board and square lumber annually, 50,000 doors for export to Britain, ship building, shingle making, flooring, the manufacture of chemicals from wood, and of gas from sawdust. In fact provision has been made for the most economical use of all the fragments left in sawing up the timber. The firm have also large saw mills at the Trent and near Belleville. The wood is floated down the Trent, Moira, and other rivers. In all there are nearly 2,000 men employed in winter by the firm, either in Deseronto and at the other mills along the bay, or up in the woods. The versatility of the enterprising firm is shown in other respects, for a little out of town they have a stock farm of 250 acres, on which shorthorns have been raised for a time, and latterly a fine herd of Jerseys, imported from the United States, and in charge of the manager, Mr. Howatt, a young American.

An interesting experiment, to learn the results and methods of which was my chief object in visiting Deseronto, is being conducted here in the manufacture of gas from sawdust, under an invention of Mr. George Walker, the foreman of the chemical works. Notwithstanding the extent and variety of the mills here, the quantity of wooden refuse is immensely superabundant, and how to profitably consume it was for many years a problem with the Messrs. Rathbun. The establishment of chemical works for making tar, methylated spirits, and

acetate of lime, disposes of part of the refuse, the consumption of sawdust and wood in creating steam power to work the chemical work and flouing-mill get rid of still more, but a cumbersome surplus yet remains. The material being thus almost worthless, a better place for the experiment in making sawdust gas could not well be found. Success in its fullest extent is not yet demonstrated to the satisfaction of the public, but is claimed will be in a few days when a number of the mills and buildings of Deseronto are to be lighted by the new gas, preparatory to its introduction in a general system of lighting for the whole town.

To see the appliances for manufacture, I visited the chemical works at early hour in the morning, in company with Mr. French, a young New York chemist, employed here in assisting to perfect the chemical operations. The first process in gas-making, as well as in the manufacture of chemicals, is undertaken in the end of the larger building, where the refuse of the saw mills is consumed. In this building, about ten feet below the side platforms up on to which a railway carries many steam cars and cart-loads of saw-dust, earth, and slabs every day, are four brick furnaces, and above these an equal number of large boilers. The car loads are dumped over into the great space before the furnaces from the track platform above, the wheels and gearing being kept from falling over, too, by a clamp-device which holds the car on to the outer rail.

A little further on the platform stands above a sheet-iron floored receptacle, into which only saw-dust is dumped. Thence it is shovelled by a man into a box descending below the floor. Then an endless chain furnished with pails conducts the sawdust up and pours it on the top of a dryer made of horizontal iron plates, or rather flat inverted cones, raised one above the other. Steam passes up a tube in the central part of this dryer, and is distributed through the hollow of the cones. Around each cone revolves a steel bar, which for lack of a technical term to describe it, I will call a brush. From the topmost cone the sawdust is brushed over the edge, and falls upon the flat upper surface of the next lower cone, where a brush differently arranged sweeps it inward, to fall through on the third cone and be swept outward again. After passing over the hot surface of these ten cones, and coming up by a bucket chain enclosed in a long hollow box, most of the fifty per cent. of water contained in new sawdust is gone.

From the boiler-room the sawdust is carried by a bucket across into the chemical works and dropped into the range of deep iron receptacles in front of the retorts and above the front of furnaces. The close packing of sawdust several feet deep suffices to exclude the air from the retorts. Through the retorts which are horizontal cylinders, the sawdust is carried backward by archimedean screws, and discharged into an air-

tight box. When this box is opened, as it is every few minutes, after turning a screw to close the pipe connected with it against the admission of air, the contents are found to be very fine charcoal, resembling coarse powder. The charcoal finds a ready market at all the powder factories.

In passing through the retort, vapor composed of various gasses is expelled from the sawdust. This vapor is conducted by a large pipe into a condensing reservoir, after passing through which the tarry fluid condensed from the vapor is set free and flows off from the end of a pipe into a large tank. Further processes, not differing in essentials from those in use in other chemical works, separate the various chemicals. The pyroigneous gas expelled from the retorts is carried by a pipe to the gas works, where it undergoes similar processes to those followed in coal gas factories. The illuminating gas thus produced is then conveyed for a storage to an immense isolated tank of 20,000 cubic feet capacity. Here, as the turpentine present interferes with the illuminating power of the gas, a light hydro-carbon is introduced from a naphtha reservoir, and the gas thus improved is conveyed to the mills and houses.

Of the quality of the gas I cannot speak definitely, as the only light burning the night of my visit was one in Mr. E. W. Rathbun's residence, and I was informed that certain little mechanical details not being satisfactory, the proper mixture of gases and an exhibition of the illuminating power of the article had to be deferred for a few days. The flame in the light which I saw was, where issuing from the burner, of a beautiful blue color, shading off into the light yellow of the flame above. This light blue color is ascribed to turpentine, and it is said interferes with the illuminating power, but is easily got rid of sufficiently by adding the naphthous gas. As it was, however, I do not think that the light was any less brilliant than that of Toronto water gas. The heat thrown out by the flame was very marked. This was claimed as a merit, as the gas could be used to advantage in cooking and heating as well as for illuminating purposes.

It is proposed to light the mills, and in fact the whole town, with this gas early this winter. The charge per 1,000 feet will be the same as that charged by the Belleville Gas Company. The cost of production, the managers estimate to be almost nothing, owing to the fact that sawdust is a superabundant commodity here, and the processes of manufacture up to the time the pyroigneous gas leaves the chemical works are such as must be undergone in order to produce the other chemicals. Theoretically a share of the cost of these main processes is chargeable to the gas; practically, however, the only expense is in the simple processes of the gas building, and interest on the investment. The

chemical works are said to have cost \$30,000—some say more. Any kind of sawdust is suitable for gas-making.

Messrs. Walker & French do not think the manufacture of gas from sawdust can be carried on economically except in lumber towns or in cities close to gigantic saw mills, as sawdust is a bulky product which can not be handled as cheaply as coal. To towns favorably situated, however, and to saw mills and to saw mill villages, they expect the invention to be a great boon. Wood gas, they think will pay much better than coal gas under those favorable circumstances, even where it is the only product; and if combined with works for the manufacture of tar, methylated alcohol, or acetic acid it would cost very little.

The manufacture of gas and chemicals is not, however, the only use to which sawdust is being applied at Deseronto. It is converted into fuel for shipment. The sawdust under the blows of a steam hammer is compressed into solid and adhesive blocks. The cast-iron moulds are so arranged as to fall into place filled, as rapidly as the hammer rises. The adhesiveness of sawdust when thus compressed is great. The bulk is remarkably small, 60 pounds of sawdust being required to make a cubic foot of the fuel. It is proposed further to add tar to the sawdust. The fuel, it is thought, may come into extensive use; and it is barely possible that it may even be used in the manufacture of gas for towns removed a considerable distance from lumber mills.

AITKIN, Minn., is forging ahead as a lumber producing point. A couple of years ago it was but a settlement, and now it claims 1,000 inhabitants, has three saw mills, one planing mill, while the second planing mill and a sash, door and blind factory will go up in the spring. The last accession to the saw mill is that of Messrs. Parker, Hazelton, & Co., the firm being composed of Messrs. G. W. Parker, ex-congressman G. C. Hazelton, and another gentleman named Hazelton, who resides at Boscobel, Wis. The capacity of the mill will be 50,000 feet daily, and the combined capacity of the three mills, 130,000.

The manufacture of wood-working machinery has developed at a wonderful rate during the past ten years. Where, formerly, the business was mainly confined to a number of large concerns, there are now a great many small establishments engaged in the business. It is safe to say that no line of machinery has made greater strides towards perfection than this, and many of these small establishments will probably ere long develop into wealthy corporations. The manufacture of lumber and its subsequent manipulation, are properly recognized as among the leading industries of the United States.—*Wood-Worker.*

CONCENTRIC RINGS OF TREES.

In the December number (1812) of the *Monthly*, you published an article prepared by me, on the "Annual Growth of Trees," which has been somewhat largely commented upon, in the periodicals and press of the day, as also by the *American Congress of Forestry* at St. Paul. I am glad to note this interest in the subject, as it will cause more accurate observation of the facts in the case. As many of my critics have apparently read only extracts from the article, and have accordingly drawn very incorrect inferences as to my views, I wish to restate some of the more important points, and the evidence sustaining them.

In June of 1871 I planted a quantity of seed as it ripened and fell from some red maple trees. In 1873 I transplanted some of the trees from these seeds, placing them on my city lots in Plattsmouth, Nebraska. In August, 1882, finding them too much crowded, I cut some out, and the concentric rings being very plain and distinct, I counted them. From the day of planting the seed to the day of cutting the trees was two months over eleven years.

On one more distinctly marked (although there was but little difference between them), I counted on one side of the heart 40 rings. Other sides were not so distinct; but in no part were there fewer than thirty-five. There was no guess-work about the age of this tree. A daily record of the meteorological events for the Smithsonian Institution and Signal-Office for over twenty years, and a life long habit of daily record of all important events, had led to much care and caution in such matters. Hence, from my record, I knew the tree had but twelve years of growth; and yet, as counted by myself and many others, it had 40 clear concentric rings.

Here permit me to quote a few lines from the original article, which, so far as I have seen, have been entirely ignored or overlooked by all commentators: "I could select twelve more distinct ones (rings) between which fainter and narrower, or sub-rings appeared. Nine of these apparently annual rings on one section were peculiarly distinct; much more than the sub-rings. But, of the remaining, it was difficult to decide which were annual and which were not." When first cut, and while the wood was green and the cells filled with sap, these rings were very clear and plain; but as the water evaporated and the wood contracted, they showed less plainly. I have a section of it now before me, and I cannot make out clearly more than 24, where, when green, forty were clearly visible. This section was not at first so distinctly marked as a section forwarded to Professor Cleveland Abbe, of the Signal-Office, at his request; although that, when forwarded, showed the rings much less conspicuously than when fresh and green.

Mr. P. C. Smith, in the August (1883) *Monthly*, supporting the commonly received reliability of the rings, as an index to the age of the tree, refers to certain disputed corners and lines marked by hacks on trees, and the agreement of the number of the subsequent rings with the record of the surveyor. This indicates an uncertainty in the matter which is hardly receivable as scientific proof. If the record was reliable, why question the hack? If only for confirmatory evidence, how identify the one hack among the many which on old lines invariably accumulate in the vicinity of disputed lines by many surveyors? Is it not a mere assumption that the rings do indicate a like number of years; and that, as the record agreed with these rings, therefore, that hack was the one? Mr. Smith says, "It will be very difficult to convince an old surveyor, or an old lawyer, who has tried many of these land cases, that each concentric ring on an oak tree, at least, does not indicate a years growth only of such tree." Well, I am an old surveyor, having followed the business for upward of fifty years, and the evidence before me admits of but the one possible conclusion; and, had Mr. Smith or any other intelligent man the same evidence, I am sure there could be no disagreement between us on the subject.

The Hon. James J. Wilson, of Bethel, Vermont, an "old lawyer" and late Senator in the State Legislature, writes me, under date of August 15th, that at a trial in the District Court at Woodstock, Vermont, on a disputed

line based upon a cut in a hemlock tree, a section of the tree embracing the cut was produced in court, and the rings outside the cut counted up from forty to fifty, while those on the opposite side were only nine or ten! The verdict of the court was, that "the rings were not a sure indication of the age of the tree."

Hon. Robert W. Furness, late Governor of Nebraska, so well known as a practical forester, has kindly furnished me with several sections of trees of known age, from which I select the following: A big hickory eleven years old, with sixteen distinct rings; a green ash eight years old, with eleven very plain rings; A Kentucky coffee tree ten years old, with fourteen very distinct rings, and, in addition to these, twenty-one sub-rings; a burr oak twenty-one years old, with twenty-four equally distinct rings; a black walnut five years old, with twelve rings. Governor Furness adds that he has a chestnut of four years, with seven rings; a peach of eight years, with six rings; and a chestnut oak of twenty-four years, with eighteen rings. He attended the recent meeting of the American Association for the Advancement of Science, at Minneapolis, Minnesota, and presented this question and his specimens to the section on forestry. He reports that Professor Budd, of the Iowa Agricultural College, presented also a specimen spruce from Puget Sound, of known age, or nearly fifteen years old. The section was twelve inches in length, and on one end had eighteen rings and on the other end had only twelve. Commissioner Loring expresses the opinion that "this settled the question, that rings at all times could not be relied upon as an index of the age of trees."

Hon. J. T. Allen, of Omaha, superintendent of tree-planting for the Union Pacific Railroad Company, in a recent letter says:—"Any intelligent man, who has given any attention to this matter of yearly tree growth, knows that the rings are no index of a tree's age. H. P. Child, superintendent of the Kansas City stockyards, shows me a section of pine eight years old, with nineteen rings, and a soft maple of nearly fourteen years, with sixteen very distinct rings, in addition to which there are forty-seven less distinct sub-rings."

In conclusion, that the more distinct concentric rings of a tree approximate, or in some cases exactly agree, in number with the years of the tree, no one, I presume will deny; but that in most and probably nearly all trees, intermediate rings or sub-rings, generally less conspicuous, yet often more distinct than the annual rings, exist, is equally certain: and I think the foregoing evidence is sufficient to induce those who prefer truth to error to examine the facts of the case.

These sub-rings or additional rings are easily accounted for by sudden and more or less frequent changes of weather and requisite conditions of growth—each check tending to solidify the newly deposited cambium, or forming layer; and as long intervals occur of extreme drought or cold, or other unfavorable cause, the condensation produces a more pronounced and distinct ring than the annual one. Query: Has a tree grown in a conservatory, or place of unchanged conditions of heat and moisture, any concentric ring?—*Popular Science Monthly*.

HOW CREOSOTED TIMBER BURNS.

One objection which has been urged against creosoting as a means for preserving timber, in addition to its expensiveness and the difficulty in the way of thorough injection, has been the alleged inflammability of wood treated by the creosoting process. As the creosote is in the form of dead-oil or tar the burning quality of wood impregnated with it would, inferentially, be excellent. Yet it is claimed that in a recent case this theory was substantially demolished by results. An establishment for creosoting piles and planks was burned in New York a few days ago, to which the presence of creosote afforded considerable protection against the fire. The fire is thus described: The building was of pine and spruce in their natural state, except the sills, which were made of creosoted pine. The latter were set on posts and raised about a foot above the ground, so that the flames had a chance to get under them; they were charred, yet retain their form and a certain amount of

strength, whereas not a piece of the untreated lumber could be found. Scattered over the premises were numerous creosoted piles and several thousand feet of plank all charred, but the pieces mostly retained their original form and a certain degree of usefulness. Where the flames could reach the comparatively uninjected heart wood, they ate into it, leaving a charred creosoted shell. In all the above charred pieces the fire went out of itself; creosoted wood burns with a dense black smoke, which has a smothering effect.—*Northwestern Lumberman*.

SAWS.

The improvements made in saws constitute one of the most important steps in modern progress. It is now practicable to run circular and band saws with a capacity of 4,000 feet per minute. Circular saws have been run in soft wood with a circumferential velocity of 9,000 feet (nearly two miles) per minute, but the difficulties, says the *Engineering Times*, of any higher rate than that we have indicated as the ordinary maximum are due to heating and trembling, especially if the parts are the least dull and unbalanced. Band saws dodge; they can be made to bear a great number of the moderate flexures required by sufficiently large wheels, and can be guided very successfully at the points of entering and emerging, but no practicable amount of skill can make them saw in absolute planes through thick and knotty wood. Circular saws heat and buckle in working, unless just enough distorted when cold to allow it. Reciprocating saws cannot work with a speed satisfactory for modern progress. The teeth of power saws may hook, and draw the wood indefinitely. Hand saws cannot be shaped for unless the cut is gauged they will take hold too rank.

The saws made by three layers, each side cast steel and the inner layer tough iron, are very serviceable. For woods of a woolly fibre, such as poplar, the teeth of the saw should be of coarse space and set, to effect a clearance and overcome its clearing properties. For cutting the harder and close-grained woods, such as oak, beech, etc., the saw should be increased one gauge, the teeth should be more upright and spaced finer, and the set also should be reduced. A cross-cut saw must be sharpened with reference to the wood, whether hard or soft. If not properly set, it is evident it will take increased power to drive it. For sharpening cross-cut saws for hard wood the file should be at an angle of 45 degrees; for medium wood at an angle of 35 degrees, and for soft wood at 12½ degrees. So much for position. There is no difference in the angle of a small or large file; difference of action in working depends on the fine or coarse cut of the file. We prefer for the purpose of sharpening a good sized file, not less than four and a half or five inches, if it cut equally fine and sharp on the corners. The cutting angles and the tops and faces of the teeth should be beveled exactly alike, and the gullets also should be of even depth, the saw working freer and with less power if the teeth are allowed to get short and stumpy. In clamping a saw for sharpening, the jaws of the vice should be covered with a sheet lead, about one-quarter inch thick. If not so covered, the saw will vibrate in sharpening, and most probably strip the file.

In setting saws with a hammer, the best plan is to fit the saw horizontally on a stud fitted in a wooden frame having a transverse movement. A small steel anvil with a beveled face should be placed at one end of the frame, and the saw traversed backward or forward for the teeth to overlap the anvil centre the distance of the set required. A series of short, sharp blows should be given to the hammer in preference to a heavy one.

For setting saws, several different machines have been patented by which the teeth may be set to a uniform level, one of which is made in the form of pliers.

The object of setting saws is to lessen friction. The reason of greater power being requisite for cross-cutting than for ripping is that the former is not parallel to the grain. In filing, the edges are, of course, beveled opposite ways. The sharp beveled edge will be outward on the side to which the tooth is bent.

In sawing a large amount of lumber, the

thickness of the saw, as affecting the saving of wood, is a matter of consideration; the thinner the saw, too, the less is the power required to drive it. An objection, however, against thin saws, worked in tension is, that from their pliability the cuts are apt to diverge from a straight line. On the other hand, with a thick saw-blade, the thrust tends to bend it, whilst the pull on the thin saw straightens the blade. The thin blade in tension must be considered as preferable for hand and machine frame saws as well as band saws.

In scroll bands, the thickness and narrowness of the band permit the saw to cut out corners and segments of circles of extremely sharp curvature.

In hand saws the teeth and blades are solid. A great improvement in the circular saw is the application of inserted teeth, this allowing of ready renewal in case of any being broken, and that, through renewals, the diameter of the saw is not permanently reduced by the process of sharpening.

In the use of saws, care must be taken that the teeth are on the same general level; if the opposite be the case, proper action of all the teeth cannot be secured, they will become more readily blunted, and through the longer teeth being drawn more deeply into the timber than the others, they will be apt to be broken off; power, too, will be lost in driving the saw.—*Cotton, Wool and Iron*.

THE CREOSOTING OF TIMBER.

As is well known, the preservative properties of creosote are owing to its preventing the absorption of the atmosphere in any form, or under any change of temperature. It is noxious to animal or vegetable life; and it arrests all fermentation of the sap, which is one of the primary causes of dry rot and species of decay in timber. The action of creosote—says Mr. Bale, in his work on "Saw Mills—Their Arrangement and Management"—may be thus described: When injected into a piece of wood, the creosote coagulates the albumen, thus preventing any putrefactive decomposition; and the bituminous oils enter the whole of the capillary tubes, increasing the woody fibre as with a shield and closing up the whole of the pores, so as to entirely exclude both moisture (water) and air. By using creosote, inferior porous timber and that cut at the wrong season, and therefore sappy, may be rendered durable. The Bethell system of creosoting is as follows: The timber is first thoroughly seasoned and cut to the required dimensions. It is then placed in a wrought iron cylinder, fitted with doors that can be hermetically closed by means of wrought iron clamps. The air and moisture contained in the wood are then exhausted from it, and from the cylinder, by means of a powerful air pump. The pores of the wood being now empty, the preservative material (creosote oil) is admitted into the tank. When the wood has received all that it will after this manner, more oil is forced into it by means of hydrostatic pumps, exerting a pressure of 120 pounds to 200 pounds per square inch. This pressure is maintained until it appears that the proper quantity of creosote oil has been absorbed by the wood, which is determined by a gauge. Timber intended for railway sleepers, bridges, etc., should absorb 7 pounds of oil per cubic foot; and timber required to be protected against marine insects, etc., requires at least ten pounds of oil per cubic foot. The cost varies from 4d. to 5d. per cubic foot, according to the quantity of oil required.

On Thirty Days Trial.

The Voltaic Belt Co., Marshall, Mich., will send Dr. Dye's Celebrated Electro-Voltaic Belts and Electric Appliances on trial for thirty days to men (young or old) who are afflicted with nervous debility, lost vitality and kindred troubles, guaranteeing speedy and complete restoration of health and manly vigor. Address as above.—N.B.—No risk is incurred, as thirty days' trial is allowed.

BE CAREFUL WHAT YOU EAT—The best medical authorities declare that worms in the human system are often induced by eating too freely of uncooked fruit and too much meat, cheese, etc. Whatever may be the cause, Freeman's Worm Powders are speedy and safe to cure; they destroy the worms, and contain their own cathartic to expel them.

A TREELESS COUNTRY.

"I had a dream which was not all a dream"
A great State was a desert, and the land
Lay bare and lifeless under sun and storm,
Treeless and shelterless. Spring came and went,
And came, but brought no joy; but in its stead
The desolation of the ravening floods
That leaped like wolves or wildcats from the hills
And spread destruction over fruitful farms,
Devouring as they went the works of man,
And sweeping southward nature's kindly soil
To choke the watercourses, worse than waste.

The forest trees that in the olden time—
The people's glory and the poet's pride—
Tempered the air and guarded well the earth,
And under spreading boughs for ages kept
Great reservoirs to hold the snow and rain,
From which the moisture through the beaming year
Flowed equally but freely—all were gone,
Their priceless holes exchanged for petty cash,
The cash had melted and had left no sign;
The logger and the lumberman were dead;
The axe had rusted out for lack of use;
But all the endless evil they had done
Was manifested upon the desert waste.

Dead springs no longer sparkled in the sun;
Lost and forgotten brooks no longer laughed;
Deserted mills mourned all their moveless wheels;
The snow no longer covered as with wool
Mountain and plain, but buried starving flocks
In arctic drifts; in rivers and canals
The vessels rotted idly on the mud
Until the spring floods buried all their bones,
Great cities that had thriven wondrously,
Before the source of thrift was swept away,
Faded and perished, as a plant will die
With water banished from its roots and leaves;
And men sat starving in the treeless waste,
Beside their fruitless farms and empty marts,
And wondered at the ways of Providence!

—N. Y. Sun.

WOODS IN SURGERY.

Wood is being employed scientifically in surgery in a different form from ordinary splints. A foreigner has introduced wood-wool as a cheap and useful dressing for wounds, and it is being prepared extensively as a commercial staple for surgical dressings. It is finely-ground wood, such as is extensively used in the manufacture of paper. It is a clean-looking, delicate-fibered, soft, yellowish white substance, having an odor of fresh wood, and absorbs an immense quantity of liquid. The best wood-wool was found to be that which was obtained from the *pinus picea*. The wood-wool thus procured was first pressed, passed through a sieve, then dried and impregnated with a solution containing 3 per cent. of sublimate and 10 per cent. of glycerine. The advantages claimed for this dressing are numerous. It is cleanly, fresh, and of a whitish color; it is at the same time soft and delicate in texture as cotton, and "extraordinarily cheap." The actual price is, however, not stated. It possesses some antiseptic properties naturally, has an agreeable odor, and is exceedingly elastic even in thin layers, so that bandages can be put on more lightly with this than with any other dressing. Its absorbent properties are so high that it takes up 12 times its own weight of water, so that 10 ounces of well-dried wood-wool after complete saturation attain a weight of 120 ounces.

EFFECT OF A HURRICANE.

A party of hunters who returned to Chatham last night brought very startling reports of the damage wrought by the recent gale in the forests in Chatham, this town, and in towns over the border in Maine. They saw tens of thousands of acres of valuable forest trees wholly destroyed. All of the old and a good deal of the new is practically destroyed. Where the timber is not broken it is so torn and matted in the debris as to be at least worthless. In many instances the homes of woodchoppers have been ruined and much suffering among them will ensue this winter. In confirmation of the above, J. E. Clay, representative to the legislature from Chatham and probably the largest owner of timber land in New England, telegraphs as follows: "Explorers just come in report that the havoc and destruction by the late hurricane are far worse than we had expected. The loss in Chatham alone will reach 100,000. It will take a century to fully restore our forests. The loss falls very seriously on the owners of lands, while the lumber business will be crippled for years."—*Chicago Herald*.

THE PROSPECT.

The season of lumber manufacturing is rapidly closing, and probably but few of the mills will be in operation after this week. There is nothing doing in the market, says Quiz of the *Saginaw Courier*, and there is considerable uncertainty as to the future of prices for the coarser grades, in view of the action that tariff agitators in congress threaten. Fully one-half of the Michigan members manifest a disposition to crush the lumber industry of the state by unwise legislation. Coarse lumber, at present prices, and a dull market, cannot be manufactured so as to leave a reasonable profit upon the capital invested, and if prices should be reduced a couple of dollars per M. feet, the coarser grades will be left to rot and burn up in the woods, hundreds of men will be forced to seek employment elsewhere, and the production will be confined to the best grades. Should there be no agitation tending to unsettle values, it is believed there will be a good winter trade, and manufacturers enabled to work off coarse stocks now piled upon the docks, inasmuch as the impression exists that the winter will be open and mild, in which event building operations will be carried on upon a scale more extensive than usual. The stocks in the Chicago yards are estimated to be 100,000,000 feet less than at this date last season, and a comparatively small proportion of it is dry. Trade at the east is reported good for the season. There is nothing worth relating doing in shingles in the valley. In the woods the weather continues favorable for cutting and skidding—but reports indicate that operators are not crowding matters.

—*Lumberman's Gazette*

The Best Time to Cut Timber.

A correspondent of an Eastern journal says: "For strength, beauty and durability, I have found August, September and October the best and February, March and April the worst months to cut wood. A red maple, cut in September, will keep in a round log perfectly white and sound until the next August; while one cut in March will begin to blacken and decay by the middle or last of June. This is not copied from any scientific work, but is what I have found to be a fact by many practical tests. Gray birch cut in September will keep in a good condition until the next September if left in the woods cut in four-foot lengths; while if cut in 7" arch and left in the same way it will be nearly worthless by the first of August, at least such is the result on my land. White pine like red maple, keeps white much longer if cut in September than if cut in March, and is not injured by the worms as much. I have found that wood dried slowly in a low, cool place is better than dried quickly in the hot sun, even though cut in summer. May this not in a measure account for wood being better cut in autumn, it having the long cold winter to dry in?"

Advice to Mothers.

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

If you are troubled with a "hacking cough," Down's Elixir will give you relief at once. Warranted as recommended, or money refunded. Price 25c, 50c, and \$1.00 per bottle.

How to TREAT WEAK LUNGS.—Always breathe through the nose, keeping the mouth closed as much as possible. Walk and sit erect, exercise in the open air, keep the skin scrupulously clean, and take Haysard's Pectoral Balsam for coughs, colds, and bronchial troubles.

THE BEST PROOF.—THE GLOBE.—"I sell more Burdock Blood Bitters than I do any other preparation in stock," says B. Jackson, druggist Toronto. If the reader will ask any druggist in the city he will get a similar answer to his query—a proof that it is the most popular medicine for the blood, liver and kidneys known.

Railway Ties for France.

The *Mineur*, which speaks of the scarcity of timber in France being so great that iron is coming into use for railway ties, adds: "But if timber is scarce in France, it is not so in Canada. As far as wooden railway ties are concerned we are able to supply the whole of Europe. In fact, some of our business men have already had this point under consideration in so far as France is concerned."

UNITED STATES Minister Foote says that Corea, Asia, is fairly wooded, and the government exercises much care in maintaining the forests. In the north there are large forests of timber.

FOR A HARD COLD, with pain in the head, bones or through the chest, take Down's Elixir at once and in liberal doses, cover up well in bed, and our word for it, you will soon be well.

A PARALYTIC STROKE—W. H. Howard, of Geneva, N.Y., suffered with palsy and general debility, and spent a small fortune in advertised remedies, without avail, until he tried Burdock Blood Bitters. It purified and revitalized the blood, caused it to circulate freely, and quickly restored him to health.

LUMBER

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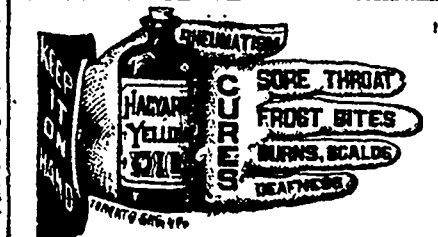
"By a thorough knowledge of the natural laws which govern the operations of digestion and nutrition, and by a careful application of the fine properties of well-selected Cocoa, Mr. Epps has provided our breakfast tables with a delicately flavored beverage which may save us many heavy doctor's bills. It is by the judicious use of such articles of diet that a constitution may be gradually built up until strong enough to resist every tendency to disease. Hundreds of subtle maladies are floating around us ready to attack wherever there is a weak point. We may escape many a fatal shaft by keeping ourselves well fortified with pure blood and a properly nourished frame."—*Civil Service Gazette*.

Made simply with boiling water or milk. Sold in tins only (4-lb. and 1-lb.) by Grocers, labelled thus:
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English Extract of
BUCHU,
One of the Best
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It is a specific in the cure of all diseases of the Kidneys, Bladder, Prostatic Portion of the Urinary Organs, Irritation of the Neck of the Bladder, Burning Urine, Gleet, Gonorrhoea in all its stages, Mucous Discharges, Congestion of the Kidneys, Brick-dust Deposit, Diabetes, Inflammation of the Kidneys and Bladder, Dropsy of the Kidneys, Acid Urine, Bloody Urine, Pain in the Region of the Bladder, PAIN IN THE BACK, Urinary Calculus, Renal Calculus, Renal Colic, Retention of Urine, Frequent Urination, Gravel in all its forms, inability to retain the water, particularly in persons advanced in life. IT IS A KIDNEY INVESTIGATOR that restores the Urine to its natural color, removes the acid and burning, and the effect of the excessive use of intoxicating drink.

PRICE, \$1: or, Six Bottles for \$5.
Send for Circular. Sold by all Druggists.
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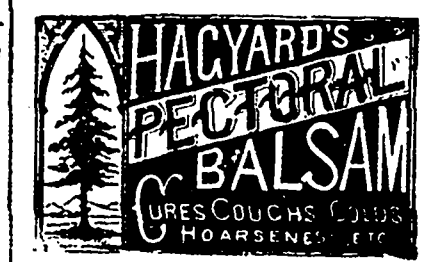
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People are always on the lookout for chances to increase their earnings, and in time become wealthy; those who do not improve their opportunities remain in poverty. We offer a great chance to make money. We want many men, women, boys and girls to work for us right in their own localities. Any one can do the work properly from the first start. The business will pay more than ten times ordinary wages. Expensive outfit furnished free. No one who engages fails to make money rapidly. You can devote your whole time to the work, or only your spare moments. Full information and all that is needed sent free. Address BRINSON & Co., Portland, Maine.

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It has the Largest Circulation; the Latest News, both Local and Foreign. A Splendid Story Page. First-class Agricultural Page. Reliable Market Reports. Legal Column Household Department, Children's Department, etc.
THE MAIL is the great medium for advertisements of FARMS FOR SALE
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TRADE NEWSPAPERS.

There is now and then a person so stupid as to believe that advertisements in trade newspapers are not generally read, and that money expended in advertising this way is practically wasted. Then there is another class who, if a man, or poster is presented to them, will readily give their advertisement to help form a frame around the same. Also when the directory man comes around, they must have a card at the top of the page, or perhaps a full-page advertisement, and they are willing to pay a big price for this class of advertising. What good does it do him? None whatever, for it is not seen, and does not reach the class they desire.

Now a good trade journal, published directly in their interest, goes directly to the class of trade they wish to influence.

If a hundred men of polite address, of fluent speech and ready wit, were to call, weekly or monthly, each upon a hundred others and get the attention of each long enough to say John Smith has made a great improvement in such and such a machine, or that Jones, or Brown, at such a place, have a complete and full line of wood-working machinery, we will readily concede that the services of these one hundred men would be of great service to Smith and Jones, and great advantage to the party to whom the statement was made. The hundred men could not be employed to go from place to place—some small and distant places—and make this statement to five or ten thousand people at less than a cost of several thousand dollars each trip. All this is done by the trade newspaper at the cost of a few hundreds at the most, and the visits are made weekly or monthly as the case may be. The messenger who travels, addresses himself to the ear, and takes the party addressed when he may have his thoughts absorbed in business or other matters; but the trade newspaper reaches the party sought through the eye, when the reader has his thoughts solely fixed on the paper before him. But those who affect to believe that there is little use in advertising urge, as an objection, that advertisements are not read. They can easily be convinced of their error in this respect by making inquiry. Let them insert an advertisement offering to purchase some article that is tolerable plenty in the market, and they will be flooded with offers to sell before the ink of the advertisement is dry. An enterprising trade newspaper, with an extensive circulation, is in a position to do the advertiser great good. In its sphere, the trade newspaper is worth a dozen New York *Heralds* or *Tribunes*, with their circulation of hundreds of thousands, to an advertiser in whose interest the trade journal is published. A man's sign offers a mute invitation to those only who pass his place of business; his circulars can only reach those to whom particular attention is given; but his advertisement, in a trade newspaper, goes into the highways and byways, finding customers and compelling them to consider his argument.

Advertisers sometimes say, "Well, I cannot afford a large advertisement, and a small one won't do me any good." Now, our advice is: Don't be afraid to have a small advertisement by the side of a large competing one. The big one can't eat it up.—*Journal of Progress.*

A QUESTION OF FUTURE COMPETITION.

The owner of an immense quantity of standing pine in Michigan is naturally interested in the effect the opening of the Northern Pacific and Canadian Pacific roads will have on the value of white pine. He propounds the question in the following terms:

"It is yet to be seen and experienced what effect the completion of the Northern Pacific and Canadian Pacific railroads will eventually have as tending to lessen the value of Michigan Wisconsin and Minnesota pine lumber; as those roads may meet us on the western prairies, and largely furnish them the lumber they require, thereby mostly excluding our pine, thus largely curtailing the area for the sale and consumption of Michigan and Wisconsin lumber. For some time past this question has met me square in the face, as an element to be considered in my purchases and sales of pine lands. Perhaps you, with your eye over the whole

business horizon, can give me some light on this subject.

Without a doubt the lumber of western Washington Territory and Oregon, as well as that of the mountain regions of upper Idaho and Montana, will seek a market, to some extent this side of the mountains in Dakota, and possibly as far south as Nebraska. But this is to be said about the probability: It will be several years to come before the Northern Pacific road has a competitor in the lumber traffic from Puget Sound or the Pond d'Oreille sources of supply eastward. Until there are rival lines it need not be feared that the lumber trade of the northwest will be greatly broken into by western manufacturers. The one line cannot attend to the amount of traffic necessary to do that. Besides, if our querist will refer to back numbers of the *Lumberman*, even so recently as Nov. 10, he will see that there is an organization called the Montana Improvement Company, that has a close relation with the Northern Pacific road, and that this company will virtually control the lumber business along that line from the Dalles, in Oregon, to the eastern limit of Montana, and probably further eastward in Dakota. The traffic that this company is likely to put on the road will be all that the Northern Pacific management will want to handle, in the direction of lumber, for years to come. The Puget Sound branch of the Northern Pacific is not yet completed, and when it is the treeless grain region of Eastern Washington will need all the Puget Sound lumber that does not go by sea, for years to come. We must reflect that Washington and Oregon territories are empires within themselves, that their eastern portions are without forests, and present a vast area of good wheat and grazing land, that is bound to be settled. It will keep the eastern Washington and Oregon mills busy for years to supply this demand alone. Then there is middle and southern Idaho to be supplied from either the Pacific side, or the mountains in the northern part of the territory. It is not possible that the territory tributary to the Pacific coast supply will be so filled up with lumber within the next ten or fifteen years that manufacturers will seek a market east of the mountains.

As to the Canadian Pacific road, there is nothing to be feared from that quarter, because the Bow River region, under the Rocky Mountains, has to be reached before manufacture begins, and the prairies to the eastward, hundreds of miles in extent, must be supplied before the output will seek a market across the border, in Dakota. There is, in fact, more danger from Lake Winnipeg pine and spruce than from western lumber, from the Canadian Pacific road. But it will be a cold day when the northern Wisconsin or the northern Minnesota Lumbermen allow either the Canadian or the Pacific coast lumber to get away with the demand in Dakota, Wyoming, Nebraska or Colorado.

When we consider the eastern side of the question we must certainly conclude that there is no danger of white pine being driven out of the western field by Pacific coast or Rocky Mountain lumber. A single factor would prevent such a thing, and that is transportation. The railroad lines out of northern Wisconsin to the westward have been, and are being, constructed with a special reference to the lumber traffic. Be sure that no Pacific coast lumber will be allowed to come this side the mountains on a competitive freight rate. The Omaha "lumber line" and other railroad lines will see to that matter. The roads were built partly, or largely, to carry the white pine of Wisconsin westward, and they will do it. As for Michigan pine, the time is right here, when all that is better than common, and much of the remainder, will be wanted east of the Mississippi river. Michigan lumber will not much longer have to compete for trans-Mississippi trade. This may be considered a "too previous" proposition, but it is the most prominent feature of the near future pine problem, and one that will upset much of the calculation that pine men are now making. Men of affairs are prone to miscalculate the future. They are much given to "hindsight," and regard the forecasting of the future as visionary and useless. The lumbermen of the country are fond of recounting the marvel-

ous changes that have taken place in the pine business within the past twenty years, but shut their eyes to the twenty that are to come. Even now selects and clears are sought after throughout Wisconsin, and even as far away as Duluth. The day is near when Chicago will absorb much of the Chippewa valley, Wis., pine that now goes westward, and the woods of north Minnesota will before long contribute to the supply of good lumber in this market. Instead of the lumber of the Pacific coast meeting white pine on the prairies and thus reducing the value of eastern lumber, there will come a time when Michigan and Wisconsin can withdraw from the trans-Missouri territory entirely, and let the Pacific long-haulers have it and welcome.—*Northwestern Lumberman.*

LUMBER SUPPLY AND ITS EXHAUSTION.

On this subject the Bay City *Lumberman's Gazette* has the following:—The opinion of men and newspapers, even those supposed to be posted on the question of the exhaustion of our timber supply, are as wide apart as the east is from the west. Some are inclined to take the government reports as conclusive, and rely wholly thereon, while others deem them completely and utterly worthless, so far as statistical authority is concerned. One writer furnishes figures to prove that a single decade is the utmost limit of the lumber business in this country if carried on as extensively as at present, unless an extensive system of arboriculture is at once inaugurated to replace the timber which is under a system of such rapid exhaustion; while others furnish figures to establish the fact that Texas alone has sufficient forest timber to satisfy the demands of the entire country for at least a century, to say nothing of the redwood forests of California, which it is again claimed have sufficient timber in a single county to prevent a timber famine until the present generation shall have passed off the stage of human activity. This subject is one which is of interest not to lumbermen alone, but to the entire population of this country and Europe. The diversified views of our contemporaries are almost as thick as the autumn leaves of the forests to which they refer, and are put forth, one is sometimes inclined to think, with about as much lack of actual fact as do the leaves of the forests lack some settled purpose in their flutterings in the wind. In order that our readers may have some idea of the diversity or divergence of opinions on the subject, we will publish the following from the *Minneapolis Tribune*. It may prove interesting to our readers, not only because of the existing difference of opinion between Major Camp and the *Tribune* itself, but because of some other suggestions which are thrown out by the former:

"The question of future timber supply is one in which not only the northwest but the entire country, is virtually interested, and during the last quarter of a century it has been at frequent intervals discussed in all its bearings, but a yet without any satisfactory solution. That the supply of pine timber in the northwest will, at the present rate of consumption, be soon exhausted, is a fact which all conversant with the situation now admit, but just how soon the end will be reached is a point upon which experts do not wholly agree. The *Tribune* this morning gives the result of several interviews with local authorities. Major Geo. A. Camp, who is probably as well informed on the subject of timber supply of the upper Mississippi as any man in Minnesota, estimates the available supply in the country tributary to Minneapolis of five and a half billion feet, and thinks twenty years will see it practically exhausted. In this connection Major Camp makes the interesting and not unreasonable prediction that before the period of exhaustion shall have arrived the manufacture of paper lumber will have reached a degree of perfection which shall permit of its use for all inside finishing work in the construction of buildings, and that for heavy and outside work we shall be compelled, as all long settled countries have been, to resort to brick, stone and iron—the first two of which materials, at least, are inexhaustible and reasonably inexpensive.

There is one source of supply—and the *Tribune* looks upon it as a very important one to

this section—which Mr. Camp has left entirely out of his calculations. We refer to the great timber preserved of the North Pacific coast, which is opened up to us by the construction of the Northern Pacific railway. The extent of this supply is difficult to estimate, but it is probably safe to assume that it would, if properly guarded, furnish the entire half of the United States with manufactured lumber for one hundred years after the supply elsewhere is exhausted. There are other facts which are sufficient of themselves to allay any tendency to panic during the next quarter of a century. The southern states have a timber supply which their own moderate demands in a mild climate would not consume in 700 years. This is already being made available for northern uses. Again, it is to be remembered that there is no such thing as an entire exhaustion of merchantable timber in any timbered section. Whenever the lumber supply in this northwest begins to approach extinction, prices will go up and consumption through the employment of other and lower grades and species of timber; pine will give place to less valuable varieties, and the change from the present flush times in choice building material will be gradual, and not abrupt. Just how much importance is to be attached to the growing of timber is yet a question, and in any case a question in which future generations, and not the present will be mainly interested.

SOUTHERN PINE.

The Chicago *Northwestern Lumberman* says: A writer to a newspaper over in Michigan denounces the southern pine boom on account of the immense quantity of it abounding in seven states, and predicts that the supply will last a century. He alleges that the men who have bought southern pine lands expecting to realize an advance on them while they are yet alive, have made a mistake. Perhaps they have counted on realizing too quickly, but the *Lumberman* cannot regard it as much of a mistake when a man buys southern pine land at a "bit" to 50 cents an acre. The man who thinks he knows all about the future had better not talk about centuries in this swift age of the world. He should remember that this nation is but a little over a century old, and not only has a large part of twenty states been denuded of timber, for agricultural purposes, but the end of the northern pine supply is seen in the dim distance. He should also reflect that only about forty years have elapsed since Michigan pine began to be slaughtered, and the country was for years afterwards but sparsely settled west of the lakes. He should besides have foresight enough to see that this country, taken as a whole, will use vastly and increasingly more lumber in the future than it has in the past—a fact that prognosticators, about the lumber supply usually take into the account. That is to say the country will demand increasingly more as long as the supply holds out, and is reasonably cheap. The new iron and the tile age has not put in an appearance yet, and will not while our forests last. Where one thousand feet of white or yellow pine is now used two will be needed twenty-five years from now. This all-knowing man of whom we speak, should reflect on the large amount of yellow pine that is now going to the eastern seaboard and England, and the large increase of the trade northwestward. As white pine diminishes the demand for the yellow variety will increase without a calculable limit.

LOGGING ROADS.

The handling of logs by rail has greatly increased through the northern lumber regions, and particularly in Michigan. The number of private roads which enable timber owners to get their logs to water-ways is in itself large, and in addition to this are several main lines, with innumerable spurs, which traverse regions which afford an almost exclusively log traffic. The business of these roads is immense, as is shown by the following record of logs hauled in 1882: The Flint & Pere Marquette road, 95,294,620 feet; the Michigan Central, 60,000,000 feet; the Saginaw Bay & Northwestern, 86,039,768 feet; and the Tawas & Bay County road, 38,486,570 feet. Total, 279,825,963 feet. These logs were hauled to terminal points, and are not counted

among those which went into streams and through booms. The log traffic of the Flint & Pere Marquette road has much increased this season, which is an important reason why the generally prevailing low water has not resulted more seriously to the interests of lumber manufacture. During the month of October the road last mentioned hauled 11,581,000 feet of logs, of which amount 9,582,369 went to Saginaw, as compared with 5,114,951 feet for the same month last year, of which 2,294,900 feet went to Saginaw. The general increase in the movement of logs over this line is shown by the following statement, given for the past two years, up to November 1:

	1882.	1883.
January.....	12,267,900	10,408,744
February.....	8,851,620	11,240,898
March.....	11,147,610	15,504,470
April.....	11,269,676	17,194,461
May.....	11,135,638	21,590,221
June.....	8,008,768	15,954,202
July.....	8,210,838	5,490,627
August.....	8,733,260	4,541,454
September.....	4,243,201	4,454,442
October.....	6,114,961	21,581,003

Total feet.....78,976,447 127,016,511
These figures show an excess for 10 months of this year over corresponding period last year, of 31,721,890 feet.—Northwestern Lumberman.

Govt Action.

Canada should take a prominent part in the forestry exhibition which is to be held in Edinburgh. Edinburgh was fixed upon because it was a sort of half-way meeting ground for the Scandinavian and Canadian lumbermen. Only one local government has so far taken action, that of New Brunswick, which has decided to have its timber wealth exhibited. It might be well, perhaps, for each of the Provinces to take the matter up, as timber matters come within their province, and not within that of the Dominion. At the same time, the Dominion Government should also take action, as it possesses control of immense timber tracts in territories disputed and undisputed, and a better display, as a whole, could probably be made if the Dominion Government undertook a supervision of the whole, and the Local Governments submitted to it.—Brantford Courier.

Cement for Leather Belting.

An ordinary cement for leather belting is wheat flour boiled in oil of turpentine; but the ends must be secured by rivets, or it is not reliable. A better cement is made by soaking six ounces best glue in one pint of ale, then boil, add one and a half ounces of boiled linseed oil, and stir well. Another prescription is to take dissolved glue in the form as the cabinet makers use it, and add tannic acid till creamy and rosy. Make the leather surfaces to be united rough, apply the cement hot, let it cool and dry under pressure and it will not need riveting. For rubbing belting, take pure rubber in thin slices, two ounces, dissolve in one pound bisulphide of carbon; this a good cement, but if kept, thickens very soon. In order to prevent this add a solution of pure rubber, resin and turpentine.—Age of Steel.

Durability of Timber.

Beneath the foundation of Savoy Place, London, oak, elm, beech, and chestnut piles and planks were found in a state of perfect preservation, after having been there for 650 years. While taking down the old walls of Tunbridge Castle, Kent, there was found in the middle of a thick stone wall a timber curve, which had been enclosed for 700 years. Some timber of an old bridge was discovered while digging for the foundations of a house at Ditton Park, Windsor, which ancient records incline us to believe were placed there prior to the year 1396. The durability of timber out of ground is even greater still. The roof of the basilica of St. Paul's at Rome, was framed in the year 818; and now, after more than a thousand years, it is still sound, and the original cypresswood doors of the same building had been in use more than 600 years.

AN AFFLICTED CLERGYMAN.—The Rev. Wm. Stout, an English clergyman, of Warton, was for 28 years a terrible sufferer, with Scrofulous Abscess, which the best medical skill failed to cure. The internal and external use of Burdock Blood Bitters cured him, and for nearly three years he remained hale and hearty.

Deseronto Gas Works Burned.

Early on Thursday morning the inhabitants of Deseronto were startled by the cry of "fire!" when it was discovered that the Gas works were being rapidly destroyed by fire, without a chance of saving them. It is about three years since the Messrs. Rathbun began the experiment of manufacturing gas from sawdust, by a patent process of their own. The experiment was partially successfully at first, as the illuminating power was not satisfactory; but after three year's experimenting and an outlay of a large sum of money, they had gradually increased the illuminating power until the gas works had proved a success. The night before the fire, the village had been lit very satisfactorily. The fire is supposed to have started near the boilers, and could not be subdued. The entire works, except the gasometer, were destroyed, entailing a loss of \$30,000. It is believed that the works will be at once rebuilt. The loss is stated at \$10,000 to \$12,000; insured for \$6,000.—Intelligencer.

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

The CANADA LUMBERMAN is filed at the Offices of Messrs. SAMUEL DRAGON & Co., 164 Leadenhall Street, London, England, who also receive advertisements and subscriptions for this paper.

PETERBOROUGH, Ont., DEC. 16, 1883.

A NEW shingle mill is to be put into Hargrave's mill, South Bay City, Mich., that will have a capacity of from 100,000 to 125,000 shingles per day.

THE Bolloville *Intelligencer* says:—The Rathbun Company have secured the contract for three more station buildings on the Ontario and Quebec Railway, making ten in all.

A MAN in Oshkosh, Wisconsin, while sawing wood, a local report says, found in a hole in one of the sticks, five ten dollar gold pieces and two twenty dollar pieces, besides some small coins.

THE Winnipeg *Commercial* of Nov. 27, says: Business has fallen off considerably during the past week or ten days, and will in all probability continue quiet during the balance of the winter season.

HENRY DISTON & SONS recently sold through the Chicago branch house a bill of saws for two complete circular mills, to go to Bolivia in South America. The shipment was quite recently made from the Philadelphia house, and it is estimated that it will take the goods something like eight months to reach their destination.

It is stated that Prussia has the most complete system of state forestry in the world. In this branch of state service she has several thousand officials and notwithstanding the cost for maintenance of this large staff, the revenue accruing from the sale of timber not only meets all expenses, but returns annually a large revenue to the state.

FURNITURE in bedrooms should be as light in construction as is consistent with the strength required, and made of light wood. Ash furniture, oak, and satin wood are very suitable. Whenever possible it is much to be desired on the score of health, that furniture should always be made in such a manner as to be easily moved. It might well be raised clear of the floor, so as to avoid anything like dust traps.

IN England thin shavings of veneers of different kinds of wood are coming into use for book covers. The woods now mostly in use are our American black walnut, lime, oak, holly, etc., but all woods may be used. After being placed upon the wood the veneers can be either rubbed down with oil or French polished.

President Arthur in his annual address refers to the necessity of protecting the forests situated upon the public domain, and suggests that, as the northern portion between the United States between the Blackfoot and Flathead reservations is unsuitable for settlement, it be withdrawn from sale and converted into forest preserve.

A PROCESS of impregnating wood for its preservation has been patented in Germany. This consists in first treating the wood with a solution of zinc vitriol, and then with a solution of chloride of calcium, so that the preservative coating is formed upon the wood by the chemical action of both substances on one another.

THE *Northwestern Lumberman* says:—On the farm of J. E. Baker, of Naples, Me., is a large and dense growth of tall pines. About 40 years ago the spot where they grow was being mowed and yielded a good crop of hay. A few acres of these pines are quite high, but they are too thick to grow very large. Five years ago a tree was cut out of which a 27 foot sill was made which squared seven inches. There were numerous trees as large as that one.

COTTONWOOD, it is said, will make four rails in seven to nine years, and maple the same in from eight to ten years. Cottonwood, soft maple and California redwood are regarded by many as the best trees for forest planting when quickness of growth is desired, and also when shelter belts around orchards, gardens, barns and stock yards are necessary. Many farmers have learned from sad experience that by cutting down their forests indiscriminately they have made the way clear for chilling, biting winds and frosts to nip their growing fruit.

THE Bay City *Lumberman's Gazette* says:—The year 1883 has been exceptionally disastrous in the matter of fires in wood-working establishments. For the first ten months of the year over one hundred million dollars was wiped out out, went up in smoke as it were, and the necessity becomes apparent for every precaution on the part of owners to prevent the continuance of such enormous destruction. One hundred million dollars in ten months is too great a business calamity to be longer endured. The most perfect precautionary measures should be adopted by every wood-working establishment in the country.

A FRENCH journal tells of two exactly similar pieces of land, one cleared and the other wooded, where the wooded piece yielded ten times as much water as the open. The latter had an irregular flow, while the woodland yielded an even, regular supply. Another fact is given relating to America. A stream which for years and years, without failing, had supplied several mills with power, finally gave out. It not only failed to fill the ponds, but actually dried up. An investigation showed that the woods through which it flowed had been cut down. Subsequently these woods were allowed to grow up again, and for the past ten years, in spite of droughts and other troubles, the stream has flowed without interruption.

MANITOBA FORESTRY ASSOCIATION.

The Winnipeg *Times* of Dec. 4, says:—A meeting of the Manitoba Forestry and Agricultural Society was held at the Department of the Agricultural offices yesterday afternoon. Present: Mr. Acton Burrows, second vice-president in the chair; C. N. Bell, secretary-treasurer; W. B. Hall, of Headingley, and R. R. Keith, Mr. Wagner, M. P. P., of Osawa, who is making extensive experiments in tree growing, was present as a guest.

Mr. W. B. Hall reported that the special committee had held one meeting and that its members were now engaged in preparing lists of the trees and fruit indigenous to Manitoba.

They had also, through the press, asked for correspondence from persons engaged in tree and fruit growing in the province as to the result of their experiments.

They were also in correspondence with the secretaries of several States, in preparation of a Forestry Manual for this province. They had also decided on a recommendation for the establishment of an annual Arbor Day here.

A letter was read from Mr. A. M. Brown, offering the society the free use of twelve acres of ground for six years for experimental purposes. Action was deferred on Mr. Brown's letter until the next monthly meeting of the directors, and the president of the society Attorney-General Miller was requested to take such steps as he may think necessary to procure a proper ground, adjacent to the government buildings at Fort Osborne for the use of the society. It was decided to send an order to Russia for a selection of fruit and tree seeds, and Messrs. Burrows, Keith and Hall were appointed a sub-committee to select the varieties to be ordered.

The meeting then adjourned.

AUSTRALIA.

The monthly circular of Messrs. Lord & Hughes, Melbourne, dated Oct. 24th, says:—Since our last on the 22nd ultimo, the offerings at auction of most descriptions of timber have been heavy, and the prices realized all that could have been anticipated considering the large quantities known to be on the way.

The cargo of Oregon, ex Matilda, was offered at auction yesterday, and about half of it was sold at £8 15s to £7 2s 6d, averaging about £6 18s 6d, the square timber not being sold.

There is a good demand for American lumber, at advancing prices.

Sales from the Yards have been active the trade doing a large business, which is likely to continue.

The arrivals have been—Adele e Sabina, from Laurvig; Charlotte Lange, from Drammen; Schwanden and Thor from Fredericstad; Governor Wilmot, Greta, General Pictou, Loch Rannoch, North American, Essex, Mirzapore, Sikh, Bowden, Ivanhoe, Carlisle Castle, Norinanton, Lock Etive, and Winifred, from Great Britain; Ghazee and Marsala, from Antwerp and Hamburg, and Salazie, from Marsoilles, with white deals, red deals, flooring galvanized iron, and cement; Matilda and Nanaimo, from Burrard Inlet, with Oregon timber, laths and pickets; Alice Reed, from Boston, and Alert, from New York, with clear pine, shelving, ceiling, spruce deals, laths and plaster; Jules Marie, from Kaipara, Killarney, from Monganui, Grassmere, from Wanganui, and Kentish Lass, from Hokiangra, with Kauri pine; Lady Franklyn, Konoo-warra, Lindus, Cheviot, and Rodondo, from New Sydney, with cedar; Wendouree and Leura, from Sydney, with laths; Claud Hamilton, from Adelaide, with slates; John Lewis, from Adelaide, with spruce deals; and Ly-ee-moon, from Sydney, with galvanized iron.

RED DEALS.—Imports: 3,814 pieces. The arrivals have been Governor Wilmot and North American, from London. Sales by auction have been made of parcels ex Frigga, Noel, and Kamfjord, from the Baltic, and ex various ships from Great Britain. FWT, 11x3 realizing 143d to 43d; 9x3 44d to 44d; TWF, 11x3 34d; 10x3 34d; 9x3 39-16d; WK, 11x4 4 15-16d; 9x4 4 13-16d; 11x3 4 7-16d; 9x3 44d to 4 11-16d; 8x3 4 9-16d; to 44d; DDD, 7x2 4d. to 4 1-16d; Crown Gromoff, 9x3, 44d to 4 9-16d at per foot running of 9x3.

SPRUCE DEALS.—Imports: 14,056 pieces. The arrivals have been Alice Reed, from Boston; John Lewis from Adelaide; Adele e Sabina, from Laurvig; Governor Wilmot and North American, from London. The parcel, consisting of 11x3 and 9x3, ex the Alice Reed, from Boston, was sold by auction on 16th inst., realizing 38d. per running foot 9x3. Sales have also been made at auction of Baltic white deals, ex Captain Peter Dahl, Adele e Sabina and Frigga, from the Baltic, and ex various vessels from Great Britain.

OREGON TIMBER.—Imports: 1,179,982 feet super. The arrivals have been Matilda, and Nanaimo. The cargo ex Matilda was offered

at auction on the 23rd inst., when about half of it was sold at an average of about £8 18s 6d. or £8 19s. The cargo ex Nanaimo has not yet been offered at auction. Sales by auction also comprise parcels ex Chrysolite and Oriental.

LUMBER.—Imports, Clear pine, 151,941 feet super; white pine shelving, 130,977 feet super; T. and G. ceiling, 34,918 feet super. The arrivals have been Alice Reed, from Boston, and Alert, from New York. The shipment ex Alice Reid was sold at auction on 16th inst., prices showing an advance on last month's rates. Michigan clear pine realized £18 12s 6d to £16 17s 6d. White pine shelving (Peabody brand), £13 5s to £13; T. and G. Ceiling, £9 7s 6d to £9.

PITCH PINE.—Imports: Nil.
 REDWOOD.—Imports: Nil.

FLOORING AND WEATHERBOARDS.—Imports: 7,038,048 feet lineal. The arrivals have been Adele e Sabina, from Laurvig; Charlotte Lange, from Drammen; Schwanden, and Thor, from Fredericstad; Governor Wilmot, General Pictou, Loch Rannoch, North American, Ivanhoe, Carlisle Castle, Lock Etive, and Winifred, from Great Britain. Sales by auction have been made ex Frigga, Union, Adele e Sabina, Captain Peter Dahl, Thyatira, General Pictou, and Loch Rannoch, when the following prices were realized:—Red 6x1 1/2, 10s 3d to 9s; 6x1, 8s 6d to 8s 3d; 6x 3/4, 8s 2d to 7s 3d; 6x 1/2, 6s to 5s 9d; 6x 1/4, 5s 6d to 5s; 6x 1/8, 5s to 4s 6d; white 6x1 1/2, 9s 3d to 9s; 6x 3/4, 7s 9c to 7s 3d; 6x 1/2, 5s 9d to 5s 6d; 6x 1/4, 5s 3d to 4s 11d; 6x 1/8, 4s 7d to 4s 3d; 4-ont weatherboards, 5s 9d.

KAURI PINE.—Imports: 925,646 feet super. The arrivals have been Killarney, Jules Marie, Grassmere and Kentish Lass. Sales by auction have been made during the month of cargoes ex Robin Hood, Jules Marie, Killarney, Grassmere and Kentish Lass; Hewn logs realizing 13s 3d to 11s; sawn fitches, 10s 6d to 14s 6d.

CEDAR.—Imports: 209,962 feet super. The arrivals have been "Lady Franklyn, Konoo-warra, Lindus, Cheviot, and Rodondo, from Sydney. Sales have been made by auction during the month ex Lady Franklyn, Lindus, Konoo-warra, and Rodondo; logs realizing from 58s 6d to 36s 6d per 100 feet super.

RED AND WHITE PINE (Colonial).—Imports: Nil. The cargo ex May was sold by auction on 2nd inst., at extremely low rates. There is no demand for this description of timber.

DOORS.—Imports: Nil.

WOODEN COLUMNS.

A series of experiments have been conducted on the testing machine at the Watertown arsenal by Prof. Lanza, of the department of mechanical instruction of the institute of technology. The object in view was to ascertain the strength of wooden columns of the size and length commonly used in the construction of cotton and woollen mills. The experiments were made at the instance of the Boston Manufacturers Mutual Fire Insurance Company, of which Edward Atkinson is president. This testing machine was recognized as an invention of the greatest importance in the bestowal through a committee of experts, of the gold medal the highest award of recent mechanics' fair. Although it has been for some time in operation for scientific and other tests, it gains through this fact a new interest for the public. A part of the columns thus tested was yellow or hard pine, and a part oak. About a dozen thus far have been subjected to the process of compression in the machine, the strain having been brought upon them endwise for the purpose of ascertaining what is called the "crushing strength" of the timber. Outside of these experiments, and a few others at Watertown, none have been made on wooden columns of sufficient size to furnish reliable data for practice. The experiments made elsewhere, and those on which the formula in text-books on mechanics and the hand-books are based, have been upon columns of about two inches on a side and of four or five feet in length. From the results thus reached the strength of columns of dimensions actually used in building has been computed. It is plain that a series of experiments conducted under the direction of experts, and by them authoritatively recorded will consti-

tute much more satisfactory data for the textbooks. The experiments, therefore, have a significance beyond the nowise unimportant one that pertains to them in the matter of mill construction. All but two of the columns experimented on were round, hollow columns, of from eight to eleven inches in diameter, the two being about nine inches square. The greatest amount of pressure exerted in any case was 250,000 pounds. The tests have disclosed frequent instances of defective boring in the columns. The object in boring is to open an air passage through the heart of the stick for the prevention of dry rot after it is in position in the building. It is essential, of course, that the bore should extend from end to end, but this has not always been effected. The sticks were bored first from one end then from the other, and the borings have sometimes failed to meet in the middle of the stick. The tests also show that to taper the sticks is a mistake, inasmuch as it weakens the column more than it has heretofore been estimated. Reasons for exercising more caution in other respects in the construction and adjustment of wooden columns in building have also been disclosed.—*Lumberman's Gazette*.

EFFECT OF FROST ON TREES.

It is a prevalent opinion that during cold weather, the liquid in vegetable tissues congeals as ordinary liquid does, and expanding, often causes trees to burst with an explosive sound. In order to test the truth of this opinion, careful experiments were made last winter in Philadelphia, by T. Meehan, with young and vigorous trees, varying from one to three feet in circumference. They were carefully measured in early winter when the thermometer was at 40 degrees, and again after they had been exposed for many days to a temperature below freezing point, but in no case was there the slightest evidence of expansion. In dead wood, however, soaked with water, the expansion was well marked, and the cleavage, with explosion, sometimes noted in the case of forest trees in high northern regions, may result from the freezing of liquid in the centre or less vital parts of the trunks of the trees.

In some hardy succulents, however, instead of expansion under frost, there was a marked contraction. The joints or sections of stem in some of the Cactus plants, shrink remarkably with the lowering of the temperature. As soon as the thermometer passes the freezing point, the shrinkage is so great that the whole surface has the wrinkled appearance presented by the face of some very aged person. The contraction amounts to about 12 per cent., but a knife penetrates the tissues in winter just as easily as in summer, and no trace of congelation of the juices can be found in the plant. Other succulents exhibit more or less shrinkage under extreme cold, and sometimes present the appearance of being withered or dead. They, however, expand again in a few days of warmer temperature.

Assuming from these facts that the liquid in plants which are known to endure frost without injury, did not congeal, it might be a question as to what power they owed this successful resistance. It is probably some vital power, for the sap of plants, after it was drawn from the tree congealed easily. In a large maple tree, which was included in these tests, the juice exuded from wounded portions of the branches and then froze, hanging down icicles often six inches long from the tree.—*Lumber World*.

A National Forest.

The following extract from the message of President Arthur shows that our neighbors are becoming impressed with the necessity for scientific forestry and the conservation of national forests:—

"In my last annual message I called attention to the necessity of protecting by suitable legislation the forests situated upon the public domain. In many portions of the West the pursuit of general agriculture is only made practicable by resort to irrigation, while successful irrigation would itself be impossible without the aid afforded by forests in contributing to the regularity and constancy of the supply of water. During the past year severe suffering and great loss of property have been occasioned

by profuse floods, followed by periods of unusually low water in many of the great rivers of the country. These irregularities were in a great measure caused by the removal from about the streams in question of the timber by which the water supply had been nourished and protected. The preservation of such portions of the forests on the national domain as essentially contribute to the equable flow of important water courses is of the highest importance. Important tributaries of the Missouri, the Columbia and the Saskatchewan, rise in the mountain region of Montana near the northern boundary of the United States, between the Blackfoot and Flathead reservations. This region is unsuitable for settlement, but upon the rivers which flow from it depends the future agricultural development of a vast tract of country. The attention of Congress is called to the necessity of withdrawing from public sale this part of the public domain and establishing there a forest reserve.

A Large Contract.

The largest single lumber contract ever made by St. Croix lumbermen is that entered into between Messrs. F. T. Todd & Sons, of the one part, and Messrs. Tracy, Murchie & Love, of the other part, for the cutting and yarding of 7,000,000 feet of logs during the coming winter. The ground to be operated upon covers a block six miles square on the Wiscataquoik stream, in Piscataquis county, Maine, and is bounded on the northeast corner by Traveller's mountain, on the northwest by a lake called Big Pond, on the southeast by Turner's mountain, 3,500 feet high, and on the southwest by a spur of Mount Katahdin. It is estimated that there are 100,000,000 feet of lumber in the block, the land being what is known as black land and covered with a splendid growth of spruce, cedar, fir and pine. Sub-contracts for 5,000,000 feet of the lumber specified in the original agreement have been let—to William's & Pattinill for 2,000,000 feet, to McLaughlin & Stewart for 1,500,000 feet and to Smith, Allen & Co., of Machias, Me., for 1,500,000. The remainder will be handled by Tracy, Murchie & Love themselves.—*St. Croix Courier*.

The Poisonous Cocobola.

The *Scientific American* has the following: "The use of wood from Panama called cocobola in the manufacturing interests in Bridgeport, is attracting the attention of the Connecticut state board of health. The wood is cheap, takes a brilliant polish, is easily worked, and is used extensively for knife handles and ornamentation. Workers in the material are poisoned somewhat after the manner of sumac, although some are free from any effect. Swelling of the face, closing of the eyes, appearances of being burned on the hands, are usual symptoms. Some are attacked with distress in the stomach with loss of appetite. One person, who was a confirmed smoker, after being poisoned, has been unable to smoke or even stay in a room where there is any tobacco smoke. Children playing in the saw-dust of this wood, which had been dumped, were badly poisoned about their feet. At a large factory on Elm street, where this wood is extensively worked, chickens in the adjoining yards are said to have all died from eating the dust that settles on the grass."

Cherry Wood.

Cherry wood, filled and not varnished, has a soft glow not possessed by any other, and has none of those distortions of grain that are so unpleasant in mahogany. The timber is chosen from the wild cherry, which in New England and the North generally does not usually grow to a girth of more than 20 inches, but in some of the Western States and in the South frequently attains a diameter of 24 inches. The domestic fruit cherry gives some good specimens of small timber, but as the tree is rarely sacrificed until it is past bearing and is decayed, this source of supply is precarious. The facility with which cherry can be worked makes it a favorite with the cabinet-maker.

State Forestry.

Senator Lynde, chairman of the committee appointed to investigate the denudation of the Adirondack region, in reply to the question of

a N. Y. *Herald* representative, "What report will your committee make?" answered as follows:

"I have not consulted with my colleagues on the subject, but personally I shall favor a forestry commission, with authority to trim the woods, of course, judiciously, and sell the lumber for the state. No such devastation has been made as the people are led to believe. The trees are so thick that they stunt each other's growth, and should be cut out and trimmed. Forests grow rapidly and can be easily overgrown. Prussia earned \$4,000,000 in one year by the sale of lumber, and the diminution of trees in her forests was hardly perceptible."

Our Trade with France.

OTTAWA, Dec. 11.—The Ottawa correspondent of the *Mail* says that when Mr. Chapleau, was in Paris he had several conversations with the French Premier and others in relation to the increase of trade between Canada and France, and paved the way for the exertions of Sir A. T. Galt, which, however, were not successful. Sir Charles Tupper subsequently took up the subject and received assurance of favorable regard on the part of the Government of France. He will be in Ottawa during the latter part of next week.

A Four Hundred Thousand Dollar Fire.

GLOUCESTER, Mass., Dec. 9.—Annisquam mill at Rockport caught fire this morning from a lighted lantern coming in contact with lint on the belt in the engine room. The fire spread rapidly, completely enveloping the interior. The Rockport fire department was unable to cope with the conflagration, but with assistance rendered from Gloucester and Salem, the picker room and storehouses were saved. The loss is estimated at \$400,000; insured for \$300,000.



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not, life is sweep'g by, go and dare before you die, something mighty and sublime leave behind to conquer time." \$60 a week in your own town. \$5 outfit free. Norisk. Everything new. Capital not required. We will furnish you every thing. Many are making fortunes. Ladies make as much as men, and boys and girls make great pay. Reaver, if you want business at which you can make great pay all the time, write for particulars to H. HALLATT & Co., Portland, Maine.

FOR SALE.
A LATH TRIMMER,
NEW, and in good order, will be sold Cheap. Address,
THE RATHBUN COMPANY,
6119 DESERONTO, Ont

WATER POWER
TO LEASE.

THE UNDERSIGNED having largely extended their tracway at Lakefield, are desirous of corresponding with parties who wish to go into manufacturing, and they are prepared to sell or lease water power on the most favorable terms, or would erect buildings of any size suitable for factories.

R. & G. STRICKLAND
1180 LAKEFIELD, ONT. w1619

SHINGLE MILL
MACHINERY.

Parties requiring New Machinery for Shingle Mills, will do well to communicate with us before purchasing.

THE RATHBUN COMPANY,
6119 DESERONTO, Ont.

SAW MILL
MACHINERY,
FOR SALE.

STEEL AND IRON
Slabbing and Stock Gang Gates

WITH OSCILLATING MOTION, ALSO,—
IRON PITMANS, FLY WHEELS,
Driving Pulleys, and other Saw
Mill Machinery,

In Good Order, which has been taken out of Mills that have been closed. Address,

The RATHBUN COMPANY,
8120 DESERONTO.

MACHINERY,

ENGINE, BOILER,
ROTARY MILL, &c.,

IN THE
St. Martins Manufacturing Co's Factory
and Saw Mill at St. Martins,

CONTAINING
A Waterous 80 H.P. Engine and
Boilers, Rotary Saw Mill,

Saw Tables, Planers, Shafting, Hangers,
Pulleys, Belting, Lathes, Pumps, etc.

One Fleming & Sons' 50
H.P. Engine and Boiler;

Waterous Saw Mill, Daniel Planer, Band
Saw, Planer and Matcher, Saw Tables,
Shafting, Belting, etc.

If not sold en bloc by the 10th of October, will be sold in lots to suit purchasers.

Catalogues giving particulars of the Machinery, etc., can be had from the liquidators, or at the offices of W. H. OLIVE, No. 167 Prince William Street, T. McAVITY & SONS, 13 King Street, St. John; and W. E. SKILLEN, St. Martins.

HOW WOODEN SPOOLS ARE MADE.

The birch is first sawed into sticks four or five feet long and seven-eighths of an inch to three inches square, according to the size of the spool to be produced. These sticks are thoroughly seasoned. They are sawed into short blocks, and the blocks are dried in a hot air kiln. At the time they are sawed a hole is bored through them. One whirl of the little block against sharp knives, shaped by a pattern, makes the spools at the rate of one per second. A small boy feeds the spool machine, simply placing the blocks in a spout and throwing out the knotty or defective stock. The machine is automatic, but cannot do the sorting. The spools are revolved rapidly in drums and polish themselves. For some purposes they are dyed yellow, red or black. They are made in thousands of shapes and sizes. When one sees on a spool of thread "100 yards" or "200 yards" these words do not signify that the thread has been measured, but that the spool has been gauged and is supposed to contain so much thread. When a silk or linen or cotton firm wants a spool made it sends a pattern to the spool-maker. This pattern gives the size or shape of the barrel and of the head and bevel. These patterns determine the amount of thread that the spool will hold. Mr. Dwellley's factory turns out 100,000 gross of spools per day, and consumes 2,500 cords of birch annually. His year's spools are worth \$40,000. Thirty hands are employed in the mill. During the winter, 250 wood choppers are sometimes employed. Mr. Dwellley is an inventor and a machinist. He invented, designed, and made every machine in his shop. It is a large brick building. Mr. Dwellley also has laths which turn out large quantities of pill boxes and bluing boxes. He, too, says, "I have more orders than I can fill."—*Leiston (Me.) Journal*.

FORESTS OF ONTARIO.

Mr. Phipps concludes his report on Ontario forests with the following details as to the different counties:—

FORESTS EXISTING IN ONTARIO COUNTIES.

PRESOTT AND RUSSELL—About forty-seven and a half per cent. of the entire area is under timber, consisting of hemlock, cedar, tamarac, beech, birch, elm, basswood, ash, balsam, pine, spruce, walnut, butternut, whitewood, dogwood, soft maple, and red and black cherry; used principally for lumber, fencing, firewood, railway ties and saw logs.

GLENGARY, STORMONT AND DUNDAS—Probably about thirty per cent. of the entire area of these counties is still timbered with hard and soft maple, beech, birch, ash, tamarac, elm, basswood, hemlock, spruce, balsam, and some pine; used for fuel, lumber, railway ties, telegraph posts and shingles.

CARLETON—About 287,000 acres of land in this county are still uncleared.

LEEDS AND GRENVILLE—In all the townships except South Burgess and North Crosby, which have suffered from the ravages of fires, there is a large amount of standing timber, consisting mainly of hard and soft woods; used for firewood, fencing, lumber, buckets and pails.

LANARK—About twenty-four per cent. of the uncleared land is covered with timber or bush. The timber is chiefly pine, beech, maple, basswood, ash, birch, cedar and tamarac. A considerable export trade in hardwood is carried on, and there is a large local consumption for railway ties, fencing, fuel, etc. A great destruction of pine took place from the fire in 1870.

RENFREW—About forty-six per cent. of the entire area is still timbered. Red and white pine exist in large quantities. There is also an abundant supply of ash, elm, maple, basswood, spruce, cedar, tamarac, balsam, poplar, beech and hemlock. Lumbering is extensively carried on for exportation to European and American markets. The hard woods are chiefly used for fuel and cedar for fencing.

FRONTENAC—As nearly as can be computed, about fifty per cent. of the land in Frontenac is still timbered with pine, basswood, ash, hemlock, beech, balsam, tamarac, cedar and maple; principally used for lumber, fencing and fuel.

LENNOX AND ADDINGTON—Owing to the returns being in several instances obviously

inaccurate, the extent of land in the counties under timber cannot be estimated. Four-fifths of Denbigh and associated townships are, however, reported to be under pine, maple, beech and cedar, and lumbering is extensively carried on. There is also a considerable quantity of timber in North and South Fredericksburg, in Camden and in Sheffield.

PRINCE EDWARD COUNTY—About sixteen per cent. of the entire area is still covered with timber, consisting of beech, maple, elm, cedar, oak, black ash and some pine; used for lumber, fuel, cooper's staves, fencing and building.

HASTINGS—A large proportion of the acreage is still covered with timber—in some townships to the extent of seventy-five per cent.

HALIBURTON—About eighty per cent. of the entire area is still covered with timber, consisting mainly of maple, beech, hemlock, basswood, elm, ash, pine, tamarac, and cedar; used for lumber, fencing, railway ties, telegraph poles, shingles, bolts, sawlogs, etc.

PETERBOROUGH—A large proportion—not far short of one half of the area—is under timber, consisting of pine, cedar, beech, maple, hemlock, basswood, tamarac, birch and ash; used for timber, fencing, firewood, shingles, bolts railway ties and telegraph poles. Bush fires have destroyed large tracts, particularly in the township of Harvey.

NORTHUMBERLAND AND DURHAM—About eighteen per cent. of the total acreage is still timbered with hardwood, cedar, pine, hemlock, and tamarac. The former is used principally for fuel, the latter for building, fencing, and barrel staves.

VICTORIA—Probably about fifty per cent. of the uncleared land is under timber, consisting of cedar, pine, hemlock, maple, birch, beech, basswood, black ash, mountain ash, balsam, tamarac, oak and elm; used for lumber, fuel, building and fencing.

ONTARIO—About seventeen per cent. of the area of Ontario is still under timber excepting the township of Reach, (which returns no percentage). The timber consists of pine, maple, beech, basswood, tamarac, balsam, cedar, black ash, hemlock and elm; used mainly for lumber, fuel fences, staves, and domestic uses.

YORK—About twenty-two and a half per cent. of the area of York is still under timber, consisting of beech, maple, elm, basswood, pine, hemlock, cedar, tamarac, and birch; used for building purposes, fencing and firewood.

SIMCOE—It is impossible to glean from the returns the total acreage under timber, but probably over one-half of the entire county area is under maple, beech, basswood, tamarac, pine, hemlock, cedar, balsam, birch, ash and oak. Lumbering operations are very extensively carried on in several of the townships, and there is a large amount of business done in hemlock bark (which is largely used within the county, and also exported for tanning purposes), and in railway ties, telegraph poles and shingles. The hardwoods are principally used for fuel, and the soft woods for building and fencing.

PEEL—About eleven per cent. of the entire acreage is still under timber, consisting of beech, maple, hemlock, cedar, white and red oak, ash, elm, hickory and basswood. A few pines are scattered in Chinguacousy and Toronto townships. The timber is generally used for fuel, fencing and domestic purposes.

HALTON—About seventeen per cent. of the entire area is still timbered, chiefly with hardwood and a limited amount of pine. The timber is principally used for lumber, fencing, and fuel.

WENTWORTH—Fourteen and a half per cent. probably under timber, consisting of pine, beech, maple, elm, black ash, cedar, tamarac, oak, hickory, walnut, and chestnut; used for lumber, firewood, fencing, building and general purposes.

LINCOLN—Exclusive of the township of Caistor, which does not report the area of land still timbered, Lincoln has over 24,400 acres still covered with beech, black ash, maple, elm, oak, hickory, and some pine; used for firewood, fencing, building and manufacturing purposes, also for ship timber and railway ties.

WELLAND—About eighteen per cent. of the area is still under timber, consisting of beech, maple, oak, ash, basswood, elm, hemlock, pop-

lar, birch, chestnut, walnut, and butternut; used for shipbuilding, housebuilding, fencing, and fuel.

HALDIMAND—About twenty-four per cent. of the acreage is still timbered, consisting chiefly of hard woods; used for fencing, fuel, and building purposes.

NORFOLK—About twenty-four per cent. of the entire area is still timbered, and the standing timber consists chiefly of pine, oak, maple, chestnut, black and white ash, elm and cedar; used for railway ties, lumber, fencing, firewood and general purposes.

BRANT—About twenty-five per cent. is yet in timber of maple, beech, elm, oak, pine, cedar, basswood, tamarac, hickory, and ironwood.

WATERLOO—About twenty-two and a half per cent. of the area is still timbered with pine, oak, beech, maple, cedar, ash and hemlock.

GREY—About thirty-four per cent. of the land is still timbered chiefly with hardwood. Very little pine exists and only sufficient cedar for fencing purposes.

BRUX—About twenty-five per cent. of the land is timbered. Maple, basswood, elm, hemlock, cedar, ash, beech, and birch predominate; there is also some pine.

HURON—About twenty-nine per cent. is covered with timber; hard and soft woods.

PERTH—About twenty-one per cent. is covered with timber, consisting of beech, elm, basswood, black and white ash, pine, hemlock, cedar, birch and tamarac.

OXFORD—Seventeen per cent. under pine, cedar, beech, maple, elm, ash, basswood and oak.

ELGIN—Thirty per cent. is timbered with most of the indigenous woods excepting cedar.

MIDDLESEX—Thirty-five per cent. under hardwood and some pine.

LAMBTON—Forty-eight per cent. covered with oak, ash, elm, beech, maple, basswood, hickory and some pine.

KENT—Thirty-seven per cent. in oak, black and red ash, hickory, hard and soft maple, cherry, and sycamore, some black walnut, and some tulip.

ESSEX—Two-thirds still under bush, consisting chiefly of whitewood, oak, ash, elm, hickory, bass, sycamore, and other woods.

WELLINGTON—About fifteen per cent. is still timbered with beech, maple, elm, cedar, hemlock, basswood, ash and balsam.

FORESTRY IN AUSTRALIA.

The *Lumberman* has received the annual progress reports upon the State Forest Administration in South Australia, for 1882-3, by J. Ednie Brown, F. L. S., conservator of forests. This gentleman has the immediate control and management of all details connected with the forest reserves, the selling of timber and produce, etc. The rules regarding the reserves are very strict. Before a sale of any portion of the timber on a reserve, all live trees are officially marked by chipping of the bark and cutting the initials F. D., and the trees must be cut above that mark. It is required that in the felling of trees great care should be taken to avoid injuring the smaller growth, assessments being made against the offending parties in case of damage. The theft of timber or other productions results in prompt prosecution. From October to May no fires are allowed in timber except in the case of parties who have obtained an official permit to establish camps upon such sites as may be pointed out, and a space of 30 feet must be cleared around the camp fires, which must be extinguished upon leaving. The work in progress and proposed for the year 1883-4, is briefly reviewed as follows: The stock in the combined nurseries of the department at the beginning of the current season's planting, amounted to over 600,000 trees. About 280,000 trees will be planted in the plantations this year. The railroads have gone extensively into the planting of forest trees and wattles. The trees set out generally consist chiefly of different varieties of pine, gum, cedar, elm, poplar, sycamore, larch and American catalpa. Of last year's planting all the trees in some localities survived, and in others the range of those surviving was all the way from 15 to 90 per cent. Of the trees distributed last year about 80,000 are living, under existing conditions has proved very satis-

factory. These trees cost the government about two cents each, American money. "Looking at the fact," says the conservator, "that a large proportion of this country is destitute of trees; that a general distribution of those over the length and breadth of the land is absolutely necessary for the proper regulating of our climate, and hence for our agricultural prosperity as a nation; that the matter, therefore, must be looked upon more from a national point of view than an individual advantage; and finally that many of our landowners will not and cannot purchase trees, I think the giving of them away in the manner referred to is a wise piece of political economy upon the part of the government, and should therefore be continued for at least some years to come."

But, while great care is taken of the reserves, a great deal is still said about "the wholesale destruction of Australian forests." It is said that thousands of acres of trees are annually killed by girdling. The wood is either cut into or a ring of bark removed. The trees are killed to improve the pasturage, and miles and miles of dead and bleached trees are the result. No use is put to the destroyed timber, which is left to rot. It thus appears that the government could accomplish more in five minutes by legislating against a criminal slaughter of its natural forests, than it could in a century by "reserve" legislation and planting.—*Northwestern Lumberman*.

SWEDEN.

The Stockholm correspondent of the *Timber Trades Journal* under date Nov. 10, says:—The usual monthly statistical return of the exports from Sweden for the first nine months of the year having been published, I give the same as compared with a similar period of the three years preceding, viz.:—

Sawn and planed wood.			
1883.	1882.	1881.	1880.
672,735	597,006	427,442	485,234 stds
Square and partly square timber, &c.			
13,183,836	14,126,800	10,435,979	12,396,267 c ft

From these figures it appears that the exports of sawn wood during September have been no less than 123,930 Petersburg standards, against a nearly similar quantity in September, 1882, of 121,810 standards. The figures of the present year are by far the largest on record, and decidedly stultify the estimates of f.o.w. stock made in January by the Society of Saw-millowners. There is now almost the certainty of exports of sawn and planed wood from Sweden figuring up to over 800,000 Petersburg standards this season, and yet there is no appearance of sawn or even log stocks being abnormally low on this side. These latter are doubtless less than they were at this time last year, but when we are informed that one concern alone in Sundswall district has a log stock of over 400,000 sticks within reach, one may be pardoned for attaching but little importance to the assertions so frequently heard on this subject.

Notwithstanding the heavy consumption of the season now passing, and the undoubted vitality of the trade, it is evident that consumers in both France and England must have heavy stocks whatever may be the case at the distributing centres. That importers abroad are aware of this fact, and that consequently prices will be difficult to lift upwards at the turn of the year, we may be well assured of. I can, therefore, only repeat what has been frequently pointed out, viz., that only a substantial reduction in the "log-get" of the incoming winter will prevent the trade from falling still further into the Slough of Despond.

Sawdust to be Made Useful.

There is good reason to believe that sawdust will eventually be found of some better service than that of choking up and polluting the waters of our rivers. It has already been applied to several purposes in a compressed form, and we now learn of a still new use to which it has been put. An exchange says: Pine sawdust, highly compressed, has been successfully used to make up centre frames of carriage wheels. It is said to be so solid that it will bear a pressure equal to 23 tons per square inch. As sawdust has also been used for partitions and bricks, its application to the production of complex carvings and mouldings does not seem to be far off.—*Scientific Journal*,

Chips.

THE Milwaukee & St. Paul Railroad Company has issued a notice to railroad contractors that hereafter it will accept only sawed end ties, eight feet long, and up to standard specifications otherwise.

MR. W. S. GILBERT, the dramatic author, has just built for himself a dwelling house in Harrington Gardens, South Kensington, on which it is said he has expended £30,000 on the house alone, before an article of furniture is put into it.

THE Oconto Lumber Company proposes to buy a tug to tow its lumber from its Sturgeon Bay mill through the canal and across Green bay to Oconto for western rail shipment. The move is significant. The company will handle 40,000,000 feet next season.

A rather curious story is told of how a workman in the saw-mill of Prewitt, Spurr & Co., Nashville, Tenn., was by some means thrown towards the circular, and evidently thinking he was going upon it, died from fright, which was the verdict of the coroner's jury.

A LOCAL paper at Manistee, Mich., estimates the amount of logs in the waters tributary to that point as follows: In Manistee Lake, 30,000,000 feet; in the river, 30,000,000; in south branch of the Manistee, 16,000,000; and 12,000,000 in Little Manistee, or 80,000,000 feet in all.

THE Orillia Packet under the heading Wauhaubens, says that a boom containing about thirty thousand logs broke away from its moorings by the force of the big storm, on the night of the 11th Nov. The logs in many places were carried high up on the shore by the waves. It will require a great amount of labor to float and gather them all up again. The logs belonged to the G. B. O. Lumber Co.

THE wholesale destruction of forests in Australia is bitterly complained of by scientific observers. Thousands of acres of timber land are annually killed by cutting a ring around the trees, either into the wood or else by taking a ring of the bark off. Miles and miles of country can be travelled where nothing is found but bleached and dead trees, killed in this manner to "improve the pastures," as the inhabitants think. The wood of these trees is not used, for the dead trunks are allowed to decay on the spot unless burned by some accident.

THE Timber Trades Journal of Nov. 17, says:—There is another long list of arrivals to record this week to London; no less than 75 of one sort and another putting in an appearance. The sailing ships are one ahead this time, being 38 eight to 37 steamers. There is not such a great quantity of deal and batten cargoes in the list, but, nevertheless, sufficient to keep the docks active for some time to come. Sweden contributes a dozen complete cargoes out of the 21, and the other Baltic ports with Canada make up the balance. It is expected that when the dock returns are made up we shall still be about a million pieces short. Last year at this date we had to record 54 arrivals to London, but then the freight was quite different to what it is now. The winter promises to begin early, and frost appears to have set in, and a telegram from one of the Gulf ports stated that snow was falling.

THE Timber Trades Journal of Nov. 17, says: At Messrs. Churchill & Sim's sale last Wednesday, the 3rd pine, ex War Spirit from Quebec, which fetched a uniform price of £9 10s., may be reckoned as well sold, but the 2nd quality spruce 3x7 by the same ship did not go nearly so well, and must have sunk money at £7 and under. The River Onella 3rd pine, we understand, was not a very first-class lot, and at £8 15s. for wide stuff and 5s. less for regulars fetched its full value. The low prices which the Miramichi spruce ex Winchester, described as 1st, 2nd, and 3rd, realized was no surprise to those who had inspected the goods. In fact, they have been mentioned to us as one of the worst cargoes of spruce that have been shipped, and though it was said that the 4ths had been taken out the appearance of the stocks did not seem to warrant the statement.

It is estimated that 29 per cent. of the acreage of Europe is still in timber. Forty per cent. of the enormous territory of Russia is in forests, and of this 200,000,000 acres are in pine woods. Thirty-four per cent. of the territory of Sweden and Norway is occupied with woods of useful timbers; twenty-six per cent. of Australia, 27 per cent. of Germany, 17 per cent. of France, seven per cent. of Spain, the timber being cork, oak and chestnut, 5 per cent. of Portugal and four per cent. of Great Britain. Scotland is the only part of the British Empire (including the colonies) in which the planting of timber is going on to any considerable extent. Sweden is now the country from which the world's supply of fir timber and deals chiefly comes.

A remarkable instance of the rapid growth of the forest trees recently came to light, which was the result of a search for the original survey marks, placed upon a beech tree by the surveyors about twenty-seven years ago. Messrs. Jos. Russell and W. N. Marr were searching for a corner of section 7, town 17 north, range 2 west, and found it by chopping into the side of the tree about three inches and splitting a section off which uncovered the original mark, which shows the letters "N. T. B." which were indented in the flattened surface by the government surveyors. The wood is perfectly sound and solid, and the black paint still adheres to the surface. The specimen will be placed on exhibition to satisfy the curiosity of the public. —*Lumberman's Gazette.*

THE London Canadian Gazette of October 19 says:—Holders of New Brunswick Land and Lumber Company's bonds will be interested in hearing what the directors of the parent company have to say concerning the Lumber Company. The Railway Company own all the Lumber Company's shares (14,000), and they guarantee the bonds. The Lumber Company own 1,650,000 acres "of the best farming and lumber land in the Province of New Brunswick," and by reason of the increased facilities which the way now offers for transportation, as well as of other advantages leading to the better marketing of lumber, the shares of the company are expected to prove a valuable asset. To date, the Lumber Company owes to the Railway Company \$145,810.

THE Northwestern Lumberman says:—There recently arrived in this city from Humboldt county, California, the largest plank ever seen in Chicago. It is 52 inches wide, three inches thick, 14 feet long, and was cut from one of the monster redwood trees. Accompanying the plank were several bunches of shingles, and the perfection of their manufacture shows that on the Pacific coast they are not behind their Eastern friends in shingle making. Some of the shingles are of the regulation pattern, while others have rounded and pointed butts, fitting them for use where fancy work is wanted on spires, mansard roofs, or on houses on the Queen Anne style of architecture. It is probable that a redwood lumber yard will be established in Chicago in the near future.

THE first semi-annual meeting of the National Association of Lumber Dealers, says the Northwestern Lumberman, will be held Wednesday, December 5, at the Tremont House, Chicago. It will be remembered that at the last annual meeting, held in May, it was decided to meet twice a year, on the ground that a more frequent coming together of the members would increase their zeal, and have a generally beneficial result. From appearances there will be a well attended and interesting meeting, and judging from the questions that have been agitated, and the complaints and inquiries which have for some time flooded the Lumberman office, there will be several grievances and a kick or two to spice up the proceedings. It will at least furnish opportunity for the members to have an understanding on various important points, and those who have any matters to adjust or discuss should make it a point to be on hand for that purpose.

HE SPEAKS FROM EXPERIENCE.—R. N. Wheeler, of Everton, some six years ago was attacked with a severe form of inflammation of the lungs, leaving him with a severe cough. He speaks highly of Hagar's Pectoral Balsam, which cured him, the complaint not having troubled him since.

National Manufacturing Co.

160 Sparks Street, Ottawa,

MANUFACTURERS OF



TENTS!

Camp Furniture and Hosiery.

OUR GOODS ARE THE BEST IN THE WORLD!

Four Gold and Silver Medals and Thirty-two First Prizes at the Toronto and Guelph Exhibitions, 1883.

Highest Awards at Sydney, New South Wales: Exhibition, June, 1883.



Lumbermen's Tents

A SPECIALTY!

At Prices Lower than ever before.

HEAVY SOCKS

Our own make, and at Prices Very Low!

SHANTY BLANKETS

IN GREAT VARIETY.

Liberal Discount to Large Buyers. Send for Catalogue.

National Manufacturing Co.

160 Sparks Street, Ottawa.

P. O. BOX 345

Market Reports.

MONTREAL.

From Our Own Correspondent

DKO. 8.—Business done during the past two weeks, has been quite a hand to mouth character and no change is expected until after stock taking and the holiday season.

CORWOOD.

There has been a fair business done in wood during the past two weeks, but the mild weather of the last day or two has caused it to fall off again.

TORONTO.

From Our Own Correspondent.

DKO. 10.—The demand from the retail yards during the past two weeks has been quite spasmodic in character, for a few days some dealers would have all they could do to supply the wants of their customers and again become quite slack.

In consequence of the now absolute certainty of small stocks being got out this winter prices have stiffened to some extent.

On going to the various retail yards to find the amount of trade done by each one during the year, I find it utterly impossible to give reliable figures by that method as most of the dealers do not keep any track of the quantity sold by them, except as to the dollars and cents.

During the year the total quantity arriving by rail foots up a total of 132,000,000 feet of pine lumber and about 1,000,000 feet of hard-

wood, and of shingles about 5,000,000, sawn lath about 10,000,000 pieces; and of this amount 52,000,000 feet of lumber, 2,500,000 shingles and 3,000,000 lath have passed over our docks chiefly to American ports, and if we assume that 1,000,000 feet of lumber has been transhipped for points west the quantity consumed here during the season would be in round numbers 79,000,000 feet of lumber, 2,500,000 shingles and 7,000,000 pieces of lath.

The manager of the Midland Railroad has performed a graceful act in so far meeting the wishes and interest of the lumbermen here by throwing off the charge formerly collected for shunting cars to the different siding in this city, and the cordiality heretofore existing between the manager of that line and the lumbermen will be more firmly cemented thereby, and it is certainly not anything to the credit of the N. & N. W. R. R. magnates that they should hold so tenaciously to that which they know to be so obnoxious to the parties affected thereby.

It has been charged by some people, but not by many I am happy to say, that I am actuated by malice in bringing forward these charges against the management of the N. & N. W. R. R. This I deny. I speak of facts as I find them, deny them who can.

Table listing lumber prices for Mill cull boards, Scantling and joist, and various sizes of lumber.

Table listing prices for Cutting up planks to dry, Sound dressing stocks, Picks Am. inspection, and Three uppers.

WINNIPEG.

The Winnipeg Commercial of Dec. 4, says: The demand is light at present, and no briskness is expected until the revival of building operations in the spring.

\$22; 1st flooring, siding and ceiling, \$28; XX shingles, \$5.25; Star A shingles, \$5.25; X shingles, \$5.00; A do. \$4.50; lath \$4.60.

ALBANY.

Table listing various lumber and shingle prices for Albany, including Pine, Spruce, Hemlock, and other types.

BOSTON.

Cotton, Wool and Iron of Dec. 8, says:—About all that can be said for trade in our market is that it is moving along quietly and pretty steadily.

CANADA PINE.

Table listing prices for Canada Pine, including Selects, Dressed, and Sheathing.

BUFFALO.

Table listing prices for Buffalo, including Uppers and Culls.

CHICAGO.

The Northwestern Lumberman of Dec. 5th, says:—The pleasant weather characteristic of the past week has given opportunity for bringing forward the fag ends of shipments, and though the season was virtually closed a week ago, a large quantity of lumber has arrived for December.

is probable that with an open December, an effort will be made to bring over lumber that has been bought to fill up yard stocks, but the success of such ventures will altogether depend on the weather.

Table listing receipts of lumber, shingles, etc., for the week ending Dec. 6, as reported by the Lumberman's Exchange.

Receipts of lumber, shingles, etc., for the week ending Dec. 6, as reported by the Lumberman's Exchange:—

Table showing Lumber and Shingles receipts for 1883 and 1882.

Table showing Lumber and Shingles receipts for 1883 and 1882, including an increase and decrease.

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respect to the log cuttings over there. When we hear that the log crop will be short—and statistics, so far as they can be obtained, are furnished which go to sustain the statement—it as often happens as not that the shipments to this country are of an excessive character, and, instead of the expected limitation, the market is glutted with wood of every description.

This is not the case with Colonial goods, and when it is currently reported that stocks at the mills will not be large, the results of the season's shipments generally bear it out.

GLASGOW.

The *Timber Trades Journal* of Nov. 24, says: Results of two public sales held within the past week are noted below. Quebec timber and deals, also pitch pine, were disposed of at the Greenock sale, which was fairly attended; and at the sale here on the 21st inst. the catalogue comprised New Brunswick birch and spruce logs, and Quebec and New Brunswick pine and spruce deals. The attendance was large. Standard-sized deals are still held at firm rates. The other and smaller dimensions are let go at slightly reduced rates. Competition at public sale being languid, of the goods catalogued a large proportion was withdrawn.

As wood importations to Glasgow this year have been larger than usual, the harbor authorities have made vigorous efforts to meet the demand upon them for accommodation on the north side of the river; but the space available is found rather limited, the quays being now much hampered, and it is evident that means must be taken to provide more adequate storage for imports of wood at Glasgow.

AUCTION SALES.

On 15th Nov., at Greenock, Messrs. Allison, Couland & Hamilton, brokers:

Quebec waney boardwood— per cub ft
57 o ft av per log 1s 8d

Do. red pine— 1s 3½d to 1s 6d
30 to 40 " 1s 3½d to 1s 6d

Do. oak— 1s 7½d to 1s 8d
34 " 1s 7½d to 1s 8d

Pitch pine planks 3 & 4 in. 1s
Quebec 3rd spruce deals—
12x9x3 9½d
15x9x3 10d

On 21st Nov., at Glasgow, Messrs. Singleton, Dunn, & Co., brokers:

Campbellton, N. B., pine deals—
9 to 24 ft 10/16x3 11½d
9 " 25 " 7/9x3 & 2½ 10d

Do. spruce deals—
9 to 24 ft 9/16x3 10½d & 10d
13 " 24 " 7x3 9½d
9 " 12 " 7x3 9½d
9 " 24 " 6x3 & 2½ 9½d

Miramichi spruce (1st, 2nd & 3rd)—
10 to 20 ft 10x3 10½d
13 " 23 " 7x3 9½d
10 " 25 " 6/7x2½ 9½d & 9½d
12 " 20 " 5/8x3 & 2½ 8½

Quebec 3rd spruce deals—
12 ft 11x3 11d
Do. 3rd pine deals—
16 ft 11x3 11d

Do. 1st pine deals—
12 ft 5x3 2s 3d
10 & 11 " 6x3 2s 1½d

New Brunswick birch timber 1s 6½d to 1s 8d
Do. spruce and pine " 1s 1½d
Do. poplar " 1s 2d

TYNE.

The *Timber Trades Journal* of Nov. 24th, says:—During the last seven days we have to chronicle the largest arrivals of wood goods there have been for several weeks past, a considerable number of vessels having arrived from the Baltic with deals and battens, one cargo from Miramichi; a cargo of dressed boards from Drammen, a cargo of battens from same place, and several cargoes from Norway and Sweden with pit-props. These arrivals will bring up the importation nearer to that of last year, though it will still be a good way behind that of last season; up to end of October, the quantity of loads was 206,618 as compared with 229,966 in the same period of 1882.

Your readers will notice that West Hartlepool is also about 11,000 loads short of 1882, whilst Sunderland is 9,000 loads over; the latter is accounted for partly by the fact that the industry of sleeper preserving has been a little more developed, and also that some merchants who were formerly importing pitwood to Tyne Dock for South Durham collieries, now import

to South Dock, Sunderland, and deliver from there.

Trade is still fairly active throughout this district, though certainly not so much doing as a month or two ago. Stocks are not increasing in any wood goods except mining timber and pitwood, of which there is still too much on hand. Prices remain in much the same condition.

RECEIPTS FOR DYING WOOD.

ROSEWOOD.

Boil a half a pound of logwood in three pints of water till it is of a very dark red; add one-half ounce of carbonate of potassa. While boiling hot, stain the wood with three coats taking care that it is nearly dry between each; with a stiff, flat brush form streaks with a black stain made by boiling one pound of logwood in four quarts of water, then adding a double handful of walnut shells, boiling it up again, taking out the chips and adding pint of vinegar—to be applied hot. If carefully executed it will give the appearance of dark rosewood.

OAK STAIN.

Two quarts of boiled oil; half a pound of ground umber, mixed in oil by colorman; one pint of liquid driers, turpentine; one pint of turpentine; mix. After cleaning and planing your boards, lay this on with the grain of the wood. If required lighter add naphtha till the required shade is attained; it darkens with age. Give it twelve hours to dry; then varnish with wood varnish, or use only beeswax and turpentine. The result is good in time, but slower than varnish.

MAHOGANY.

Wash over the wood with strong aquafortis and when dry apply, boiling hot, a stain made of two ounces of logwood, eight ounces of madder, one ounce of fustic, one gallon of water; boil two hours.

EBONY.

Wash the wood with a solution of sulphate of iron; repeat two or three times; when dry apply three coats of a strong, hot decoction of logwood; when dry wipe it with a wet sponge and polish with linseed oil.

BROWN STAIN.

Paint the wood with a solution made by boiling one pot of catechu with thirty parts of water and a little soda; when dry paint over with another solution made of one part bichromate of potash and thirty parts water. By a little difference in the mode of treatment, and by varying the strength of the solutions, several shades of color may be given.—H. L. D., Rhode Island.

Wood Pulp.

In the first stages of manufacture of wood pulp for paper, poplar was pre-eminently adapted for the purpose, and for a good while it was thought that only this wood, basswood and a few other kinds could be ground into a suitable pulp. Now, however, machines are made which turn out pulp with equal facility from all kinds of wood. The longest fibre is made from willow, basswood and poplar ranking next respectively. Cedar, fir and hemlock are said to work about a like; maple has a fibre shorter than that of other spruce or pine, and is quite hard to grind; birch is very hard and grinds quite short. Poplar and buckeye pulps remain white for a considerable time, other woods changing color; birch becomes pink, maple turns purple, and basswood takes a reddish hue.

Water in Timber.

The amount of water present in freshly cut wood is very different as is shown by the following table by Scheubler and Hartig: Hornbeam contains 18.6 per cent of water; willow, 26 per cent; ash, 28.7 per cent; birch, 30.8 per cent; oak, 34.7 per cent; pine, 39.7 per cent; red beech, 39.7 per cent; elm, 44.5 per cent; larch, 48.6 per cent; and white poplar, 50.6 per cent. Wood, when dried at 266 F., at which temperature all of the hygroscopic water is expelled, is composed of 50 parts carbon (inclusive of one part of ash) and 50 parts of chemicals.

SINGERS and public speakers are always benefited by using Down's Elixir, as it removes the hoarseness and increases the power of the voice. Take small doses often. Price, 2s, 50c, and \$1.00.

LIVERPOOL STOCKS.

We take from the *Timber Trades Journal* the following Comparative Table showing Stock of Timber and Deals in Liverpool on Oct. 31st, 1882 and 1883, and also the Consumption for the month of Oct, 1882 and 1883:—

	Stock, Nov. 1st. 1882.	Stock, Nov. 1st. 1883.	Consumption for the month of Oct., 1882.	Consumption for the month of Oct., 1883.
Quebec Square Pine.....	577,000 ft.	400,000 ft.	405,000 ft.	348,000 ft.
Waney Board.....	310,000 "	301,000 "	36,000 "	34,000 "
St. John Pine.....	62,000 "	59,000 "	10,000 "	8,000 "
Other Ports Pine.....	62,000 "	80,000 "	0,000 "	0,000 "
Red Pine.....	60,000 "	64,000 "	0,000 "	0,000 "
Pitch Pine, hewn.....	720,000 "	309,000 "	127,000 "	100,000 "
Sawn.....	680,000 "	643,000 "	84,000 "	208,000 "
Planks.....	60,000 "	600,000 "	00,000 "	00,000 "
Baltic, &c. Fir.....	47,000 "	113,000 "	35,000 "	39,000 "
Sweden and Norway Fir.....	16,000 "	69,000 "	2,000 "	10,000 "
Oak, Canadian and American.....	357,000 "	312,000 "	61,000 "	129,000 "
Planks.....	80,000 "	170,000 "	63,000 "	13,000 "
Baltic.....	45,000 "	21,000 "	3,000 "	0,000 "
Elm.....	71,000 "	25,000 "	22,000 "	20,000 "
Ash.....	54,000 "	162,000 "	30,000 "	67,000 "
Birch.....	34,000 "	39,000 "	19,000 "	9,000 "
East India Teak.....	120,000 "	109,000 "	2,000 "	8,000 "
Greenheart.....	13,164 stds.	23,204 stds.	6,832 stds.	9,482 stds.
N. B. & N. S. Spruce Deals.....	550 "	1,095 "	3,198 "	3,201 "
Pine.....	0,641 "	8,848 "	1,320 "	1,556 "
Quebec Pine & Spruce Deals.....	4,177 "	6,597 "	548 "	81 "
Baltic Deals.....	604 "	291 "	213 "	716 "
Norway, &c., Boards.....	2,455 "	3,651 "	903 "	
prepared Flooring.....				

J. S. MAYO

IMPORTER AND MANUFACTURER OF

MACHINE OILS

OF EVERY DESCRIPTION.

9 Common Street, Montreal.

AMERICAN LUBRICATING OILS A SPECIALTY.

As I carry the LARGEST and BEST assorted Stock of OILS in the Dominion, I am prepared to fill all orders Promptly and at

LOWEST MARKET PRICES.

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JONES & SON,
Wholesale Lumber & Timber Dealers
39 Broadway, NEW YORK.

Oak, Ash, Cherry, Black Walnut, Poplar, Butternut.

And all other Kinds of HARDWOOD LUMBER.

White and Yellow Pine Lumber and Timber.
Oak Ship Plank and Timber. Pine Deck Plank and Ship Stock Generally.

17

WILLIAM COOK & SONS,
GLASGOW STEEL and FILE WORKS,
SHEFFIELD,

Manufacturers of Best Quality Steel, Files, Saws & Crucible Steel Castings.

AGENTS FOR CANADA:—

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RAE & WATSON, 22 Church Street, TORONTO, Ont.

EAGLE FOUNDRY!

GEORGE BRUSH

14 to 34 King and Queen Sts, MONTREAL,

MAKER OF

Steam Engines, Steam Boilers, Hoisting Engines, Steam Pumps,

CIRCULAR SAW MILLS, BARK MILLS, SHINGLE MILLS,

Water Wheels, Mill Gearing, Shafting, Hangers and Pullies,
Hand and Power Hoists for Warehouses &c., &c.

Also, Sole Manufacturer of BLAKE'S CHALLENGE STONE BREAKER.

AND AGENT FOR

1921

"Water's" Perfect Steam Engine Governor, and "Heald & Sisco's" Centrifugal Pumps



Established 1874.

Established 1874.

NORMAN'S ELECTRO CURATIVE APPLIANCES

RELIEVE AND CURE

Spinal-Complaints, General and Nervous Debility, Nervousness, Rheumatism, Gout, Liver, Kidney, Lung, Throat and Chest Complaints, Neuralgia, Bronchitis, Incipient Paralysis, Asthma, Sciatica, Sprains, Consumption, Sleeplessness, Glands and Indigestion.

Ask for NORMAN'S ELECTRIC BELTS and you will be safe against imposition, for they will do their work well and are cheap at any price.

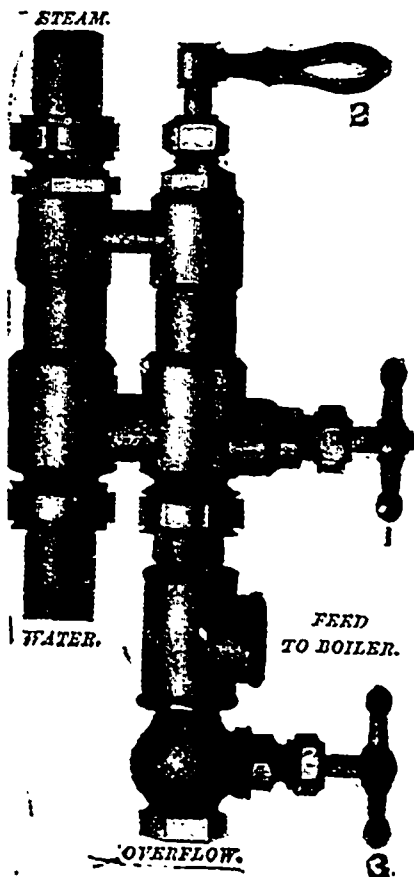
A. NORMAN, ESQ.—Dear Sir,—Please send me a waist belt. Enclosed find price. Head band I got for my wife has almost cured her of neuralgia. Yours truly,

C. L. TILLEY, WATERVILLE, N.B.

Numerous of such testimonials can be seen at my office, proving that they are doing a good work and worthy the attention of all sufferers. Circulars free. No charge for consultation.

A. NORMAN, 4 Queen Street East, Toronto.

NORMAN'S ELECTRO CURATIVE TRUSS is the best in the world. Guaranteed to hold and be comfortable. Circular free. N.B.—Trusses for Rupture, best in America, and Electric Batteries always on hand at reasonable prices. 1917



THE

Hancock Inspirator

The Best Feeder known for Stationary, Marine or Locomotive Boilers.

THE INJECTOR PERFECTED!

All Sizes lift water 25 feet. No adjustment required for varying Steam Pressures.

Over 50,000 Now in Use.

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Hancock Inspirator Co'y

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MONTREAL, P.Q., CANADA.

Manufacturers of Inspirators, Ejectors, and General Jet Apparatus.

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150 FRONT STREET EAST
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FILES FOR SALE.

FILES RE-OUT

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MANUFACTURERS OF

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LEATHER BELTING



70 King Street East, Toronto.

SPECIALTY:—Belting made from J. B. HOYT & Co's American Oak Tanned Leather.

Send for Price List and Discounts.

SAW MILLS!

Having POLE ROADS to their Timber keep up the Mill Stock and run the year round.

Pole Roads are Cheap, Durable and Speedily built. The Cars can be built by any handy man in a couple of days, and will carry 2,000 feet of Hardwood Logs at a Load, drawn by one Span of Horses.

The Wheels are adjustable on the Axles to accommodate themselves to any bend in the poles.

The Iron Work complete, including Bolts and Washes, with a diagram of Car, are supplied by the undersigned. Prices on Application.

As to cost and utility of Pole Roads we will refer without permission to E. WATT, Gesto, P.O.; W. EDGAR, Kilroy, P.O.; DUNSTAN & IRWIN, Essex Centre, and JAMES NAILOR, Oil City, who are now running respectively 10, 8, 5 and 3 miles, and are stocked with our Cars.

C. NORSWORTHY & CO., ST. THOMAS, ONTARIO.

Patentees and Manufacturers of Moore's Improved Taper Cone Feed Saw Mills 1211

MONTREAL AXE WORKS

MOCOCK & SON

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—MANUFACTURERS OF—

AXES and EDGE TOOLS

OF EVERY DESCRIPTION.

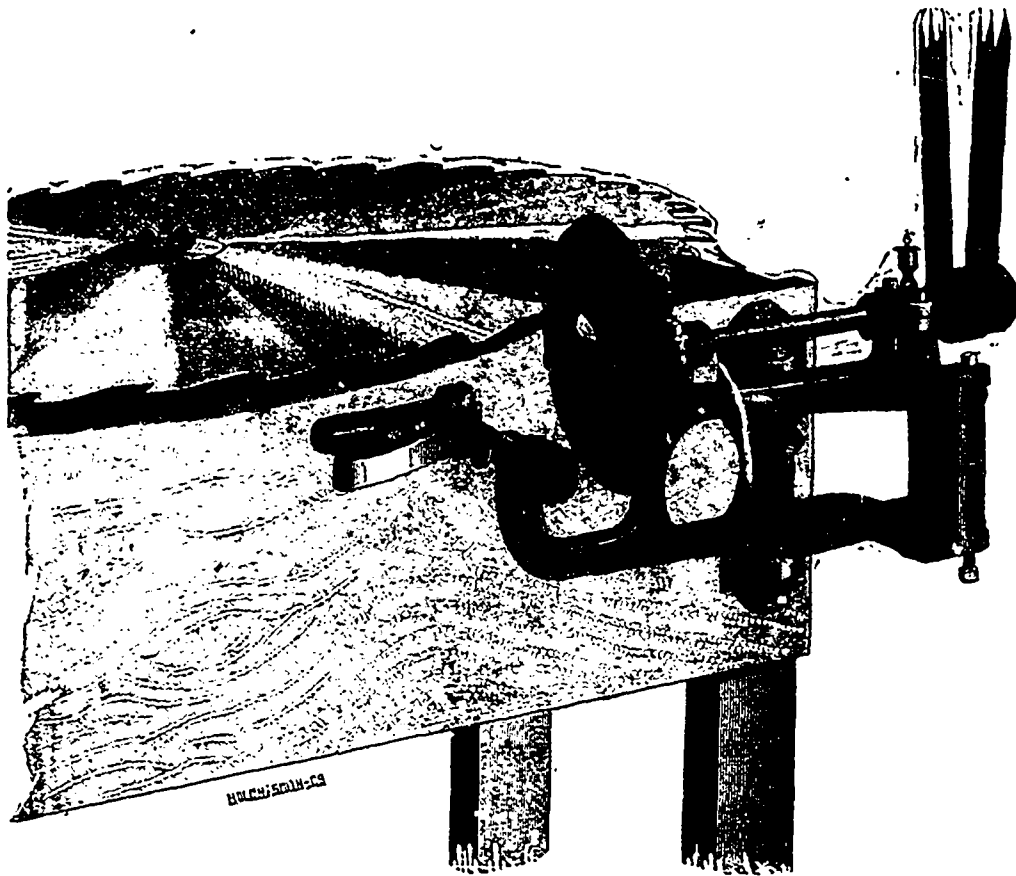
Old and Reliable, the Best Axes made in Canada.

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ROGERS' PATENT SAW GUMMER and SHARPENER

The Handiest Machine for these purposes ever Invented.

Don't Heat!
Cheap!
Very Simple!



Accurate!
Works Fast!
Complete!

Lumbering Season, 1884

Saw Mill Owners in providing for the season of 1884, ought not to lose sight of ROGERS' SAW GUMMER for it will save them more money in proportion to the amount invested than any other machine.

Only \$30, including Emery Wheel; Table and Countershaft, \$10 extra.

A few of ROGERS' SAW GUMMERS were put on the market last season, and we quote some of the commendations received:

JAS. HADDEN, Foxmead, says:—
"Your machine is all I expected."

CHAS. ANDERSON, Anton Mills, says:—
"I have given it a good trial, and am well pleased with it. I find it is one of the indispensables in a saw mill."

ROBT. R. WEIR, Orillia, writes:—
"It works like a charm, and is very accurate in its work."
CRONE & PATTON, Hoc Roc Mills, Gravenhurst, says:—
"The Rogers' Saw Gummer purchased from you gives good satisfaction, * * it cannot be beat."

D. DAVIDSON, Pentanguishene, writes:—
"We are well pleased with the Gummer."
W. W. BELDING, Wyevale, writes:—
"I have the Gummer running and it is giving good satisfaction."

ADDRESS ALL ORDERS TO THE

Hart Emery Wheel Company, Limited - Hamilton, Ont.

Manufacturers of Hart's Celebrated Patent Wire Strengthened Emery and Corundum Wheels.

The William Hamilton Manufacturing Co'y

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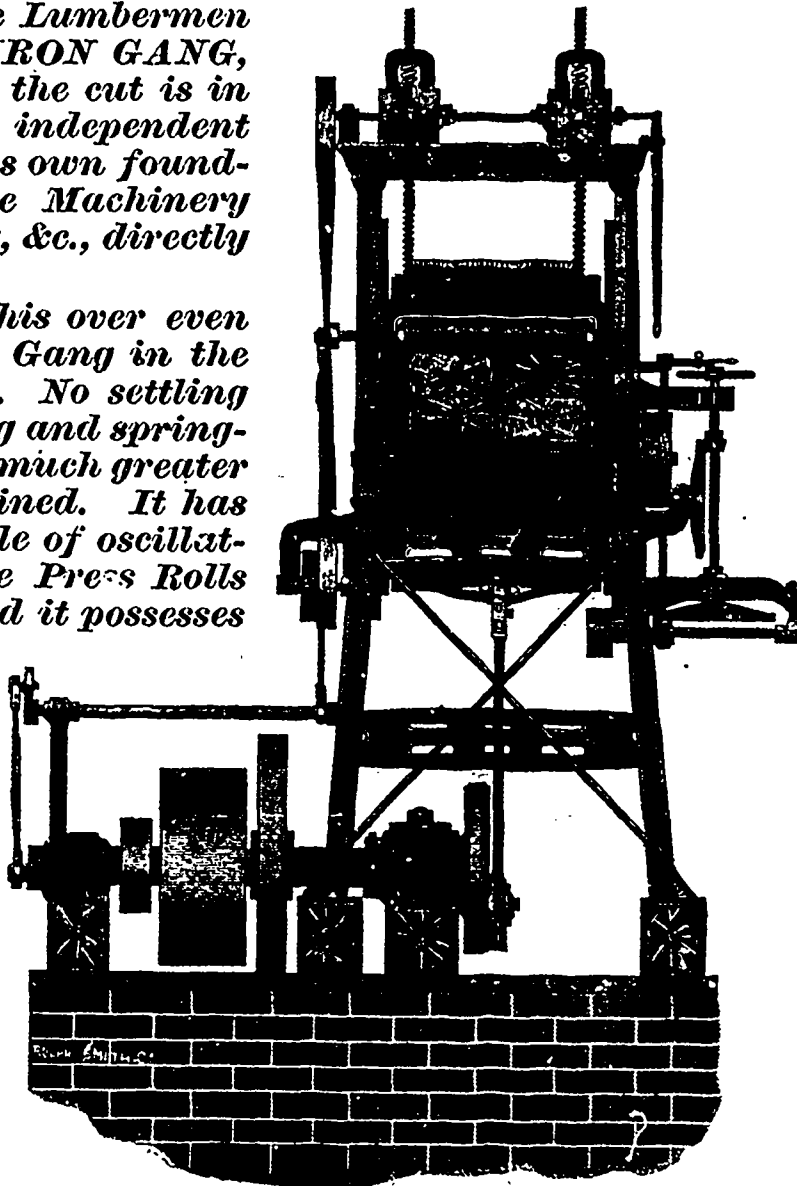
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Saw Mills and General Machinery

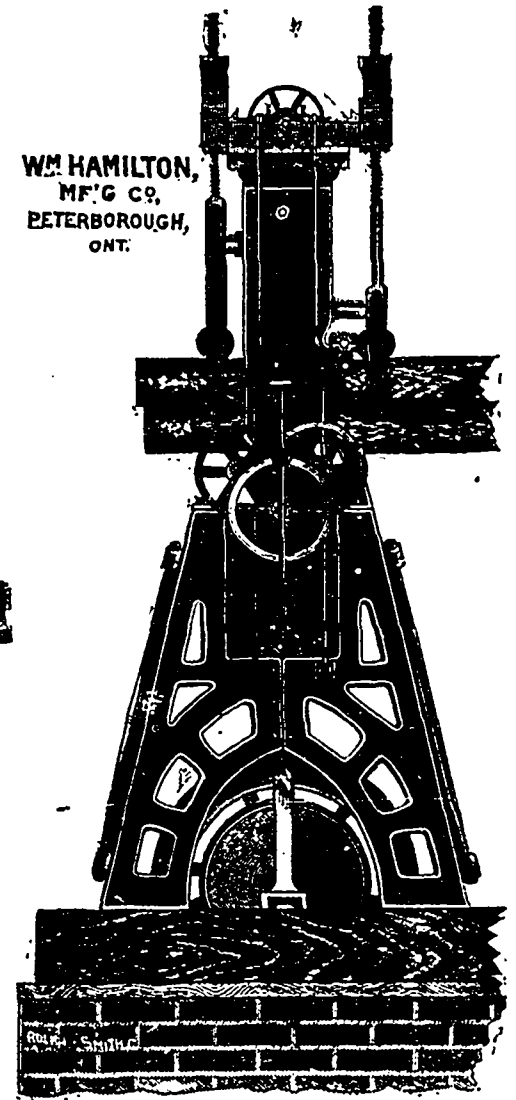
PETERBOROUGH, - - - ONTARIO.

We introduce to the Lumbermen of Canada our New IRON GANG, which will be seen by the cut is in itself a complete and independent Machine, resting on its own foundations, having all the Machinery for operating, feeding, &c., directly attached.

The advantage of this over even a well built ordinary Gang in the mill frame is evident. No settling out of line, no yielding and springing of timber, while a much greater working speed is obtained. It has the most improved style of oscillating motion, it has the Press Rolls operated by power, and it possesses generally all the good features of best American Gangs, with heavier frame work and heavier shafting, all with a view to rapid, steady & correct working. A good look at one of these massive machines, satisfies the sawmill man that they are in every way capable of continuously performing heavy duty throughout the season.



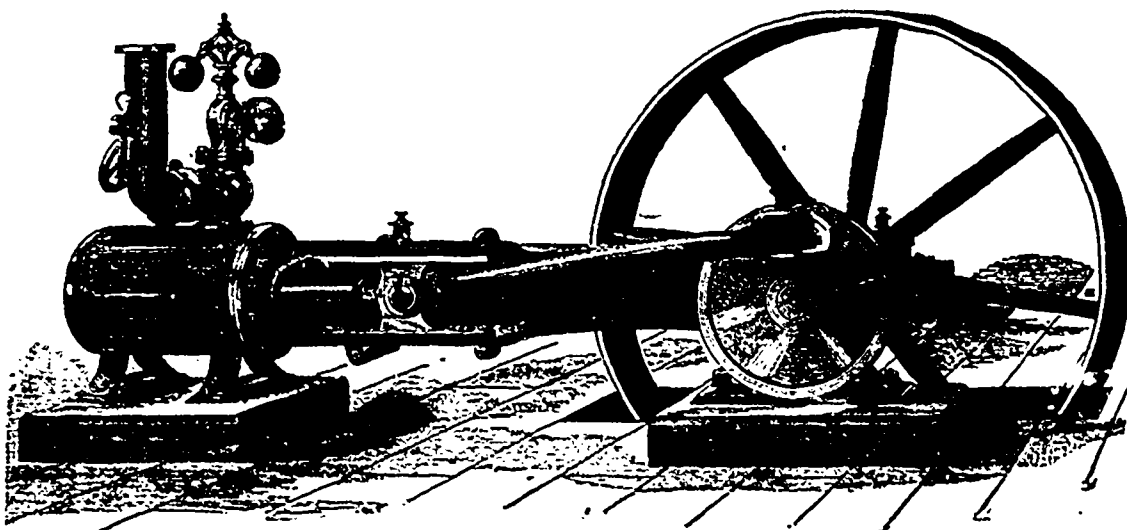
WM HAMILTON,
MFG CO,
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ONT.



We make these Gangs one of our specialties and manufacture them of different sizes.

— ALSO —

ENGINES AND BOILERS.



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

—IT WILL PAY YOU—

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FOR THE

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FOR THE FOLLOWING REASONS:

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

TO ADVERTISERS.

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

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

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

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

WATEROUS ENGINE WORKS, BRANTFORD

SOLE CANADIAN REPRESENTATIVES OF

GANDY'S

Made in 4, 6, 8 and 10
Ply Thickness.

Any Length without joint.

Endless, if desired.

Any Width to 60 inches.

Four Ply is as cheap as good leather belting,
stronger, runs truer, does not stretch, is not
affected by heat or moisture.

Patent Cotton Belting!

SPECIALLY SUITED FOR MAIN DRIVING

 A SUBSTANTIAL GUARANTEE GIVEN WITH EVERY

MAIN DRIVING BELT

THE BEST MAIN DRIVING BELT IN EXISTENCE! Send for sample and quotations, stating work belt has to do. Replace all troublesome belts with the GANDY.

SOLID WOVEN COTTON BELTING, also kept in Stock.

EWART LINK BELTING, for Elevators, Conveyors, &c. Send for Catalogue.

AMERICAN SAWS!

 SAVE YOUR TIMBER

By using THIN SAWS!

16 Horse-Power Sawmill, driving a 48-in. 10-Gauge Trenton Saw.

GEORGE A. DOUGHERTY writes from Leamington, Ont., 12th May, 1883:

Gentlemen,—I would say that my 16 horse-power Champion Engine drives the thin saw, 48 inches in diameter, 8 and 10 gauge, with 40 teeth, (No. 2 Trenton short teeth), admirably. Our speed is 360 revolutions of the saw per minute. We have sawn over 50,000 feet of white ash in ten days; often having to stop on account of belt breaking; never hurrying at all, but taking great pains to saw the lumber to the best advantage; nor did we commence before seven a.m. or work after six p.m. During this time the saw has not made one bad run, or spoiled one foot of lumber, or once been hot. In maple, black ash or elm, I can, without pressing matters at all, cut 600 feet per hour into inch boards. One half day, running from eight a.m. till 12 noon, we sawed bill stuff, 1 in. x 12 in. and 2 in. x 4 in., 12 feet long; and joists 2 in. x 6 in. and 2 in. x 7 in., 22 feet long, making no effort to work fast, yet we cut 3,053. When cutting into inch lumber, we save at least 1,000 feet in every 16,000; besides, we cut more than when using the 6 and 7 gauge to amount to at least \$5.00 per day for sawing. If our belt could stand it, we could run most of our time on 3½ inch feed. I think I would have no difficulty in running a 10x12 gauge.

9-Gauge Damascus Tempered Saw gives best of Satisfaction.

A. CALDWELL & SON write from Almonte, 12th June, 1883:

The saw we got from you recently (60-inch solid 8 and 9 gauge 60 teeth Emerson Damascus tempered saw) is giving the best of satisfaction, and is undoubtedly a great saving of lumber compared with the heavy gauge saws we used last summer, and runs with less strain on our engine, it being rather too small for the work it has to do. Send us by express a new Dominion Gummer and an Elliott 1880 Laccutter.

Damascus Tempered 60-in. 10-Gauge Saw on 6-in. Feed.

RALPH MATHEE writes from Ruscom, Ont., May 14th, 1883:

I have yours of the 10th inst., and in reply would say, that the 60-inch 10 gauge solid saw I bought from you gives every satisfaction. The inserted tooth saw I have is gauge 5. The new saw cuts nearly an ¼ less kerf, and saves about 1,000 in 10,000; makes better lumber, and runs with one-third less power. Where a high and uniform speed can be obtained, a good sawyer will have no trouble with one of the same size as thin as gauge 12 at the edge. I feed this one as high as 6 inches to each revolution in sycamore.

50-in. Lumberman's Clipper 10-Gauge Saw.

SIMON PROCTOR, sawyer and manager for W. C. V. Hall & Co., Quebec, writes from Lyster Station, Quebec, November 19, 1883:

The Lumberman's Clipper, 50-inch Saw that I ordered from you is giving the best possible satisfaction. I have been running it six weeks in large Rough Twist Spruce Logs, and must say it does better work than any other saw I have ever run, and it takes less power to drive it than any saw of same size with less teeth and thicker blade. I run it on one of your 30 horse-power Portable Mills—Locomotive Boiler—and have cut 50 logs with it without using a wrench on either arbour or guides, without filing, and never made a bad board, all inside of four and a half hours. You need not be afraid to recommend that kind of a saw to your customers.

Send for Sawyers' Hand Book; Illustrated Saw Circular; Large Lithograph to hang in your Mill.

Waterous Engine Works Company, Brantford, Canada