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THE CANADA LUMBERMAN

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CHARACTER SKETCH.

ALEX. GIBSON.

LUMBER KING OF NEW BRUNSWICK.

"Love, therefore, labor: if thou should'st not want it for food, thou may'st for physic. It is wholesome to the body, and good for the mind; it prevents the fruit of idleness."—William Penn.

FOR many years Alex. Gibson has occupied a leading position in the front ranks of the business men of Eastern Canada. No man in the three provinces is better known than he, no man is more highly respected and no individual's opinions carry with them more weight than do those of Mr. Gibson. He seldom or never talks about himself or about what he has done. Like all truly great men he is very modest, in fact, he carries his modesty so far that even newspaper reporters have failed in their endeavors to learn more of his life before he became so well known to the general public.

Alex. Gibson is an old man, but the weight of years rests lightly upon him. He is yet strong and active, and as enterprising as he was twenty years ago. He is constantly evolving some new scheme or endeavoring to perfect that which he has been led to consider behind the

age. Mr. Gibson is not prepossessing in his personal appearance, although he has a kindly face and one too that could not easily be forgotten. He is not fond of dress and seldom wears other than a plain grey or brown suit. It affords him much pleasure for visitors to call on him to be shown around his mills and factories. If he is not too busily engaged he receives them personally and takes great delight in pointing out and in explaining everything of interest. But when he has done this, the visitor should not remain longer to trespass upon his time. This is the man, now for what he has accomplished.

Alex. Gibson began life without any capital other than a sturdy constitution, a strong will, a great capacity for work, and an eminently keen and practical mind. We first find him in Charlotte county, along the banks of the St. Croix, where with his axe he labored for the ordinary woodman's wage. Not long, however, did he remain an ordinary laborer. He soon removed to Milltown, where he worked for a short time in the lumber mills at that place. Very soon after this we find him launched out in business on his own account. A very few years later we find him at Lepreaux. The mill at this place had never paid its owners, but Mr. Gibson not only made it pay, but he made it pay well—he acquired a small fortune there. That was over thirty years ago. With a keen business eye he saw that to remain at Lepreaux was to allow himself to become very much handicapped, and instead of adding to his small fortune he should run a great risk of losing what he had made. Mr. Gibson accordingly sold his mill at Lepreaux and removed to the Nashwaak, where he invested all his money in mills and in 7000 acres of timbered land. On taking possession of the river Mr. Gibson at once saw the first requisite, the lack of which had caused all former operators to fail. This was a first class boom, held by a mile or more of piers. The firm of whom Mr. Gibson purchased the property

had driven logs nearly all the summer, having had no place in which to hold them. Consequently the river driving, instead of costing them 50 cents per thousand feet, cost \$1.50. After Mr. Gibson had got his driving dams there was no further trouble in this direction. Shortly after Mr. Gibson had settled on the Nashwaak river, he purchased several other sections of valuable timber land, so that in a short time he had acquired 170,000 acres of heavily wooded land, the greater number of which were situated along the Nashwaak river. A year or two witnessed a great change along this river. Mr. Gibson felt that he had a sure thing, and with his characteristic enterprise he launched boldly out into a speculation which had cost him more than he was worth. But he had calculated well. His mills soon became too small. Other and larger ones had to be erected and equipped with modern mill machinery, for Mr. Gibson never used second hand machines of any kind. These purchases involved the expenditure of large sums of money, but by that time had acquired a reputation among the leading business men in the province, and he could have received plenty of backing if he had required

his own property, and within a stone's throw of the structure. It was completed in 1889 and fitted throughout with the most improved machinery. So keenly is Mr. Gibson on the lookout for new machinery that some of that which was placed in the mill at the first has already been cast aside for later inventions. The mill is lighted at night by electricity from their own dynamos. There is a well equipped machine shop in connection. The mill is protected against fire by hydrants outside, with pipes through the mill supplied by gravitation, with plenty of hose on every floor, and is in every respect a complete and thoroughly equipped establishment. In addition to the cotton mill and lumber mills, the brick yard is still operated and employs from 20 to 30 men during the summer.

When Mr. Gibson settled on the Nashwaak there was but one old mill and not more than half a dozen tumble-down shanties there. Now there is a thrifty little town with its mayor and aldermen. Alex. Gibson, jr., was mayor in 1891, and the younger son, James, served in the council during the same year. Maryville, for this is the name of the town, has all the modern improvements.

The Methodist church was built by Mr. Gibson at a cost of more than \$50,000. The interior finish, handsome frescoes, stained glass windows, splendid organ, (the organist, Prof. Cadwallader, is a gifted artist whose salary is paid by Mr. Gibson himself), excite the wonder and admiration of every visitor.

There are four other churches, Episcopal, Baptist, F. C. Baptist and Reformed Baptist,

now in course of erection in the town.

There are fine schools, where the children of the town have the best educational facilities.

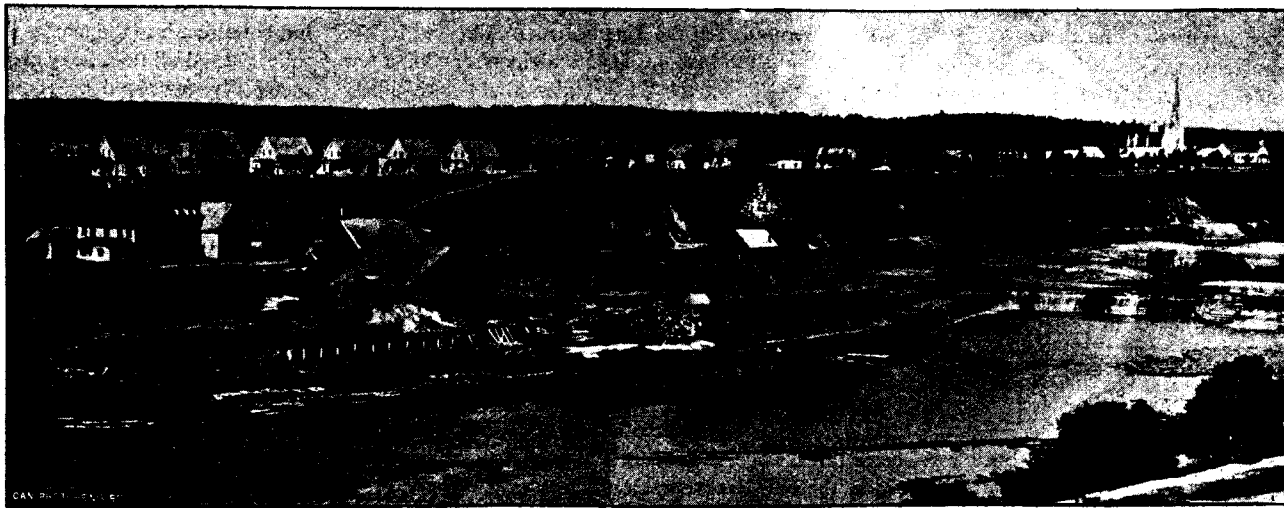
There is a splendid skating rink, where many interesting sporting events occur in winter.

There is a large public hall over one of the stores, where theatrical companies are afforded facilities for their performances, and where at other times meetings of all kinds may be held.

The town has a brass band of 20 pieces. The uniform of the members is one of the finest in Canada, and they provide splendid music as well as present a fine appearance.

There are lodges of Oddfellows and Foresters and temperance and other organizations in the town.

Mr. Gibson is principal owner of the Canada Eastern railway. He has quite large interests in shipping and owns a small fleet of schooners, woodboats, tugs, etc. His has been a remarkable life. Though past three score years and ten, he is in perfect health, due to his splendid constitution and to the fact that he lives wisely and knows nothing of the excesses of modern living. He is always at his post and will tolerate no neglect of duty on the part of those around him. A man of kindly and generous impulses, many persons and causes have profited by his benevolence without knowing the source. When he has done with life his monument will be the town his genius has called into being, and the record of a life of honorable toil and service to his fellows.



MARYVILLE, N. B.—THE HOME OF MR. ALEX. GIBSON.

it. He was told to go ahead and he did so in leaps and in bounds.

But it would take too long to give in detail the various moves made by this man. His business grew, and grew rapidly. In the course of a few years he became convinced that a shingle and lath mill would pay. He at once erected both and equipped them thoroughly. At present he has a mill at Blackville along the Canada Eastern railway. It gives employment to 50 men and cuts in the vicinity of 5,000,000 feet every year. Mr. Gibson's saw mill on the Nashwaak gives employment to 90 men, his lath mill 65 men, shingle mill 40 men; at the boom there are between 25 and 30. On the stream every spring he employs about 350. All his mills are equipped with the most modern and labor-saving machinery. In addition to his own cut, which averages about 30,000,000 feet every year, Mr. Gibson is a large purchaser of provincial lumber for shipment to the English market. In connection with this business he has an office in St. John.

But when we speak of Mr. Gibson's business as a lumberman the half has not been told. The fame of Gibson's cotton mill has gone throughout Canada. At present it employs over 500 hands and can provide employment for 1,300 whenever the market of the country becomes large enough to consume the output, as the capacity of the mill is double the present output. This mill was started by Mr. Gibson in 1888. The bricks of which it is constructed were manufactured by him on

FREE LUMBER THIS TIME.

THE UNITED STATES' TARIFF BILL FINALLY PASSED.—LUMBER ON THE FREE LIST.—CANADIAN AND AMERICAN OPINIONS OF THE CHANGED CONDITIONS.

AFTER many months of Senatorial fighting, in which all the arts of log-rolling known to American politicians, as to no one else, had been brought into operation, the Wilson Bill, or at least something that started out with that label on it, has become law. The bitterest warfare waged against the changes in the bill was that by the sugar trust, and this influence was potential. Outside of the object lesson taught, when that phase of the bill was being put through the house, the people of this country have had no particular interest in sugar. We are not uninterested, however, in a number of the changes that have been made, especially those bearing on the products of the farm, though with these the change has only been a reduction in duties. Lumber is an important addition to the free list. It was early in the contest placed on the free schedule, and though the opposition against the change was very determined in some sections, the general opinion prevailed that if the tariff bill went through at all, lumber would be free. This is now the case.

Southern lumbermen fought loyally in the interests of yellow pine, believing that the introduction of Canadian pine free into the States would affect the sale and prices of that growth of the southern states. Time will show how far these fears of our friends in Tennessee will be realized. A later, and in some respects, more vigorous opposition came from the planing mill men and box manufacturers in Michigan and the Eastern States, when it was resolved that dressed lumber, as well as sawed lumber, should go on the free list. Depending to considerable extent for supplies on the timber of Ontario, the lumber manufacturers of Michigan, Buffalo and Albany, for example, are afraid that they cannot compete with the Canadian lumber manufacturer. We have already intimated in these columns that free lumber would likely lead to the establishment of saw mills and box factories along our north shore by United States owners of Canadian limits. Already some of the saw mill men, to wit, J. W. Howry & Sons, William Peters, and Cutland, Savage & Co., have commenced to operate mills in that district, and now that they can send over the sawed lumber free, as they could before only the logs, no doubt others will commence the erection of mills in Ontario and adopt similar methods.

Business under any conditions is an evolution, and with all the enterprise of this new continent business men move cautiously. It does not seem improbable that the prediction of Mr. Geo. Bertram and other Canadian lumbermen that free lumber will give an unquestioned boom to the manufacture of lumber in this country will materialize, to a measurable extent, in fact. Enabled to place their mills within a stone's throw of the forest product, and with shipping facilities just about as complete for forwarding the manufactured article to its destination, as when in the rough log, it seems reasonable that shrewd business men will avail themselves of these advantages. This much we may accept as sure that if there is an expansion of the saw mill and planing mill business in Canada, as a result of free lumber, the change will take place, because, to use the business parlance of the day, there is money in it.

Already we have given in these columns opinions expressed by United States and Canadian lumbermen when anticipating free lumber. We here follow with various expressions of opinion from representatives of the trade in both countries now that de facto we have free lumber.

THE NEW TARIFF.

The tariff bill, as finally agreed upon by both branches of the United States Congress, and which has now become law, specifies the following free schedule as regards lumber.

Logs, and round timber.
Firewood, handle bolts, heading bolts, stave bolts, and shingle bolts, hop poles, fence posts, railroad ties, ship timbers, and ship planking, not specially provided for in this act.
Timber, hewn and sawed, and timber used for spars and in building wharves.
Timber squared or sided.
Sawed boards, plank, deals, and other lumber rough or dressed.

Hubs for wheels, posts, last blocks, wagon blocks, oar blocks, gun blocks, heading, and all like blocks or sticks, rough, hewn or sawed only.

Pine clapboards.
Spruce clapboards.
Lath.
Pickets and palings.
Shingles.
Staves of wood.

Woods, namely, cedar, lignumvitæ, lancewood, ebony, box, granadilla, mahogany, rosewood, satinwood, and all forms of cabinet woods, in the log, rough or hewn; bamboo and rattan unmanufactured; briar root or briar wood, and similar wood unmanufactured, or not further manufactured than cut into blocks suitable for the articles into which they are intended to be converted; bamboo, reeds, and sticks of partridge, hair wood, pimento, orange, myrtle, and other woods, not otherwise specially provided for in this act, in the rough, or not further manufactured than cut into lengths suitable for sticks for umbrellas, parasols, sun shades, whips or walking canes; and India malacca joints, not further manufactured than cut into suitable lengths for the manufactures into which they are intended to be converted.

The only exception applying to the foregoing schedule as upon the free list is provided for in paragraph 683, in these words: "Provided, that all the articles mentioned in paragraphs 672 to 683 inclusive," [that is, all of the above paragraphs except the last one] "when imported from any country which lays an export duty or imposes discriminating stumpage dues on any of them, shall be subject to the duties existing prior to the passage of this act." In other words, it may sweepingly be stated that the act as finally passed provides for free logs and all kinds of lumber in the ordinary sense, as well as all unmanufactured "cabinet woods" as described in the last paragraph, unless, as is not likely to happen, Canada should levy an export duty or stumpage dues on any of the items enumerated. In that case Canadian lumber would be subject to the provisions of the McKinley bill.

A CANADIAN MILL OWNER SPEAKS.

A representative of the LUMBERMAN talked with Mr. Campbell, of the Muskoka Mill and Lumber Co., a few days ago relative to the results that were likely to come to Canadian lumber interests, seeing that lumber had been made free in the United States tariff. "The change will certainly be a good one for Canada," said Mr. Campbell. "Our lumber interests in every way will be strengthened. As everyone, who has studied the question, is aware it has been next to impossible to do any business—more than a hand-to-mouth business—in lumber during the past year. Nothing else could have been expected, as United States lumbermen were not disposed to invest in either timber limits or lumber in Canada, not knowing what would be the issue of the tariff. Now that that question is settled lumber values in Canada will become firm. We are seeing how this is operating just since the bill has passed the House, as United States land lookers are now inspecting limits throughout the province and prices will stand about as they did two years ago." As large saw-millers themselves I was anxious to obtain Mr. Campbell's views of the likely effect of a change in the tariff on the saw mill and planing mill business in Canada, and my next query was in that direction. "It seems to me quite clear," replied Mr. Campbell, "that there will be a revival of saw mill interests in Ontario. In fact in anticipation of free lumber this has already taken place, and as you know, several United States lumbermen, who own limits in Canada, have already purchased saw mills in this country and will saw a certain portion of their product here. Other changes in this direction will likely follow. We have parties to-day negotiating for the purchase of our Muskoka mill. I apprehend that United States owners of Canadian limits will find it profitable, not only to saw their lumber here, as they now propose to do, but in any section where the shipping facilities are satisfactory, that they will also erect planing mills and box factories and ship dressed lumber into the markets of the eastern states. Our own saw mill men will, no doubt, find it advantageous to add planing mills to their saw mills." As to the effect of the change upon the exporting of logs to the United States, Mr. Campbell did not think that any noticeable change would take place in this direction immediately. A year later one would be able to speak in more positive terms on this point. "The spruce interests of the Dominion" continued Mr. Campbell, "will receive a considerable impetus from the change. As you know the duty on spruce lumber has been \$2.00, which at the way prices have

been running lately, has been practically a prohibitory tariff to anyone who desired to do trade with a profit. Our firm has confidence enough in the future development of spruce, in New Brunswick, to have become purchasers of about 300 miles of limits. I believe also that the British Columbia lumber interests will be greatly stimulated by free lumber, and we are to-day investing in limits in that province as an earnest of our belief. This gain there may not come immediately, for lumber matters in the Washington territory are terribly demoralized, but time will remove this trouble."

OPINIONS OF A WELL-KNOWN CANADIAN WHOLESALER.

"We are certainly hoping," said Mr. Donogh, Donogh & Oliver, Toronto, "that the result of free lumber will be that the lumber industry in Canada will show signs of revival. There is indeed much need for it, for the past year has been one of exceptional depression. I asked Mr. Donogh if he anticipated, that in addition to an expansion of business with the United States in sawed lumber, which is pretty generally taken for granted, that there would also be a development in the direction of an enlargement of our planing mills and box factories. "We are hoping that this will be the case," was Mr. Donogh's reply. "Of course it is hard yet to tell how anything will shape." "It is to be remembered," joined in Mr. Oliver, "that at this date the bill has not been actually signed by the president, and I am not so sure he will sign it." "However, taking it for granted that it will go through all right," continued Mr. Donogh, "we have reason to expect that there will be a considerable quantity of dressed lumber shipped from here to the States. It ought to pay our saw mill men to add to their equipment planing mills with the necessary sidings for a shipping business and send forward the dressed lumber direct into the markets of the eastern states. Time will tell all this. My disposition you see is to speak guardedly, for the depression has been severe enough to make it appear likely that a revival can hardly come all with a rush."

WILL NOT DO MILLS GOOD THIS YEAR.

Mr. Geo. Cormack, the well-known lumberman, of Whitby, Ont., says: "By the removal of the duty on lumber I think it will help the lumber industry of Canada and I also think it will have a tendency to stop the exportation of logs to the United States to a certain extent. I expect we will see mills running again that have been closed down and that it will induce Americans to erect new mills here in Canada, which has already been done by some. I also think it will lead to the erection of planing mills and box factories in connection with the mills, but I hardly think the Tonawanda and Michigan people would transfer their planing mills and box factories over into Canada, for the reason that there is no certainty how long the duty will remain off as there may be another change in another election. I do not think the removal of the duty will do us much good this year as it has hung fire so far that it is too late in the season to do much good, but it will help things for next year."

A CANADIAN VIEW.

A prominent Canadian lumberman when spoken to on the question a day or two after the passing of the tariff bill had been reported as an actuality said: "We in the business here have no fear as to the result of the change. There is no prospect of the Dominion Government putting an export duty on saw logs or any other products of the forest. What it really amounts to is that the Canadian lumbermen will get a free market for his logs and for his deals if he wants to do his own cutting."

A BOON TO CANADIAN LUMBERMEN.

John I. Davidson, ex-president of the Toronto Board of Trade, and who is largely interested in the lumbering industry, said: "Free lumber will be a boon to Canadian lumbermen, and should tend to the betterment of the lumbering industry in Canada. He hoped that the owners of timber limits in Ontario would cease exporting their logs when they could be sawn into lumber on the spot and then exported free of duty. Decidedly, he thought the slumbering lumbering industries of Canada should be awakened into full life. The restrictions were entirely removed, and there was nothing to betoken a retraction."

A GOOD THING FOR CANADA.

"The new tariff bill," said Judge Daniels, in response to an interviewer at Washington, "will become law within the ten days of its passing, unless it is signed before that time by the President. The lumber people of western New York are greatly interested in this, and I have had much correspondence concerning the free lumber clause of the new bill. It is a great slaughter to the lumber industry, and free lumber will prove most injurious to the business along the frontier. When the bill was in conference I endeavored to get them to put an ad valorem duty on plain, matched, grooved and tongued lumber, but they did not pay the slightest heed to the arguments showing the necessity for such duty in order to protect our lumber manufacturers from the inroads that will be made upon them by the Canadian people. All manufactured lumber can be made cheaper in Canada than it can be made on this side, as wages stand now. No argument is needed to show the injustice thus done to the lumber trade on the American side. It speaks for itself."

A VIEW FROM THE SOUTH.

Amos Kent, Kentwood, L.A., yellow pine manufacturer, says: "That to place domestic production on an equality with foreign production the rates of duty should be a specific duty of \$1.50 per thousand on lumber and \$1 per thousand on logs for the following reason: My product, the bulk of it, must be marketed in the states of Illinois, Iowa, and other states north of the Ohio and east of the Mississippi rivers. Without the above duty on Canadian lumber, or lumber made in the United States from Canadian logs, can, on account of the less freights and the facilities for rafting and transporting logs to mills, reach the market at \$1.50 less, actual cost, than I can place my product there. The Canadian pine and hemlock being much lighter in weight, have great advantages in freight, even where distances to be transported are equal."

WILL INCREASE CANADIAN STUMPAGE.

Mitchell & McClure, Duluth, Minn., lumber manufacturers, state: "The output of our mill in Duluth is 40,000,000 feet each season. We are interested in the Vermillion Lumber Company, operating at Three Rivers, Quebec. Our average wages paid last year were \$1.84 per man, running from \$5.25 for skilled labor down to \$1.50 for common labor. While in Three Rivers last summer I asked the superintendent what were the average wages paid by them in the mill and was informed that they were \$1.07 per man. They paid their common labor 90 cents per day. We paid in the woods here this winter about \$16 to \$20 per month and board. Lumber in this market has declined fully \$2 per thousand feet. Every cent of the \$1 duty to be taken off of lumber will be added to Canadian stumpage within two years."

A MICHIGAN FIRM SPEAKS.

Briggs & Cooper, of Saginaw, Mich., state: "We manufacture about 8,000,000 feet of lumber annually. Have run full time until last fall and part of the time ran down the middle of October and will not start until business is better, although we have a full stock of logs. If lumber is imported from Canada, the Saginaw market will be restricted to an amount equal to that imported; and, as the United States can supply the territory reached by Canada, and Canada will go into the Saginaw market, we will have to intrude on ground now covered by other parties in the United States. Our opinion is that prices will not be lowered much, but there will have to be a new adjustment of markets by United States dealers. If an export duty were put on logs by Canada, Michigan men would go there to manufacture and thus injure this state."

A BUFFALO HARDWOOD CONCERN.

The Buffalo Hardwood Lumber Company, of Buffalo, N. Y., state: "We have bought for a number of years more or less stock in Canada. The duty on most of these goods which we buy is \$2 per thousand and \$1 per thousand on basswood lumber. If this duty is taken off, it is our belief, from talking with parties from whom we have been buying, that the Canadian will expect to advance his price at least \$1.50 per thousand feet on all lumber on which the duty is \$2, and the wholesale buyer

will undoubtedly be able to buy 50 cents per thousand cheaper than he has in the past. The parties who buy through the wholesale houses will perhaps be able to buy and receive 50 cents per thousand benefit on their purchases; and, by the time it reaches the final purchaser, we do not believe that he will get any of the benefit of the reduction in the duty. We do not believe that it would be a benefit to this country to have lumber come in free, and we think we are in a position to judge quite fairly in the matter."

WHAT UNITED STATES LUMBER JOURNALS SAY.

Northwestern Lumberman: No good can come out of whining over the result, and it remains to be seen what the effect will be. If the lumber interests of the country had been as strong in the lobby as those of others less important, the end might have been different. There remains the consolation that the whole tariff question has been disposed of, and the country knowing exactly how it stands in that connection will now buckle up and get down to business again.

The Timberman: The senate bill, which passed the house on Monday, provides in addition to free lumber on general principles, that the former duty shall be reimposed on lumber coming from any country which shall place an export duty on logs. This is as it should be, and we believe has the hearty approval of every business man, regardless of politics; for without this provision, which was omitted in one of the tariff bills drafted, there would be nothing to prevent the Canadian government from reimposing the duty on logs; thus having the advantage of a free import into this country without the competition of American mills being able to cut Canadian logs. If free trade in any or all conditions be desirable, it should be reciprocal in such cases as this; and it is hoped that when the new tariff bill shall become a law it will contain this provision, which is for the safeguard of the interests on this side of the line, and, moreover, accords with what Canadian authorities have insisted upon as an equitable arrangement.

Mississippi Valley Lumberman: At last congress has done something that it should have done over a year ago—passed a tariff bill—and as far as its good effect is concerned, it matters little what is the nature of the bill. It was the uncertainty that killed, and as soon as President Cleveland announces his course in regard to it, the uncertainty may be said to be at an end. Manufacturers can then go ahead and start up their factories and mills, knowing "where they are at." Business may not boom as many of the daily press would make us believe, but it will without doubt be greatly improved and will continue to grow healthier and stronger every day. The lumber trade is already showing some signs of a betterment, and although it was not caused by the tariff legislation, but rather by good crops, it will be helped by some tariff measure becoming a law and this much dreaded feeling of uncertainty put to an end.

The Southern Lumberman, of Nashville, Tenn., is a very mad paper, devoting more than a column and a half to a discussion of the tariff. It asks: "What mysterious Canadian influence with voters on tariff bills in a United States Congress makes this thing possible?" Having quoted at some length from the CANADA LUMBERMAN, it then goes on to say: "On the behalf and in the interest of Canadian lumber manufacturers, it is quite natural that our Toronto lumber trade contemporary should commend President Cleveland in 'the resolute stand taken' by him in support of free Canadian lumber, but lumbermen on this side of the lakes would like to know how many electoral votes in the Province of Ontario for a United States president warrants such partiality on the part of the present administration?" and much else in the same line. We thought our Southern friends were good natured sort of fellows, but our Nashville brother is rattled badly this time.

Good pencil cedar is getting so scarce that the great firm of Faber & Company have begun to cultivate forests of cedar in Germany. At Schloss Stein there is a cedar forest which covers thirteen acres, and the head of the firm has, for many years, maintained nurseries and plantations of cedars on his land in Bavaria, grown from seed which he imported from Florida.

ENGINEERS WHO TINKER.

THE American Machinist comes to the rescue of the engineer who knows enough to "tinker" with his engine when it needs it, in these words: "There are men around engines who ought to do 'tinkering,' but they are not engineers. They are men who rattle around for about a dollar and a quarter a day. These be they who never ought to get within a half-mile of an engine with wrench or hammer. No one ever knew a real engineer to do much tinkering. He is just lazy enough not to do useless work, and just enterprising enough to do such tinkering as is required. An engineer who hasn't push enough about him to tinker the pounds and other little ills out of his engine ought to get an easier job without serious delay. He might do well at holding down a chair, or something of that sort, but as an engineer he hasn't just a little chance of success. In the best interest of his employer he ought to get another job before his engine has to go to the machine shop, or the machine shop go to the engine."

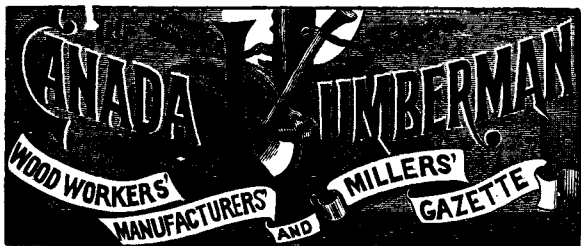
COMPARATIVE VALUE OF DIFFERENT BOILERS.

THE comparative value of different boilers has lately been a prominent theme at the meetings of different engineering associations, and much has been said in favor of those of water tube construction. In the advantages claimed for the latter stress is laid on the fact that when the circulation is efficient a rapid current flows through the tubes, producing a tolerably uniform temperature in all parts of the boiler, and there are no serious strains from unequal expansion—the small diameter of the tubes permitting the attainment of excessive strength over any desired ordinary steam pressure even with thin heating surfaces. As such boilers are also made in sections of moderate size they are easily transported and can be conveyed through narrow openings of buildings which would not admit of a fire tube boiler, and they may be fixed in confined spaces. As is well understood, the heating surface of such boilers is measured on the internal diameter of the tube; in a general way, one square foot of heating surface being required for the evaporation of two and one-half pounds of water per hour, and 49 square feet of heating surface for every 100 pounds of water evaporated per hour.

AN INSPECTOR'S EXPERIENCE.

AN inspector writes concerning an experience that recently befell him, as follows: "I had an experience a few weeks ago, which I should be quite reluctant to repeat under the same circumstances, if it could be avoided as well as not. I called to make an inspection at a stone works, where they have two boilers, but use only one at a time. The engineer was working at his two pumps, which he could not get to throw water, and was scolding because he had no steam to run with, although he had plenty only a short time before. The tubes in the boiler I was going to inspect were badly choked, and, in fact, nearly filled with soot from the coal. I thought that might be the trouble with the boiler they were using, so I opened the front of that boiler and looked into the tubes. They were red hot. I looked for the water. It was gone. I looked under the boiler to see the fire, and jets of burning gas were actually spurting out between the rivets on the seams over the fire. And the engineer was still working at his pumps, trying to get some water. I had a queer feeling just at that instant. I got the engineer away from the pumps as soon as possible and had him draw the fire; and I could see the gas burning along the seam while the fire was being drawn. As soon as it was darkened in the arch a little, I could see that the sheet on the bottom of the boiler was red hot for a space of about three feet square. As soon as the boiler cooled down we opened the manhole, and found the inside to be bone dry. The outcome was that the seam next to the bridge wall was badly fire-cracked and sprung, so that a new sheet had to be put in. The tubes had all come out, and all the seams on the fire surface had to be re-calked; which I considered to be a very fortunate escape."—The Locomotive.

There is wood growing in Mexico, which is purple in color, and is now being cut and shipped to European markets.



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C. H. MORTIMER

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ADVERTISING RATES FURNISHED ON APPLICATION

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

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

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

Advertisers will receive careful attention and liberal treatment. We need not point out that for many the CANADA LUMBERMAN, with its special class of readers, is not only an exceptionally good medium for securing publicity, but is indispensable for those who would bring themselves before the notice of that class. Special attention is directed to "WANTED" and "FOR SALE" advertisements, which will be inserted in a conspicuous position at the uniform price of 75 cents per line for each insertion. Announcements of this character will be subject to a discount of 25 per cent. if ordered for four successive issues or longer.

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

GROWTH IN THE LUMBER TRADES.

WE have asked the question of representative men in the trade, whether it is anticipated that not only will free lumber give an encouraging impetus to the shipment of sawed lumber to the United States, but will it not also mean that we will be able in Canada to manufacture larger quantities of dressed lumber and send supplies in that shape across the border? Some of our correspondents are disposed to speak cautiously on the point, preferring, evidently, to let developments tell their own tale. At the same time the impression is strong with many in the trade, that if not immediately, at least before a great while, this department of lumber will grow, present mills will be enlarged, and planing mills will be erected in conjunction with our saw mills. What does this call for? And what does this mean? One thing is quite clear that with any considerable development in the manufacturing of dressed lumber there will need to come not a few improvements in the plants of our planing mills. We have a number of planing mills equipped in a very creditable manner and capable of a large output of manufactured product. With others, however, this is not the case and we apprehend that the advantage in the removal of the duty could be easily offset by the draw-backs of manufacturing with machinery that has been supplanted by that of a more modern character. As every manufacturer knows there is not worse economy anywhere than to undertake to manufacture on a liberal scale with a plant that has long since been supplanted by machinery capable of doing the same work not only more perfectly but with greatly increased expedition. The draw-back with many of the small manufacturers to-day in every line of business is the fact that they cannot compete with the larger concerns located in centers of population and equipped with the most improved machinery. Where are our smaller manufacturers of agricultural instruments to-day? They are either struggling along doing simply a small local trade, or they are wiped out of existence, because their plants are out of date, and they have not felt able to bear the expense of a new equipment. The opinion was expressed only a few weeks ago by a well-known

flour miller in the province that the small millers were having a hard time of it, because they were finding the competition of the big millers, with their improved facilities and greater opportunities for business, too much for them. It is the early bird catches the worm, so runs the old proverb, and if the changed situation of the month points correctly to an important development and growth in the planing mill business of the country the men who are quick to see the change and to take advantage of it will put themselves in a position to secure the trade now, which later on may not be so readily gotten hold of, or at least it will bear the burden of increased competition and possibly lesser profits.

EDITORIAL NOTES.

AN effort is to be made again to raft logs on the Pacific. Two lumbermen, of San Francisco, are at the head of an enterprise to raft lumber from Oregon to San Francisco, and a cradle, 600 by 50 feet with a capacity of 7,000,000 log measure, decked with 450,000 feet of sawed lumber, has already been started. This is not the first effort to raft logs on the Pacific, but hitherto the success has been of a doubtful character. Lumbermen will be interested in watching the outcome of the present movement.

THE Ontario Government has issued the following regulations to apply in Algonquin National Park, recently set aside for forestry purposes: "All visitors are to furnish the superintendent or ranger with their names and their addresses, and the part of the park they intend to visit, with the duration of their stay; they are forbidden to cut or injure standing timber; hunting, trapping or fishing other than by line is forbidden, and a permit must be obtained from the superintendent for that. And no fish can be taken beyond the park boundaries; fires must be kindled on bare rock; nor more than one firearm may be carried by each party of visitors; no visitors are allowed in the park during the open season for moose and deer, viz., from October 20 to November 15."

MENTION was made in these columns at the time of the breaking of a boom at Tonawanda, N. Y., allowing a huge raft of square timber belonging to the H. M. Loud & Sons Lumber Co. to go over Niagara Falls. For the next two months the shores of Lake Ontario, from Oswego to Hamilton beach, were dotted with sticks of timber that had drifted ashore and some of these managed to land as far as the Humber and the Island. Several of the sticks that came ashore near the Humber were, it is alleged, picked up by Mr. Chas. Nurse, and a Hamilton legal firm have now issued a writ on behalf of the Loud Co. for \$200, against Nurse for alleged wrongful conversion of the timber. The trial will bring out the interesting question of the rights of owners to the floatsam and jetsam that comes ashore.

STRIKES and boycotts are in many cases two-edged tools. Whether or not at the time they serve the immediate purpose aimed for, it is often the case afterwards that they cut where least expected. The growth of labor disturbances is such as to make capital exceedingly wary in all its movements. There have been no serious labor difficulties in lumber circles of late, at least with workmen whose duties call them into the woods. But capitalists are commencing to say, "though we have not yet been struck, there is no telling when our turn may come." Doubtless it has been from motives like this that large lumber operators of the northwestern states, have declared it as their intention to insist upon the employees signing an iron-clad contract before entering upon their duties in the woods for the next winter's operations. This is a rebound of the Debs' agitation that would hardly have been foreseen at the time it was precipitated.

It is a recognized law of commerce, for stern practice makes it so, that trade will always move in the direction where prices are the lowest, other conditions being equal. We find an illustration of this in the action of British Columbia mill men, who have lately found it more profitable, owing to the low prices there, to buy logs in the Puget Sound district, than to operate their own camps. Within the past two months over 5,000,000

feet of logs have been shipped from Ballard and other points to Vancouver. An increased activity in the foreign lumber market, however, has caused the Washington territory people to advance the price of fir to \$1.00 per thousand and following the same law of trade this increase being above the mark, British Columbia lumbermen are not likely to continue buying at the amended figure.

THE supposed soundness of wheat as an asset by whomsoever possessed has long since caused to pass into a proverb the expression "Good as wheat," as indicating the financial strength of any commercial concern. But how the situation has changed; wheat is no longer worth \$1.00 to \$1.50 a bushel, but it is down to 50c. and hardly any commodity in the market is a greater drug. This condition causes a lumber cotemporary to suggest that the time has come when the old saying "Good as wheat" might be substituted by "Good as lumber." Perhaps in view of conditions as they exist at this moment there will be some to say that the change is not warranted by facts. Is it not? Every day lumber, whether in the shape of the standing tree, or cut and dressed, becomes more valuable, for whilst wheat can be raised every season, should it by chance become scarce, forest products are becoming lessened in quantity every year and it takes not one season, but many seasons, to raise a good crop of trees. And even in this direction, with our knowledge of the continued lessening of the source of lumber supplies, very little effort is made to amend matters.

THE forest fire has again been playing terrible havoc with lumber interests on this continent. Fortunately up to the present time this season Canada has not suffered to any appreciable extent from this cause, but within the past month fires have swept over Wisconsin and Minnesota, greater in extent of loss and suffering than has been the case from any fires, probably, since the fall of 1871. Great loss has been experienced at Phillip, Wis., where the great lumbering plant of the John R. Davis Lumber Co. was located. Out of 700 buildings only 30 have remained standing, Mr. Davis remarking to a friend that he had what he stood in and that was about all. It is supposed that the loss to the Davis' Co. will amount to nearly \$1,500,000 and additional to this fully another \$500,000 will be needed to cover the loss to the town. Fortunately the insurance runs up into pretty good figures. The distress among the people of the town has been very great, as not only were their homes burnt with all their contents, but they have been left practically shelterless and almost without clothing and provisions. About the same time that the Phillip fire broke out the consuming element had commenced its work at Mason, Wis., Oshkosh, Wis., and Minneapolis, Minn. It is calculated that at least 100,000,000 feet of lumber have been wiped out within the month in this manner.

IN other years, we have been told, there has not been as much lumber piled on the docks at Saginaw and Bay City, Mich., at one time, as at present, the estimated amount being close to 300,000,000 feet. This is one indication only of the extent of the depression in lumber among our neighbors to the south. The hope, however, is strong, with the tariff difficulty settled, that there will be a speedy moving of these immense stocks of lumber for the wisest heads in lumber circles are holding to the opinion that this depression has only been waiting for a settlement of the tariff matter to bring it to an early end. No doubt much of this lumber that is held could have been disposed of, if the owners were prepared to have sacrificed prices. We have been told by a lumberman who has recently returned from a visit to Michigan and other American lumber points, that those who have been able to hold their lumber, pending the tariff settlement, have done so, knowing that it is too good an asset to sacrifice in any way. It is perfectly true that there has been some slacking in prices, but these breaks have been usually made by the smaller men, who have been compelled to realize on their lumber to meet immediate obligations. Another good indication of the substantial character of lumber as an asset is to be found in the comparatively small number of failures that have taken place among lumbermen during these months of trying depression.



CONTINUING the discussion on the British Columbia shingle situation, to which considerable attention was given in last month's LUMBERMAN, Mr. J. G. Scott, manager of the Pacific Coast Lumber Co., New Westminster, says: "As to our ability to compete in future with Puget Sound mills, we anticipate that some of the Ontario buyers of red cedar shingles may be induced to try some of their cheap shingles, but we do not think many of the deals will go beyond one car, as the Ontario people know too well what shingles should be. The Washington people cannot afford to sell a good well-made shingle any cheaper than we can, and the B. C. mills are not holding their own on present prices. They have no legitimate advantages over the B. C. makers. They have not as good freight rates to Ontario points, and their timber is much inferior in quality to the B. C. cedar. The average shingles of Washington are not worth within fifty cents per M of the average B. C. article, as anyone will testify who has seen the two makes. Washington and Oregon are suffering much worse from over production than B. C. In those two states there are about four hundred shingle mills, nearly all built within the past three or four years, many being built by parties without means: result, over one half the mills are either idle, run by receivers or run on a plan of co-operation between mill-owners and crews, in a great many cases the money being found by the middle man or dealer or the wholesale grocer taking the product of the mill and furnishing the necessaries of life in exchange. Probably a more rotten state of affairs never existed before in the history of shingle making, almost everywhere the quality of the goods turned out being made a secondary consideration—big day's cut first—hence these cheap, nondescript shingles which are fast ruining the trade. We certainly anticipate that the removal of the duty will enable us to do a trade of the better class with parts of the United States, but on account of the state of affairs in Puget Sound it may take us some little time to get our goods introduced and gain the confidence of the only class of buyers we want to get in line with, namely, those who want a good article in shingles and will pay a legitimate price for them."

* * * *

A few weeks ago Mr. John Donogh, of the lumber firm of Donogh & Oliver, returned from a visit of about two months in Great Britain. "My trip was chiefly on pleasure," said Mr. Donogh. "It was my first trip across the Atlantic, and of course I had the usual experience, perhaps no worse than other people get it when they endeavor to navigate the briny deep, but it was bad enough while it lasted. Our firm do not do, as perhaps you know, any lumber business with the United Kingdom, but I made the acquaintance of several firms in Edinburgh, Glasgow and London with the aim of ascertaining their methods of business and how business was moving. We have been catching it pretty dull in Canada, but I am free to confess that the lumber trade seems as badly in the dumps in the mother land as it does here. In all cases the one story was told me of dull markets, little stuff selling, and prices far from satisfactory. A good deal of the dullness is attributed to labor troubles, of which Great Britain has had her full share during the past few years. These have not all been in connection with the lumber or related trades, but all branches of business are to-day so interwoven one with the other that a disturbance of any volume with any of them affects commerce generally."

* * * *

Mr. H. R. Herriman, a well-known lumber operator in the district centering around Little Current, Ont., draws a gloomy picture of the lumber situation in that region. His letter is dated August 5th, written before word would have reached him of the final passing of the free lumber measure in the United States Senate. Mr. Herriman

says:—"Lumbering is very dull here at present. All the mills are closed for the season. The large quantities of logs taken out at the Whitefish River by J. W. Howry & Sons and J. & T. Charlton have all been sent to the American mills for manufacture; the last raft disappeared a few days ago and with it disappeared many days of honest labor that our men are justly entitled to. This great injury to our country has been going on for years from many points along these shores—how long is it to continue? Is it to go on until our last pine tree is felled? There are millions and millions of feet yet standing in this section of the province and many thousands of dollars must be spent in its manufacture and is it possible that the influential men of our nation are going to stand back and permit this great loss to continue? Is it possible that we must be forced to put our money into the pockets of the storekeepers and tradesmen on the other side of the line? If this thing must be then our lake-port towns and villages will all be like this one at present—dead—and the failures of our wholesale men will not be lessened any."

* * * *

The supply of lumber on this continent, either in Canada or the United States, is not so great that lumbermen can afford to discard any part of their product, that can by any possibility be turned to commercial uses. In fact the trend of business is towards an utilization by every possible means of the waste products of the mill. This was not always so. Even the younger men of the trade can tell of the time when the refuse and culls were consigned to the fire box with rare wastefulness as the best way of getting rid of them. We are still forced, however, to draw the line at knotty lumber, for who wants anything that is so great an eyesore? But why this objection to knotty lumber? Is it only a whim? This is a question which Mr. H. B. Wetzell endeavors to answer in a recent number of the Tradesman. It is his opinion that the objection to knotty lumber arises largely out of prejudice. Nature has placed the knots in large parts of our lumber and it is suggested that the Great Architect knew just what he was doing when he so created our timbers. Mr. Wetzell admits that lumber should be as free as possible from knots, worm holes, splits, checks, decayed or dotty wood, wind shake and other natural defects in most places where wood is used in agricultural implements and where strength is required. But clear lumber is quite generally used—and the user pays the piper—where knotty lumber would for all practical purposes answer as well. Clear lumber must be used according to present fashion for interior finish of buildings. But why? In many parts of Europe knotty lumber is used where the lumber will be the most readily seen, and there, to use the words of a lumber dealer of Glasgow, it is considered much prettier than if the wood was all clear. The knots relieve the monotony and give the surface tone and artistic effect. The interior of some of the largest and most magnificent dwellings of the wealthiest classes are finished with both soft and hard wood in their natural colors or free from paint. Throughout France, Germany, Russia and all the continental European countries, we are told, the same idea prevails. Hundreds of millions of lumber are annually destroyed or allowed to be wasted or destroyed on this continent of small and knotty trees and portions of trees cut which are not utilized, because the lumber would be too knotty to satisfy an arbitrary and false taste when it reached the hands of consumers. With this record, in a day when economy in lumber is becoming a necessity, Mr. Wetzell wells asks the question, may we not in this country economize and at the same time improve our tastes by utilizing knotty lumber?

* * * *

"There was a clause in the United States tariff bill, as just passed, which was an amendment in the Senate, that shows how closely our neighbors have watched every detail of this tariff measure," remarked a prominent Canadian lumberman to me a few days ago. "I refer," said he, "to the clause in the bill that makes the distinction that finished lumber when imported from any country which levies an export duty or imposes discriminating stumpage dues, shall be subject to the duties existing prior to the passage of the act. This particular clause, of course, is leveled at the Ontario government, or at

least at those politicians in the local legislature, who have hinted at the government increasing the stumpage dues or placing other restrictions upon the sale of lumber in this province."

GANG EDGER SAWS.

GANG edger saws are not given the attention they should have, remarks a writer in the Southern Lumberman. This may be said of every saw about the mill, but the log and edger saws are the most important saws in use. A good edger can no more make good lumber with poor saws than an engine move without sufficient steam. The question stands between the solid and inserted tooth, and diversified opinions exist. Some mill men would not have a solid saw as a gift. Others are just of that opinion as to the inserted tooth. My experience has led me to adopt the solid saw under all circumstances where a modern machine is used, so that the saws can be easily changed.

The solid saw is the cheapest in every particular, and will do better work, if kept up as it ought to be. Filers generally prefer inserted tooth, as they have less to do—when the mill man's pocket is not in consideration. This is very nice for the saw maker.

Edger saws can be very easily kept up. From 15 to 25 minutes' time will put a set of saws in order by the following method, provided there are plenty of teeth in the saw—say 2½ inches from point to point in a new saw. File the front of the teeth square. This can be quickly and economically done with a mounted emery wheel. The saw can also be kept in perfect joint by observing the dullest teeth and grinding them more. The back of the tooth is filed to a slight bevel, using a short spring set, occasionally swaging a little to keep the points the full width of the saw. A bent monkey wrench will not run in any saw, much less an edger saw. The hammer set is the best. By its use a concave set can be run directly under the corner, and the saw will do nice work and will not produce friction.

A full-swage tooth is much more trouble to keep up, and if any other than a pressure swage is used, the teeth are liable to sprawl off from rebound, especially in the use of the up-set swage. Where a full swage is used there is much more work to be done and the saws wear 25 per cent faster.

I know it is a prevailing plan among filers to give their edger saws a lick and a promise. I have done that myself, and, by experience, found out that I was losing time and giving the edger men much unnecessary worry. It is a bad practice to run edger saws too long. The saws are liable to be sprung by heating when an unexpected tough or thick piece comes over. When saws are fitted up with a good set, and not run too long they can be sharpened on the emery grinder in a very few minutes, and then are ready for another good run. But if run too long, they must be set and more likely swaged a little, owing to the corners being so round. This cannot be done on a dull tooth without first grinding it, which makes a lot of unnecessary work. Besides this, the saws cannot be kept in anything like perfect joint.

A poor workman grumbles at his tools. It is astonishing what work can be got out of an edger with the saws in good trim and in line. I have seen machines used over ten years doing better work than the latest improved machines. I have never yet seen the man or machine that could control a dull saw. I once saw a \$600 edger thrown out because it would not make good lumber. The cause was defects in the saws and collars. The latter had worn so as to allow the saws to lead, which they were striving to do. A new machine was put in of another make, because a new one, with new inserted-tooth saws, was seen doing fine work.

Inserted-tooth saws, with teeth at three cents each, and new ones required quite often, are a matter of expense, and the filer will find that the task of resawing them is much more than to swage solid teeth. As stated above, I prefer the spring set tooth, with a little swaging to keep the point full width; good, satisfactory work can be done and the output of the mill increased. Teeth for spring-set should be from 2 to 3½ inches apart. Spring-set teeth too far apart will tear out at the bottom, making rounding, instead of square, sharp edges. I do not advocate a thin edger saw.

OTTAWA LETTER.

[Regular correspondence CANADA LUMBERMAN.]

THE intimation made in my letter a month ago that Mr. J. R. Booth would not likely rebuild his big mill at the Chaudiere, recently destroyed by fire, is, I am sorry to say, proving correct. Spoken to on the question some days ago, Mr. Booth said: "I have no intention of ever rebuilding on the site of the big mill. I have not changed my mind since the morning after the fire when I took in the whole situation. The old story was always some new complaint about the lumbermen, either from employees or other parties in the city. I have felt that there was little or no encouragement for me in this work, as enterprise of this sort does not seem to meet with the public appreciation". Asked as to what he proposed doing with the site, he said that the property was one of the most valuable of its kind in this part of the country, possessing some of the very best water power obtainable on the Ottawa. Such being the case it would be foolish to think of letting it stand idle. He had little doubt but that the land and water power privileges would meet with a very ready sale or if parties did not seem desirous of purchasing, he might rent the property to any firm that might want to establish itself at the Chaudiere. Mr. Booth said that his intentions regarding the old mill would have no influence upon the Peiley and Pattee property, which he has fitted out as one of the most complete saw mills in this locality. The Perley mill will be operated right along.

INDIFFERENT LENGTHS.

About 400 men left the city a week ago for the Pettewawa and Mattawa limits. These are mostly road cutters and general hands, known as the improvement gang. They will get things ready for the majority of the men who will go up in September. Wages will likely range about the same as last year; road cutters \$16, general hands \$18, loggers \$20 to \$24 and teamsters \$20 per month.

A cablegram has been received by the Hon. Mackenzie Bowell, giving as the reason why Norwegian lumber products have a preference over Canadian lumber in the Spanish West India Islands is due to a treaty concluded in July 1893, in which Spain agreed to give to Norway tariff treatment in her West India colonies. The treaty, however, has not yet gone into effect.

A raft of 155 cribs of the Moore Lumber Co. left a week ago for Quebec in charge of a crew of 95 men.

The last of this year's drive of logs for the Booth Lumber Co. passed through the Mattawa river a week ago. The logs are said to be very fine and will make up a total of about 400,000 logs which that firm have sent down the Mattawa this season.

An average of about 40 to 50 barge loads of lumber goes down the Ottawa every week for the Montreal and United States markets.

It is not unlikely that several rafts of square timber will be left on the Upper Ottawa this year owing to the low condition of the water.

OTTAWA, Can., August 22, 1894.

NEW BRUNSWICK LETTER.

[Regular correspondence CANADA LUMBERMAN.]

THE British market is thought to be somewhat easier, which is not bad news for these provinces.

The following timber regulations will be rigidly enforced by the Surveyor-General: "No spruce or pine trees shall be cut by any licensee, under any license, not even for piling, which will not make a log at least 18 feet long and 10 inches at the small end, and if any such shall be cut the lumber shall be liable to double stumpage and the licence be forfeited". The application is to all government timber logs.

A subsidy of \$32,000 has been granted to Alex. Gibson to extend the Miramichi end of the Canada Eastern, 6 miles below Chatham to Black Brook, where there is a big saw mill and also \$32,000 for making a loop line 4 miles above Chatham to Nelson taking in several other large mills and just across the river from Newcastle and its mills. This extension will materially facilitate the lumber business of Mr. Gibson.

A crew of men have gone into the woods in Victoria county on account of Beverage Bros. They expect to get out about 5,000,000 feet next winter.

A ship load of lumber is going from the Dorchester port to Buenos Ayres on account of Rhodes, Curry & Co.

It is calculated that the cut on the St. John's river this year is about 30,000,000 feet less than the average.

Smith & Wright, of Memill, are putting a new edger and trimmer in their mill.

Hale & Murchie's mill near Fredericton, which has been closed down for some time, owing to the depression, has commenced operations again sawing for Alex. Gibson, who re-

quires outside assistance to keep in sufficient supply to meet orders for the British market.

ST. JOHN, N. B., August 21, 1894.

BRITISH COLUMBIA LETTER.

[Regular correspondence CANADA LUMBERMAN.]

WITH the C. P. R. service fully resumed after the derangement caused by the floods the mills here are now daily shipping to Manitoba and Ontario. Manitoba dealers are ordering cautiously wanting to satisfy themselves first as to the condition of the crops. An improved demand for lumber is reported from Ontario.

Three Winconsin mill men have been looking over Port Angeles with a view of erecting a mill with a capacity of 200,000 per day.

The Hastings and Moodyville saw mills have both been buying logs of Puget Sound, the prices being an encouragement. The quality, however, I am told, has not been too pleasing.

W. K. C. Manley, late of Grand Rapids, Mich., has opened a general store at Kettle river and also thinks of building a saw mill.

The Burrard Inlet Red Cedar Co. have appointed J. W. Prescott their agent at Vancouver.

Mr. W. J. Johnson, shingle manufacturer, has returned from a trip in Ontario and says there is no immediate prospect of a pressing demand for British Columbia cedar shingles in that province.

NEW WESTMINSTER, B. C., August 17, 1894.

MICHIGAN LETTER.

[Regular correspondence CANADA LUMBERMAN.]

WITH the tariff bill passed and lumber made free some buoyancy is given to trade within the last few days. The change may not be what everybody wants, but it is worth something to have the tariff finally a fixture. Opinion prevails here among the planing mill and box men that free lumber must prove injurious to their trade and in a previous letter I gave you the opinions of several prominent manufacturers, who intimated that should lumber become free they would be obliged to do their manufacturing on your side of the line. It cannot be long before we will all ascertain just what shape matters will take under the changed conditions. This seems quite certain that things could hardly be worse than they have been for some months. With little lumber going out stocks have been accumulating quite rapidly, and in some cases the docks are becoming uncomfortably loaded up.

BITS OF LUMBER.

Michigan lumbermen who are interested in Canadian lumber are commencing to make preparations for the fall and winter work in the woods. J. W. Howry & Sons expect to cut probably 80,000,000 feet of logs and have already despatched about 100 men into the woods. So far J. T. Hurst has given out contracts for putting in 80,000,000 feet in Georgian Bay waters.

It is quite likely that there will be present a number of Michigan lumbermen at the sale of Canadian timber limits, to take place in Toronto this month. Anticipatory to this a number of land lookers have been going over some of the territory in the Georgian Bay district.

The information has already been communicated to your readers of the operation of a saw mill at Fenlon Falls by J. W. Howry & Sons and the fact that William Peters has purchased a mill at Parry Sound and will cut there. It is now stated that a syndicate of lumbermen consisting of Arthur Hill, of Saginaw, E. M. Fowler, of Chicago, and E. C. Whitney, of Minneapolis, who purchased about 500,000,000 feet of timber in the Ottawa region some time ago, will erect a band mill at a convenient point and cut their timber.

Lumber freights are the lowest ever recorded; another drop of 25 cents has taken place.

Several rafts of Canadian timber from the Georgian Bay territory are arriving at Bay City.

SAGINAW, Mich., August 23, 1894.

THE TRUTH.

THE Mississippi Valley Lumberman gives utterance to the following truth, which is wide enough in its application to easily embrace the Dominion of Canada: "Lumbermen are learning to advertise. They are beginning to appreciate and value the opportunities afforded them by the lumber press of the country. Each year lumber manufacturers and wholesalers are coming to a better realization of the fact that to reach the retail trade, the great mass of country yard men to whom they expect to sell their product, there is no better medium than the lumber trade journal, and advertising is fast

being recognized as one of the legitimate and necessary items of annual expense. A few years ago the trade journals had to depend largely upon machinery manufacturers for their support, and in justice to them it should be stated that their support has been the best that the lumber trade papers have had, for they were quick to appreciate their value as an advertising medium, and the way in which they have continued to advertise is the best proof of the value of advertising that can be made. Lumbermen should not allow the machinery men to support the trade journals that are for their good and the advancement of the trade in which they are engaged, and that they are beginning to realize this themselves, the advertising pages of the lumber journals bear evidence. At the present time the lumber trade is quiet, and the far sighted lumberman should readily see that it can be stimulated in no better way than by judicious use of printer's ink. A word to the wise is sufficient."

TRADE WITH AUSTRALIA.

MR. Carter Troop, who has spent considerable time in Australia investigating commercial conditions, has issued a very practical and comprehensive report, pointing out a possibility of the profitable exchange of products between Canada and Australia. He is of the opinion that there is a good market in that country for Canadian timber. On these points he says: "In New South Wales the timber trees of hard woods predominate, both in variety and in the area covered by the forests, the soft woods being limited to the brush forests of the coast districts. The Morton Bay, or colonial, pine, which is much used for joiners' work and for flooring, is a very unsatisfactory timber, as it not only swells during wet weather, but rapidly decays if exposed to wet and dry weather alternately. Some of the most easily worked of the soft woods have a peculiar tendency to shrink, even after thorough seasoning, so we are not surprised to find that the importation of lumber is very considerable. In 1891 the quantity amounted to 17,147,100 feet of dressed timber, valued at £147,000; and 88,015,800 feet of undressed, valued at £575,600; besides which there are sundries to the value of £38,300, consisting chiefly of doors, laths, and shooks and staves, the total value of timber imported being £760,900. Over 49 per cent. of all the timber imported by New South Wales comes from South Australia and New Zealand. Scandinavia and the United States come next in order, and then follows the Canadian Dominion, which exports to Australia about 6,000,000 feet per annum. Other things being equal, the Australians are more ready to import from Canada than from the republic or Scandinavia. It should not be difficult, therefore, to increase greatly the amount of our exports in this important business. The shingles of British Columbia, for instance, are the best that can be obtained anywhere."

Mr. Troop further adds: "There is yet another article of commerce in which Canada and Australia might work up a trade; that is in hard timbers. Australia is well supplied with the syncarpia laurifolia, locally and popularly known as the turpentine. Its bark is peculiarly heavy and thick, and resists the ravages of the torredo. For this reason the turpentine is of great commercial value, being in large demand for piles, etc. It could be imported with ease by British Columbia, where torredo resisting piles are greatly needed. There are, no doubt, other hard woods grown in Australia that would be of value to manufacturers in Canada."

It is estimated that more than 2,000,000,000 feet of lumber is used in railway cross ties every year in the United States.

Bill Nye, the humorist, comes of a lumber family. His father was a lumberman, and that's how he came to move over from Cape Cod to Maine, in which state the funny man was born. All the Nyes in Maine were in the lumber business.

The Victorian tariff charges duty upon all dressed timber, but admits free Ash, Blackwood, Cedar, Hickory, Oak, Pine, Sycamore, Walnut, Whitewood, Hardwood (above nine inches square). It also admits American Pine, Sugar Pine, California Redwood (one inch and over in thickness), spars, spokes, fellies, box wood, oars and shafts, if undressed.

THE NEWS.

CANADA.

—F. S. Deschr, lumber, Rosenfeld, Man., has sold out to Duncan Stewart.

—The Parry Sound Lumber Co. is advertising its general store business for sale.

—The Moodyville Mill Co. are constructing a logging railway at Grief Point, B.C.

—Fraser & Co., saw and grist mills, Edmonton, N.W.T., Malcolm McLeod, deceased.

—Nine rafts of lumber have gone down to Quebec from the Upper Ottawa river this summer.

—It is reported that American capitalists contemplate erecting a large lumber mill near Eganville, Ont.

—The capital stock of the Brunette Saw Mill Co., Victoria, B.C., has been increased from \$200,000 to \$300,000.

—A St. John River lumberman thinks the year's cut is 30,000,000 to 40,000,000 less than in ordinary years.

—Mr. Sandler, of Staffa, Ont., has purchased from Samuel Horton a new sixty horse-power boiler for his saw mill.

—George W. Anderson, of Rochester, one of the largest lumber dealers in the State of New York, has assigned.

—The employees of Dodd's planing mill at London, Ont., went out on strike last week against a reduction of wages.

—The British Columbia Wood Works Co., of Vancouver, has gone into liquidation. J. W. Weart has been appointed liquidator.

—James McDonald, of Tilbury Centre, Ont., is about to commence the erection of a planing mill and sash and door factory at that place.

—Price Bros.' saw mill at St. Thomas Montmagny, Que., destroyed by fire in the month of May, has been reconstructed and has commenced operations.

—Quebec takes the lead in the supply of timber, her output of sawlogs amounting to 5,000,000,000 feet board measure, and of square timber to three and a quarter million cubic feet.

—D. G. Stephenson, lumber merchant of East Toronto, recently made an assignment of his property and a few days afterwards departed for new fields. His liabilities exceed \$50,000.

—The Waterous Engine Works Co. are making arrangements to rebuild their branch factory at St. Paul, Minn., recently destroyed by fire. The works will be rebuilt on a much larger scale.

—Grant, Horne & Co., the well-known lumber dealers of Port William, Ont., are supplying the Ontario Government with the necessary lumber for the erection of a log slide at Pigeon River.

—The employees of McLachlan Bros., lumbermen, of Arnprior, Ont., have formed a mutual benefit society to be known as the Arnprior Lumber Mills Association. Nearly 500 men have already joined.

—Humphrey & Trites, of Petitecodiac, N.B., have their new saw mill at that place in operation. It is somewhat smaller than the mill destroyed by fire some time ago, but is said to be well equipped.

—F. J. Drake, Belleville, Ont., recently shipped a shingle mill and lath machine to Marston & Brock, Hawkesbury, Ont., and a complete outfit for James Morrison's new shingle mill at Gooderham, Ont.

—The Vancouver Sash and Door Co., Ltd., of Vancouver, B.C., has been incorporated by the Dominion Government. J. B. McLaren, R. D. Fetherston and Henry De Penric, compose the directorate.

—The Winnipeg Free Press states that a western member of the Retail Lumbermen's Association has been suspended and fined \$200 for selling lumber at rates less than scheduled in the association's price list.

—The Rathbun Co., of Deseronto, Ont., have received the last shipment of red pine timber purchased from H. M. Loud & Co., of Ausable, Mich. The raft broke away at Tonawanda and passed over Niagara Falls.

—The Southampton Lumber Co., of Southampton, Ont., is applying for incorporation, with a capital stock of \$10,000, to manufacture lumber, shingles, etc. Charles M. Bowman, of Southampton, is one of the chief promoters.

—In the year 1892 the firm of Mullin & Co. purchased the Bloor street lumber yard in Toronto of Robert Thompson & Co. for \$11,600, giving a chattel mortgage to secure the amount. We now learn that the concern has been sold out.

—The effects of O. E. Konkle, lumberman, of Hamilton, Ont., are reported to have been taken possession of by the sheriff. Some time ago Mr. Konkle gave a chattel mortgage for \$4,800, the foreclosure of which is said to have been the means of closing his business.

—Donald Fraser's new mill at Fredericton, N.B., has commenced operations, and will be operated day and night for the remainder of the season. Nearly 100 men will be employed, and it is expected three million feet of lumber will be cut before the close of navigation.

—It is said to be the intention of a company, of which W. S. Taylor, of the Don Valley Pressed Brick Works, Toronto, is at the head, to erect a saw mill at Jardine's side road, near Collingwood, Ont. The company is also interested in other speculations in that vicinity.

—It is reported that several American lumbermen have been negotiating for the purchase of the Cormier estate at Aylmer, Que. The mill has been in dispute for some time, and has cut no lumber this year. It is well equipped, and when in full running order would give employment to a large number of hands.

—Several new lumbering firms are commencing operations in the northern part of Ontario. William Peters, of Bay City, Mich., has taken over the Midland and North Shore Lumber Co.'s mill at Parry Harbor and will cut logs next season. Mills are being put up at Kennebec, Algoma, by the Cutland & Savage Co., also of Michigan, and supplies and equipments are being purchased.

—A large number of men have already been engaged to work on J. R. Booth's limit on Sturgeon river. Mr. Booth states that there is a desire, on the part of lumbermen, to commence operations in the woods early this fall, owing, no doubt, to the small cut of last year. Wages will be somewhat lower than last year, log cutters receiving only \$15 to \$22 as against \$18 to \$26 last year.

—The Dominion Government has decided to set apart all heavily timbered lands in Manitoba west of the Red river as permanent timber reserves, which will be held as the sources of fuel supply for settlers. Among the tracts already divided up and withdrawn from settlement are the bush lands in Turtle, Moose and Riding mountains, and in the Touchwood hills, besides other scattered patches of timber of less extent.

—The Timber News of July 31st contains the following relative to the consumption of Canadian lumber in Liverpool: The greater quantity of spruce deals from the New Brunswick and Nova Scotian ports have so far gone straight into consumption, very few having been yarded. A few cargoes have gone up the Manchester Ship Canal to Runcorn, Saltport and Manchester, several being dealt with by Manchester merchants.

—Four car loads of horses and one hundred men recently passed up the O. A. & P. S. Railway for the St. Anthony Lumber Company's limits, beyond Barry's Bay. This company have purchased the old Perley limits in that locality, and this will be the first season's operations. The company are erecting a saw mill about sixty miles beyond Killaloe, where their logs will be cut, and the timber shipped over the O. A. & P. S. Railway and C. A. R. to the United States.

—The Peterboro' Review of recent date says: "The Gilmour Company's drive of 60,000 logs is being taken through Sturgeon Lake this week. The drive is one of the largest that has ever passed down the lake, and the apparent ease with which it is handled by the alligator boat which accompanies it, is marvellous. The drive is kept moving day and night; at night the operations are conducted by the aid of an electric light on the alligator boat. The men eat and sleep on shore in well-appointed tents."

—In chatting with Mr. J. W. Duval, a mill-owner at Grimsby Village, a few days ago, a correspondent of the Toronto Globe was informed that he had sawn this spring at his mill 15,180 feet of apple-tree lumber. All this was cut from sound, green trees that had been cut down. To produce this lumber required one thousand trees, some of which were 22 inches in diameter. This means that 2,000 acres of land have been denuded of orchard, for the average is fifty trees to the acre. The explanation was that the apple crop has been almost a failure for some years, and the tendency is towards small fruits, which grow in perfection and give much more profitable returns.

—A peculiar suit has been entered by the H. M. Louts Lumber Co., of Ausable, Mich., against Charles Nurse, of Humber Bay, Ont. During a flood last winter a boom broke at Tonawanda, N.Y., and allowed a huge raft of square timber belonging to the above named company to go over Niagara Falls. During the next couple of months the shores of Lake Ontario from Oswego to Hamilton Beach were dotted with sticks of timber that had drifted ashore. A quantity landed near the Humber, and it is alleged that Mr. Nurse captured several sticks that came ashore and used them. Nesbitt & Gauld, of Hamilton, have issued a writ on behalf of the company for \$200 against Nurse for alleged wrongful conversion of the timber. The suit will be an interesting one should it go to the courts.

—Wm. Mackey, of Ottawa, is said to be the only lumberman in Canada who has been continuously in the square timber

business for half a century. To a reporter of the Ottawa Journal, Mr. Mackey said: "I made my first raft of red pine during the winter of 1844-5 on the Madawaska river, there being no demand for white pine in those days. I have held the license and paid the ground rent on the limit on which I made my first raft for nearly fifty years. Yes, prices for timber and supplies have varied much. When I commenced first I paid as high as 25 per cent. interest on moneys advanced to purchase supplies, etc. The average wages for men were from \$10 to \$14 per month. Hewers got \$20 per month, and these were the highest priced men. There was far more square timber taken out then than now, for this was long before the era of sawlogs. I have known of 100 rafts passing here in one season. This year 10 rafts will be the limit."

FIRES AND CASUALTIES.

FIRES.

—The planing mill of B. H. Armstrong, Fairville, N.B., has been destroyed by fire; no insurance.

—John Morrison's saw mill near Bathurst, N.B., was burned about the end of July. The loss will probably reach \$3,000.

—The carding, saw and shingle mills of Mr. Cumberland, at La Patrie, Que., have been totally consumed by fire. There was no insurance.

—Maclaren's saw mill at Fort Macleod, N. W. T., was burned to the ground the early part of last month. The loss is estimated at \$12,000.

—The lumber yard of J. H. Fraser, Wallaceburg, Ont., was visited by fire recently and \$8,000 worth of lumber destroyed. The loss is partially covered by insurance.

—A dispatch of recent date from Windsor, Ont., states that timber fires are raging along the line of the Lake Erie and Detroit River Railroad. The damage will amount to a large sum.

—Jacob Bundscho's saw mill and cheese box factory at Milverton, Ont., was destroyed by fire recently. Loss about \$3,000; insurance \$1,000. Mr. Bundscho suffered a similar loss five years ago.

—The shingle and saw mill at Stirling Falls, Ont., owned by William Dunbar, was destroyed by fire a fortnight ago. 155,000 shingles were burned and a quantity of lumber. Loss \$2,100; insurance, \$6,000.

—On the 10th ultimo the planing mill of W. C. Harrison, at Norwood, Ont., was totally consumed by fire, which is supposed to have been caused by a spark from the smoke stack. The mill was valued at \$9,000. The lumber in the yard and Mr. Harrison's dwelling was saved by the efforts of the fire brigade.

—One of the most serious fires of the past month occurred at Port Arthur, Ont., on the 13th of August, by which the large planing mill at the south end of the town, owned by James Connee, ex-M.P.P., was totally destroyed. The building and machinery were valued at \$18,000 and were insured for about \$10,000. Vigars Bros., who operated the mill, lost some lumber and machinery. We have no doubt the mill will be re-built.

—At Bridgenorth, Ont., on the 2nd of August, fire was discovered in the engine room of W. B. Kelly's saw mill, which resulted in the entire destruction of the mill, together with 50,000 feet of lumber and 1,000 ties. Loss on mill, \$5,000; on lumber and ties, \$8,000. The burned mill had a daily capacity of 20,000 feet of lumber, and was built about ten years ago. We are pleased to learn of Mr. Kelly's intention to rebuild.

—The most disastrous fire which has visited Chicago since the big conflagration of 1872 occurred on the 1st of August, the scene of the fire being in what is known as the lumber district. Three million dollars worth of property was destroyed. Lumber companies suffered the following losses: Perely, Lowe & Co., \$300,000; Martin Lumber Co., \$700,000; R. E. Conwar, \$150,000; Longley, Lowe & Co., \$100,000; Keystone Lumber Co., \$150,000; Wakefield Hines Lumber Co., \$200,000.

CASUALTIES.

James C. Hunter, employed in Palmer's lumber camp near McGregor, Ont., was struck on the head by a broken belt recently and died from the effects thereof.

—While working in Hadley's lumber mill at Chatham, Ont., Dan. Crump had his right hand caught in the machinery and badly crushed. It was found necessary to amputate three fingers and the thumb.

—The 15 year old son of Ambrose Herritt, while working in his father's shingle mill at Rodney, N.S., was caught in the belting. His arm was broken and he received some painful, but not fatal flesh wounds.

TRADE REVIEW.

Office of CANADA LUMBERMAN, August 25, 1894.

THE GENERAL SURVEY.

MORE than one indication of an improvement in the lumber trade has been made manifest during the month. The culminating circumstance, of course, to give fresh life to business, has been the passing of the United States tariff bill, making lumber free. This particular question is dealt with fully in another part of these pages, so that little more than a brief reference is called for here. The various views expressed are hopeful, so far as future trade is concerned. It is believed as a result of free lumber that there will be a general leveling up of values, both as regards timber limits and the manufactured products of the forest. In some respects this may not be deemed necessary, as prices have shown very little tendency to depreciation, when the severity of the depression is considered. Now, however, the confidence that was manifest by the firmness of prices, will be made practically manifest in the moving of stocks. It is anticipated that within the next few months there will be considerable changing of ownership in limits, as not a few sales have been hanging fire, pending the tariff decision.

The manufacture of lumber in all departments can hardly fail to be benefitted by this change in the tariff, and the opinion is expressed by a number of leading lumbermen, elsewhere in this issue, that we may expect in the near future an important development in the line of saw mills and planing mills. There is certainly good reason to anticipate, that it will pay to manufacture lumber here and ship it as dressed lumber, rather than to ship simply the coarse lumber, and have the dressing done in United States mills.

Aside, however, from the stimulus that has been given to the trade through the passing of the Wilson bill, there were indications even before this that the lumber trade was reviving. This was shown in the early preparations that were being made by a number of firms for work in the woods the coming winter, and also in the purchase by United States lumbermen of Canadian mills and the determination on their part to operate them.

Local trade in the province has remained very dull. One large wholesale firm remarked to the writer a few days ago that they had not done so small a business since 1882. The building permits granted in Toronto during the past month would indicate a present revival in the building trade. These show a total for July of \$259,150. This is the largest amount for the same month in any year since 1890, except in 1891, when the amount included half a million. These figures are encouraging in a way, but they do not mean very much for the lumber trade. They are covered largely by several buildings running into considerable figures, in the construction of which there will not be a great deal of lumber used.

Trade in British Columbia at present is quiet. And the same is to be said of present conditions in Quebec and the Maritime provinces, but the hope is there, as it is in Ontario, that a revival will follow the change in tariff.

UNITED STATES.

A fortnight ago it would have been impossible to have written anything encouraging of lumber conditions in the United States. No one could have done anything else but have told the old, old story of continued depression and plenty of it. Piling grounds loaded up with stocks, so that in some cases the lumbermen had commenced to make extensions in this direction to accommodate increasing supplies. Anyone who wanted to buy had nothing but a little sorting up order to present, that a year or more ago he would have been ashamed to hand in. But a change has come over the scene. The tariff bill has practically become law. Lumber, as was expected, despite various protests to the contrary, has been placed on the free list. And the result has been that everybody is plucking up courage. This does not say that everybody is satisfied with the issue, but there is something definite to work on now, and it is here that the encouragement comes. It must be admitted that things have been bad enough to render it a physical impossibility for the trade to recuperate and become convalescent all of a jump. The long

looked for turn for the better has nevertheless taken place, and whilst at this writing it is not possible to be specific and tell of large sales that have been made, yet it is quite safe to talk in confident terms of an improved spirit, and though it may partake of the over-sanguine, so delightful is the change, yet it is believed that the record of the lumber trade in the months to come will indicate a steadily growing revival. The men who have been holding firm to prices feel now that their confidence in the soundness of the lumber situation has not been misplaced.

FOREIGN.

Hardly any encouragement comes to lumber interests in Great Britain. Mr. John Donogh, who has recently returned from the Old Country, tells us in an interview on another page that in Edinburgh, Glasgow and London he found the lumber trade exceedingly depressed. The advices we receive from lumber correspondents in the United Kingdom all indicate like conditions. Denny, Mott & Dickson, of London, in their current wood market report, tell us that business for the month has been marked by increasing apathy. "Strikes and labor difficulties continue to handicap traders, and the conviction that these social problems are impeding Britain's progress as a manufacturing nation is spreading." Hope is expressed, however, that tariff reform in the United States and the great check to the spending power of Colonial and South American customers will help in the way of a revival of business. Farnworth & Jardine, of Liverpool, in their wood circular, remark that there is no improvement in values, which are difficult to maintain, especially for the leading articles. The arrivals of Waney timber are reported as having been large. The import of pine deals has also been large, namely, 5,468 standards, against 2,075 the same month last year. Of spruce deals the import has been 12,746 standards, against 15,105 standards same month 1893, and 10,587 in 1892. The Timber Trades Journal states that at the last auction, Canadian pine, which was offered in large quantities of the more expensive grades, met with a fair demand, which, upon the whole, may be considered satisfactory. There are no changes of any moment to note in the Australian markets. Dullness continues to reign there, though it is thought that the hardest part of the depression is over. Considerable shipments are being made to South America.

TORONTO, ONT.

TORONTO, August 25, 1894.

Table with columns for CAR OR CARGO LOTS and LATH, listing various lumber items and their prices.

YARD QUOTATIONS.

Table with columns for MILL CULL BOARDS AND SCANTLING, SHIPPING CULL BOARDS, and CUTTING UP PLANKS, listing various lumber items and their prices.

HARDWOODS—PER M. FEET CAR LOTS.

Table listing prices for various hardwoods such as Elm, Hickory, Maple, Oak, and Walnut.

OTTAWA, ONT.

OTTAWA, August 25, 1894.

Table listing prices for various types of pine lumber, including good sidings, good strips, and quality sidings.

QUEBEC, QUE.

QUEBEC, August 25, 1894.

WHITE PINE IN THE RAFT.

Table listing prices for white pine in the raft, including inferior and ordinary quality, and superior quality.

RED PINE IN THE RAFT.

Table listing prices for red pine in the raft, including measured off and in shipping order.

OAK—MICHIGAN AND OHIO.

Table listing prices for oak from Michigan and Ohio, including by the dram and 14 inches and up.

ASH.

Table listing prices for ash, including 16 inch average.

BIRCH.

Table listing prices for birch, including square and flattened.

TAMARAC.

Table listing prices for tamarac, including merchantable pipe and W. O. Puncture.

STAVES.

Table listing prices for staves, including bright and according to mill specification.

DEALS.

Table listing prices for deals, including bright and according to mill specification.

NEW YORK CITY.

NEW YORK, N. Y., Aug. 25.—The distribution of lumber at this centre is narrowed down to a very small compass. Transactions continue of the highest character. A measure of renewed activity is certainly manifest now that the tariff question has been settled, and various deals that have been hanging fire will come to a close. This of itself will mean a fair distribution of lumber and activity through all the various channels of distribution. To this extent the future looks more bright than has been the case for many months.

WHITE PINE—WESTERN GRADES.

Table listing prices for white pine western grades, including Coffin boards, Select, and various sizes of lumber.

BUFFALO AND TONAWANDA, N. Y.

TONAWANDA, N. Y., Aug. 25.—Local lumbermen might object to giving away the situation entirely by showing the figures of sales this season as contrasted with several seasons of the past, but there can be no doubt that the record would show a very great shrinkage in business. A local lumberman told the writer a few days ago that there was simply nothing moving. Seeing that the people here are very much opposed to free lumber they are not prepared to say just what the result will be, seeing that free lumber has actually come. Large stocks of lumber are to be found on the docks, and whilst generally prices are holding up well, yet there are not a few dealers who will shade quotations in order to make sales.

WHITE PINE.

Table listing prices for white pine, including various sizes and grades of lumber.

BOSTON, MASS.

BOSTON, MASS., Aug. 25.—The trade at this point take the changes in the tariff as affecting lumber in a very philosophical manner. They have not been, as in some places, any way belligerent in their attitude to the bill, and they do not seem to anticipate any terrible trouble now that free lumber is here. It is not unlikely that the change will lead to the bringing in of considerable quantities of spruce from New Brunswick.

EASTERN PINE—CARGO OR CAR LOAD.

Table listing lumber prices for Eastern Pine, including items like Ordinary planed boards, Coarse No. 5, Refuse, etc., with prices per 1000.

WESTERN PINE—BY CAR LOAD.

Table listing lumber prices for Western Pine, including items like Uppers, 1 in., 1 1/2 and 2 in., etc., with prices per 1000.

SPRUCES—BY CARGO.

Table listing lumber prices for Spruces, including items like Scantling and plank, random cargoes, Yard orders, etc., with prices per 1000.

LATH.

Table listing price for Spruce by cargo: 2 50 @ 2 75.

SHINGLES.

Table listing lumber prices for Shingles, including items like Eastern sawed cedar, extra, clear, etc., with prices per 1000.

SAGINAW, MICH.

SAGINAW, MICH., Aug. 25.—A few sales much beyond the average size of sales as they have been going for some months has proven a source of encouragement to lumbermen of Michigan. One sale was reported of 7,000,000 feet cut at the Whitney & Batchelor mill at Melbourne, to Grey, Jenks & Co., of Cleveland. The price is believed to have run at from \$16 to \$17. Outside of transactions of this kind, all through the month trade has been very dull and lumber has been showing a rapid accumulation at all the leading piling grounds. Much of this must now commence to move, seeing that the long discussed tariff bill has finally become law, and lumber become free of any duty.

FINISHING LUMBER—ROUGH.

Table listing lumber prices for Finishing Lumber—Rough, including items like Uppers, 1, 1 1/2 and 1 3/4, etc., with prices per 1000.

SIDING.

Table listing lumber prices for Siding, including items like Clear, 1/2 in., 3/4 in., etc., with prices per 1000.

TIMBER, JOIST AND SCANTLING.

Table listing lumber prices for Timber, Joist and Scantling, including items like 2x4 to 10x10, 12, 14 and 16 ft., etc., with prices per 1000.

SHINGLES.

Table listing lumber prices for Shingles, including items like XXX 18 in. Climax, XXX Saginaw, etc., with prices per 1000.

LATH.

Table listing price for Lath, No. 1, white pine: 2 00.

BOX.

Table listing lumber prices for Box, including items like 1x10 and 12 in. (No. 3 out), etc., with prices per 1000.

SHINGLES.

Table listing lumber prices for Shingles, including items like 18 in. XXX, clear, 18 in. XX, 6 in. clear, etc., with prices per 1000.

LATH.

Table listing price for Lath, No. 1, 3 ft.: 1 10.

OSWEGO, N.Y.

OSWEGO, N. Y., Aug. 25.—It cannot be said that there is anything of particular moment to report of lumber here. The volume of trade is undoubtedly curtailed, though it is hoped that strength will be given to shipping interests with the lumber tariff finally settled.

WHITE PINE.

Table listing lumber prices for White Pine, including items like Three uppers, 1 1/2, 1 1/2 and 2 in., etc., with prices per 1000.

Table listing lumber prices for Siding, including items like 1 in siding, cutting up, 1 licks and uppers, etc., with prices per 1000.

1X12 INCH.

Table listing lumber prices for 1X12 Inch, including items like 12 and 16 feet, mill run, 12 and 16 feet, No. 1 and 2, barn boards, etc., with prices per 1000.

1X10 INCH.

Table listing lumber prices for 1X10 Inch, including items like 12 and 13 feet, mill run, mill cull-out, 12 and 13 feet, dressing and better, etc., with prices per 1000.

1 1/2 X 10 INCHES.

Table listing price for Mill run, mill cull-out: 22 00 @ 25 00.

1X4 INCHES.

Table listing lumber prices for 1X4 Inches, including items like Mill run, mill cull-out, 17 00, etc., with prices per 1000.

1X2 INCHES.

Table listing lumber prices for 1X2 Inches, including items like 6, 7 or 8, mill run, mill cull-out, etc., with prices per 1000.

SHINGLES.

Table listing lumber prices for Shingles, including items like XXX, 18 in. pine, 3 70, etc., with prices per 1000.

LATH.

Table listing price for Lath, No. 1, 1 1/2: 2 30.

ALBANY, N.Y.

ALBANY, N. Y., Aug. 25.—The number of small orders that shippers receive now-a-days for lumber gives them a good deal of additional labor in handling cargoes. It takes several small orders to make up a boat load, and it is a method of doing business that they have not been accustomed to in the past. Not that the trade here have leaned very much to free lumber, but as it means a settlement of the tariff difficulty it is believed there will be considerable activity in lumber for the rest of the season.

PINE.

Table listing lumber prices for Pine, including items like 2 1/2 in. and up, good, 40-in. common, etc., with prices per 1000.

LATH.

Table listing price for Pine: \$2 40.

SHINGLES.

Table listing price for Sawed Pine, ev. XXX: \$4 40.

NOTES FROM THE PACIFIC COAST.

SEVERAL parts of British Columbia have suffered from the extensive bush fires. In the Kootenay County several towns and settlements were entirely destroyed. At Bear Lake, Messrs. Arnold and McDermott lost their saw mill from bush fires. Valued at \$20,000.

British Columbia Fir has been tried for mine work in South Africa with great success, and it is likely further orders will be placed for it.

Business continues very quiet, but all are hoping for an improvement in the near future.

CANADA'S GREAT FAIR.

THE Toronto Industrial Exhibition, which is to be held from the 3rd to the 15th of September will no doubt be the greatest fair of the present year, and from the present indications it promises to excel all others, both in point of exhibits and in attendance of visitors. The grounds have been vastly improved since last year, and already most of the space in all the buildings has been applied for. A good programme of special attractions, both novel and interesting, will be provided as usual. Cheap excursions will as usual be run on all railways at rates in keeping with the times.

The United Association of Lumbermen will hold their annual meeting at Denver, Col., Sept. 13-14.

The saw and shingle mills at Odessa, Ont., owned by Man-cur & Babcock, were destroyed by fire a fortnight ago. The property was insured for \$2,500.

The Fleming wood and lumber mills in Tay township, about one mile from Midland, Ont., were burned to the ground on the 23rd ultimo. Loss \$15,000.

BY THE WAY.

THE following notice relating to the crown timber dues in Quebec to be levied on pulp wood appears in the last issue of the Official Gazette: "Whereas, the present rate of dues chargeable on spruce logs for paper pulp is 25c. (twenty-five cents) per cord of 128 cubic feet, and whereas, it is advisable to raise it, while allowing a reduction when pulp wood is to be manufactured in this province—it is ordered, that the rate of dues on spruce logs for paper pulp be fixed at forty cents (40c) per cord of 120 cubic feet, but that a reduction of fifteen cents (15c) per cord be allowed when the pulp-wood is to be manufactured in this province."

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Foreign lumber markets, it is stated, have not recovered from the effects of flooding those markets with inferior American logs. When will business men learn how short-sighted is the policy of putting on the market goods of an inferior quality? A temporary purpose may be gained, but the time is short when the reaction shows itself and the whole interests of a particular trade are prejudiced by such conduct. Two or three years ago the farmers of Manitoba were foolish enough to ship to Great Britain a considerable quantity of frozen wheat. What was the result? It was not long before millers and grain men there became suspicious of any wheat that came from any part of Canada and the whole grain and milling interests of the country were prejudiced by this act. The old proverb is as true to-day as ever that "honesty is the best policy."

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A meeting of the American Forestry Association is to be held at the White Mountains, N. H., towards the end of this month. More than usual activity is just now shown in forestry circles in the United States. Every effort will be made to prevent the cutting of trees in the Adirondack district. Evidence was recently given before the New York Board of Trade that considerable harm had already come from the cutting of forests in those territories. One delegate stated that he could have walked across the Hudson river across the Troy dam almost without wetting his feet. It was believed that the time would come when all the cities along the Hudson river would have to look to the Adirondack for their water supply. It has been scientifically demonstrated on more than one occasion that the forests brought rain and that tornadoes never take place in wood countries; and the present condition where the worst has not nearly been reached in the Adirondack district is evidence along these lines.

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In a city like Toronto where the whole trend is in the direction of paving our streets with asphalt, there may not appear to be much encouragement to talk wood pavements. But there are other places besides the Queen City needing pavements, and all have not become converted to the idea that asphalt makes the best pavement, or if so, are not sure if they are in a position to experiment very much in that direction. Wood pavements have been eschewed in this city to some extent, because of their alleged unhealthiness. It is worthy of remark that wood paving in European cities continues to be carried on to no small extent. We have before us at this writing a report of the London county council saying that resolutions have been passed for the purpose of wood paving in a number of districts. In Bristol application has been made to the proper authorities for permission to borrow £37,500 for street improvements. The larger part of these will be wood pavements. Wood pavement is to be extended on the Gloucester road and other streets within what is known as the Kensington district. All this indicates faith in wood pavements. So far as their healthfulness is concerned the Lancet, a leading medical journal in Great Britain, has recently spoken out in plain terms on this question. It confesses to serious doubts as to the attack made on wood pavements on sanitary grounds. "Coming to the evidence of disease," says the Lancet, "we are unable to discover that there has been an increase of illness from wood pavements as compared with other districts. Obviously, therefore, the accusations leveled against our wooden roads on the score of health must, so far be disallowed, as not proven."

TALKS WITH WOOD-WORKERS.

THE mechanic who uses his tools awkwardly may be set down as a poor mechanic. It has been remarked that there is a right way and a wrong way of doing everything, and in the handling of tools it is most important that the workman knows how to handle these in the right way. Some men, says Mr. F. I. Harmon, writing in the Wood Worker, are better workmen than others, and it is not fully decided that a good deal of this superiority does not arise from the position of the man while working. The largest amount of good work can not be done while the body is in a cramped position. It is not enough to hold correctly and use them right, but the body, too, should be handled right, in order that a man may do the maximum amount of work he is capable of turning out. To this effect, all prolonged work should be executed with the chest out and the shoulders thrown back. A contracted chest will produce shortness of breath and palpitation of the heart. The head should be held erect as possible. By keeping the head in a bent position the passage of the blood through the veins of the neck and throat is impeded (the vein tubes being stretched vertically) and at the same time the muscles at the back of the neck which hold up the head, become strained. When we are erect, much of the weight of head is supported by the spine. Again, in a bent position we look at things from a wrong angle. This makes it almost impossible to do accurate work.

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In sawing, some people claim that the feet should be so far apart that the legs form an angle of 90 degrees. Other people say that 60 degrees is right. I believe it depends upon the kind of work to be done. For light, easy sawing I can work to advantage with my feet 45 to 60 degrees apart, but on the very heaviest kind of sawing, by bracing out to the 90 degree angle work is done to greater advantage. The arms and shoulder must be in line with the saw kerf, so as to swing in the direction which the saw is to take. There is just one way in which the head may be held high when shoving a saw or a plane, and the chest may be kept well expanded, and that way is by having the work supported at exactly the right height. To this end every bench ought to be made, especially for sawing, so that it may be raised or lowered as the work requires.

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When sawing with the right arm, the left foot should be extended, with the leg out straight and parallel with the bench. When sawing with the left arm (and a man can saw as well with one as the other if he will only practice equally with each), the right foot is to be put forward; in either case the arm should move in the direction of the resistance. The saw always ought to move in a line parallel with the bench, then there will be no danger of running into that piece of apparatus and possibly damaging the saw on a nail or screw. The body should never be held stiff. Good, fast work can not be done unless the body moves slowly backwards and forward, and its swing should be regulated by the amount of resistance to be overcome. Therefore, in light, easy sawing there need be much less motion than when a tough bit of stuff is being attacked and full power of the man is required.

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In planing, the left knee (right-hand work) should be parallel to the bench and one foot at right angle to the other. The pressure on the plane, so that the plane-iron will catch the wood, should come from the weight of the plane. Very little force should be put upon the plane with the arms. Planing is different from drilling or boring. In performing either of these operations the weight of the body should be used to overcome the resistance of the material.

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The scope of this article includes the grinding and setting of plane-irons or the filing of saws, but unless the tools are in perfect condition, no man, be he ever so good a workman, can hold himself in the correct working position while using such tools. For instance, a plane is dull; the iron will not pick up a chip unless considerable weight be put upon the plane, and the very act of "riding" upon the plane prevents the workman from keeping in position. Suppose a board of eight feet long has both edges to be jointed up so it can be used

as a straight edge. In taking a chip off this board the workman desires to cut a continuous shaving without once stopping the plane. He must take off a continuous chip or he can not get the edge smooth and true. Every time the plane stops a slight ridge or bunch will be left; therefore it is necessary to walk along the work and push the plane, consequently the tool must go easily, and a little bearing down beyond its weight can be permitted. If the plane is dull, bearing down harder is necessary to make it cut. But bearing down hard is fatal to true work, hence the tool must be sharp to insure good work, through a correct position of the workman.

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Upon correct position, then, depends much more than is apparent at first sight. The man who grasps a hammer handle close up under the head, does not expect to do as much work as the man who seizes the handle in its proper place. The old German mechanic understood this point when he marked off his hammer handle into inches and marked the first mark from the head \$1.25, the next mark \$1.50 and so on up to the eight-inch mark, which he labelled \$3.00. Being asked the meaning of the marks Hans said: "Ven I gits \$1.25 a day, I takes him at dot mark," and he struck a blow that had but very little force, "but when I gits \$3.00, I takes him dere" (the eight inch mark), and Hans struck a blow that had unmistakable force. Correct position then is the correct thing for the wood-worker to attain, in order to do the greatest possible amount of the very best work.

JAS.

ROPE DRIVING.

THE subject of rope driving may properly be placed under two heads, according to the nature of the material composing the ropes—whether fibrous or metallic. With few exceptions metallic or wire ropes are used almost exclusively on long-distance or telodynamic transmission, while fibrous ropes are employed for intermediate and comparatively short drives. Among the materials used in this method of power transmission we find manilla rope in much favor in this country, as well as in Great Britain and Germany.

In many cases ropes of cotton are also used, as they are generally softer and more pliable than the ordinary manilla ropes, thus allowing smaller pulleys to be used with less injury to the fibres. In fact, cotton ropes of small diameter have been used for years in cotton machinery bandings over pulleys and under conditions which would wear out a manilla rope in one-third the time. There is also an advantage, in that there is less internal chafing and wear when the rope is bent over a pulley, on account of the smoothness of the fibres and the great elasticity of the yarns.

The fibre of cotton is in itself a single cell, or hair, which grows on the coat of the seed and is thus a unit. These fibres are divided into two classes, constituting what are known as the short and long stapled varieties, in which the length varies from 3-8 inch to 1 3/4 inches. The unit cell, when attached to the seed in the plant, is in the form of an elongated cylinder, but when dried and separated from the plant the walls of the cells collapse; the flattening of the cells is not uniform nor continuous in a straight line, and as a result the fibre assumes the appearance of a twisted ribbon of numerous convolutions, somewhat resembling a corkscrew.

The shape of the fibre is thus well adapted to the work of being twisted into yarns and on account of each fibre being a unit its surface is comparatively smooth; the structure of the fibre permits considerable elongation, and especially in the long stapled varieties, the natural wax on its outer surface acts as a lubricant and permits a freedom of motion between the unit fibres without undue wear.

Thus it will be seen that cotton ropes are particularly well adapted to the transmission of power, in which the rope is constantly undergoing a varying strain, and is subjected to much flexion. The strength of cotton ropes is, however, extremely small, and although the weight is about one-third less than manilla the actual first cost is from fifty to seventy-five per cent. greater than for the latter. The working strength of cotton transmission rope may be taken higher, in proportion to its ultimate strength, than is used for manilla, for the latter is weakened by the grease with which it is lubricated, and, more-

over, a large factor must be allowed for wear on account of the character of the manilla fibre, which breaks more easily under bending strains.

As compared with manilla, then, the advantages of cotton ropes of the same diameter are: Greater flexibility, greater elasticity, less internal wear and loss of power due to bending the fibres, and the use of smaller pulleys for a given diameter of rope. Its disadvantages are greater first cost, lesser strength, and possibly, a greater loss of power due to pulling the ungreased rope out of the groove—in any case this is very small with speeds over 2,000 feet per minute.

In England manilla is now being used very largely, but cotton were formally preferred to the exclusion of all others for all kinds of driving, but the most probable cause of this was not that cotton was the best or most economical for the purpose, but that rope driving is most common at cotton factories, and cotton ropes were made in the locality by men who were familiar with the local product and had for years been making spindle and rim bands of small size. When the demand for large sizes arose these rope makers applied themselves to the newer industry and shut out other materials.

In the mills of Dundee and vicinity, and in the North of Ireland, where flax and hemp are worked, we find ropes of hemp, a local product, used entirely.

Rawhide ropes, which are made from 3-8 inch to 2 inches in diameter, are used to a limited extent. Where the stress in a rope is not great and the accompanying slip is small, rawhide works very well, and will last from three to six, and, in some cases, ten years. Under ordinary circumstances, it is not necessary to use any dressing, as sufficient lubrication is furnished by the rope itself; if the rope slips in its groove the leather will be burned and lose its flexibility and also its adhesive qualities to a certain extent. A rawhide rope has very little tendency to rotate on its axis, and for this reason the wear is not uniform, and with a heavy tension it is liable to take the set of the groove in which it runs; this is rather an advantage for a straight drive, where the rope always runs in the same direction, but in those cases where a rope is led on to the pulleys at an angle this will be a disadvantage, as under such conditions the rope often slips and wear is excessive. Where the rope is subject to wet or dampness, rawhide is an excellent material to use, as it is very little affected by dampness.

The cost of rawhide rope will average about six times that of a good quality of manilla transmission rope.

Solid round and square ropes of leather are sometimes used, and steel ropes with leather washers closely threaded on have been tried with considerable success, but the expense of such a rope would necessarily limit its application.

As we have already noted, manilla rope is used very extensively for transmission purposes, but its application has not always met with that success which would follow a more thorough knowledge of its requirements. Inefficient rope drives are erected and run for a few months, or perhaps only days, and are replaced with larger ropes if the sheaves will permit, or, as in many cases, the ropes give way to leather belting and henceforth rope driving is condemned. The true cause is not so much the inefficiency of the ropes as it is the lack of knowledge concerning their use and application.—Flather, in the Electrical World.

EXPANSION OF CYLINDERS.

MUCH trouble is experienced in long stroke engines by the cylinder working loose on the foundation, caused by expansion in the cylinder body from the heating of the steam. Various means for overcoming this have been adopted and the most satisfactory seems to be to fasten one end of the cylinder solid to the foundation and leave the other end free to expand endwise, but of course prevent from vertical motion by the proper appliances, in other words, have a sliding expansion joint at one end. In tandem engines where one cylinder is fastened to the other direct, that is, the back end of the first to the head end of the next, this expansion is something considerable and should be provided for. This expansion can be diminished by not connecting the cylinder as first stated, but connecting the head of the first cylinder to the head of the second by rods running outside of the smaller cylinder.

IEWS AND INTERVIEWS.

Seen Through
Other Eyes.

Among the delegates to the World's Congress of Young Men's Christian Associations a few months ago was Editor Desebaugh, of the Chicago Timberman. He varied his labors as a delegate to that great meeting by inspecting English methods of lumbering and seeing anything, evidently, that would interest him as a lumberman-journalist. In a recent issue of his journal Mr. Desebaugh tells us of his visit to Windsor Park. He says: "To one whose impression of England is that it is a little, overcrowded island, the existence within twenty miles of London of such a forest as Windsor Park is a startling revelation; although if he be a timberman he will perhaps not be greatly impressed with the historic "fine old oaks," from a commercial point of view, at least. William the Conqueror's oak, for instance, is a mere hollow shell, little longer than it is broad. The English people pay the same respect to the ruins of a noble tree as they do to ruins of any other sort, especially when the aforesaid tree can be connected in some manner or other with some historic personage. The age of some of these historic trees, such as that just mentioned, makes our own charter oak a mere infant. When this forest first became a royal possession, in 1791, it contained over 60,000 acres, including Maidenhead thicket, Tylehurst and Wickham heaths, and other commons. While a considerable portion of this land has passed from the domain of the ornamental to that of the useful, the balance has been greatly improved, by the reclamation of swamp lands and in other ways, so that the forest is to-day in better condition than it has ever been. It was in these improvements that the late Prince Consort made his reputation for scientific "farming," which means merely that he was a successful grower of trees, and not of potatoes or hay. Windsor, however, is by no means the only large forest which remains of the million acres with which this portion of England was once covered; although it is the most notable, through being a royal possession. Fipping forest, although since the time of Charles I. it has dwindled from 60,000 to 6,000 acres, in its still spacious extent preserves almost unchanged the appearance of the early English forests, before ever Julius Caesar waded ashore to establish his authority in the island. The principal trees are oaks, beeches, blackthorns, hawthornes, and hornbeams; the latter a tree much resembling the beech, whose limbs show a curious tendency to reunite with the parent stem, jug handle fashion. There is also elm and ash among the timber, and birches are rapidly increasing in number with the drainage of portions of the land and the thinning out process about which there has been considerable fussing recently. The appearance of the forest varies greatly in the different portions, but an examination shows that these variations are caused by new combinations of the various trees, rather than by the introduction of new varieties; and compared with an American forest of equal extent, the number of different varieties of trees represented is exceedingly small.

Hopeful.

The intense depression in lumber circles for many months, and especially so in the district of Washington territory, has not sapped all feelings of hope with the Puget Sound Lumberman. Our cotemporary sees signs of at least slow progress. "What a demand for lumber and shingles," says this journal, "must come when business revives. Nearly every lumber yard in the country looks as if a cyclone had passed through, and it will be to most of the yardmen like starting business over again. Stocks have been badly reduced since the financial flurry struck the country; in fact none have been buying the past year to stock up. The orders that have been placed with the mills and dealers the past 10 months were for the barest necessities, such as repairs, etc. The farmers, mechanics and capitalists have postponed building until brighter days. When, therefore, business revives what an immense amount of building there will be. The same is true of the demand in foreign lands. Australia, for instance, must begin to build soon; so much South America where the rebellions and wars of the past five years have retarded progress. And

Mexico and Europe need buildings. All this activity will come when the sun shines again, and then the saw mills will be busy places."

Immense Leaves.

With some trees the leaf is not the least significant part of the tree. A writer in the Lumber World tells us that really gigantic leaves are seen in the vegetable world. The largest of all leaves are grown on palm trees. Travellers tell of the Inaja palm, on the banks of the Amazon, in Brazil, the leaves of which are fifty feet in length by ten to twelve feet in width. Certain leaves of the Ceylon palm, attain a length of 20 feet and the remarkable width of sixteen feet. The natives use them for making tents. Next comes the cocoanut palm, the usual length of whose leaves is about 30 feet. The umbrella magnolia, of Ceylon, bears leaves that are so large that a single one sometimes serves as a shelter for fifteen or twenty persons. One of these leaves carried to England as a specimen was nearly thirty-six feet in width. The plant whose leaves attain the greatest dimensions in temperature climates is the Victoria regia. A specimen of this magnificent plant exists in the garden of the Royal Botanical Society of Edinburgh, Scotland. Its leaf, which is about seven feet in diameter, is capable of supporting a weight of three hundred and ninety-five pounds as it floats on the water.

Durability of Cedar.

The following experiment is related as having been made by a farmer in Western Missouri with the purpose of ascertaining what kinds of woods would last longest when exposed to all the vicissitudes of the weather. He took a number of stakes two feet long and one inch thick, drove them into the ground, and left them there for four years. At the end of that time he found that elm, ash, hickory, white pine, oak and fir were entirely rotted, so that in some cases the stick could not be drawn out of the ground, and in several it left only a line of rotten vegetable fiber. Yellow pine and teak were decayed on the outside only, the interior remaining firm and solid, while the best cedar was as good as when first put in the ground. The experiment should be of value to people who make fences and also to builders, as showing what kind of wood will best suit places where dampness is the natural condition.

TIMBER WORKING HINTS.

TO get as much timber as possible from a log, cut the log up into lengths of from 12 ft. to 16 ft., find the largest square that you can cut out of each piece, and then saw it out. Let us take an example, and work it out. "A stick of timber is 42 ft. long, 12 in. diameter at the top, and 30 in. at the bottom. It is cut into three pieces of equal length, what sized squares can be cut out of each piece?" Here we must, first of all, cut it up into three equal lengths, and each of these we find to be 14 ft. long (because 42 ÷ 3 = 14). Next we must get the biggest square that can be cut out of each of those pieces, and in doing this the diameters at the ends of the middle log must be determined. These we can arrive at in the following way: Take the difference of the diameters of the two ends given, divide this difference by the number of equal lengths into which the log is to be divided, and this will give the common difference between the ends of the log. Doing this we get 30" - 12" = 18" difference of diameters. Then 18" ÷ 3 = 6", as the common difference between the diameters. From this we find the four diameters to be 12", 18", 24", and 30".

We must now determine the side of the largest square that can be cut from each log, and in doing this we must take it from the smallest end of each log. Bearing in mind that to get the side of a square described in a circle you multiply the diameter by .7071, we find the sides of the square to be:—

1. In the smallest log, 8 4852 in., because 12 in. x .7071 = 8 4852 in.
2. In the next log, 12 7278 in.
3. In the next log, 16 9704 in.

To roughly estimate the contents of a log:—First, get the mean girth of the tree by taking the circumference at the top and bottom, adding them together and dividing the result by two, or else measure the circumference about one-third of the way up the tree. Now a certain portion of this girth is taken up by the bark, so take off

an eighth of this mean girth to allow for the bark, and then if you take a fourth of the girth thus reduced, square it, and multiply the height of the tree, the result will be the cubical contents of the tree. The above may be tabulated thus:—

Let g' = the mean girth of the tree after an eighth has been deducted,

h = the height of the tree,
 c = the cubical contents of the tree;

$$\text{then } c = \left\{ \frac{g'}{4} \right\}^2 \times h, \text{ or } h \left\{ \frac{g'}{4} \right\}^2$$

Of course, if you take the height in feet, you must take the mean girth in feet; if in inches, the girth must be in inches.

STATISTICS FOR SAWS.

1. For sawing up of balks, the proper stroke is 20 in. The proper number of strokes per minute equals 120. The surface cut per indicated horse-power per hour equals 45 ft. super. in soft and 35 ft. in hard woods.
2. For the sawing up of deals, the proper stroke is 20 in. The proper number of strokes per minute equals 150. The surface cut per indicated horse-power per hour equals 45 ft. super.
3. For circular saws, the best speed is 6,000 ft. per minute. Every horse-power indicated will cut 75 ft. super. in soft and 56 ft. super. in hard woods per hour.

RULES FOR FINDING THE WEIGHTS THAT TIMBER OF A GIVEN SIZE, SUPPORTED AT BOTH ENDS, WILL SUSTAIN.

1. If a weight be uniformly distributed from end to end of a horizontal beam it produces the same effect on a beam as though one half the weight were gathered at the centre of the beam.

Example: A horizontal beam, 16 ft. in length, sustains a floor 2 ft. each side of it—if the weight of floor and load that may be expected to get on it be taken as 75 lb. per square foot, we should find the total load sustained by the beam to be its length multiplied by number of square feet sustained, multiplied by the load on each square foot, or 16 x 4 x 75 = 4,800 lb. This would be equivalent to a centre load of 2,400 lb.

2. (Converse of first.) If a beam sustain a certain load at the centre it will sustain twice as much load, provided it be uniformly distributed.

3. The safe load should not exceed one-fourth or one-fifth the breaking load in bridges, or in floors subject to much vibration from moving bodies. In roofs the safe load should not exceed one-fourth or one-third the breaking load. (These precautions are necessary for two reasons: timber is injured by a load much below the breaking load, and imperfections in workmanship and materials are constantly occurring.)

4. (The safe load is assumed to be one-fifth the breaking load.)

To find the safe load that a horizontal pine beam, supported at both ends, will sustain:—

Rule.—Multiply the breadth of a beam by the square of its depth, and that product by the number 90; divide this result by the length of the beam between the supports, and the quotient will be the number of pounds in the load that the beam will safely carry at the centre. If the load is uniformly distributed it will be twice the safe centre load, and the foregoing result may be doubled to obtain the distributed load. (See rule first and second.) If any material besides pine is used, instead of the No. 90 must be used the numbers in the following table:—

Material	No.
White oak	120
Red or black oak	110
White ash	130
Swamp ash	80
Black ash	60
White beech	90
White cedar or arbor vitae	50
Walnut	60
Tamarack	80
Spruce	90
Maple	110
Hickory	140
Rock elm	70
Locust	120
White pine	90

Example.—What will be the centre safe load of a pine beam, 4 in. by 6 in. supported in two places, and 12 ft. long between the supports?

- (1) If the depth be 6 in., and the breadth 4 in., the centre load will be equal to 4 x 36 x 90 divided by 12 = 1,080 lb.
- (2) If the depth be 4 in. and the breadth be 6 in., the

centre load is 6 by 10 by 90 divided by 12 equals 720 lb. From these examples it is seen to be always most economical to set a horizontal beam on its edge, or place it so that the greatest dimensions shall correspond to its depth.

5. To find the weight that an inclined beam (as a rafter) will safely bear at the centre distance between supports:—

Rule.—Find the centre weight by the fourth rule—that a beam of length equal to the horizontal span or spread of the inclined beam will safely sustain—divide this result by the horizontal span of the inclined beam.

Example—What will a pine rafter 20 ft. long, with 12 ft. rise and horizontal span of 16 ft., of 2 in. by 4 in., sustain safely at centre when there is supposed to be no support at its centre? If horizontal and 16 ft. long, the safe centre weight equals 2 by 16 by 90, divided by 16, or 180 lb.; dividing this result by 20, and multiply by 20, the safe centre weight is 220 lb. This would correspond to a uniformly distributed load of 440 lb. If the rafter be supposed to carry two square feet for each foot in length, the load would be 104 lb. to each square foot.

Note.—A rafter of these dimensions would need a support at the centre; in that case its horizontal span would be 8 ft. instead of 16 ft. The result would be a safe centre load of 440 lb., or a safe distributed load of 880 lb.; but this is distributed over a rafter 10 ft. long instead of 20 ft., so that on the same supposition as before the safe load becomes 41.6 lb. per square foot; a safe load for any roof.

Remark.—This rule, although sufficiently exact for ordinary purposes, and safe for ordinary roofs when the factor of safety, five, is used, must be replaced by more exact and complicated rules when very exact results are required. This is safe for all farm buildings.

6. When the dimensions of a horizontal beam that will safely carry a given load are wanted, the following rules must be used:—

The product of the breadth into the square of the depth equals the load at the centre divided by ninety for pine, or by the numbers given under the fourth rule for any other material. By assuming the depth the breadth can be found.

Example.—What sized pine beam, 16 ft. long, will safely support 1,000 lb. at its centre? $1,000 \div 90 = 77.1$, equals the breadth multiplied by the square of the depth. If we assume the depth to be 3 in., its square is 9 and the breadth 11.1, divided by 9 = 1.3.

Hence the answer is a piece 1.3 by 3.

When the load is distributed over a number of square feet, the centre load must first be found by multiplying by the number of feet and dividing by two.

7. If the beam is inclined, divide the centre load by the length of the beam. Multiply this quotient by the horizontal space, and proceed as in the sixth.

8. The amount an upright beam will safely carry when subjected to a pulling strain, can be found by multiplying the number of square inches of its cross section by the strength of one square inch.

The following table gives the safe strength of different woods:—

Woods.	Safe strength lbs. per sq. inch.
Ash.....	3,200
Elm.....	1,200
Hickory.....	2,200
Maple.....	2,000
White oak.....	2,000
Pine.....	2,000
Walnut.....	1,600
Poplar.....	1,400

9. The amount an upright post loaded at upper end will sustain can be found approximately in the same way as the tensile load; the amount per square inch should be taken about four-fifths that given in Rule 8. This is an approximate rule that cannot be relied on in cases where very accurate results are required.

These rules give accurate results with the exception of rules 5th and 9th. The results given by rule 5th are

safe, and do not differ much from the true results. Those given by rule 9th for the size of posts are very near correct when the posts are of moderate length.

PERSONAL.

Mr. M. Gendron, a well-known lumberman of the Upper Ottawa, has returned to Ottawa after a successful season's operations.

A protest has been entered against the election of Mr. A. Miscampbell, the well-known lumberman and member-elect for East Simcoe.

Mr. David McLaren, the well-known lumber merchant of Montreal, has been elected on the board of directors of the Consumers' Gas Co. of that city.

It is with regret we observe the announcement of the death at Liverpool, England, of Mr. Robert Blackburn, of the Hawkesbury Lumber Co., of Ottawa, at the age of 66 years.

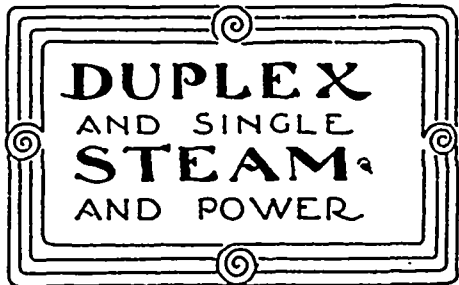
Mr. Frederick Lingham, of Belleville, Ont., has just returned from a trip to Johannesburg, Africa. Mr. Lingham is interested in lumbering and mining matters, and this fall intends to make a large shipment of lumber to Africa by way of British Columbia.

Lumberman —

: : : : We have Special Values in
Japan Teas
a line of **Nagasaki** just suitable for
Camps and prices **RIGHT**. Drop
us a post card for sample. : : : :

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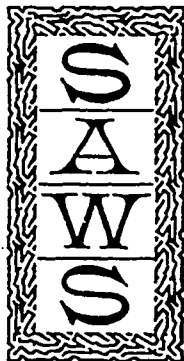
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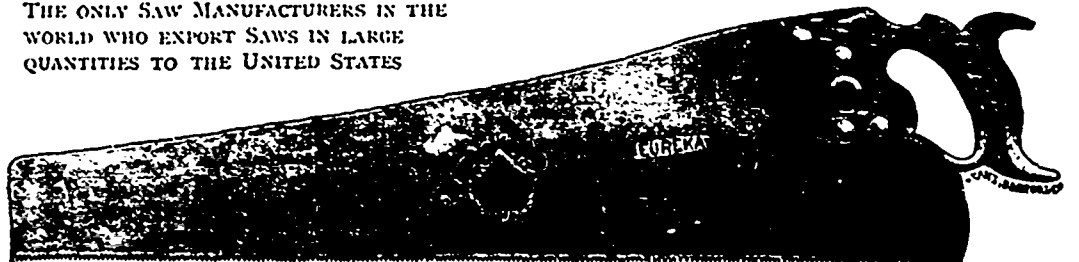
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THOROUGHLY EXPERIENCED AND REPUTABLE Inspector to purchase for an extensive custom manufacturing concern, stocks of ash, birch, elm, maple, etc., lumber and also piece stock, from 2 inch and up wide, 10 inch and up long, 1 inch thick, kiln-dried if possible; specifications upon application. Splendid chance to work up low grades. Give full particulars of stocks ready for shipment and references. Address CANADA LUMBERMAN.

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About 25 M Feet 1 inch Dry Ash Lumber, FINE quality. A. H. MERKLEY, MORRISBURG, ONT.

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LABERGE MILL, WITH WOOD LAND. L over 60 acres, near St. Faustim, County of Terrebonne, P. Q., on Montreal and Western Railway, comprising two H. P. boilers, one 6 H. P. engine, and saw mill complete—only one year in use with clapboard machine and planer and log lathe, shingle machine, Champion planer and matcher, &c.; side track; with or without over 200,000 feet of sawed birch and spruce. Good reduction made on cost price. Address to I. LABERGE, 1511 Notre Dame Street, Montreal.

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SIXTEEN

REASONS,

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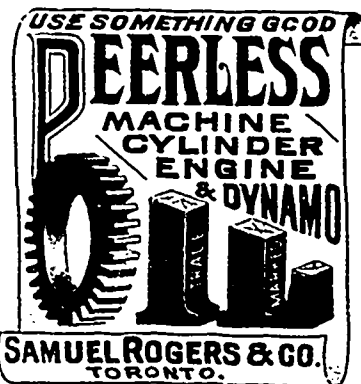


Being instructions to filers on the care of large band saw blades used in the manufacture of lumber.

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Capital \$2,000,000.00.

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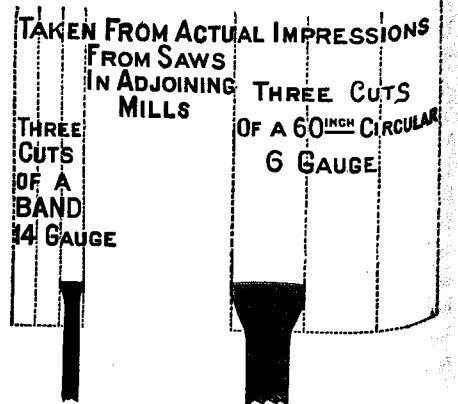
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