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VOL. 3.

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NO. 3.

It is said that a firm dealing in walnut lumber at Jacksonville, Ill., recently secured a stump near Wayland, Mo., that weighed 3,636 pounds for which they were offered 11 cents a pound, or \$333.96, but the firm was holding it for 15 cents a pound.

THE Portland Fiber Ware Company, of Brunswick, Mo., has formulated a varnish most valuable for use on woodenware. One of the important accomplishments promised is to make shingles practically indestructible by coating with this varnish, and a variety of articles will be rendered durable and serviceable by that means.

A CORRESPONDENT writes to the *Timber Trades Journal*:—There have been few, if any, really good years since 1873, and our Swedish friends were actually obtaining last spring better prices than they did in January, 1873. The question is, Can this last? I think not. General trade here is far from satisfactory. No doubt the volume of business is large, but the results are in too many instances very small. On the other hand, immense profits have of late years been made in the trade in Sweden. The result is a large increase of saw mills and speculations in wood. These, combined with the recent development of railways, so often referred to in your *Journal*, point to an increase in the supply. Under these circumstances prices should reach a lower level, and in my opinion will. If they do so it will eventually be better for all concerned.

CYPRESS WOOD AND LUMBER.

The products of the immense cypress forests of the south are slowly but surely finding a market, and in no very long time the demand for the excellent lumber and unrivaled shingles made from this wood will be difficult to fill. It is stated that when the saw mills at Beaumont and Orange, Texas, began manufacturing cypress lumber they found very little demand for it, but they have since quadrupled their production, and find an easy market for all they can saw. This lumber is just beginning to be introduced into the northern markets, and its advantages are now acknowledged. The wood is fine grained. After exposure to the air it becomes a dim redish color. It possesses great strength and elasticity, and is lighter and less resinous than the wood of the pines. To these properties is added the faculty of long resistance to the heat and moisture of a southern climate. The color of the bark and properties of the wood vary with the nature of the soil. Trees growing near the natural bed of rivers, and surrounded half the year with water to the height of three or four feet, have a lighter-colored bark than those standing where water does not reach them, and the wood is whiter, less resinous and lighter. These are called white cypress. The

others are darker and so called red cypress. This truly excellent wood is now used for various purposes, and there is an increasing inquiry for it. Boat builders use it to a considerable extent. Many of the small boats belonging to the men-of-war of the United States service are constructed of cypress; much is used for water tanks, sugar coolers and cisterns, on account of its durability; some enters into the construction of houses and house finishing, it being excellent in ceiling, and large quantities are made into shingles and cross-ties. The Lehigh Valley railroad company ordered 75,000 of these ties to be used upon its road this season. In some instances the shingles are manufactured with the large end finished round and octagonal that the roof may present a finer appearance. These kinds are used upon churches in the rural districts and upon villas where the builders wish to display some taste in lines that vary from the ancient straight and conventional methods. Some claim that shingles, properly prepared, will last 100 years. They are certainly very durable. Wood taken from submerged swamps which has been in contact with the decaying influence of mud and water for untold centuries, is found to be in an excellent state of preservation. Cypress logs have been taken from the soil deep underneath New Orleans in good condition. Evidences are abundant and conclusive in regard to the lasting properties of the wood. Hence, it is gradually creeping into use more and more each year. Already it is being used in many houses in New York city in finishing, with calls for more. Five million shingles is the estimated amount of consumption in the New York market, with an increasing demand. At least 4,000,000 feet of the wood will be required to supply the market in railroad ties the coming year, and about 2,000,000 feet of lumber for general use. It is exported to some extent to various ports. Railroad ties have been sent to Cuba, France and England. Lumber has been sent abroad, but in no great quantities.—*Lumberman's Gazette.*

THE PINE BELT OF THE SOUTH.

A correspondent writes from Brainbridge, Ga., to the *Northwestern Lumberman* as follows: Until the extent of the great pine forests of Michigan and Wisconsin was thoroughly known, but little attention was paid to the timber supply of the south Atlantic and Gulf coasts. Other causes, not necessary to mention here, united in this overlooking of the finest belt of yellow pine in the world; now, however, when the timber supply of the Northwest is being lessened, the advantages offered by the South, in the way of timber resources, is attracting attention.

The yellow pine region of the south presents some peculiar features which I will briefly notice: Beginning in North Carolina, it stretches back to the hills which mark the end-

ing of the Appalachian chain of mountains, a distance varying from 100 to 200 miles, and extends along the Atlantic seaboard and the Gulf coast westward, till the valley of the Mississippi is reached. The width of the belt is nowhere greater than 200 nor less than 100, and its length is 1,000 miles approximately. For an average distance of 50 miles from the seaboard the land is low and marshy, with stagnant ponds on every hand, and the lumber of inferior quality. A gradual ascent is then begun till an altitude of 300 feet above tidewater is reached. At this altitude the finest timber is found.

A few leading questions present themselves to those looking for timber lands—quality of timber, and quantity as well, price of lands, and accessibility to transportation. These questions I can answer, so far as this section of Georgia is concerned.

Dacatur county has an area of 1,500 square miles, and it is safe to say that there is in the limits of the county 500,000 acres of virgin pine forests. In addition to the local supply, Flint river traverses near its centre from north to south, and for 100 miles runs through unbroken forests of pine, while on the west side of the county is the Chattahoochee river, which also runs through a section well supplied with timber. So much for quantity, and quality is of the very best.

Timber lands vary in price from \$1 to \$2 per acre, owing to location, and are abundant at the prices.

What I have already said of the Flint and Chattahoochee rivers will give an idea of their availability for transportation of lumber and timber. These rivers are navigable for large steamers the year round, and there are no obstructions in the way of rafts. They unite and flow into the Gulf of Mexico at Apalachicola, Florida, which has a harbor admitting vessels of 10 feet draft. The government is now improving the bar off the harbor, and vessels drawing 14 feet will be able to load at the wharves.

In addition to the river transportation, direct railroad communication is had with Savannah, and lumber can be placed on shipboard there at a cost of \$4 per thousand.

Timber lands at the prices I have mentioned are not more than three miles from river or railroad, and thousands of acres can be bought on river and railroad at the figures named.

In the way of health, water and such incidental advantages, the country offers superior inducements—the climate is healthful and mild and water abundant.

CANADIAN TIES FOR FRENCH RAILWAYS.

The visit of M. le Chevalier Drolet to France has been fraught with much interest to the Dominion generally, and the lumber trade in particular. Mr. Drolet went over to Paris for

the purpose of bringing prominently before the French Government the superior quality of Canadian timber, more especially as regarded its transformation into railway ties and sleepers. Mr. Drolet took over with him several samples of tamarac railway ties, in order that the French Government, in their immense railway schemes, in which they expected to be able to use some six millions of ties per year, might have a portion of this immense demand satisfactorily and profitably supplied from Canada. The forests which have hitherto been drawn upon for sleepers lie on the shores of the Baltic, in Danubian principalities and in Italy. The samples in question, from Canada, were shown by the Chevalier to M. Horriison, Minister of Public Works, who was much pleased with them. A series of tests were ordered to be applied to the samples, and much curiosity was felt amongst those interested as to what strain the new timber would stand, as the tamarac is not indigenous to France. The experiments took place at the Ponts-Chaussées, Paris, about the end of November, and under the supervision of M. Durandeloyle, chief engineer of the institution. The tests consisted of severe traction and crushing, and also large screws were inserted into the ties and then pulled forcibly out, in order to show the amount of resistance of the grain of the wood. The tests were pronounced satisfactory, and Mr. Drolet was on the point of signing a contract to deliver 7000,000 ties. At this critical juncture Mr. Leon Say's celebrated article on Finance appeared in the *Journal des Debats*, in which that statesman counselled the Government to practise the strictest economy. It was stated that the railway scheme, which under the de Freycinet Government would have only cost four milliards of francs, would now cost eleven milliards. The result of this article was that the Government abandoned for the present the construction of the railways, and the Minister of Public Works informed Mr. Drolet that the question of the contract would have to be postponed until next June, when the work would doubtless recommence.

"The question now is," says Mr. Drolet, "whether the French Government will continue the railways, or hand them over to the great companies. In any case, we are sure of a market, as some of the tests were made by the Chemin de Fer de L'Ouest, and somewhat surprised them. I was compelled to decline a contract to deliver 370,000 ties at Bayonne to be used in the construction of a railroad in the north of Spain, on account of the lateness of the season. The ties used in France are longer and thicker than those used here, and are required to be saved on four sides. When the contract is signed the French Government will have agents on this side to receive and stamp the ties and afterwards ship them. This, of itself, will be of considerable advantage to the city."—*Montreal Star.*

PRESERVATION PROCESSES.

The are several solutions to the timber denudation problem. To start with, it is much more a scare than a reality. That everybody has a chance to know that white pine and other woods are annually manufactured and consumed to an enormous extent is not doubted, as well as that the rate of utilization has latterly increased. But there are several reasons why the period of actual exhaustion is much farther distant than much of the popular noise on the subject would indicate. That result is, in fact, so far ahead of present calculations that it need trouble this generation very little, unless its faith in Providence is gone, or it has an unnecessary solicitude for posterity. One important fact is that the supply remaining is by no means so microscopic, comparatively, as interested or ignorant figurers have asserted, a point which the *Lumberman* has for some time been insisting upon, particularly with regard to the white pine of the North. The fact, also, that substitutes can be employed when wood is not obtainable is being currently and practically demonstrated; the possibilities in that direction having been repeatedly discussed. A further potent factor which will figure is a tendency, both necessary and economical, to temper and reduce the volume of consumption. Before it becomes positively demanded that no wood shall be employed for certain purposes, because of the lack of it, the enterprises affected will have already developed a way of supplying wants with other material, and of making those which are used more enduring. There are a great many possibilities that have not been worked out, many scientific questions of which merely the surface has been brushed, and numerous future developments of great import may be counted on of which nothing whatever is dreamed now. If this should not be so, then abstract science must have reached a standstill, and science is so restless it will never be open to that indictment.

No doubt one of the most momentous points involved is the question of the durability of wood, and the means whereby it may be increased. It makes a vital difference in dollars and cents, as well as in the question of supply, whether a piece of timber will last 10 or 20 years. By having its power of existence extended it not only obviates the purchase of new material, but a more or less heavy expense, many times, in the general reorganization of a structure. Very often a process of timber preserving will cost about as much as the wood itself, which is no object provided it brings assurance of permanence and strength in the materials employed, and hence the structure itself. Such processes, while making the qualities of the raw material available to the greatest possible extent, may also bring into a more practical field certain woods regarded inferior on account of lacking the virtue of endurance, making possible the use of a greater variety of timber for certain special purposes, and somewhat checking a tendency to sweep away and appropriate to a number of purposes the cream of the timber, to leave standing large amounts of other kinds considered of little account or worthless.

A great deal has been said, from time to time, on the subject of preserving timber, but not enough that was definite. The more that is known in this direction, the better for the industries of the country generally. A committee of the American Society of Civil Engineers has spent a large amount of time and effort in collecting from all possible sources the results of experiments and actual experience in this line, which necessarily must cover a series of years. In its researches the committee met with many obstacles in the way of arriving definitely at the facts. The records of experiments which had been carried to the proper extent regarding fine were often insufficient on the subject of detail, and the precise methods of accomplishing results, where the latter were stated. Out of information regarding 88 experiments, the oldest dates back to 1839, and pertains to the building of Fort Ontario, at Oswego. The processes mainly touched on are kyanizing, burnettizing and creosoting. In the case mentioned the first process was adopted. In the reworkings of earthworks 92,000 cubic feet of 12x12 and 6x12 timber was used, with some

smaller, all of which was immersed in a solution of one pound of corrosive sublimate to 15 gallons of water, for from 14 to 21 days, the cost being about \$6 per thousand feet—about the cost of the timber. Hemlock was mainly used, with some basswood, beech and maple. The work was completed in 1843, and it is reported that an inspection in 1882 showed nine-tenths of the shorter timber still standing, while two-fifths of the upper halves of the larger timbers, with their cap timbers, were yet in position. Out of 100 standing timbers, whose lower ends were below the surface, 60 seemed entirely sound, except for about six feet from the surface upwards, the remaining 40 being more or less rotten throughout the length. The sides of the timbers towards the earth in the rear seemed as sound as where exposed to the air. Much of the other hemlock timber was found, the beech and maple having rotted, with the exception of a slight shell. In one case at Lowell, kyanizing was rejected for burnettizing (saturating with chloride of zinc), and the latter being found less effective, the first means was repeated with very satisfactory results. In 1856 the Central Vermont railroad established works for saturating timber with chloride of zinc under pressure, a similar process being now in operation in Germany. The plant was in use four years, when it was abandoned because of the excessive labor and time required to prepare large quantities of heavy timber. The burnettized hemlock ties were inspected however and found in a sound condition after 25 years' use.

The Chicago, Rock Island & Pacific road, in 1866, laid 2,000 burnettized hemlock, pine, tamarac and cedar ties in the main track west of Englewood, within a few miles of Chicago, and under a heavy traffic. The ties were mainly hemlock, and after 15 years' service three-fourths of them was still in the track, and good for three or four years more. Those taken out were sound and solid in the center and decayed only one half or three quarters of an inch deep on the surface. The rails had worn into the hemlock no more than they would into oak. The tamarac lasted about equal to the oak, while the pine and cedar had disappeared. The hemlock, when untreated, this road find to first decay in the centre. In 1872 this road laid 5,000 creosoted ties in a second track near Chicago, but they are not believed to have been thoroughly treated. They were sound on the bottom when examined in 1882, and badly decayed on the surface, and were cut by the rails more than the burnettized hemlock ties. What ties remain will probably be removed in the summer. The same authority places the life of untreated hemlock ties in sand or gravel ballast at not more than five years, a thorough treatment with chloride of zinc making them last 15 years. The same road erected a Howe truss bridge of burnettized timber, 150 feet spans, in 1860, which it was intended to rebuild in 1882, and which is still in fair condition.

The New Orleans & Mobile road has found that the indefatigable boring genius, the toredo, will not attack creosoted timber.

The Houston & Texas Central road is stated to be the only road in the country now having a plant for preserving timber. It removes sap by applying super heated steam and injecting dead oil under pressure, and within two years has treated about 150,000 cross ties, of a short-leaved Texas pine, which ordinarily lasts only about two years, being so porous that, when thoroughly seasoned, it will absorb over two gallons of oil to the cubic foot. About five gallons to a tie is generally used, which is insufficient to thoroughly saturate them. They were found perfectly sound after seven years' use, except in parts where the oil had not penetrated. The timber is hardened by the treatment, and does not show any serious wear.

The most of the evidence is in favor of hemlock, which, by treatment, can be made superior to untreated oak, while many absolutely worthless woods may be rendered valuable. The result will gradually lead to the more extensive use of hemlock, which will have an enhanced commercial value. Of course the idea of treating timber, as the experiments show, is nothing new, but it is by no means as generally in practice as it might profitably be placed, nor

the processes so thoroughly understood as they should be. While one treatment may be superior for one kind of wood, another process, possibly unknown, may be needed for a different wood, the durability of which might thus be increased as greatly proportionately as in the cases cited. There is, at least plenty of hemlock, which can be utilized to good advantage. In some sections the ties are conveyed such long distance, owing to the absence of suitable timber in the vicinity, as to make the expense borne on the enormous, which might not be so if the idea of a proper treatment of the wood was more generally carried out. Besides the financially practical features the subject presents, the preserving processes will do much toward husbanding present supplies. Moreover, the experimenters, as may be seen, are beginning to learn better what may be done.—*Northwestern Lumberman.*

THE LUMBER SITUATION.

We take the following from the lumber review in the *Montreal Journal of Commerce* on the lumber trade for the past year, and the situation at the close of it:—

Although the English markets show signs of considerable improvement, which it is to be hoped may continue, we cannot refrain from expressing the belief—the result of observations for the last few seasons—that ere many years wood products will be more valuable at this side than in Europe. The enormous consumption going on, especially in the United States and Canada, cannot fail of this effect. The requirements for home consumption in the older provinces are every year increasing, while Manitoba and the North-West are only beginning to indicate their wants. The shipments to these new customers from Canada and the United States during the past year were over 100 million feet B. M. and these must go on increasing as the territory is colonized. It is probable that at no very distant date but very little of the products of our forests will be shipped to the European markets, excepting, perhaps, those kinds for which other North of Europe goods cannot be substituted, such as first-class white pine timber and deals, white oak of large size, and probably hardwoods and pitch pine from the United States ports. Lower grades of pine and spruce will find better prices on this side than English markets can afford, as long as they possess cheaper substitutes from Norway and Sweden. This change is now going on, as far at least as Quebec is concerned, as evidenced by the gradual decrease in exports shown by the following clearances from Quebec for the last nine years:—

Year	Vessels	Tons
1874	854	636,672
1875	642	478,411
1876	786	624,110
1877	796	679,627
1878	476	399,833
1879	433	364,628
1880	634	555,451
1881	459	380,186
1882	426	359,925

And the prospects are for a still further decrease in 1883. This may be clearly ascribed to the large supplies from North Europe at low prices, while our American markets will absorb any probable or possible production at relatively higher prices than European market will pay.

Wintering stocks are a trifle greater than last year, but yet considerably lower than in former seasons. Prices have ranged during the season about as follows:—

	1st Qual.	2nd Qual.	3rd Qual.
White pine deals	\$104 to \$112	\$83 to \$72	\$36 to \$39
Spruce deals	\$39 to \$40	\$28 to \$29	\$23 to \$26

All these are per Quebec standard (2,750 feet) ex quay, mill cutting and mill specification.

Timber, white pine in raft	20 to 35
" red "	15 to 25
" oak in dram	45 to 50
" birch "	20 to 25
Staves, pipes	\$3.75 to \$3.90
" puncheons	\$9 00 to 100.00

Freights ruled about as follows:—

	Timber Deals
Opening at	23 to 25c. 60 to 65c.
Closing at	30 to 35c. 70 to 80c.

Operations in the woods for the coming season in Canada are on an increased scale for the United States markets, and on a reduced scale

for European markets. The weather thus far has been all that could be desired; there is at present, however, some appearance as though operations would be hampered by too much snow. This, however, is only one of the many ordinary incidents of lumbering; everything is high in price, pork unusually so; labor is also abnormally high; in fact, in this district it is not a question of wages at all, it being absolutely impossible to get a regular supply of workmen for the woods. Large numbers have been lured away to the Michigan and Maine forests at high wages through the efforts of hiring agents who have scoured the province from one to the other.

We hear of few or no sales of new mill cuttings for next season; manufacturers are holding for stiff prices, and exporters are waiting to see how the English markets may develop during the coming months. But these last remarks refer to deals only; we understand that some contracts have been made for Michigan and Ohio oak timber and waney square pine at probably a slight trifle advance on the prices of last year. We can never expect to see the two latter classes of timber at old prices again, for while the supply is diminishing every year, the demand on the other hand is increasing.

SECOND GROWTH PINE.

An interesting paper by Mr. Edward Jack, of New Brunswick, appears in the *St. John Telegraph*. Our readers should ponder, as it contains some valuable hints relating to the second growth of pine. Mr. Jack is an authority on the subject, and his remarks carry a good deal of weight. He says:—

"A few weeks since, just after the railway cars in which I was riding had passed through the Hoosac Tunnel, the news agent handed me a copy of the *Springfield Republican* of December 9th. As I glanced over it my eye fell upon this passage:

"The second growth of white pine sown in Massachusetts, census year, was worth about \$1,000,000."

"This was an extract from a paper lately read at the State Board of Agriculture in Northampton by Prof. Sargent, of Harvard College. The Professor says that 'a large portion of the neglected farming lands in Central and Southern New England is growing up to white pine,' and could that growth be encouraged and protected, Prof. Sargent sanguinely predicts that its value in Massachusetts, alone, would in a few years exceed the net profits upon half a century of farm crops.

"This statement attracted my attention so much that I made it my business, for the rest of the journey through this part of Massachusetts, to notice every grove of second growth pine, as well as every board pile visible from the car windows. The numerous piles of pine board which met my view, as we passed along, were with but few exceptions, sawn from small second growth trees. What I saw convinced me that if Massachusetts could make large profits out of second growth pine, New Brunswick could do the same.

"One-third of our Province is embraced within the limits of the grey sandstone of the Coal Measures, the meagerness of whose soil is so well described by Prof. Johnston, in his Report on New Brunswick. This soil, although suitable to the growth of little else, is well adapted to that of the White and Norway pine, and clumps and groves of these woods are now springing up all over the burned lands of these districts. Indeed many a good pine log has been cut in New Brunswick on ground swept by the Miramichi fire. Looking across the Nashvaak from the highway near the dam, at Mr. Gibson's mills, one sees on the south side of the river a growth of stout sapling pine, which will soon be fit for timber. It is not many years since the land on which these trees are growing was under crop, and did others exercise the same care that Mr. Gibson has done, in this case, the benefits to accrue to the country would be immense.

"It is not, at present, needful for us to plant trees on our waste lands; all that we are required to do to secure in not very many years an immense return from these lands, would be to protect the trees which nature, herself, has caused to grow upon them. The question

arises, How can this be done? Probably the best way to attain this end would be for the Government of the country to offer a prize of, say \$500, for the best 50 acres of second growth pine land, which is to be found in the country at the end of ten years, any from the date of making the offer, with second, third and fourth prizes of less value to other tree preservers of like extent. People thus preserving their trees would find that, beside the value of the bonus, there would be a real cash value in the lumber which they had protected, and others would be led to follow the good example set them. Of course there would have to be conditions attached to the grant of bonus, and the age of the trees would have to be taken into consideration, as well as the care to be bestowed upon them. This, it seems to me, would be the readiest way of awakening our people to their best interests in this matter. It is almost unnecessary to remark on the destruction of the forests of America; on the policy of all enlightened European Governments in conserving their forests, and on the innumerable bad economic and climate results of the wholesale removal of forests, either by fire or the axe of the woodman. These facts have just begun, almost too late, to make an impression on the people on this side of the Atlantic."

THE ALLEGED UNHEALTHINESS OF WOOD PAVEMENTS.

A perfectly unreasonable objection is now made against cedar block pavements, on the ground that they are unhealthy. This objection is worth meeting, for it is the last kick of an opposition to reformed roadways, which once was a formidable enemy to the public good.

Wood as a material for roadways is no more justly chargeable with unhealthiness, because of the presence upon it of filth, than is any other pavement allowed to get into a similar condition. If some of those who object to wood pavements because the Corporation neglects its duty as conservator of the roads would kindly indicate a road material able to keep itself clean the world would be greatly obliged. It is not fair to attribute to the material of which the road is made the responsibility for the foot or more of mud which is often allowed to accumulate upon it. The only ground upon which wood as a road material can be charged with unhealthiness is its liability to decay.

Let us look into this matter. At the start we are confronted with the fact that the European cities which had ages of experience with all kinds of roadways are at last adopting wooden blocks. In one place wood is superceding macedam; in another, cobble-stones; in another, asphalt; in another stone blocks. Is it likely that all these old tried pavements would be abandoned for wood if there were any sanitary objection to the latter? And is the state of sanitary science in Europe behind its state in Toronto?

Let us look a little further into the matter. Wood decays. Quite true with respect to pine and hardwoods, but only remotely true as respects cedar. On our streets cedar will wear away long before it will rot. But admitting that the cedar blocks do decay, what an inappreciable addition to the vast mass of decaying wood or vegetable matter. Our streets are lined with sidewalks of decaying wood. We walk on floors made of decaying wood. Our houses are frequently built on posts of decaying wood and are pitched upon soil a full half of the upper stratum of which is decaying wood or vegetable matter. Our streets are lined with sidewalks of decaying wood, laid upon sleepers of rotten wood, and they upon earth which is reeking with vegetable rotteness. At least ten times as much wood rots away every year in Toronto sidewalks as will ever rot away in the roadways, in the form of cedar blocks. Then we have thousands of trees in our streets, and upon every one of them more or less of rotten wood. In the autumn these trees shed numberless millions of rotting leaves. Millions upon millions of feet of wood are decaying in our fences; and last but not least, this is still a forest country, and the air comes to us laden with gases given off by an incalculable amount of rotten wood and vegetable matter. The addition of a few miles of cedar blocks upon

streets would make a smaller addition to the amount of the gases of rotten wood in our atmosphere than would be made by the addition of a bucket of water to Lake Ontario.—Toronto Globe.

A HINT FROM JAPAN.

A notable instance of the Japanese understanding of the conditions under which they exist occurs in the manner of giving security to pagodas, says Dresser's "Japan." Pagodas are of great height, yet many have existed for 700 years, and have withstood successfully the many vibrations of the ground, which must have inevitably achieved their overthrow had they been erections of stone or brick. When I first ascended a pagoda, I was struck with the amount of timber employed in its construction; and I could not help feeling that the material here wasted was even absurdly excessive. But what offended my feelings most was the presence of an enormous log of wood in the centre of the structure, which ascended from its base to its apex. At the top this mass of timber was nearly two feet in diameter, and lower down a log equally large was bolted to each of the four sides of this central mass. I was so surprised with this waste of timber that I called the attention of my good friend Sakata to the matter, and especially denounced the use of the central block. To my astonishment he told me that the structure must be strong to support the vast central mass. In my ignorance I replied that the central part was not supported by the sides, but upon reaching the top I found this monstrous central mass suspended like the clapper of a bell, and when I had descended I could, by lying on the ground, see that there was an inch of space intervening between it and the earth which formed the floor of the pagoda. The pagoda is to a Buddhist temple what a spire is to a Christian church, and by its clever construction it is enabled to retain its vertical position even during the continuance of this vast pendulum the centre of gravity is kept within the base.

THE CARE OF STEAM ENGINES.

A contemporary has gathered the following instructions for the care of engines:

- Never allow an engine to become dirty.
- Never depend entirely on patent oil cups.
- Do not allow the packing to become hard and dry in stuffing boxes, as it has a tendency to cut and flute the rods.
- Never strike any part of an engine with the face of a hammer or head of monkey-wrench.
- Never set steam packing, cotton waste, tops oil cups, or anything whatever that is to be used around the cylinder, valve, piston-rod or bearings of steam engines, on the floor, as they will invariably pick up sand or grit, which injures the rubbing and revolving surfaces with which it comes in contact.

When practicable, piston and valve packing should be applied when the stuffing boxes and rods are cold. The best packing is often destroyed through ignorance or want of skill.

Almost any packing may be improved by being soaked in beeswax, tallow and black lead.

Gum joints that require frequently to be taken apart should be coated with chalk before being placed between the flanges. This prevents the gum adhering to the metal and being destroyed when the joints are taken apart.

All gum joints located in the water space of steam boilers should be coated with lead and tallow before being put together. This has the effect of preventing the sulphur of the gum from attacking the metal and destroying the surfaces.

Always see that the cylinder drain cocks are open when the engine is standing still; never close them till after starting.

Never admit the tallow to the cylinder until the engine is fairly under way and the cylinder drain cocks closed.

Before starting an engine always warm up the cylinder by admitting steam to both ends.

Always start an engine slowly, and allow it to come up to speed gradually.

Whenever an engine is stopped for any length of time, examine all its parts and see that they are in good working order.

When it becomes necessary to stop an engine

with a heavy fire in the furnace, place a layer of fresh coal on the fire, shut the damper, and start the injector or pump for the purpose of keeping up the circulation in the boiler.

In case of extreme heating, slack up on the keys and gibs, permit them to run loose for a time; then take up the lost motion gradually.

Examine the piston packing in the cylinder frequently; keep it tight and in good order.

Keep your steam at the same pressure. If the steam is allowed to rise above the working pressure, the engine will increase its speed, which will induce a loss of speed, as every revolution above the speed at which the machinery is geared for the manufacture of different materials is a waste and every revolution the engine falls below the regular speed is a loss of production.

A NEW BINDING MATERIAL.

Tripolith is the name given by its inventors to a new binding material for builders. A substitute for lime, cement and plaster under certain circumstances, and which is composed of sulphate of lime, coke and oxide of iron in some form or other. While tripolith mixed with sand only, sets in 10 to 15 minutes, an addition of slaked lime may easily increase the time required for setting to 60 minutes. The specific gravity of tripolith is lower than that of plaster, the former is 1.078 the latter 1.096. Turning now to the test, we give the mean results in each case of five complete experiments.

The extraordinary increase of tensile strength after a long exposure to the atmospheric air is remarkable, it amounts to 100 per cent from seven to ninety days in mortar B, and to 189 per cent in mortar C for the same time. Compared with the tensile strength of lime and cement, the results obtained with tripolith are highly satisfactory. The compression test-point out for tripolith a position between lime mortar and cement mortar, but since after being fairly set it acquires about the same crushing strength as ordinary bricks, no more would be needed for general use. In setting, tripolith mortar loses in weight, and when placed in water does not absorb the latter so rapidly as ordinary mortar does. Its adhesion to brick, stone and other materials is very considerable, and the tripolith mortar does not either reduce or increase noticeably in volume when setting. For facing and plastering, this material is excellently suited; it is easily handled and smoothed while soft, adheres well to brick or stone surfaces, and attains far greater hardness than plaster-of-paris, and oil or other colors adhere to it well.

ROMANCE OF THE CAMP.

The monotony of logging camp life is occasionally varied by something thrilling. Sometimes it is an accident, causing serious injury or death; at other times it is a fight, resulting in spotted countenances, or worse. Occasionally a bear or a wild cat is met in the woods, and the foundation of a narrative of lucky escape is thus laid, which the hero of the adventure never fails to make the most of. It is, however, seldom that the logger is tried by

wolves, but here is a story, that comes from Wisconsin, which contains just such a rarity.

On the Tomahawk river, near J. E. Lashly's camp, December 23, while the cook, James McNamara, was carrying the men's lunch out into the woods, and about one mile and a half from camp, he was set upon by a pack of six wolves. He dropped the basket and sought refuge by climbing a tree, and commenced to yell and shout; fortunately, he was heard by Frank Synnot, the foreman, and E. H. Gallagher, the cook, who immediately seized their guns, and started in the direction from whence the shouts proceeded; they arrived in time to see the wolves scampering off, after devouring the contents of the lunch basket, and to relieve McNamara from his perilous position, as he was almost tired out clinging to the tree. The enterprising foreman, knowing that wolves were around, from having heard their melodious lullaby, had procured some arsenic, a small portion of which he put on some meat, and placed pieces in different places, and on Christmas morning he had the gratification of finding six big, gray and black timber wolves, stretched their full length on the snow. The heads are now in possession of the clerk of Lincoln county, and the skins he sold to Charles Quandt, of Wausau.—Northwestern Lumberman.

The United States Timber Duty.

The Boston Advertiser says.—How is the duty to be defended as a measure of protection? The object of protection is not to confer a bounty upon the producers of the articles protected, but to benefit the whole country. Unless a protective duty either helps to develop an industry which it is important for the whole country shall be developed, or helps to maintain the existence of industries which the good of the country requires shall be maintained, there is no good defence of the duty. How stands the case with lumber? Under the present tariff the whole burden of the home demand for lumber is thrown upon the home forests. Less than six per cent. of the pine and spruce lumber manufactured in the United States in the course of a year is imported from Canada, which is our only foreign source of supply. But we use about eleven thousand million feet of these kinds of wood every year, and according to the last census there is left standing not more than eighty thousand million feet of white pine in the whole country.

For Fence Posts.

A writer in an exchange says.—"I discovered many years ago that wood could be made to last longer than iron in the ground, but thought the process so simple that it was not well to make a stir about it. I would as soon have popular, basswood or ash as any other kind of timber for posts. I have taken out basswood posts after having set seven years that were as sound when taken out as when first put in the ground. Time and wear seemed to have no effect on them. The posts can be prepared for less than two cents apiece. This is the recipe: Take boiled linseed oil and stir in pulverized coal to the consistency of paint. Put a coat of this over the timber, and there it not a man that will live to see it rot."

LIVERPOOL STOCKS.

We take from the Timber Trades Journal the following Comparative Table showing Stock of Timber and Deals in Liverpool on Dec. 30th, 1881 and 1882, and also the Consumption for the month of Nov., 1881 and 1882:—

	Stock, Dec. 30th, 1881	Stock, Dec. 30th, 1882	Consumption for the month of Dec. 1881.	Consumption for the month of Dec. 1882.
Quebec Square Pine.....	348,000 ft.	292,000 ft.	190,000 ft.	190,000 ft.
" Waney Board.....	353,000 "	276,000 "		
St. John Pine.....	"	"	Nil "	Nil "
Other Ports Pine.....	"	"	"	"
Red Pine.....	26,000 "	63,000 "	19,000 "	3,000 "
Pitch Pine, hewn.....	510,000 "	629,000 "	120,000 "	89,000 "
" Sawn.....	471,000 "	506,000 "	99,000 "	85,000 "
Planks.....	"	"	"	"
Dantzic, &c., Fir.....	50,000 "	59,000 "	8,000 "	11,000 "
Sweden and Norway Fir.....	16,000 "	21,000 "	3,000 "	"
Oak, Canadian.....	347,000 "	335,000 "	119,000 "	40,000 "
" Planks.....	92,000 "	104,000 "	57,000 "	84,000 "
" Baltic.....	64,000 "	40,000 "	4,000 "	3,000 "
" ".....	63,000 "	51,000 "	12,000 "	18,000 "
Ash.....	18,000 "	18,000 "	1,000 "	5,000 "
Birch.....	127,000 "	102,000 "	27,000 "	63,000 "
East India Teak.....	14,000 "	13,000 "	0,000 "	7,000 "
Greenheart.....	30,000 "	132,000 "	"	0,000 "
N. B. & N. S. Spruce Deals.....	15,835 stds.	21,854 stds.	0,379 stds.	6,092 stds.
" Pine.....	713 "	330 "		
Quebec Pine & Spruce Deals.....	7,832 "	8,482 "	2,773 "	1,343 "
Baltic Deals.....	3,113 "	4,494 "	473 "	601 "
" Boards.....	198 "	400 "	43 "	168 "
" Boards Flooring.....	1,693 "	2,861 "	489 "	692 "

A LOOK-OUT.

Our readers will not expect from us a homily on the course of time, such as at this period befits the ages of the daily papers, who devote themselves to summing up the events of the past year, and moralizing on them like Touchstone in "As You Like It," to the edification, no doubt, of many of those who look to them for inspiration and guidance, but such diatribes would be inappropriate here. Of the great men who have been taken away from us since this time last year, and the little men who have become great, it is not our province to discourse; our mission is to investigate the progress of the timber trade, and to show from the familiar incidents of the past, and the state of affairs in actual present, what the course of business is likely to be in the coming year, on which we are about to enter.

Even this, however, we can only do incidentally just now, as we have to reserve for our summary of the year, about the middle of January, a more extensive survey of the trade; at present we must be content to touch on the prospects from abroad, without dwelling on those nearer home; and, indeed it is the foreign and colonial information upon which all our reasoning as to future supplies is founded.

We intimated a month ago that Russia was forming a chain of railways to connect all her workable forests with the nearest shipping ports, and, in fact, that the whole of them were now in communication with the sea. That is, perhaps too large a phrase when we think of the vast territory which the name of Russia comprehends; but it may be understood to mean that the forests within any feasible distance of the rivers that find their way to the waters of the Gulfs of Bothnia and Finland are now capable of getting their produce forwarded to the nearest rivers by means of railroads, where heretofore they were considered inaccessible to commerce on account of the serious impediments between themselves and navigation. On this account we may consider that, whatever the importation from Russia has been this year, it is likely to be very much larger in 1883.

From Norway the same increase is expected, and very much from the same cause. A great portion of the Swedish trade on the western borders will by the new railways find its way to Drontheim, we are told, and very much increase the trade there. Our Christiania correspondent also in our last number furnished reasons why "it would seem probable that a great quantity of timber could not fail to be brought forward for next year's sawing season." He suggests, however, the usual uncertainties, and the indisposition of merchants to pay the prices demanded in the interior as likely to check the supply; but we remember no instance of its having done so. The men who have timber to cut down during the winter for market will hardly be diverted from their purpose by a difference of a few shillings per standard when the price is yet remunerative; and, in fact, it is merely a question of the woodland being out of employment or getting something less per week for their labor, and though they may hesitate over it for a while, we seldom hear of them refusing by strike to accommodate themselves to the changes of the times. What may help to keep Christiania prices at a fair level is the impression that a diminished production of flooring may be expected there, on account of the mills that were destroyed by fire this year, those of Messrs. Kjøsterud, Breion & Co., and of Messrs. Maarud & Co., which have not been rebuilt. On the other hand, it may be assumed that it will render battens more plentiful, as fewer of them in that neighborhood will be wanted for conversion, especially as our correspondent alleges that shippers "do not appear very eager to secure them."

On the whole, therefore, we may set it down that there will be plenty of wood manufactured and unmanufactured, to come forward from Norway, and that it will come in the shape of other there is every reason to believe.

If we now turn our attention to Sweden, the chief source of our supply of European timber goods, we see every indication of a plentiful supply. The shortage that was foretold in 1880, but which did not come to pass in 1881, it was then explained to us, would not be seriously

felt till the following year, as only 20 or 30 per cent. of the winter's cut came forward the same year. In 1882, therefore, we were to be punished for our incredulity; but this year had hardly begun when the theory had ceased to be listened to, and instead of a shorter export from Sweden this year, the first ten months of it gave an excess over the same months of last year in sawn and planed wood of 135,000 Petersburg standards, and no less than 55,000 loads of square and rough timber, the greatest export, we believe, ever yet reached in the same number of months, and leaving after it a larger remainder at the shipping ports, and on the way to them, than any previous season.

At the meeting of saw mill owners at Stockholm, on the 16th of December, respecting which we published a telegram in our last impression, the opening surplus to begin next season with was acknowledged to be 50,000 standards over that of last year, and, without any inclination to ascribe to those gentlemen a desire to mislead buyers on this side, we may safely say they were not likely to err in the direction of overstating the case. Possibly 100,000 standards may be nearer the mark, but it is by no means necessary to press the point. With more than an average winter supply in this country, a great many vessels frozen up in their ports with cargoes, which could not get away in time, and a larger stock than usual for f.o.w. shipment, it is within the boundary of rational probability that any increase of price can be established in those regions during the coming year?

Yet our correspondent tells us that in the north of Sweden "there is a decided stiffening feeling prevalent among holders of sawn stocks;" but he admits that it will not be wise "to stand out for the full prices obtained during the early part of the last season," though the output may be diminished "by the immense masses of snow that have fallen in many parts of Norrland," which will make it "a matter of considerable trouble and expense to get at the timber." Reports of this sort, though perhaps very intelligible in Sweden, are rather confusing here. If the snow does not come down, or there happens a scanty supply of it, the trade is accustomed to hear great lamentations over the unfavorable state of the forests for logging purposes; but here we have an account of plenty of snow, which is represented as a serious impediment to the delivery of the timber. Offsetting one argument by the other, readers will be apt to consider them like negative quantities in algebra, which represent next to nothing. Snow, however, may be very useful, like brandy and water, to a certain extent, but to much of it is found to be worse than none at all.

In this short analysis of the state of the production of wood for exportation in Northern Europe we have endeavored to ascertain the turn that the trade is likely to take at the opening of the coming season, and we imagine that the impression left on the mind of the reader will be that, whatever else may happen, there is no likelihood of any shortage in the customary supply, but on the contrary that it promises to be on a very liberal scale indeed; nor is the state of the stocks in this country so low as to necessitate an early or urgent demand for an increase of them. On the other hand the continental requirements may be much larger than they were last year.

It was very naturally supposed the crisis in Paris last January, consequent on the failure of the Union Generale for such an immense amount of money, would greatly discourage trade in France, and no doubt it did so to a certain extent, but it is a mistake to suppose that money is not still very plentiful among mercantile circles in that country, and the requirements of the timber trade will probably be on a very liberal scale, for nothing is a better test of the state of trade in any realm than its export and import returns, and from these we learn that the value of the latter for the past eleven months ended, exceeded those of last year for the same period by £4,356,920 sterling, and the exports by £5,885,800—clear evidence that France is still enjoying a very considerable measure of commercial prosperity, and that no interruption to the public works authorized by the legislature—and consequently requiring a

large supply of foreign timber—is likely to take place.

We intended to glance at the state of the supply in hand on the American side, but have no space left to do so in the present number.—*Timber Trades Journal.*

AN ADMIRALTY SUIT.

In the case of Peter Muntz et al against a certain raft in the United States District Court, libelants, who formed the crew of the steam ferryboat Margaret, sued for salvago services rendered the craft when it got adrift in the river.

The District Court gave libelants judgment and awarded them salvago.

An appeal from this decision was taken to the Circuit Court, and Judge Pardee affirmed the decision.

On the appeal it was urged:

"1. That a raft of timber is not subject to the jurisdiction of the Admiralty Court, in the matter of salvago.

"2. That the Margaret was too small and weak to be able to render salvago services to a large craft.

"3. That no salvago services can be allowed compensation when the property is not saved, and that the raft in this case was saved by the large tug-boats and not by the Margaret.

"4. That the services of the Margaret were of no value to the raft."

The court said:

"A few undisputed principles taken from the text-books settles this case.

"Salvago is compensation for maritime services rendered in saving property or rescuing it from impending danger on the sea or on a public navigable river or lake where interstate or foreign commerce is carried on. *Maritime Salvago, sec. 67.*

"Salvago may be shortly described as an allowance for saving a ship or goods, or both, from the damages of the sea, fire, pirates or enemies." *Jones on Salvago p. 1.*

"It is absolutely essential that the salvors should have rendered actual assistance to the vessel in distress." *Jones, supra. p. 4.*

"If part of a salvago service is performed by one set of salvors, and the salvago is afterward completed by others the first set are entitled to reward, *pro tanto*, for services they actually rendered, and this, even although the part they took, standing by itself, would not in fact have affected the salvago." *Jones, supra. 9.—American Lumberman.*

OUR SPRUCE IN ENGLAND.

The London *Timber Trades Journal* says:—Trade in spruce on the west coast of Great Britain may be said to be at a standstill until the turn of the year. Merchants will now be stocktaking, and until they exactly know what they have on hand will be very averse to buying. Both the weather and the Christmas holidays have been against transaction in spruce deals, but at the commencement of the new year we hope to see an improved state of affairs. Merchants are very chary of buying, on account of expecting to pick up great bargains later on, and no doubt, while odd cargoes are dropping in on the market from time to time, it justifies the buyers in holding back from freely purchasing. Cargoes of spruce have been bought in the Liverpool market at equal to £6 17s. 6d. cost, freight, and insurance, and although the deals are from Nova Scotia, and may not satisfy merchants in quality as well as if they were St. John or Miramichi, still they do not fall far short of these; indeed, we have seen Nova Scotian cargoes equal to any from St. John or Miramichi, and if the shipment from these latter ports in late years are any criterion, we unhesitatingly affirm, compared with former times, the character of these shipments is deteriorating on the whole. So that between an ordinary Nova Scotian cargo and one from St. John or Miramichi there is not a great difference in quality. When spruce deal cargoes can be bought on this side at or under £7 cost, freight, and insurance, there is not much occasion for merchants or importers to hesitate, as at this figure it is generally safe to stock. The cost of producing deals in Canada is yearly increasing, and when we come to consider that a £7 cost, freight, and insurance also means the

cost of the deals and insurance being put at £4, leaving £3 for freight, it will be seen there is not much in this price for the shipper. We question if at this figure spruce deals are not produced at a loss, and we are therefore unable to comprehend how merchants on this side can expect to see prices any lower.

Those Nova Scotian cargoes recently sold at Liverpool cannot but have brought a loss to those interested in them. When we take into account the freights lately paid for removing fall stock, with the high rates of insurance for winter risks, £6 17s. 6d. must have left a smart loss. It is rumoured that these low scales are in consequence of the cargoes having belonged to shippers in Liverpool reported in difficulties a couple of months back, and forced on the market by those having advanced against them, in which case the sales are hardly a fair test of what the market is.

TRESPASSING.

An Ottawa correspondent of the *Northwestern Lumberman* says:—This winter seems to be particularly unfortunate one for operators in the woods in one respect, namely: trespassing on one another's limits. As many of the boundaries between limits have never been run in the field, it is almost impossible to avoid trespassing, more or less, and if limit holders would only adopt the principle of arbitration in cases of trespass, it would be better for all concerned, but it seems that when a trespass is perpetrated, it is always on a pet reserve, where the timber is much more valuable than on any other part of the limit; and when asked what sum will be accepted in compensation, either a demand is made for an equal number of trees which would make a square timber of 100 feet average, or a price is frequently put on a few hundred trees which is actually more than would have been accepted for the whole limit before the trespass took place. Neither of these demands being acceded to, they go to law: both parties spend \$5,000 or \$6,000 uselessly; the trespasser pays a trifle more than the first offer, and the party whose limit was trespassed upon, after he pays his lawyer and other incidental expenses, gets little or nothing for his timber. It seems strange that a body of such shrewd men as our lumbermen are, have not devised some easy, inexpensive method of deciding such cases, and thus save themselves large and useless expense, besides exposing the inward working of their business; but it is to be hoped that the time is at hand when measures will be adopted to remedy this unsatisfactory state of affairs, and that the decision of such claims for damages will be taken out of the hands of a jury composed frequently of men unable to appreciate the importance of the cases brought before them, and left to the unbiased judgment of honorable men engaged in the trade, who would make the fittest judges of what would, under the circumstances, be fair compensation for injury caused by cutting over limit lines.

INFORMATION ABOUT SAWS.

On few points connected with wood conversion is there more difference of opinion than in the question of speeds. Commencing first with circular saws for ripping, for sawing soft and medium woods, a speed of 9,000 feet traverse per minute at the points of the teeth may be taken as a standard speed; if hardwood has to be sawn this should be reduced to about 7,500 feet per minute, and with very hard wood 6,000 feet per minute will be found sufficient. The shape, number, pitch and set of the saw teeth being modified to suit the nature of the wood.

In one experiment I put a circular saw, 30 inch diameter and 12 gauge, on a spindle and gradually increased the speed to between 12,000 feet and 13,000 feet per minute, when it became wavy and pliant and ran out of truth. It therefore follows that, not only is the extra speed entirely unnecessary, but it is positively detrimental, as more power is consumed, more heat engendered in the bearings, spindle and saw plate; extra lubrication is therefore required, and the belts deteriorate more rapidly. I should, however, prefer to err on the side of high speeds instead of low, as this necessitates perfect workmanship and finish not always found in these days of so-called "cheap" machinery. The speed of circular saws for cross-cutting

can be increased with advantage 1,000 feet beyond those used for ripping saw, to 10,000 feet per minute. The difference in the cutting action of the two kinds of saw teeth will readily account for the necessity of this increase in speed. In the case of a ripping saw the action is chiefly a splitting one, the saw teeth acting like a series of small wedges, driven into and separating the longitudinal fibres of the wood, while with cross-cutting saws the fibres of the wood has to be severed across the grain, is comparatively unyielding, and the teeth of the saw meet with much more resistance. It is found necessary to make the teeth more upright and more acute or lancet-shaped in their form than for cutting with the grain. Although the subject is one of great interest, time and space forbid extended remarks, and I pass to band saws.

Owing to the improvements in the manufacture of the blades and the machines themselves, the speeds of which it is safe to run band saws has increased considerably of late years. On machines in which the saw wheels are of small diameter, say below 36 inches, and where the arc of contact of the saw on the wheels is necessarily more acute, the speed of the saw blade should not much exceed 4,500 feet per minute. With saw wheels 36-inch diameter this speed may be safely increased up to 6,000 feet per minute; this is, however, on the supposition that the saw blades are of good quality, and that the top saw wheel is mounted elastically, and the machine generally is well designed and made. The proper construction and use of saws involves many important scientific points that are unfortunately much neglected, resulting in an enormous waste of material and power.—*M. Pouis Dale in Mechanical World.*

A TOLL TEST.

On December 21st a law suit of considerable interest to lumbermen on the Wisconsin river was decided in Columbia county circuit court, at portage, Wis. It was the case of the Wisconsin River Improvement Company vs. John Woodlock, and was brought to recover tolls on 6,000,000 feet of lumber for passing through the improvement made by the company at the various dams, canons, falls and rapids on the river above Stevens Point, and payment was resisted on the ground that works which had been constructed at Grand Father Bull Falls were a damage to the running of logs rather than a help; and that the improvements were the occasion of the big log jam which occurred at that point in the spring of 1891. Damages were asked for by defendants. The jury, after a short deliberation, returned a verdict giving the plaintiff 5½ cents, instead of 7½ cents, the maximum amount allowed by the charter, and refusing to allow the damages claimed. The suit brought a large number of the prominent lumbermen on the river to testify in the case. Both sides were represented by able counsel. It is claimed by some members of the Improvement Company that the real purpose of the suit was to force a reorganization of the company, by which the system of improvement was to be extended, after other parties were taken in, and the stock of the old company put into the new organization at 30 cents on the dollar.—*Northwestern Lumberman.*

A Sumac Duty.

The Legislature of Virginia desires to encourage the sumac-growing industry, and at its last session adopted a joint resolution asking governmental co-operation to that end. The body recognized the fact that a very large proportion of the uncultivated lands of Virginia naturally produces, in abundance, a fine quality of sumac, the gathering and manufacturing of which already employs considerable labor and capital, while about one-half the sumac used in the United States is produced by the pauper labor of Italy, and imported into this country at the insignificant tariff rate of 10 per centum ad valorem, and believes that the infant industry of the state eminently deserves to be encouraged and protected, to the end that wild and waste lands might be cultivated in the production of sumac, and a flourishing agricultural and manufacturing interest therein be established, as well as that a superior article should thus be obtained. Aid was, therefore, asked in the

senate and congress in securing a protective export duty to be levied on all sumac grown or manufactured in foreign countries.—*Northwestern Lumberman.*

Logging Under Difficulties.

Sands and Maxwell, Pontwater, Michigan, write to the *Northwestern Lumberman*: A portion of the land we are logging this season is very rough, its roughness consisting of numerous holes (potholes) resembling the imprint of an enormous washbowl being thrust into it, some of which are over 100 feet deep, quite large trees growing in the bottom just nicely showing their tops above. These potholes are so numerous that in many cases only a ridge just wide enough for a road separates them. They are so steep that hauling out with teams is impossible, and there is so much timber in them that hauling with blocks and tackle would be tedious and very expensive. We are now using one of G. S. Warm's & Son's hoisting engines, with a 7x10 cylinder, and it works to a charm, making a trip every five minutes with an ordinary stone boat, and hauling two small or medium logs at a time. We have 1,000,000 feet in these places, and have no trouble hauling out logs that scale in 1,024 to 1,225 feet.

Candian Hardwood.

The *Monetary Times* says:—Referring to our recent article on Canadian hardwoods, Mr. Ouillette, of Amherstburg, Ont., informs us as under: "There is a great deal of Balm timber in Essex county, and a large business is done in it. I myself have from fifteen to twenty million feet of it standing. I manufacture from 1,000,000 to 2,000,000 feet per year in lumber, mostly for the Eastern States, and I also sell a quantity in Canada. We also cut a large quantity of oak annually for car-stuff which is sold chiefly in Canada. A great deal of white and black ash is cut about, and sold in the Dominion and the U. S. States, chiefly in the latter." From the data given by this exporter we should infer that the outlook in hardwood lumber is very promising for next year.

St. Louis Cooperage.

It is figured that during 1892, St. Louis Mo., and East St. Louis, Ill., reckoned together, consumed about 400,000 tight barrels, manufacturing 250,000 of the amount, the whole representing about 3,500,000 pieces of staves and heading, the year's business showing a slight increase of the previous year. In stock packages, 15,000 flour barrels and 8,000 fruit, potato and bottled beer barrels are daily made and consumed, the average price of these packages being 28 cents. The flour barrel demand is reported to have fallen off, on account of heavy exportation in sacks, while the other packages named were more largely consumed, owing to heavy crops. The general business is in a fairly healthy state.—*Northwestern Lumberman.*

The Isthmus of Darien.

The *American Lumberman* of New Orleans:—A Merchant of this city informs us that a great quantity of Northern lumber and ready made cottages cumber the wharfs of Aspinwall, that thriving city of the Isthmus of Darien. On another page we publish a long account of the mercantile situation on the Isthmus, in which it will be seen that our correspondent predicts a great Isthmian lumber movement during the next year. From the information already received, it would appear that this movement has already begun, and that the lumber dealers of the coast are hastening to take advantage of the great demand for timber of all kinds at Aspinwall.

A Model Building.

THE *American Lumberman*, of New Orleans, says:—When the Mechanics', Dealers' and Lumbermen's Exchange adopt a plan for their new exchange building, we hope they will not forget to specify the using of every variety of wood procurable which can be used for ornamental and practical purposes. Ceilings, wainscots, panels, etc., finished in a variety of beautifully grained and colored woods would present a striking appearance, and do much towards making the exchange building one of the most attractive in the country.

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A SET OF THE MACHINERY FOR SALE, CHEAP—OR EXCHANGE FOR LUMBER.

J. T. LAMBERT,
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Permanently Cured—No Humbug—by one Month's usage of Dr. Goulard's Celebrated Infallible Fit Powder. To convince sufferers that these powders will do all we claim for them we will send them by mail, post paid, a free Trial Box. As Dr. Goulard is the only physician that has ever made this disease a special study, and as our knowledge thousands have been permanently cured by the use of these Powders. We will guarantee a permanent cure in every case or refund you all money expended. All sufferers should give these powders an early trial, and be convinced of their curative powers.

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It has performed a miracle in my case. I have no unearthly noises in my head and hear much better. I have been greatly benefited. My deafness helped a great deal—think another bottle will cure me.

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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 doctors' 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 and packets only (4 lb. and 1 lb.) by Grocers labelled thus.
JAMES EPPS & Co., Homoeopathic Chemists,
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\$500 Reward!

We will pay the above reward for any case of Liver Complaint, Dyspepsia, Sick Headache, Indigestion, Constipation or Costiveness we cannot cure with West's Vegetable Liver Pills, when the directions are strictly complied with. They are purely Vegetable, and never fail to give satisfaction. Sugar Coated, Large Boxes, containing 30 Pills, 25 cents. For sale by all Druggists. Beware of counterfeits and imitations. The genuine manufactured only by JOHN O. WEST & CO., "The Pill Makers," 81 & 83 King St. East, Toronto, Ont. Free trial package sent by mail prepaid on receipt of a 3 cent stamp. **ORMOND & WATSON,** sole authorized Agents for Peterborough, Ont. w46d112z22

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THE CANADA LUMBERMAN

DEVOTED TO THE LUMBER AND TIMBER INTERESTS OF THE DOMINION.

PUBLISHED SEMI-MONTHLY BY
TOKER & Co. PETERBOROUGH.

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

All communications, orders and remittances should be addressed and made payable to TOKER & Co., Peterborough, Ont.

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

PETERBOROUGH, Ont. FEB. 1, 1883.

LUMBERMEN say that the snow is about the right depth for successful operations.

G. T. HASKEL & Co., are running a hoop factory at Ludington, Mich., sawing their hoops out of soft elm.

UP to the middle of January the C. N. Nelson Lumber Company, of Duluth, had nearly 20,000,000 feet of logs on the skidways, and the work was being pushed with all possible vigor.

THE *Timber Trades Journal* of Jan. 6, says: Six weeks ago it was thought that lower port spruce might reach £9 per standard at the Liverpool sales, but it has been going back ever since.

THE *Timber Trades Journal* says:—The demand for American walnut is greatly on the increase, and doubtless our readers will have observed how greatly the wood is now-a-days employed for cabinet purposes.

THE River and Streams Bill, twice disallowed by the Dominion authorities, has been reintroduced in the Ontario Legislature, and will undoubtedly be re-enacted. Its provisions must be familiar to our readers.

WILD cherry is a wood for which a large demand is springing up, which must inevitably make it very valuable in the future. It is used principally to supply the place of walnut. It is extremely close-grained and can be very highly polished.

BEGIN to lace a belt in the centre, and take care to keep the ends exactly in line, and to lace both sides with equal tightness. The lacing should not be crossed on the side of the belt that runs next the pulley. Thin but strong laces only should be used.

We have received the first number of the *American Lumberman*, a new organ of the trade published at New Orleans. It contains a fund of valuable information, and will no doubt be appreciated by the important industry it represents. Its appearance as a creditable as its matter.

JOSEPH JACKSON, a farmer near Centerville, Ind., had a walnut knot on his premises which had grown there, and was supposed to be worth less on account of decay. While the boys were trying to see how much powder would be required to blow it up, a new idea struck the farmer, and he investigated further. The knot was sold for over \$200 for shipment to Europe.

The Boston correspondent of the *Northwestern Lumberman* says:—Several vessels are now loading for South America, and one for San Francisco. The latter has taken on board a large amount of very fine walnut, ash, and oak. Considerable pine has also been shipped; and there are now several lots of walnut and poplar on the docks awaiting shipment to Liverpool.

THE Ohio State Forestry Association has organized at Cincinnati. At a meeting January 13, the following officers were elected. Honorary President, John A. Warder, Acting President, Warren Higley; Vice Presidents, Durbin Ward, Charles Reemlin, Horace Wilson, of Columbia, Ohio; Secretary, A. Love; Treasurer, J. H. McMackin. Meeting are to be held quarterly.

THE addition of resin to the tallow for belts used in damp or wet places, will be of service and help preserve their strength. Belts which have become hard and dry should have an application of port-wine-foot or liver oil, mixed with a small quantity of resin; this prevents the oil from injuring the belt and helps preserve it. There should be so much resin as to leave the belt sticky.

THE *Marquette Mining Journal* says:—The pine lands of the upper peninsula are being rapidly sold off, hardly a week passing without some sale of this kind being reported. The largest noted this week is that made by J. M. Lengyear for the canal company, the tract disposed of consisting of some 1,700 acres of land located in township 42, range 33, the consideration being nearly \$100,000. The purchasers were Detroit parties.

THE *Northwestern Lumberman* says:—The operators of the northwest have not only got their faces set in the direction of the splendid forests of the South, but many of them are throwing their hooks out in the direction of Puget Sound. Many inquiries have been made recently of the *Lumberman* regarding the timber resources of the Sound district, the facilities for lumbering, etc., and not many years will pass before some of the cash and experience of the Northwestern states will be brought into requisition on the Pacific coast.

THE amount of white pine lumber exported from the port of New York, as reported by the Export Lumber Company, for the years named is as follows:—

Year	Feet.
1877	47,314,000
1878	42,695,000
1879	45,861,000
1880	52,628,000
1881	70,781,000
1882	57,540,000
Total for six years	306,819,000

THE *Northwestern Lumberman* says:—The steamer Tangior, which is running for a Quebec Lumber house, under the management of Shadbolt & Co., of New York and London, has been the cause of negotiations between the English and Spanish Governments. Her captain was arrested in Spain, but according to the accounts which have yet reached us, he was not so much in fault as the Spanish custom house officials, who appear to have fired on this British vessel on very slight provocation, and the fact of the same commander now bringing her to Philadelphia indicates that the crime could not have been great, or the "Dons" would still have him in duranco vile. Owing to the difficulty in obtaining sailing ships, steamers are now coming into use for timber freight by firms whose trade is sufficiently large to admit of their employment. Handy little sailing vessels should pay well, with timber freights as they stand at present.

WHITE, FRIANT & Co., of Grand Haven, have lighted up their lumber woods at Six Lakes with street lamps. They have two camps employing 165 men and forty horses. They draw their logs with an engine and cars and put in 125,000 to 150,000 every twelve hours. They expect to put in 31,000,000 feet.

THE Chicago *Northwestern Lumberman* says: Many of the largest manufacturers do not hesitate to say that in their opinion lumber will rule lower in 1883 than in 1882. They base their belief on the fact that there is an immense stock of lumber in the country, and that the present logging season promises to be a very successful one in every direction.

THE *Lumberman's Gazette* says:—The man who can conceit some method of falling a pine tree without the necessity of the enormous amount of manual labor which is at present expended in that direction would not only confer a blessing on humanity, but would reap a harvest that would enable him to take rank among the millionaires of the country. His position in the world, in fact, would be more enviable than that of the editor of a daily paper.

THE Duluth *Lake Superior News* says:—McGuire & Wentworth have fifty men at work in their lumber camps on Rainy River, and a gentlemen who recently visited them, says that they have the model camps in that region. They are having good lumbering weather in that country and unless there is a sudden change, they will get out all they estimated at the commencement of the season—about eight million feet. These logs will be sawed for the Winnipeg market.

TREE PLANTING.

In the Ontario Legislature Mr. Wood moved that the treasurer of the Province, upon receiving a copy of the inspector's report, certified by the rovee and clerk, shall recoup to the treasurer of the municipality one-half of the sum paid by the township, under authority of the municipality under the act to encourage tree planting, the said copy to be forwarded on or before the first day of November in each year; that the sum of \$50,000 is hereby apportioned and set apart for the object, and shall be known as the Ontario tree planting fund. He declared that the Government had long taken a great interest in the question, and had sent delegates to recent forestry congresses and they had submitted reports and recommendations to the Government. The bill provided that 25 cents would be paid for every tree that had been planted three years, the amount to be handed over by the municipalities and one-half repaid by the Government.

Mr. Meredith asked whether the sums would be paid at once, or in three years hence. Mr. Wood replied only three years hence. The resolution was passed.

FOREST COMMISSIONERS.

THE *Lumberman's Gazette*, of Bay City, Michigan, says:—Forest protection is being considered by each of the states, and the interest in this direction is having a steady growth. Vermont has set an example to her sister states, by which it will be well for them to profit, by the appointment of two commissioners who are expected to devise measures to protect the forests of that state as well as to suggest means to replant those which had already been cut away. Throughout the new England states, says the *Williamsport Gazette*, there are, as is well known, large areas of territory that are so sterile as to be unfit for the ordinary purposes of agriculture. These could be planted with forest trees at a comparatively small expense, and would in time not only have a most beneficial result upon the water courses of the country, but become a direct source of profit to the individual proprietors besides. Pennsylvania has not so much sterile surface, comparatively, as the New England states, but there are, nevertheless, many thousand acres where a careful system of forest tree culture would prove valuable to the state and profitable to the individual owners. In fact, the plan pursued in Vermont commends itself strongly to every

member of the Union. Sooner or later they will all follow her example, but it is highly important they should go to work now, and not put off the time until dire necessity compels us to take it up.

THE CLYDE TRADE.

Singleton, Dunn & Co.'s Timber Circular of Glasgow, dated 4th January, gives a lengthy review of business during the past year. It says:—"During 1882 business was fair, and prices generally well maintained. The imports were about an average in quantity all over, but it is noteworthy that a very large proportion of these were after September. At the end of that month it was ascertained that stocks were smaller than usual and in consequence goods were sent forward in such quantities at high rates of freight and insurance as leaves the aggregate stocks at the close of the year similar to those of the preceding year.

Trade generally was steady, and shipbuilding was unusually brisk. This import and industry will be as fully employed in this year as in the past one—most of the yards having orders on hand to occupy them for a year at least. Housebuilding has not improved—if, indeed, it is not worse now than for the last twenty years.

Case making, owing to the large exports, has formed a large medium of consumption, and there are indications that this trade will be pretty active during the spring.

We again refer to the competition Quebec woods have to contend with in pitch pine and North of Europe woods imported direct and to east coast ports for consumption in Clyde districts. In volume these two classes of timber far exceed the total imports from Canada to Clyde.

Square white pine is very low in stock; but this is due only to the unusually big demand for ship work. It is almost exclusively prime qualities that are taken by the shipbuilders, and it is the experience of the trade that the commoner qualities are unsaleable at rates to clear foreign invoices. In fact for rough carpenter work it is only now and again that contractors use it—finding suitable substitutes in the cheaper woods from north of Europe and the pitch pine ports.

Deals.—Those from Baltic districts have throughout the year been distinctly under the prices for Canadian, hence the difficulty in obtaining anything like remunerative rates for the latter. Of course, this applies to whitewood or spruce. Our experience is that in case making, where formerly the consumption was of pine only, it is now very much a matter of price as to whether pine or spruce shall be used. This acts most detrimentally on the lower qualities of Canadian pine. In times when housebuilding is active 3rd quality pine are largely used; but in the present condition of things the foregoing remarks explain the slow sale and low values now ruling. Contracting in Quebec goods was on a restricted scale all last season, and we do not anticipate much improvement this season.

Freights.—In the spring from Quebec rates opened at 21s., receding to 22s. Then in mid-summer and fall beginning at 24s., rates went to 28s., and a few ships at 30s. Deals from Quebec per steamers opened at 60s., receding to 52s. 6d. to 55s., latterly picking up to 80s. From the lower ports sailing vessels ruled at 60s. to 65s., at the closing going up to 77s. 6d. Steamers from St. John and Miramichi were plentiful in the early part of the season at 50s. to 55s., springing at the close to as high as 82s. 6d.

White Pine.—The stock is small, and firmly held. The consumption is below that of the previous year. Prime deck plank wood brought to 2s. 5d. for 60 feet average, and 2s. 7d. for 70 feet average at the beginning of the season, rising gradually till, at the close of the year, prices stand at 2s. 7d. to 2s. 9d. per cubic foot.

Deals.—The imports from Quebec were over those of the previous year, while from New Brunswick and other lower ports they were less than the previous years. Taken all over the consumption of deals was about an average. Quebec Yellow pine, 1st quality—Prices early last year were similar to those ruling at the close of 1881.

SOUTHERN TIMBER SUPPLY.

The southern pine belt, running through nine States, is believed to have contained, at the end of the census year, not less than 25,000,000,000 of feet of merchantable pine, or enough to last, at the rate of consumption of that year, 250 years. The value of this great body of timber is enormous, and must have an important influence in developing the material prosperity of the south.

The study of the actual condition of our forests indicates important commercial changes which may be expected to grow out of the changing conditions of the lumber trade. New Orleans seems destined at no distant day to become one of the greatest lumber distributing and manufacturing centres of the world. Its position with reference to vast forests, its commercial importance, and the ease with which logs may reach it by river and lake, point to this conclusion. A great deal of northern capital has been invested during the last few months in southern pine fields, and the number of persons seeking such investments is increasing. The best informed northern lumbermen realize at last that the time has come when they must seek new fields for their operations, or abandon the business entirely. These men are getting ready to move their mills, capital and energy into the south; and their attention is naturally directed to the Gulf States.

The demand for southern pine for northern consumption and export is rapidly increasing also, and the country must not make the mistake, which it made first in regard to the pine supply of Pennsylvania and Michigan, and which the Californians are now making in regard to their redwood, and conclude that because the northern states contain vast quantities of pine, the supply will last forever. No forest is inexhaustible if nothing is done to protect or perpetuate it. The recklessness which has marked the management of forest property at the north has not been wanting in the south. The southern pine forest, as it stands to-day, is mature throughout and ready for the axe.—*The Nation*.

THE MURRAY CANAL.

The Ottawa correspondent of the *Toronto Globe*, under date Jan. 26th, says:—Mr. John White, M. P., for East Hastings, went west to-night. His visit to the city was in connection with certain alterations which he is anxious to have made in the contract for the Murray canal. He had an interview with the Minister of Railways to-day, and recommended that instead of allowing the Prince Edward Railway Company's bridge to swing from an abutment in the middle of the canal the bridge shall be constructed in two sections swinging from each shore. The bank of the canal is also to be faced with stone, commencing eight feet from the bottom to a height of eight feet. Sir Charles Tupper agreed to adopt Mr. White's suggestions, and has sent for Mr. Rubidge, Chief Engineer of the work, to explain the required changes in the specification. The removal of the abutment from the centre of the canal is to admit of timber cribs from the upper lakes being floated through, thus avoiding the dangerous navigation of the Prince Edward coast. Mr. White states that all reports of difficulties in the way of constructing the canal by the Presqu'ile route are wholly unfounded. No rock or quicksands have been encountered, and the contractors are well satisfied with the character of the undertaking. The lowest depth of water will be eleven feet, and the average from twelve to sixteen feet. The estimated cost of the entire six miles of canal is \$300,000. The canal will be free, as there are no locks. A vote of \$200,000 to continue the work will be asked for at the coming session.

DESTRUCTION OF FORESTS.

The question of admitting Canadian lumber into the United States is creating not a little discussion at Washington just now. The *New York Sun* regrets that some of the representatives of Michigan are much excited at the proposal to admit Canadian lumber free of duty, by way of preserving a little longer the pine forests of that state. Our contemporary then goes on to observe that the speedy destruction of the forests of Michigan will prove a calamity of which its present members of Congress ap-

pear to have no adequate conception. These forests can never be reproduced, and it is the part of wisdom to preserve them. By judiciously and gradually thinning them out, they may be made to last for ages, and yet furnish as much lumber as is necessary for the use of the people. On the other hand, by destroying them at once a few lumber speculators may get rich, but the state will be permanently impoverished. These words apply to Canada just as strongly as to the States, and are worthy of the careful attention of our legislators. At the same time it is the part of wisdom to make the forests productive of revenue by judicious sales, so that large private interests may unite with the government in preventing those periodical fires which have devastated so much valuable timber land. Proper regulations for the thinning out of the forests and for prevention of fires are what are most urgently required.—*Ottawa Free Press*.

MIDLAND, ONT.

The *Free Press* says:—The correct estimate of Dollar's mill has been made with very satisfactory results. From the 20th of May, the time the mill started, until the day it shut down, December 29th, the average output was 30,569 feet of lumber per day. If there is another single circular mill on these waters that has done work anything like this, let us hear from it. Mr. George Ross, foreman, has commenced to repair the mill, and every thing will be in first class order to commence next season's work. Chew Bros. are delivering at their mill a very fine sample of logs, to be manufactured into lumber as soon as spring opens. They expect to make an early start at their mill next spring. They are getting a large quantity of logs in a convenient position so that they can begin as soon as the ice breaks up.

Red River Timber.

We find the following account of the timber of the Red River Valley in the Emerson *International's* description of that region:—Fifteen miles east of the Fox River at Emerson the line of continuous forest is reached—woods of almost impenetrable thickness, comprising all the varieties of the Lake Superior region. West of the Red River to the Pembina Mountain the various streams which drain this region sustain a fine growth of oak, poplar, elm, cotton-wood and the ash-leaved maple, Southern Manitoba being much more heavily timbered than the central or northern portion. Timber culture on the prairie is already carried on to a considerable extent, and in a few years quite a large quantity will be raised on "Tree Claims."

Drought in New England.

A serious drought has prevailed in New England since midsummer, with the exception of one storm in September. The consequence is that the streams and lakes are dried up, and hundreds of mills and manufacturing establishments are deprived of power to run. The effect of the drought was felt all the fall by the saw-mill interest, especially in New Hampshire and Maine, and, to some extent, in Vermont and northern New York. On account of the frequent recurrence of drought in northern New England, steam is being largely substituted for water power.—*Northwestern Lumberman*.

Why Called Pig Iron.

When iron is melted it runs off into a channel called a sow, the lateral branches of which are called pigs; here the iron cools, and is called pig iron. This is mere play upon the word sow. Now sow has nothing whatever to do with swine, but is taken from the Saxon *saran*, to scatter, German *sausen*, to rush; and ought to be written *sous* (sows), a word in use still in the expression, "He soused upon him," i. e., swooped or rushed. Having sows or sow for the parent channel, it required no great effort of wit to make the lateral grooves the little pig.

A CHARTER is to be applied for on behalf of the New Glasgow Lumber company, with headquarters at New Glasgow, Que., capital stock to be \$50,000 in shares of \$100. Joseph Clark son, Robert Clarkson, John Creford, T. J. Claxton and F. J. Claxton, are to be the first directors.

Lumber Drivers' Calks

For Use in Stream Driving to insure a safe footing in Slippery Places.

25 in ball and 5 in heel are the numbers usually required.

20 PRIORS for the six different sizes and for Calk Sets and Punches for adjusting Calks, on application to

T. McAVITY & SONS,

Dealers in Lumber and Mill Supplies,
ST. JOHN'S, N. B.

JUDGE LAIRD, of Prince Arthur's Landing, being in Toronto, informed a *Globe* reporter that a heavy shipping and lumber trade is looked for at Prince Arthur's during the coming summer. In alluding to this Judge Laird remarked that "owing to its geographical position Prince Arthur's for at least seven months in the year is the commercial fulcrum upon which will swing the chief interchanging trade of the Dominion. Of necessity it becomes the great entrepot for the wares of the Eastern Provinces passing westward, and for the produce of the vast western country seeking outlet to the eastward."

Wanted.
A PARTNER that understands the SAW MILLING BUSINESS, with capital. For information address JAMES B. DICKSON, Pembroke, Ont. 2126

FOR SALE!
The MURRAY BAY LIMITS
COMPRISING ABOUT
330 SQUARE MILES.
These limits control the whole territory on the Murray River. The limits are very valuable, heavily timbered with Spruce and Pine, interspersed with valuable hard woods, Poplar and White Birch. Apply to

D. C. THOMSON,
QUEBEC.
413

FOR SALE.
ONE ROTARY
SAW CARRIAGE,
Saw and Saw-Sash Complete.
APPLY TO
THOMAS LAMONT,
DOUGLASTOWN, N. B.
212

MINNESOTA PINE LANDS FOR SALE.
THE SUBSCRIBER OFFERS A TRACT OF
8,000 ACRES
OF PINE LANDS, in St. Louis County, Minnesota, carefully selected and estimated to cut 400,000,000 FEET, well located on great driving stream, tributary to Duluth.
A McOALL,
Lumber Merchant, Sibley, Ont. 611

320 ACRES FREE
IN THE
Devil's Lake, Turtle Mountain
And Mouse River Country,
NORTH DAKOTA,
Tributary to the United States Land Office at
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Granted according to Act of Parliament and Registered in England, Germany, Canada and the United States.
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It having come to the knowledge of Messrs. Thomas Jowitt & Sons, of Scotia Works, Sheffield, in the County of York, Merchants and Manufacturers, that several manufacturers and merchants in Sheffield and in various parts of the Dominion of Canada, are pirating the above mentioned marks of and "Beam Engine," which are the exclusive property of the said Thomas Jowitt & Sons, and which trade marks have been duly registered in the Trade Marks Registry of London, and the latter of which has been duly granted to Albert Alsop Jowitt, of the said firm of Thomas Jowitt & Sons, by the Cutlers Company of Sheffield, aforesaid, NOW NOTICE IS HEREBY GIVEN, that legal proceedings will be immediately instituted against anyone trading in Goods of Steel or of Steel and Iron combined, whether with or without a cutting edge, which Goods bear either of the above marks, unless such Goods are of the manufacture of THOMAS JOWITT & SONS.
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ROADSIDE TREES.

We take the following from the report of the Fruit Growers' Association of Ontario:—

The next topic was "What are the best trees for country roadside planting?"

Mr. BRADLE.—I would suggest that one of the prattiest trees for roadside planting is the rock elm. Of course the roads must not be too narrow where those trees are planted, or the trees be planted too thickly, because they will shade quite a space. I would also mention besides that our own white ash. If the trees should happen to be planted too thickly, so that it will be necessary to take some of them out, the wood will be worth all that the trees have cost.

Mr. BUCKE.—I would suggest the black walnut, providing it is planted in great number, so that the boys should not break them all down to get the nuts; also the maple. In fact, excepting the soft wood trees, I do not know of a tree that would not be suitable for a roadside tree.

Mr. HONSBARGER.—I like for a country roadside tree the Norway spruce, and then between them, at a nice distance for a walk, plant the soft maple.

Mr. BUCKE.—I think the Norway spruce would be apt to make drifts in the winter time, if there should be much snow.

Mr. HONSBARGER.—A portion would naturally think so, but I can say that I am very fortunately disappointed in that myself. I have planted them by the roadside, both running north and south, and running east and west, and they are not liable to cause the snow to drift.

Mr. DRURY.—We plant maples in our part, on account of their assuming such a beautiful shape in a few years. We also plant the spruce and the white pine.

Mr. BUCKE.—The great trouble in planting roadside trees is the cattle. Until we can get some law passed to prevent cattle running at large, it is difficult to prevent the cattle rubbing them down. I look upon the subject of tree planting as depending entirely on the cattle question.

Mr. DEMPSEY.—I fully endorse what the secretary says respecting the elm. In some of the Eastern States they use the elm, and they are certainly all that we need desire for a roadside tree. I have seen the white bark birch planted on the roadsides. It certainly is a very pretty tree—attains a very graceful and beautiful form, and I think it is much prettier than the maple, particularly the hard maple. The soft maple makes a rapid growth, and it is a very pretty tree for the roadside. Where the black walnut grows alone it appears to attain too much of a spreading habit. I presume it could be trimmed up. Speaking of the elm again, I believe that on the front of Sydney, in the county of Hastings, they have one shade tree in a distance of about twelve miles. They deserve thanks for leaving that. That elm spreads farther than the width of the room, and I have driven under it frequently when I have been out on that road in the summer—it is a very hot road—and I have enjoyed a rest there very much. And I presume my horse has enjoyed it more than I have. Any one who has ever stopped to rest in the shade of a tree like that can certainly appreciate the value of the elm.

Mr. DRURY.—There is no doubt that in the absence of a stock law in this country the planting of trees on the roadside will be very rare indeed. As a matter of fact, if one municipality takes a stand against cattle running at large, the adjoining municipality may not take the same view of it. And in that way the measure of the first municipality may be rendered abortive. In our part of the country we have a few very nice drives, that have been made by a little care in the clearing up, by parties taking the trouble to throw the brush back and leave the trees in a line. Speaking of the country as a whole, it is almost impossible to say what tree is the best for roadside planting. I think we must first have a stock law, and then I believe there will be a desire on the part of municipalities, as well as on the part of individuals, to beautify our roads by planting trees.

Mr. PAGE.—I prefer for the roadside either elm or maple; but, as has been said by former

speakers, it is useless to talk about planting shade trees on the roadside while the cattle are running at large.

Mr. GOTT.—There are three or four kinds of maple that are very valuable. The only objection to planting it is that the roots spread so far in the soil. But it is a very beautiful tree. Our basswood tree for roadside planting is not only ornamented but useful. The chestnut tree would also make a very beautiful shade tree. It is both useful and ornamental likewise. So also is the hickory. The Lombardy poplar and the ironwood tree are beautiful trees for our roadsides.

MIRAMICHI TRADE.

Mr. J. B. Snowball's Miramichi wood trade circular for the year 1882, is as follows:—

CHATHAM, MIRAMICHI, January 2nd 1883.
The cost of logs during the past season was about an average, and all were brought to market, but the brook driving was slow and expensive, so that the stocks stood in the market at a high first cost, and prices were stiffly maintained by holders during the season.

The fluctuations and unexpected advance in the freight market were important features of the season's business. Early charters of sailing vessels were made at 61s. 3d., but at the opening of navigation steam tonnage offered freely and accepted rates as low as 52s. 6d. This had the effect of inducing the better class of sailing vessels to go on long voyages, making fall tonnage scarce. Rates began to advance rapidly in August, and 82s. 6d. was reached before the close of the season.

Although the price of deals in the English markets fluctuated during the year from £7 to £8 12s. 6d., still prices on this side were steadily maintained, and neither deals nor logs at any time, sympathized with any of the changes, showing that producers not only had confidence in the market, but that their stocks, having cost prices equal to the highest quotations, they would hold over rather than make any concession in price.

The export business not only of this port, but of the Province, is gradually concentrating into fewer hands, which, to some extent, accounts for the steady price of New Brunswick goods.

Seeing that the Nova Scotia exports, although small, play an important part in the fluctuations of the British markets, I have procured a return of them for this issue. Though, perhaps, not fully complete, it shows approximately the export of that Province. There are many creeks in Nova Scotia from which a cargo or two are shipped, but these places being outports the shipments are credited to the nearest port of entry, and, in some cases, these ports are on the opposite side of the Province from that where the entries would indicate that the shipments were made.

The stocks wintered will aggregate, in round and sawn woods, 35 millions sup. ft. against 33 million last year, 16 millions in 1880 and 70 millions in 1879.

The shipments for the past five years were as follows:—

1877—160	Millions superficial feet.
1878—106	" "
1879—114	" "
1880—155	" "
1881—123	" "
1882—117	" "

NORTHWESTERN LUMBERING.

The Selkirk Herald says:—Mr. E. F. Rutherford, of the firm of Drake & Rutherford, of this town, came in on Saturday last from his firm's timber limit on Fisher River. He and one of his men travelled in company, and they had Indians, with dog-team, to carry their luggage. They walked all the way, a distance of 120 miles, the thermometer one night registering 40° below zero. They had to camp out one night, and passed the time very uncomfortably. They kept up a huge fire, which, however, scorched their faces while their backs felt the frost keenly. Mr. Rutherford was four days on the road, and he will not forget his experience for some time.

The firm of Drake & Rutherford have a claim at Fisher River forty miles in extent, and on it they have a double circular saw mill. They intend hauling sufficient logs this winter to supply 4,000,000 feet of lumber. They have seventy

men at work in their camp and as their haul is a short one they expect to make very good progress. It will take five years at least to take all the lumber off the claim. The principal timber is tamarac and spruce of good quality. Mr. Rutherford states that all their lumber will be transhipped at Selkirk, and he hopes that the Selkirk branch of the C. P. R. will be completed in time for the opening of navigation next spring. He thinks that very little lumber, if any, will be taken up to Winnipeg by boat once the Selkirk railway is open.

Mr. Rutherford has gone to Stonewall, and will on his return from that place go to visit friends at Millbank, Ontario. He will return in March.

MAINE TAMARAC.

A correspondent from Bangor, Me., writes as follows to the *Northwestern Lumberman*:—Tamarac, more commonly known here as hackmatack or juniper, grows on wet land, mixed with other woods, cedar mostly. On some tracts second-growth juniper is about all there is. On such tracts quite an extensive business is done in cutting ship knees, the largest not being dug out to form the short arm of the knee. The body of the tree has little value for timber, as it is "churn-butted." The growth of such timber is rapid, the grains measuring from one-eighth to three-eighths of an inch. Some of the second growth is very thick and the trees tall, with few limbs, and of little value except for wood when near a market. The old growth is much more scarce, and the stumpage as valuable as our best pine. It is used for ship frames, the patterns being taken into the woods and the frame shaped by hewing—"moulding a frame," it is termed. It brings from \$2 to \$3 per ton stumpage (40 cubic feet), and is worth from \$16 to \$20 per ton at the ship yard. This old growth is seldom found in large quantities, like spruce or pine, but scattered with other kinds. On remote lands the logs are sided, driven to the boom and moulded at the yards. The timber is about as heavy birch, and considerable of it would sink if not sided. The largest stick I ever saw scaled 3,500 feet, but it would be a fine lot that would average 200 feet. For strength, solidity, durability and "slivering" it is about equal to the best hard pine. It is used to quite an extent for railroad sleepers. It is not as durable but holds a spike better than cedar, and is much used on curves and switches. I have never known of its being used for shingles, nor of the bark being put to any use.

There are from 20 to 30 inches of snow in the woods on our waters, with perfect weather for logging.

MONTREAL NOTES.

The *Montreal Gazette* of Jan. 16, says:—There is already an inquiry in this market for spring shipments of pine for the American markets, several buyers from New York and Albany having recently been in this city for the purpose of anticipating their future requirements. There is also an American demand for ash for immediate delivery at full prices. Stocks here are generally well assorted, a fair local consumptive demand is reported, and dealers look forward to the spring trade with a good deal of confidence. One of our leading dealers, who has recently returned from New York, says that notwithstanding the anticipated large supply of logs this season, it is expected the United States markets will need all of it. Private advices from Ottawa state that Americans are looking after their spring supplies of lumber in that market also.

THE REASON OF IT.

The *Lumberman* of Dec. 23, made mention of a badly acting tramway at Elmhurst, Wis. Mr. E. P. Cowles, of that place, wishing it to be known why the road has not been a complete success, writes as follows:—The road was built for the purpose of running lumber out to Elmhurst in the fall, and logs back to the mill in the spring, with the intention of suspending operations in the winter. Owing to a delay of two months in getting the engine out, it was not on the ground until November, when it was found that the track was unfit for use. Through lack of experience and judgment on the part of the builders, it was laid with no adequate foundation. The rails were not pinned or secured in

any manner. Stumps and obstructions were left inside the track which interfered with and broke the machinery. Six weeks were consumed in repairing the track in a hasty and imperfect manner which brought the starting up in the bad weather of December with no preparations whatever for running in winter, and the track in no condition to work at this season of the year. When lumbermen learn to build pole roads with the same care and in the thorough manner that other roads are built, and pay proper attention to laying out and grading, they will be found to be thoroughly efficient and serviceable. —*Northwestern Lumberman*.

REPAIR THE RUIN.

The necessities of their situation have aroused the people of some of our western states to action. In Kansas, Nebraska and other states liberal premiums have been offered for the encouragement of tree planting, and already in many portions of the prairie region a perceptible change has taken place, and the eye no longer wanders over great spaces without sight of shrub or tree. Minnesota has her Forestry Association, and its secretary reports that between seven and ten millions of trees were planted in that state during the years 1877, of which more than half a million were planted in a single day, "Arbor Day," as it was called, or tree-planting day, the first day of May having been fixed as the day, and every owner of land invited to devote the day especially to the planting of trees. Efforts have been made in other states which are similarly situated in respect to a supply of forest trees. The great railway companies, whose roads stretch across the treeless prairies, have become in some instances large planters of trees, feeling the need of them, both as screens from the Rocky Mountains and as a source of supply for the ties which are constantly needing renewal. —*Lumberman's Gazette*.

The Oak and the Orange.

From an acorn weighing a few grains a tree will grow for 100 years or more, not only throwing off many pounds of leaves every year, but itself weighing many tons. If an orange twig is put in a large box of earth, and that earth is weighed when the twig becomes a tree, bearing luscious fruit, there will be nearly the same amount of earth. From careful experiments made by different scientific men, it is ascertained that a large part of the growth of a tree is derived from the sun, from the air and from the water, and a very little from the earth; and notably all vegetation becomes sickly unless it is freely exposed to sunshine. Wood and coal are but condensed sunshine, which contain three important elements, equally essential in both vegetation and animal life—magnesia, lime and iron. It is the iron in the blood which gives them the durability necessary to bodily vigor, while the magnesia is important to all the tissues. Thus it is that the more persons are out of doors the more healthy and vigorous they are, and the longer they will live. Every human being should have an hour or two of it, and in the early forenoon in summer.

Letter from Member of Congress.
HOUSE OF REPRESENTATIVES,
Washington, D.C., Feb. 19, '82.

GENTLEMEN,—Inclosed find \$1, and will you send me some of N. H. Down's Vegetable Balsamic Elixir by express. I have a bad cold, as has almost every one else here, but cannot find the Elixir, which I used frequently at home and consider a most valuable medicine; in fact, the very best remedy for a cold that I ever used. Very truly yours, WILLIAM W. GROUT.

LITTLE BY LITTLE.—The constant dropping of water will wear away even the hardest stone. So the constant irritation of a cough will so wear upon the lungs as to induce incurable Consumption. Haggard's Pectoral Balsam will cure the worst cough, speedily and effectually.

WALTER LINTON, of Waterloo, writes that Haggard's Yellow Oil has done great good in his family, his wife being cured of Callous lumps that other medicines failed to remove, he also states that a neighbor was promptly relieved of Rheumatism by the same remedy.

WORTH KNOWING.—A Fact Worth Knowing. The best household remedy known for Coughs, Colds, Bronchitis, Asthma, Whooping Cough and all throat and chest troubles tending toward Pulmonary Consumption is Haggard's Pectoral Balsam, to be procured of any druggist.

JOINERY FOR ENGLAND.

The London *Timber Trades Journal* says:—With respect to the trade in joinery that has been referred to, in these columns as likely to be conducted on an extensive scale between this country and America, we observe in the pages of one of the leading lumber journals of the United States only a passing notice is given to the subject, no particulars are mentioned, and the paper in question refers to it more in the light of intelligence emanating from our side than as something with which they were immediately concerned. We may, therefore, safely assume that, whatever shape this new competition takes, it will be conducted on a very small scale; otherwise the trade journals of the United States would certainly have given us some information about it. For some years past what are termed "Yankee notions" have been arriving in steamers from New York, but the joinery they bring is of such little account in the timber trade that the prices of the articles so exported are not quoted even in their own journals. These nick-nacks are probably shipped intermittently on venture at a reduced rate of freight as broken stowage, and form no particular branch of the wood trade; certainly not of sufficient importance to cause our Swedish friends any uneasiness, or to rouse the joinery trade up in self-defence.

Liverpool Prices.

The London *Timber Trades Journal* says:—Anent the wood trade of Liverpool—judging of affairs from this distance, and from various reports which have from time to time reached us, and from other circumstances—we should say that in the one item of spruce deals the business is generally done at too fine a rate of profit to pay. Referring to the commercial habits of the Hollanders, a statesman—we believe it was the late Lord Palmerston—once remarked that:—"In matters of commerce the fault of the Dutch was in giving too little and asking too much." It might be well, if without earning a similar reputation, our Liverpool friends could combine to secure at least a fair working profit, and one sufficiently large to cover the attendant risks of business. We believe that we are correct and fully justified in saying that at no other port in the country is the wood trade done at such a narrow margin of profit as at Liverpool.

The Dismal Swamp.

A recent visitor to the Dismal Swamp in Virginia found it much reduced in extent compared to what it was twenty years ago. It now contains some of the best farming land in the state. A railway runs across it, and it is on its way to final extinction. The drainage of the Lake Drummond, a central body of water lying higher than the average level of the swamp, would make the whole area fertile. This is a project of Gov. Benjamin F. Butler, who once had surveys made, but at length abandoned it. The great industry of the swamp is lumbering. It is penetrated by small ditches in connection with larger canals, and by rude roads, over which the logs are hauled to be sawed into shingles, railway ties and fencing. The lake itself, however, with its almost impenetrable fringe of cypress and its projecting roots and broken stumps, is quite as dismal as ever.—*American Lumberman.*

Quality of Pine Deals.

The London *Timber Trades Journal* says:—In respect to Quebec pine deals we are continually hearing something of superior 3rd quality. We are not aware whether these deals are a shipper's brack or an importer's manufacture, but the circumstance appears to open out the important consideration as to whether there does not exist too great a margin in cost between ordinary 3rd and 2nd quality pine deals. Unusually this margin approaches in extent to £1 10s. or £5 per standard, and it might well seem that an intermediate quality is desirable, and would meet with a ready market.

A HORSE disease is causing some excitement in the lumber camps of west Michigan. It is peculiar and unusually fatal, and seems to be contagious. In one camp over a dozen horses have died.

Chips.

AN unusually large number of spruce logs are being taken out in the eastern townships this winter.

The *Monetary Times* says:—Hemlock bark is worth from \$6 to \$7 per cord in the eastern townships, and the demand for it is brisk.

PHILIP RITZ has a tree planting contract with the Northern Pacific railway Company, and has been setting out along the line soft and hard maple, locust, walnut, box elder, peach, cherry, and apple.

M. P. GODFREY, manufactured last year at Alpena, 600,000 bed slats from mill refuse. A slick job. He has a contract for 1,000,000 next year. Why can't some of our mill men utilize their refuse in this manner?

THE *Northwestern Lumberman* says:—It is estimated that fully 100,000,000 feet of logs are already cut on the upper waters of the Monongineo district. The Kirby-Carpenter company has already 20,000,000 banked.

THE *Monetary Times* says:—The pulp mills of the Three Rivers Paper Company, at Mad dington Falls, with a capacity of five tons a day, are now in operation. It is intended to ship largely to the States, though a portion of the product will be utilized by the Portneuf mills.

THE *Emerson International* says:—Mr. S. R. Sutherland and other prominent gentlemen interested in the lumber trade, were the purchasers of the twenty-five million feet of lumber from the Rainy Lake Lumber Company. The lumber will be manufactured at the mills at Rat Portage and Fort Frances.

THE *Timber Trades Journal* of Dec. 30, says: The Liverpool market, some time ago exceedingly bare of the great selling commodity, spruce deals, now seems to be somewhat glutted. Orders from the interior have been scarce, and as a result prices have weakened and display no present tendency to recover their former position.

DURING the progress of some alterations in an old house in London, England, the paint was burnt off the panels of one of the room doors, when it was discovered that the woodwork was of excellent mahogany. Further examination showed that nearly all the painted woodwork in the house was mahogany. The house was built in the reign of Queen Anne.

THE making of wine casks appears to be an important industry at Bordeaux. We learn that there are over seven hundred cooper shops independently of those established at the large vineyards. Of these 140 are at Bordeaux, and 600 in other towns in the department. There are manufactured annually nearly a million and a quarter of casks, of the total estimated value of £700,000.

AN Ottawa correspondent writing on Jan. 15, says:—Last evening a number of shanty teamsters arrived in the city from the Upper Ottawa. They were employed in the shanties of Captain Young on the Potawawa. They said the reason of their return was owing to the poor ice on the rivers and streams in that local ity. They said that 14 teams in the employ of Sherman, Lord & Hurdman were drowned on Monday last.

The Napawee Mills Paper Company are preparing for the erection of a pulp mill for the manufacture of wood pulp for the express use of their extensive paper mills at Napawee, and that negotiations to secure site, etc., in Fenelon Falls are pretty well advanced. They will consume in the new manufacture, large quantities of poplar, basswood, white pine and other soft wood which have hitherto possessed little or no commercial value.

THE *Ottawa Citizen* says:—The rumor is again revived that the Canadian Pacific Railway contemplate putting a 400 foot addition to their lumber docks at Brockville, extending it up the river for that distance, and then so arranging their tracks as to unload direct from the cars to barges or vessels. There can be no doubt that such an improvement would meet with the heartiest approval from shippers and vessel men, as it would obviate much of the trouble which now exists. It would also form quite a large and safe harbor for shipping.

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 bond 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.

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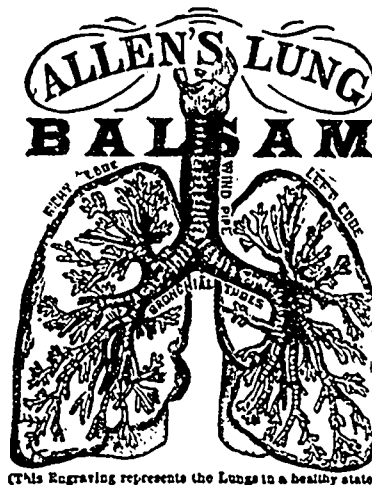
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(This Engraving represents the Lungs in a healthy state.)

PERRY DAVIS' VEGETABLE PAIN KILLER.

This celebrated Medicine is recommended by Physicians, Ministers, Missionaries, Managers of Factories, Workshops, Plantations, Nurses in Hospitals,—in short, everybody, everywhere who has ever given it a trial.

TAKEN INTERNALLY, it cures Dysentery, Cholera, Diarrhoea, Cramp and Pain in the Stomach, Bowel Complaint, Painter's Colic, Liver Complaint, Dyspepsia or Indigestion, Sudden Colds, Sore Throat, Coughs, &c. Used externally, it cures Boils, Felons, Bruises, Cuts, Burns, Scalds, Old Sores and Sprains, Swellings of the Joints, Toothache, Pain in the Face, Neuralgia and Rheumatism, Chapped Hands, Frost-bitten Feet, &c.

The PAIN-KILLER is sold by medicine dealers throughout the world, Price 20c., 25c., and 50c. per bottle.

**Perry Davis & Son & Lawrence,
SOLE AGENTS,
MONTREAL.**

Market Reports.

TORONTO.

From Our Own Correspondent.

JAN. 24.—The extremely cold weather of the past week has again put a stop to all building operations, and as a natural consequence the yards are all quiet. Dealers are patiently waiting for more open weather and a consequent resumption of business. But, although retailers are thus compulsorily idle, it is not so to the same extent with the wholesale dealers. Stocks are rapidly changing hands and by the opening of the spring all stocks of any magnitude manufactured to the north of this city will be concentrated in the hands of three or four prominent dealers here. The names of those likely to control the market here during the coming summer are as follows:—Messrs. Christie, Kerr & Co., S. & F. N. Tennant, S. C. Kanady & Co., and Donogh & Oliver. The stocks remaining outside of these parties' hands (except such as seek their way by way of Chicago) will be quite trifling in comparison with the probable total cut to the north of this place. Of course there are many smaller mill stocks yet to be disposed of, and it is highly probable that a large portion of such will fall into the hands of the firms above mentioned. Prices at the yards remain firm at last quotations.

QUOTATIONS, FROM YARDS.

Table listing lumber prices for various types like Mill cull boards, Shipping cull boards, and various sizes of cants and joists.

D. M.

Table listing prices for different types of flooring, such as 1 1/2-inch flooring, 1-inch flooring, etc.

MONTREAL.

From Our Own Correspondent.

JAN. 25.—Business has been moderately active and there has been a fair retail trade done during the past two weeks for the season of the year. A number of American dealers have been here and also in Ottawa, making enquiries about lumber and we understand a good many transactions have taken place in the latter district. The demand for the United States promises to be good this year. The opening prices in Ottawa are just about the same as last year, but they are stiff in one or two grades. We cannot make any change in our list. Prices are steady and maintain their strength as follows:—

Table listing lumber prices for various types like Pine, 1st quality, Pine, 2nd, etc.

LIVERPOOL MARKETS.

A. Dobell & Co., of Liverpool, quote the market as quiet at the end of 1882, but this is usually the case at the end of the season. Stocks with the exception of pitch pine are not excessive. There have been sales by private bargain of spruce deals as follows. Several cargoes of St. John, N. B., at £7 10s. and £7 10s., Halifax at £7 5s., and by auction of St. John, N. B., at £7 7s. 6d. The quotations there are as under:—Quebec square white pine 1s. 7d., to 2s. 5d., Quebec waney board pine 2s. 3d., to 2s.

8d., Quebec red pine 1s. 3d. to 1s. 8d., Quebec oak first quality 2s. 10d. to 3s. 2d.; ditto 2nd quality 2s. 6d. to 2s. 9d. per cubic foot.

CORDWOOD.

During this cold weather cordwood has been moving off very fairly, a pretty large quantity arrived about 10 days ago, since then there have been few importations. The dry wood cut last winter is now being got out of the bush and a good supply is looked for a little further on in the season, meantime prices are well maintained, but unchanged in figures. We quote ex cartage at the depot:—

Table listing prices for different types of cordwood like Long Maple, Short, Long Birch, etc.

OTTAWA.

From Our Own Correspondent.

JANUARY 10.—Lumbermen of the Ottawa Valley cannot help but feel grateful to Providence for the propitious weather for the manufacture of our greatest natural resource which exists this season. There has been a sufficiency of snow on the limits from early fall, and good roads have consequently been made. A great many shanties, far more than previous years, are operating on the Upper Ottawa, and an enormous quantity of logs and square timber will likely be taken out this season. The rush of men and teams to the woods is about over, and the demand now is small. Sherman, Hurdman & Lord send up a large number of teams to-morrow, and Allen Grant has already despatched the amount he requires. The other firms have all about finished sending up labor, and the shanties are now working to their utmost capacity.

IMPROVEMENTS.

A large force of men left a few days ago by the C. P. R. for Black River. They were sent by Government to repair the timber slides at that the place. Extensive improvements will be effected during the winter.

EDDY'S MILLS.

Great rapidity is being made in the reconstruction of Eddy's mills in Hull. The work is carried at night as well as day, by the use of the electric light, as many as twelve lamps being burning nightly. A large number of machinists are employed making the necessary shafting. The nail and tub factory are in operation.

NEW MILL.

R. A. Campbell & Co. are building a new steam saw mill at Lacluth, the dimensions being 56x112 feet. The sawing capacity will be about 25,000,000 feet in the season. Inglis & Hunter, of Toronto, are putting in the boilers and engine, and Messrs. Stuart & Flock, this city, supply the remainder of the machinery. It will be completed by May next.

LIMIT SALE.

Richard Nagle has disposed of one of his timber limits of 150 miles, on Black River, to Mr. Alex. Fraser, for \$158,000.

LATER.

JAN. 25.—A larger force of men than usual are at present employed repairing the different Chaudiere mills. The improvements being effected are more extensive and numerous than in past years. Messrs. Brunson & Weston are having a complete new flume built in connection with their large mill on the Victoria Island. Messrs. Parley & Pattie, and J. R. Booth are renewing their yard platforms, and besides making other necessary improvements. E. B. Eddy has begun erecting his new saw mill on the site of the one which was destroyed by fire, laborers are employed night and day. Up to the present the nail factory is completed, and the new sand stone planing mill is in operation.

The works will be more extensive than before the late disastrous conflagration. The mill owners are taking extra precautions against fire. Messrs. Ahearn & Soper, electricians, of this city, are placing thermostats in a few of the mills.

A great quantity of timber is being taken out of the limits this winter. The weather has been very favourable, but bad ice in many places has caused numerous difficulties. Quite a large number of horses have been drowned. A few

weeks since reports were freely circulated of the existence, to an almost alarming extent, of small-pox among the shantymen. It has been, however, ascertained that no ground whatever existed for the rumor. The disease has been no more prevalent this season than in other years. Messrs. Fraser & Leroy who purchased Mr. K. Nagle's limits on the Nipissing, have already three shanties in operation. Next season will be a booming one in the saw mills here.

OSWEGO, N. Y.

From Our Own Correspondent.

Trade this week has been brisk; country dealers having pretty well sold out are buying freely, and report a good healthy trade throughout the country. Sleighing has been good; farmers and others find a ready market for produce of all kinds, and this stimulates the lumber trade; collections are easily made; prospects for more than an average business through the winter are good.

Table listing prices for various types of lumber like Three uppers, Pickings, Fine common, etc.

ALBANY.

Quotations at the yards are as follows:—

Table listing prices for various types of lumber like Pine, clear, Pine, fourths, etc.

CHICAGO.

The Northwestern Lumberman of Jan. 20, says:—The lumber business of the United States and Canada is taking its annual rest. The difference between the condition last January and the one now passing is that now the dormant stage is a little more pronounced than it was last winter. Every well-informed lumberman knows the reason. A degree of over-production and a shrinkage of values are having their effect. At the same time there is a prevalent feeling, or, perhaps better said, a hope, that next season's trade will be good. All agree that there is no reason why consumption should not be enormous, as the lower range of values sure to prevail will tend to encourage building operations and other uses of timber. For this reason preparations are being made for a heavy output. The supply will be more abundant than ever before, and the dealers are getting ready to handle largely, and take the chances of profit or loss. One thing they consider certain. Conditions for buying bulk lumber will be more favorable next year than they were last. As to selling, every smart handler thinks he is equal to that emergency, and each one thinks he is as smart as anybody else. The large surplus on hand is having its effect

on the trade. The general demoralization of price lists in the interior gives each holder of stocks a chance to do a little quiet work on his own account, and often he is doing it. Emisaries are on the road and burdening the mails, and it is safe to conclude that the offers made in these ways look brilliant and fascinating to retail dealers and contractors. Cutting of price lists is, no doubt, more lavishly done in the interior than at the east; but even in the more steady going sections of the country it would not require much persuasion to obtain concessions on considerable lots. The movement is, however, so light that wholesale holders do not get the opportunity to show how generous they would be.

Reports from Albany and New York are more spiritless than for months past. The cold and continuous winter weather has cut off consumption, and the export demand is less than it was a few weeks ago. Spruce is fighting a battle with yellow pine in New York and vicinity, preventing any improvement in values that might be seen on account of the cessation of receipts. At Albany dealers are waiting for customers.

Receipts and stock on hand of lumber and shingles, etc., for the week ending Jan. 18, as reported by the Lumberman's Exchange:—

Table showing receipts and stock on hand for Lumber and Shingles for 1883 and 1882.

BUFFALO.

We quote cargo lots:—

Table listing prices for cargo lots like Uppers, Common, Culls.

BOSTON.

Cotton Wool and Iron of Jan. 20, says:—As is usual at this early period of the new year, the general market is quiet, with a light demand. The same condition of affairs seems to prevail throughout the country. The outlook in this vicinity is for a good steady trade the coming season, probably equal to that of the past year. Although the market is now so dull, the general expectation is that prices will not be much lower when trade starts up. Eastern lumber is arriving here in a limited way, with prices more or less nominal. Western lumber is in limited receipt, and stocks generally seem to very well in hand. Considerable walnut, however, is yet held in first hands, with ash and cherry pretty well reduced. Western pine is quiet, with the demand only for present wants. Something primo is dull and rather in buyers' favor.

CANADA PINE.

Table listing prices for Canada Pine like Selects, Dressed, Shelving, etc.

TONAWANDA.

Table listing prices for cargo lots like Three uppers, Common, Culls.

BRISTOL.

The Timber Trades Journal of Jan. 6, says. Messrs. King Brothers January circular contains the following remarks:—The timber trade during the past month has been of the most unsatisfactory description, and what little demand existed previously appears to have been amply satisfied. We trust that with the new year a change for the better may take place. Quebec goods. Yellow pine timber of good quality is in fair demand. Birch, ash, and elm have been in fair demand at slightly increased prices. Walnut—No importations. Deals are not now inquired for, buyers having obtained

their stocks. Staves continue in request. New Brunswick goods.—Spruce deals are a trifle easier in price, yet the demand is but languid. Stocks are sufficient. Pine deals.—No arrivals. Birch remains quiet.

GLASGOW.

The *Timber Trades Journal* of Jan. 6, says: Business is at a stand this week, the public works being closed for the New Year holidays. Imports, which are very light, include a cargo of pitch pine at Greenock. The stock of this wood on hand is altogether about 21,000 loads. There was a slightly heavier stock last year. The activity in the shipbuilding trade gives promise of a large consumption. As regard stocks on hand of Quebec log timber, particulars of which will be shown in a future issue, they will show, taken altogether, a decrease compared with the total of a year ago to the extent of over 13,000 loads.

LIVERPOOL.

The *Timber Trades Journal* of Jan. 6, says: As customary during the holiday time there has been very little business done, nor is it likely that there will be any liveliness displayed until the mahogany sales announced to take place at the end of this week.

The ordinary quietude for which every one looks during this season has not yet been affected in any visible degree by the presence of those buyers who often come into the market immediately the year turns, although several have put in an appearance; but the effects of their purchases are not sufficiently marked to make them worthy of particular comment.

Speaking generally, the import has been upon a moderate scale, but that of spruce deals has been beyond the requirements of the market, and as the demand during the past month has been below the customary limit, stocks of this article have increased to an extent of about twenty-five per cent. over those of last year at this time.

Latest advices from St. John, N. B., however, point out that no ships are there under charter, and that shippers are unwilling to pay the rates demanded, owing to the low prices realized for spruce deals in this country; therefore vessels are leaving that port and proceeding further south in search of more profitable employment, one having left for Norfolk and one for New York, where better freights are being offered for grain.

LONDON.

The *Timber Trades Journal* of Jan. 6, says: Colonial goods are very moderately represented in the dock stocks, and although the import of 1881 was not by any means a heavy one, that of the past twelve months has been to London, at any rate, considerably less, and at no time last season have the dock stocks of Quebec goods been equal in quantity to those of the previous year.

Broad pine in good quality is quite a rarity at the public sales, and is scarce, we understand, in the market. Prices have not sympathized with the low stocks, though most of the pine stocks, we believe, are now held in first hand.

Spruce, also moderately represented in stock here, does not go off so briskly as was anticipated. The large stocks of other descriptions of whitewood with which it comes into competition no doubt hinder any advance in value, while the trade generally is not active enough to give any fresh stimulus to the demand.

We do not hear of any fresh business actually effected for the new year in the deal trade yet, though several offers have been received by the shippers; the prices, however, have in the most cases presented such a wide difference compared with their quotations that a refusal has been the result. In flooring boards, however, sales continue to be made, and the likelihood of the demand being well sustained is more than probable, the greatly reduced stock here operating favorably on the market.

WINNIPEG TRADE.

The *Northwestern Lumberman* says.—The demand for lumber here during the past season was good, and there was about 40,000,000 feet brought here, about one-half of which came from St. Paul and Duluth, and the other half

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divided between Ontario, Lake Winnipeg, and Lake of the Woods districts. There has been about 10,000,000 feet manufactured here at three mills, the logs for which were brought from Minnesota. The mills have each a capacity of 5,000,000 feet a season, but did not get to work until very late. Business is very quiet here now, as very little building can be carried on here on account of cold weather, although there are some buildings in progress. It is impossible at present to say what amount of building will be done the coming season, but our impression is that there will not be as much as there was last, which is put in round numbers at \$5,000,000. The winter operations on Lake Winnipeg are said to be about 50,000,000 feet, which is all spruce and tamarack. I have not heard any estimate made of the quantity of timber in that district. In the Lake of the Woods district there is said to be about the same quantity being got out. It is red and white pine, with some spruce and tamarack, but it is mostly of the former. The wages paid are about \$30 per month, and board. It is expected, now that the Thunder Bay branch of the Canada Pacific railroad is open, that a considerable quantity of timber will be brought from Georgian Bay by that route, but as the quantity being manufactured in the two sections I mention is so large, I do not think that there will be much brought in that way.

The Australian Trade.

Messrs. Gemmill, Tuckett & Co.'s last report received, and dated Melbourne, November 22nd, says:—The consumption of timber during the month has been fully up to the average, but the large importations from Oregon, Sweden, and Norway have had a depressing effect on the market, and prices are lower. American lumber.—Sales during the month light, but prices realized for the parcel ex St. Patrick show an advance, Michigan clear bringing \$18 to \$18 5/8, w. p. shelving, \$10 5/8; w. p. t. and g. ceiling, \$9 12s. 6d. per m. super. The trade hold light stocks, and prices will improve.

Northwest Lumbering.

From Mr. R. J. Short, who has the contract for supplying the C. P. R. with ties and lumber, the *Winnipeg Sun* learns the following facts regarding the operations at the Lake of the Woods. Mr. Short at present has 160 men and is constantly adding to the number. In gangs of 40 they operate in much the same manner as Ontario lumber gangs. Choppers get \$30 per month and board, and hewers \$50. Last year up to the 23rd December 125,000 ties were taken out besides a large number of telegraph poles. The ties are principally red and white pine and tamarac, which are much harder than similar woods growing in Ontario, and are said to be as durable as cedar. Of logs 5,000,000 feet have been dressed already, and they expect to have 10,000,000 before the season is over. The quantity of lumber in that part of the country, Mr. Short says, is nothing to boast of.

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FORESTRY.

We take the following from the report of the committee charged with the oversight of fruit and forest planting at the agricultural college, Guelph:—

FORESTRY.—The several clumps of black walnut, European larch, butternut, sugar maple, and of mixed trees, are doing fairly well, except that the group of larch from some cause did not succeed, probably owing to the dry character of the soil in which they were planted. There is, however, a sufficient number of young larches in the nursery plot to supply all the vacancies. It was found desirable to use the field in which the clump of ash had been planted as an experimental grain plot. On this account they have been taken up and will be set out in another field next spring. The experiment of growing black walnut with and without cultivation is already demonstrating the fact that the growth is much more satisfactory where clean cultivation with occasional stirring of the soil is practiced. The nursery plantations of young trees will supply a considerable portion of the trees required for the proposed enlargement of existing clumps, and by keeping up a constant succession of nursery plantings the required trees for foresting purposes can be always at hand in the best possible condition for transplanting.

THE ARBORETUM.—In attempting to extend the Arboretum the Committee found that it was absolutely necessary to re-arrange the front grounds, and to provide some definite and well arranged plan that harmonized with the grounds and buildings on which to base all future work. Hitherto no such plan had been prepared, hence it was impossible to proceed systematically with the extension of the Arboretum in a manner that would subserve the purposes of education and at the same time adorn the grounds and produce the proper landscape effect.

After some correspondence we were so fortunate as to secure the services of the most eminent landscape gardener in America, Mr. Charles H. Millor, of Fairmount Park, Philadelphia. He visited the college in April last, and examined the grounds thoroughly in company with yourself, the Committee and architect. He has now prepared and placed in our hands a most admirable plan of all that part of the grounds; this plan has been approved of by yourself, and when the planting and grading shall have been completed in accordance therewith, we believe that the college grounds around and in front of the buildings will be all that can be desired. Work has been already begun, and the grounds immediately in front of the main building laid out in conformity with the plan, and the requisite carriage ways to the recently erected residences of the Professor of Agriculture and of the Bursar provided. Already a great improvement in the appearance of the grounds is manifest, a pleasing foreshadowing of the results to be achieved when the whole work is once completed and time enough shall have elapsed to produce the growth necessary to give due effect to the whole. Ample space is now set apart for the planting of an extensive arboretum, which your Committee intend shall be grouped in such a manner as to be convenient for study by the young men and serve as illustrations in teaching, and at the same time these groups will be so placed as to give the best landscape effects.

THE SEED BEDS.—With a view to giving a supply of young trees for future planting, and to afford at the same time instruction in the raising of forest trees from seed, a number of beds were prepared and sown with tree seeds. As was to be expected some of these seeds failed to germinate the first season, and after lying dormant in the ground for a whole year, came up in the second spring. From these beds a goodly number of some varieties of trees and shrubs will be obtained. Some of the kinds sown have apparently failed altogether, thus affording lessons to the students from failure as well as success.

FUTURE OPERATIONS.—We have made arrangements with the Professor of Agriculture for a half acre block in the Experimental Field, which it is our intention to surround with a hedge formed from a variety of hedge plants, for the purpose of showing a sample of hedge formed from each. This will afford both students and visitors an opportunity of seeing the adaptability of each for hedging purposes. The

enclosed plot will be devoted to nursery beds for the growing of young trees taken from the seed beds or procured by purchase, until they have attained sufficient size to be removed to permanent situations. It is also intended to set out in the spring two or three additional clumps of forest trees, one of white ash, one of American elm, one of mixed evergreens, also to complete the group of European larch, and extend that of Sugar Maple.

In the orchard all vacancies will be filled up, and the acre of ground recently purchased planted out so as to complete that portion; and such other varieties added as may be desirable for the purpose of testing their adaptation to our climate. Some additions will also be made to the plantation of gooseberries, currants, raspberries, and strawberries, in order to furnish a sufficient supply of these fruits for the use of the college, a large part of which will be taken from the existing plantations, particularly of raspberry and strawberry. Some new varieties of these fruits and of grapes will also be set out in the spring together with a few mulberries, so that the work of testing these may keep pace with the progress of horticulture elsewhere.

In conclusion, your committee would say that such progress has been made in the department of fruit culture and forestry during the short time that has elapsed since you confided these to our direction as we trust will be satisfactory to you, both in the amount of work done and in the economical manner in which it has been accomplished. In a work of this kind great results cannot be achieved in a single season, yet, even now some fruit is being gathered, some improvements we think are to be seen, and these, we believe, will increase in progressive ratio as the years roll by until the results shall be seen in an abundant supply of fruits, of all kinds suited to the climate, sufficient to meet all the wants of the college, both for consumption and comparison; and groves of trees, and groups of specimens of every variety of tree and shrub shall give beauty to the landscape, and afford means of instruction in all that a well informed yeoman can wish to know of the character and uses of the forest productions of his native land. On behalf of the Committee, D. W. BEABLE, Secretary.

LIVERPOOL TRADE.

LIVERPOOL, Jan. 2.—James Smith & Co.'s circular contains the following:—There has been an increased import of white pine as compared with last year, but this has been less than the consumption, so that the stock of all kinds is still light, say 654,000 feet, against 770,000 cubic feet. Red pine is heavy in stock, and the consumption has been small. There have been no fresh arrivals. Ash is in good demand, and the stock is moderate. Elm has come forward freely, but the consumption continues good, so that the stock will be all required before the new import commences. Walnut is in fair request; the supplies have been somewhat heavy, still prices are firm. First-class large wood, via New York, has been sold at 6s. 4d. to 7s. 4d., averaging 6s. 9d. per cubic foot, and smaller wood at 5s. 6d. to 6s. per foot. Oak has gone into consumption on a reduced scale, and there is an ample stock. Sales have been made of several parcels at from 2s. 10d. to 3s. per cubic foot. Oak planks are in fair demand and prices are without change. Birch has been in good request, but prices have latterly given way, owing to the large arrivals. Halifax wood has been sold at 16 1/2d. per cubic foot, and maple at 13 1/2d. per foot. N. B. and N. S. spruce deals: The import has been excessive, namely, 11,100 standards against 4,255 standards, and there having been no corresponding increase in the consumption, the stock has become heavy, viz., 22,714 standards, against 16,633 standards at this time last year. At the date of our last issue prices were at about £7 15s. per standard for St. John deals, but by the middle of December the prices obtained at auction were £7 7s. 6d. per J. H. McLaren, from St. John; £7 7s. 2d. per Finn, from Musquash; £7 5s. 2d. per Hildocora, from Musquash; and £7 3s. 10d. per Tatay, from Parraboro; and a week later the Cargo per Guildfax, from Oak Bay, averaged at auction £7 5s. 3d. per standard. By private sales have been made from £7 6s. 3d. and £7 5s. for Halifax, and £7 11s. 3d. for Miramichi.

Pine deals have been sold at £13 15s. for first quality Miramichi, and £9 for second quality; the stock is moderate. Quebec pine deals are moderate in stock in spite of the increased import, as the consumption has been continued on a large scale. A parcel of broad deals, 11 in. and upwards, realized £25 15s. for 1sts, £18 for 2nds and £12 for 3rds. Quebec pipe and puncheon staves are rather dull of sale; the stock is not heavy. No sales have been reported. Falings have been sold at 65s. per mille for 4 1/2 feet. Laths and lathwood are without change.

Preservation of Railway Ties.

Some interesting data are published showing the relative value of different methods of injecting railroad ties. On the route from Hanover and Cologne to Minden, for example, the pine ties injected with chloride of zinc required a renewal of twenty-one per cent, after a lapse of twenty-one years; beech ties injected with cresote required a renewal of forty-six per cent after twenty-two years' wear; oak ties injected with chloride of zinc required renewal to the extent of about twenty-one per cent after seventeen years; while the same kind of ties not injected necessitated fully forty-nine per cent of renewals. The conditions in all these cases were very favorable for reliable tests, and the road bed was good, permitting of easy desiccation; the unrenewed ties showed, on cutting, that they were in a condition of perfect health. On another road, where the oak ties were not injected, as large a proportion as 74.48 per cent had to be renewed after twelve years; the same description of ties injected with chloride of zinc required only 3.29 per cent renewals after seven years, while similar ties injected with cresote involved, after six years, but 0.09 per cent.

A Vast Viaduct.

The great Linzua viaduct on the branch road of the New York, Lake Erie & Western line, near Alton, McKean county, Pa., is called the highest structure of its kind in the world. It is 2,052 feet in length, and is supported by 20 towers, each composed of four wrought-iron columns, with the requisite bracing. The roadway is laid on latticed girders of 61 feet span, and the cross-ties are eight inches apart. On each side of the rails are heavy, square timbers laid parallel with the track, which would hold an engine from going over into the abyss if it were to jump the track. A passageway on either side, laid with yellow pine and secured by a railing four feet high, enables pedestrians to pass over leisurely and view the scene from this great elevation. The bridge in the centre is 302 feet in height. About 4,000,000 pounds of iron were used in its construction, and the entire cost of the structure was nearly \$300,000.—*Northwestern Lumberman.*

Kentucky Opportunities.

The *Northwestern Lumberman* says:—A northern gentleman who had been through Kentucky, writes about the Cumberland mountain region as follows: The hills are over-spread with a splendid growth of basswood, poplar, beech, maple, oak, chestnut, Norway pine, cedar and hickory. These lands have never been opened, however, and the timber stands and rots. I was offered 100 acres of Norway pine, that would cut 10,000 feet to the acre, for \$100. Stumpage is worth almost nothing. Something is done manufacturing stove bolts for the numerous distilleries, and a few saw-mills, which think they do something wonderful when they saw 5,000 feet a day, are scattered through the hills. There is need here of northern enterprise and money, and the time is soon coming when there will be plenty of both. A dozen railroads are projected, and some are being built now which will carry to market this lumber.

Miramichi Notes.

The St. John, N. B., *Telegraph* says:—Gabriel Yerxa has six camps established on Burnt Hill Brook and its branches; at these camps he has 150 woodmen and 30 pairs of horses. He expects to get out 7,000,000 feet of lumber this season. Harry Turnbull has two camps on Clear Water, and his product will be about 2,000,000 feet. Messrs. Yerxa and Turn-

bull's lumber is under contract for Guy, Bevan & Co. Timothy Lynch has a very large force on McLean Brook, McKiel and South West Branch; his cut is estimated at 12,000,000; his depot camp is on McKiel, where he has 15 pairs of horses and 60 men. M. Welch expects to cut about 4,000,000 at the head of the South West. William Richards is operating heavily along the South West, and Charles Smith is cutting a great quantity on the Todd block. The snow here is about two feet deep.

During the year 1882 there was shipped from the port of Jacksonville, Fla., 63,041,546 feet of lumber, as compared with 69,837,451 in 1881, and 41,719,255 in 1880, an increase in 1882 over 1881 of 9,204,095, and over 1880 of 26,322,291. It will thus be seen that, while a fair increase has been made this year, the great bound forward in lumber production in the country tributary to Jacksonville was made in 1881.

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LOGS BY RAIL.

The *Lumberman's Gazette* says:—Ten years ago the idea of hauling pine logs by rail would not have been entertained as a profitable undertaking, but of late years it is a recognized industry. Aside from the short lines that are scattered throughout the pine forests of northern Michigan, logs are hauled in great quantities by railroads to terminal points. The F. & P. M. railroad handles pine logs extensively, the bulk of the product coming to the Saginaw river. The Mackinaw division of the Michigan Central has handled a large quantity of pine logs during the past two years. Tawas & Bay County road hauls logs to Tawas, and the Saginaw Bay & Northwestern haul a good many logs to Saginaw Bay, which come to Saginaw river mills.

During the month of December the Flint & Pere Marquette hauled 11,964,532 feet of logs of which 5,040,370 feet came direct to the Saginaw river. During the year 1882 this road hauled 93,294,620 feet of logs of which 46,226,419 feet came direct to the Saginaw river, and 29,932,530 feet were distributed between Midland and Avon. Of these 12,695,870 feet were manufactured at Midland and 17,336,660 feet came through the Tittabawassee booms to Saginaw river mills. The balance of those not coming to the points named went to Manistee. The record of this road in log hauling during three years, shows as follows:—

	Feet.
1880.....	87,476,646
1881.....	105,296,530
1882.....	93,294,620

During November the Saginaw Bay & Northwestern road hauled 5,305,782 feet, and in December 3,592,165 feet making a total for the year of 86,030,768 feet. The Tawas and Bay County road hauled during the year 33,436,570 feet, and the Mackinaw division of the Michigan Central 60,000,000 feet. The aggregate for 1882 shows as follows:—

	Feet.
Flint & Pere Marquette.....	93,294,620
Michigan Central.....	60,000,000
Saginaw Bay & Northwestern.....	86,030,768
Tawas & Bay County.....	33,436,570
Total.....	272,820,558

A Big Crop.

The *Lumberman's Gazette*, of Bay City, says: Reports from the pineries in almost every direction are almost unanimous to the effect that there will be an enormous crop of logs put in this winter. In some localities there have been complaints about the difficult hauling and skidding, but this difficulty has not been insurmountable, and the late cold weather has about overcome it, and logs are not only being cut at a lively rate, but they are being banked with all possible dispatch. Every available team which can possibly be secured is being rushed to the pineries, and the country districts are being scoured for horses to put on the log roads. During the past week or ten days, these teams by scores have passed through the city headed for the logging districts; therefore present indications are to the effect that there will be no shortage in the log crop next season, whatever else may betide the lumber industry.

Preserving the Forests.

The speech from the throne at the opening of the Quebec Legislature contains the following paragraph:—The deliberations of the Forestry Congress, held at Montreal in September last, have had the effect, in a marked manner, of directing attention to the important subject of the preservation and renovation of our forests. My Government are considering the most effectual method of attaining such a result, and a bill will be submitted to you to limit the destruction of our woods and forests without diminishing the public revenue.

Worms in Wood.

Worms in hardwood are not an uncommon nuisance. Oak, ash and other lumber is often thus invaded, and there is danger of destruction to wood from that source unless great care is taken in felling, handling and storing timber, even after it has been worked into shape and placed on the market. Cases have been known where the worms have worked their way into

white oak posts in such a way as to be unnoticed till the timbers had been painted, and the wood-dust exposed their presence, after which they made their appearance in great numbers. They bore under the surface in a circuitous way, and not to any great depth. Carbon oil destroys them, and sometimes it is regarded as a wise precaution to coat timber with that material.—*Northwestern Lumberman.*

THERE are over 100 rafts locked in the Clarion river, Pa., by the ice. Lumber towns along the river have been injured to the estimated extent of \$250,000.

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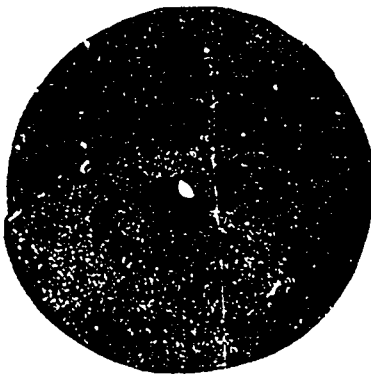
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is now the best feed where steam is the motive power. It is easily operated, is simple, rapid, and seems never likely to wear out, sixteen 16 ft. boards, or eighteen 12 ft. boards, have been cut by it in one minute. It is the established feed for steam mills, I make a specialty of its manufacture; will guarantee satisfaction.

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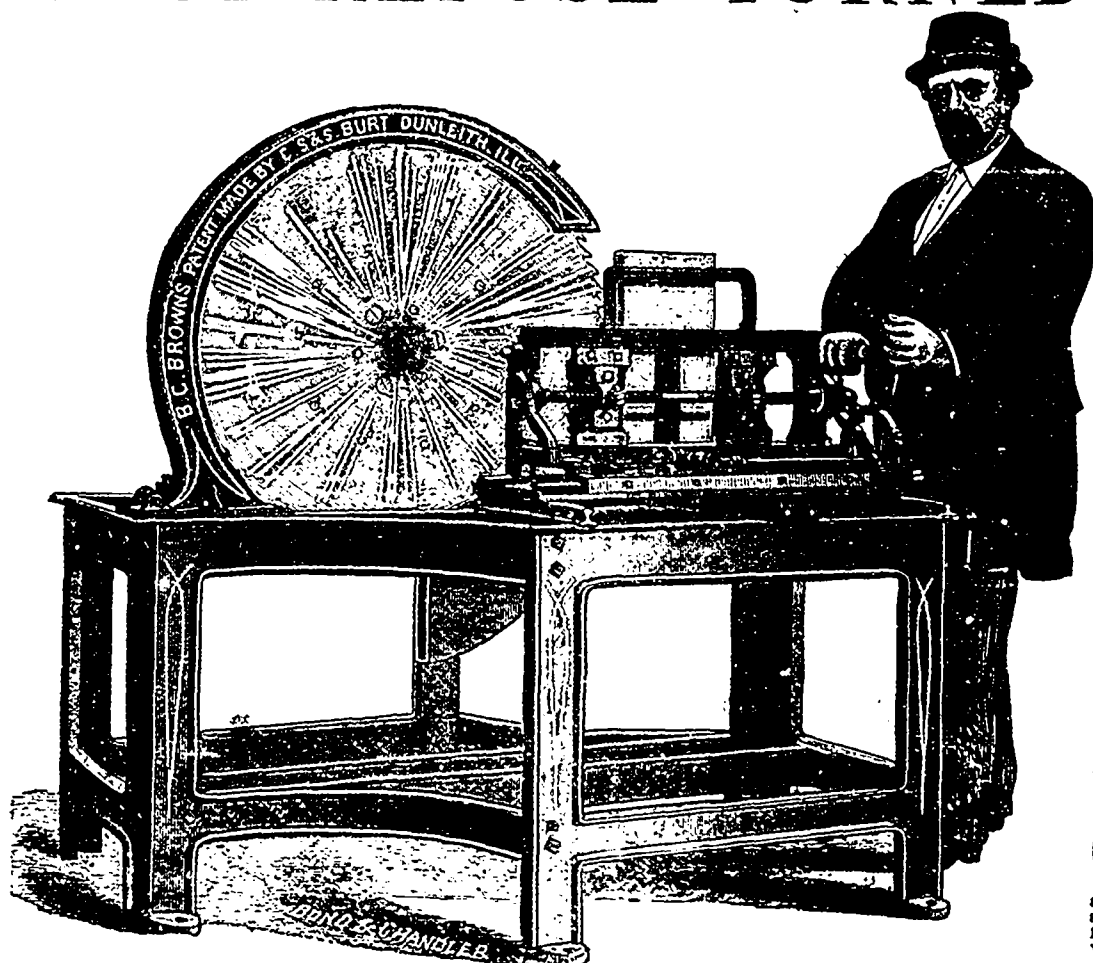
with Steam Feed for steam Mills, and Rope or Rack Feed for Water Mills is just coming into general estimation and is used in place of Gang Saws in our best Canadian Mills. One of our Span Circulars which will slab logs 25 inches in diameter down to 7 and 8 inch stocks, will do the work of three saws, with an immense reduction in first cost, running expenses and labour. Two of these machines can be seen at work in Messrs. Gilmour & Co's Mill, Trenton, and Georgian Bay Lumber Co's Mill, Waubesa and Port Severn. I am also introducing a new style of Mill Engine, neat, substantial and simple, with Corliss Frame and Balanced Valve, all carefully designed and honestly made.

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are too well known to need any reference, any further than to say that I spare no pains or expense to have my work all first-class and give satisfaction, and as I make Heavy Saw Mill Machinery a specialty, any party wanting a First-class Mill will find it to their advantage to give me a call.



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