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# THE CANADA LUMBERMAN

VOLUME XVI.  
NUMBER 10.

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## UNITED ASSOCIATIONS OF LUMBERMEN.

SIXTH ANNUAL CONVENTION AT BUFFALO.

THE Sixth Annual Convention of the United Associations of Lumbermen was held at Buffalo on the 3rd, 4th and 5th of September. It was one of the most important meetings yet held by the organization, and was of great interest to lumbermen generally. Its meetings are never popular in the sense of being generally attended by the trade at large, as its membership is made up of delegates from the various retail organizations east and west. As the record shows, however, there was a liberal sprinkling of members of the retail trade, other than delegates, in attendance, and the manner in which the wholesale trade of Buffalo and Tonawanda entertained the visitors was in keeping with the reputation previously established in that respect.

On the program were eighteen papers to be read, on subjects touching all branches of the trade, and embracing the best thought of the members on matters of paramount importance to the industry whose interests they had met to consider. Two papers on mutual insurance among lumbermen created great interest and provoked considerable discussion, bringing out, as might be expected, considerable difference of opinion.

At the opening session President John W. Barry occupied the chair, and Secretary J. L. Lane was present to call the roll. Some sixty delegates answered to their names, including a number from Canada. The association was welcomed to Buffalo by the Mayor of the city in a brief address, to which president Barry replied as follows:—

On behalf of the United Associations of Lumbermen, it is my privilege, it is my pleasure, to extend to you and to the city of Buffalo our most hearty thanks. We accept your welcome in the spirit in which it is given, for we recognize it as the real, genuine "all-heart grade, squared true and plump. In the language of the lumberman, it is "clear and well manufactured," a welcome into the lumberman's own heart. However, we would be wanting in that nice discrimination as to the proprieties of conditions and circumstances, did we not recognize the fact that this welcome is extended us, not in a personal way, but in behalf of the great lumber industry which we represent. For be it known to all that the great lumber industry has more capital invested in it than any other industry. For proof of this I cite you to the census of 1890, from which you will learn that the capital invested in the lumber industry is double that invested in any other. Yes, more that this capital exceeds one-tenth of the aggregate capital invested in all manufacturing industries. We, being the representatives of this trade, receive these courtesies. We are the accidents of time, and the recipients of favors due to position. Truly, it is better to be born lucky than rich. I, like us, you can be lucky most of the time. But the city of Buffalo has for us added charms. We feel that we are visiting one of the landmarks of the great republic. Why, it is within the memory of man that Madison vetoed the canal bill on account of the pressure brought to bear upon him by the New England states. For, said they, it will never do to open up this waterway to encourage the people to go to the west. Think of it, Buffalo the west. But true to western characteristics you crossed the then plains, as of old the pilgrims crossed the sea, to make out of the west, as they of the east, the "home of the free." You built the canal without national aid. It is within the memory of men living here that Governor Clinton was towed in his little Seneca Chief into the canal, and after a most rapid trip of nine days found himself in New York City, and amid the booming cannons and the shouts of an excited populace he raised on high the little green keg of water which he had brought from Lake Erie and mingled it with the turbulent waters of the great Atlantic, thus sealing for all time the commerce of Buffalo, a commerce which in proportion to population is greater than that of any other city in the world.

But, sir, pleased as we are with all this, it is my unpleasant duty to mention the one objection to your welcome. As was said before, we find it "all heart," "strictly clear and well manufactured," a genuine lumberman's welcome, but after due trial and strict examination, I find it to be not "strictly dry"—in fact it is "wet stock." Now you are well aware that wet stock is very objectionable to lumbermen, but happily on this occasion this objection does not hold, for the delegates to the present convention, and

more especially those from Kansas and Iowa, as well as the members of the press, were selected with special reference to their ability to handle "wet stock" to the best advantage, so that this objection will for the present be passed unnoticed, uncorked and unknown. But sir, in all seriousness, we meet your greeting with greeting, for your roses of welcome we tender you the sweet forget-me-nots of memory. These courtesies will not be forgotten. We could not if we would, and we would not if we could.

Gentlemen of the Convention. It seems but fitting at this time that something should be said as to the future of the organization, and as to the work of your present officers. Two years ago at Cleveland I was honored with the presidency, and I then and there resolved to do all in my power to make this organization a truly representative one of the whole lumber trade. I could not see the object of having it wholly retail, for have not the retailers their local associations in which the unswerving devotions of the wholesalers to the retailers is annually recounted in unbroken concatenations of prose, poetry and song? Neither could I see the object of having it wholly wholesale, for does not each recurring moon find the wholesalers in session discussing the unlicking, unthinking propensities of the retailer, and vainly endeavoring to reduce the price list just in time for him to lay in his season's stock. No, not an organization for one, but for both. After much work and voluminous correspondence by myself and with the best of help we secured a fairly good representation of the entire trade at the Denver meeting last year. Indeed, we had a paper from a member of the Mississippi Valley Lumbermen's Association, one from the Southern Lumber Manufacturers' Association, and one from the Mississippi Association. On being re-elected last fall, after a conference with your secretary, it was decided to push this line of work to the end that at this meeting this Association could be organized into a real national association to which all differences between lumbermen might be referred, as a court of final resort. For so long as brother differs from brother in politics, so long as sister differs with sister on religion, so long as husband differs with wife on family affairs, we must expect that even lumbermen will have differences on business affairs. Indeed when we think of it the wonder is that there are not more differences, for in every transaction between two real persons there are in reality involved six distinct personalities. This is what is known as the personal trinity. For instance, take a transaction between myself, you and your secretary, there is Lane, the real Lane that God made, I am as he sees himself and Lane at I see him. Three distinct personalities. Then there is Barry, the real Barry that God made, and known only to his Maker, Barry as he sees himself, and Barry as Lane sees him. Now among the the six persons to this deal is it any wonder that differences should arise? But this organization is well calculated from its cosmopolitan character to settle these differences, for generally when differences are fully understood there is little difficulty in settling them amicably. Our firm in an experience of 23 years never had a claim which, after being shown to be just, was not freely and willingly allowed; but whether these changes will be made or not it is with you, gentlemen, to say. We can go no further. But whether or not these changes, or any changes, shall be made, each one that comes here will be the better for coming. You will return to your homes with a broader charity and a firmer faith: faith that lends man from the known to the unknown—faith that is the essential element of all human progress. You will carry with you a brighter hope; sweet

"Hope that, like the taper's gleaming light,  
Adorns and cheers the way,  
And still, as darker grows the night,  
Emits a brighter day."

The secretary made a few remarks urging the importance of the association, and then submitted the financial statement, which showed receipts \$312.75; expenditure \$77.73; balance on hand \$235.02.

The first paper discussed was one by Mr. L. A. Mansfield, of New Haven, on "The Contractors' Credit System," after which the subject of "Insurance" came up, being introduced by Mr. W. C. Johnson, of Fitchburg, who as president of the Massachusetts Retail Association and of the Lumber Mutual Fire Insurance Co., was well qualified to deal with it. He gave statistics showing the vast sums paid in premiums by lumbermen. The cost of insurance is about twice as much as the aggregate of fire losses. He suggested a number of remedial changes through legislation. A supplementary paper on the same subject was read by Edward Henson, of Philadelphia, and he suggested that a committee be appointed to investigate the workings of three

mutual companies now operating, and that a standard insurance committee be established by the United Associations. W. G. Hollis, of Minneapolis, of the fire insurance company organized by the Northwestern Lumbermen's Association, spoke of the risks in the west, and described them as much different from eastern hazards, and said the result was very satisfactory after a trial of eighteen months. No dividends are paid and the policy holder is charged a proportionate amount of losses, expenses, etc. A deposit is made by each policy holder, which is forfeited if the assessment is not paid. L. R. Hawes, of Sandusky, also described the operations of a lumbermen's mutual fire insurance company in which he is interested.

F. L. Wagar, secretary of the Alabama association, spoke briefly on the benefits of the united organization, and congratulated the members on the happy results attained.

At a subsequent session President Barry spoke in highly complimentary terms of the lumber press and the valuable service they render to the trade.

A paper by C. L. Blakeslee, of Albany, was read by S. H. Beach, of Rome. It was entitled "The Wholesale Consumer," and was an able argument in favor of retailers, and the acknowledgement and protection of their rights and interests. In discussing the paper, E. M. Willard, of Philadelphia, spoke of the enormous growth of the lumber interests of Buffalo and Tonawanda, and the mutual interests between wholesale and retail dealers and manufacturers. Mr. Drake, of the Texas association said the wholesale consumers are enumerated in the by-laws of the body, including the state of Texas, penitentiaries, foreign bridge companies, and all dealers who annually use 200,000 feet of lumber, and this plan leaves nothing to be decided by arbitration committees.

Other papers dealt with such subjects as "Influence of United Associations," "Local Associations," "The Territory of the Retailer," "Early Days of the Retail Trade," "What Constitutes a Regular Dealer," "Management of Retail Yards," "The Attitude of the Retailer to the Wholesaler and Manufacturer," "The Wholesaler," "The Scalper," etc., etc. The papers are to be printed in pamphlet form for distribution.

A resolution was passed recommending that all arbitration committees consists of nine members, three chosen by each of the contending parties and three by the six thus chosen.

The following were elected officers for the ensuing year.—President, G. A. R. Simpson, Minneapolis, Minn.; first vice-president, R. W. English, Denver, Colo.; second vice-president, C. W. English, Mont Clair, N. J.; secretary, John L. Lane, Kansas City, Mo.

The third day of the Convention was given up to the social feature. The delegates, with other invited friends, were taken to Niagara Falls as the guests of the Wholesale Lumber Dealers Associations of Buffalo and Tonawanda. They went by steamer to the terminus of the electric railway on the Canada side, over that road to Queenston, across to Lewiston, then back to the Falls by the new Gorge Railway. Dinner was served at the International Hotel, after which the party visited the works of the Cataract Construction Co. and Niagara Falls Paper Co., then back to Buffalo by steamer. It was a delightful trip and the visitors thoroughly enjoyed themselves.

The headquarters of the Convention were at the Iroquois Hotel, in the parlors of which a reception was held. The meetings took place in the handsome room of the Builders' Exchange, one of the finest business blocks in the city.

A carriage drive about the city, headed by a tally-ho coach and four, was not the least enjoyable feature of the meeting.

## CORRESPONDENCE

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

## UNIFORMITY OF GRADING.

To the Editor of the CANADA LUMBERMAN :

SIR,—I would like to call the attention of the lumber trade to some of the difficulties which have been felt by all, more or less, and which the dull times and close competition necessarily attendant thereon have emphasized. I allude to the want of uniformity of grading and inspecting lumber between us and our best customers, the United States. I think it should be our aim to remedy this evil, and the only way it can be done is by the united co-operation of all the people interested on this side of the line. Our Boards of Trade and our representatives in Parliament might take it up, but first become united and decide definitely what reforms we want, and then have our representative bodies take the matter up with the Boards of Trade and Associations of lumber dealers in the U. S. In this way much more may be accomplished than if the matter is left to individual effort.

What do we want? In my estimation we want uniformity of grading and laws to cover the same; we want a common standard, so that all may know when a certain grade is spoken of exactly what is meant—a standard that will not fluctuate with the rise and fall of the market. Let the prices be high or low, this standard will be the measure of quality of what we have to buy or sell. As the value of gold depends on its fineness and its abundance or scarcity, so let our standard of quality be the same. I need hardly remind my lumber friends of the trouble and annoyance that is caused by the difference in meaning attached to common names and terms, as for instance, "Common" or "Fine Common," would mean in the American markets an entirely different and much superior grade to what it does here; the same with the term "Dressing," which here means almost anything that will hang together long enough to go through the planer. On the other side it is a grade that must have two clear edges, and the defects must be in the nature of small sound knots. Generally it must be of a quality to make tight work, that would not allow water to leak through it. There are other discrepancies that will readily occur to the dealer, such as No. 1 Culls in the New York market and No. 1 Culls at the mills on the Georgian Bay.

If we can get uniformity in our names of grades, and also in our understanding of what the quality should be, then the question of price can be left to take care of itself; but now a dealer who finds himself with a large stock on hand may be inclined to say, "I am prepared to give my customers any quality they want. I will sell them shipping culls at a low figure and let them call it what they like, so long as I get my money. I will make three or four kinds of Box, or Dressing, and sell them at different prices. If a man wants a cheap lot, I will give him one out of which all the best and widest boards have been taken, and then I can sell the wider lots for more, and thus get an average." This reasoning may look all right on the face of it, but it is bad for the individual who adopts it, and it is bad for the rest of trade, as a lot of lumber sold of a certain quality at a certain price, fixes that as the market price of that grade, and if a lot is sold at a lower price than the regular market rate, the fact that it is a "doctored" lot is suppressed, and thus it has a depressing effect on the market. I say, keep up your grades and keep them uniform. If the supply of any kind of timber runs out, and the quality of the logs will not make lumber of the thickness, width or clearness set by the rules laid down, then there might be a revision of the rules and a modification of the standard made, but these changes should only be made when absolutely necessary and at a meeting of the representatives of all parties concerned.

Another reason why we should have a common standard of inspection is: Our customers on the other side buy of us goods of a certain quality, which we undertake to furnish according to our rules of inspection, delivery to be at point of shipment. Well, the goods go on to New York or Boston and very often when they reach

there they are refused for trivial reasons, or an inspector is put on and the goods remeasured and inspected, and great discrepancies reported and allowances demanded, or threatened refusal of the goods and consequent handling and storage charges. Now these discrepancies could only occur for two reasons. First—want of uniformity in our inspection of lumber, called by the same in the two markets. Second—dishonest inspectors at either or both ends. If the same system of grading existed in both countries, the inspector who shipped would get so near the right grade that the receiving inspector would not dare make such reports as are too common now. It would be too palpable and glaring a steal that his employer could not afford to allow him to "make his wages and a little more that way."

The same reasons hold good for a rule or standard of inspection that will govern, and that can be enforced between the buyer and seller in our own market. The absence of this has led to conflicts between dealers and manufacturers. The dealer has sold a quality that has an actual definition and description in the New York or Boston market, and he makes his bargain with the manufacturer for this grade, but when he sends his inspector to ship it, the mill man finds the inspection different to what he expected it would be, or as some other person tells him it ought to be. He "fires" the inspector and will not let the purchaser have the lumber sold, thus entailing loss of profit the buyer should have made on the goods, and the buyer's time and expenses. In small lots of lumber, to try and enforce by law a bargain thus made, would cost more in time and annoyance than it would be worth. If this should be repeated in a number of purchases, the dealer is often put to a great deal of inconvenience, and suffers considerable loss besides. He has to fill the orders he has taken and must get it of the quality called for in his sale. In order to do this, what constitutes a certain grade should be plainly laid down, so that the consumer or dealer who buys in the United States, and the dealer or manufacturer here, may all understand what constitutes the grade sold, and hence avoid confusion, annoyance and loss; and it will also to a large extent prevent the "wobbling" dealer from doing his peculiar style of business—the wobbler being the man who will sell by any inspection and buy the same way.

In order to determine matters of dispute between parties to a purchase or sale, Boards of Trade and Lumbermen's Associations should have power to appoint qualified inspectors and graders—not that it should be imperative that all transactions should be determined by such inspection, but that in event of a disagreement between the buyer and seller, such an inspector, appointed either by Government or Board of Trade or Association, might be called in to act as official arbitrator as to the grading or quality. This would in a large measure get over the difficulties occurring between our dealers here and the manufacturers; and our friends on the other side, seeing and knowing our grades were established, would have more confidence in getting their purchases from us properly inspected here, and some who have calculated somewhat on our differences of grading to ask for large allowances, would find that we were working too closely to a common line to ask for or expect any such allowances or deductions. It would also have the effect of developing trade between the two countries. One great difficulty we have always had to encounter here was this difference of grading. It is one of the reasons that has led to Saginaw, Bay City and Buffalo doing a larger trade than Collingwood, Waubaushene or Toronto. In the former cities they laid themselves out to make their lumber conform to the demands of the Eastern market, and they got the business. Our dealers and manufacturers have too long tried the other line of "How poor can we get our customers to take our lumber and how much can we make them pay for it." When lumber is in brisk demand this may apparently work all right, but when dull times come the buyer is apt to say, "These people salted me when I had to buy from them; made me take culls and pay big prices; now I can get all I want elsewhere and get just what quality I buy. I will let these Canadians keep their stock till they want to grade it as we require it for our markets." In that way the want of uniformity in grading tells against us. A market becomes great or otherwise ac-

ording as traders find it suits their requirements. If they can get what they want, as they want it and when they want it, then there will be competition and an enlargement of the market; but if they find that while there are plenty of goods, they are not put up to suit their trade, and no disposition is shown on the part of the sellers to try and put their goods up as wanted or ship them in the time wanted, the buyers are going to quit that market and it is going to decline.

There is too much of the latter style about our ways of doing business, and particularly in regard to grading. Will some of the influential men in our trade take this question up and try and bring it to a satisfactory issue. If this can be done I feel it will prove of the greatest service to the lumber trade of this country. The grain trade of Canada is one of our most important industries, but I do not think that it distributes as much money to as large a number of people as does the lumber industry, and yet they have a grain standard by which all purchases and sales are regulated, and it works for the benefit of both farmer and grain merchant and establishes confidence in our grades among the buyers in England or the continent. Why should not the same rule work in the lumber trade? It is of national as well as of local importance, for what an army of men are dependent on lumbering operations. The railways and their employees, the vessels and their crews, are all interested in the question of whether the lumber business is brisk or dull. The uniformity of inspection will not make lines either good or bad of itself, but it will materially assist in the building up of trade.

ONE INTERESTED.

## AUTOMATIC SPRINKLERS

THE automatic sprinklers with which many of the larger mills are equipped have greatly demonstrated their value and the worth of the protection they give, during the year past, by stopping incipient fires before they had become actual ones. They have also demonstrated another thing, namely, that they are not good for anything, in fact are worse than nothing, because they produce a false feeling of security, like a revolver that when you need it is too rusty to turn the cylinder, or operate the hammer, unless they are kept in good, solid working order. If they are neglected, allowed to get rusty, or the apparatus working stiff and unreliably, or the water supply is allowed to get short, they cannot be expected to do their work any better than a night watchman in the same condition. Machines that work automatically, that are allowed to get out of working order and are not kept fully up to their proper standard of efficiency, are no better than the human working machine that is allowed to run down and lose his self-respect and interest in his work and the welfare of his employer.

## AUSTRALIAN TIMBER.

EVEN in far away Australia the Government is taking the care of the forests into its own hands and the colonies have each a forestry department, under the supervision of a conservator, so that the wanton destruction of timber which formerly went on is not now permitted. Among the woods for which Australia is noted are blue gums, gray gums, memeto, mountain ash, red gum, iron bark, karri and jarrah trees, and from these are cut timber suitable for railway sleepers, bridge work, piles, wharf work and other engineering and building purposes. Some of these timbers are said to be almost indestructible when exposed. They also take a very high polish and are useful for ornamental purposes. The Jarrah wood has lately been brought into prominence to a great extent as a timber suitable for pilling as it resists the attack of the teredo navalis. Then there are the blackwoods of Victoria and Tasmania and a cedar of New South Wales and Queensland, admirably suited for fine cabinet work. Kauri pine is said to make an excellent wood for boat building, house fitting and many other purposes, being close grained and free from knots, which is characteristic of Australian woods in general. Quite a business has been worked up in exporting these woods to England and the continent where they are laid down at as low prices as many Swedish, Canadian and American woods.

**WATEROUS ENGINE COMPANY'S NEW WORKS.**

THE accompanying cut illustrates the new buildings being erected in Brantford by the Waterous Engine Works Co. Ltd. The buildings are what may be called gallery construction. The main one is 300 feet long and 120 feet wide, having a central space of 40 feet wide running to the roof, over which a traveling crane will be operated. On each side of the centre is a 40-foot space with a gallery the full length of the building.

The foundry, or moulding shop, is 80 feet wide and 100 feet long, with a central space of 40 feet and two side spaces of 20 feet each; in one of the latter the cupolas will be placed. On one side of the foundry is the pattern room or vault, separated by a solid and heavy fire wall. The power house is 40 x 60 feet, and in this building next to the main building will be the wash room of the men. The building will be large enough to contain the boilers, engine, dynamo, pumps, air compressor, etc.

It was thought advisable to place the blacksmith shop, boiler shop, and main building together to avoid any long distance between them. Thus the blacksmith shop, which is 50 x 80 feet, is between the main building and the boiler shop; one wall of the main building forms one side of the blacksmith shop, and the wall between the blacksmith shop and the boiler shop forms the other wall, so the blacksmith shop, main building and boiler shop are all connected. The boiler shop is 87 x 120 feet.

Lighting is done from the sides and the roof. Heating will be by the hot blast system, and for water, an excellent supply has been found on the premises. Railway tracks will enter the main building and the boiler shop, and other tracks will be laid in the yard, from which shipments can be made and material received without the need of teaming. The works when completed will be capable of giving employment to at least 400 men. Every care will be taken and arrangements made to insure their convenience, and to permit of handling the work to be done with the least possible labor.

The company are pushing the work forward as fast as possible, and expect by the 1st of January, 1896, to be fully settled in their new premises. They have occupied their present site for 51 years, and although they have rebuilt, enlarged, and secured all available space, they have entirely outgrown the premises. For the past year they have been forced to run much of the time from 15 to 17 hours per day, although employing 240 men in premises not adapted to more than 150 to 170 with comfort.

**ASPEN WOOD FOR MATCHES.**

WE are now aware that aspen has ever been employed in Canada for making matches. There is indeed no occasion to use it, pine being so plentiful, but experiments made in other countries show that it is particularly well fitted for this purpose.

The manufacture of matches in Germany, which has risen to be an industry of importance, employs pine, poplar, aspen, linden and birch woods. Of these woods, aspen has proved itself indispensable in the manufacture of matches by reason of its natural qualities and the ease with which it can be worked up. It is distinguished by its large structure, ready combustibility, freedom from knots and uniformity of substance.

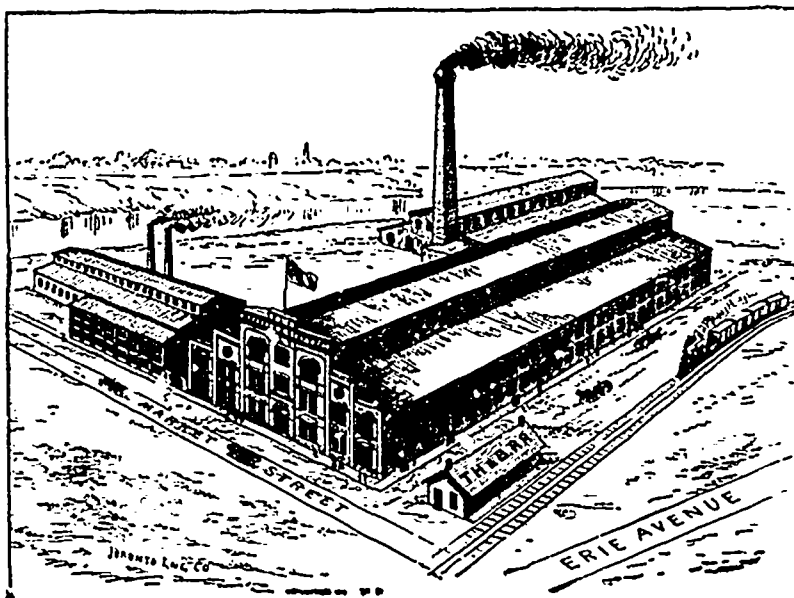
The flame of a match, as is well known, is conveyed by the wood from the igniting composition of sulphur, as in the case of lucifers, into which the splints are dipped. In the case of Swedish matches the sulphur is substituted by paraffin. The sulphur, where this is used, remains on the outside of the wood and dries at once. The paraffin, however, must penetrate into the wood, partly because the matches would otherwise stick to each other, but principally because the paraffin becomes fluid again at even low degrees of heat, and would penetrate the igniting composition and render it useless. For safety matches, therefore, a wood is required which

has light and spongy pores, as found only in the aspen, whose bright white color further gives it an agreeable appearance. Poplar has a gray color and is brittle; birch wood becomes yellow and is seldom attainable in stout logs. These woods are also slow of combustion. Pine and fir woods take up little paraffin, owing to the resin they contain.

In order to keep the pores as open as possible, and also to work up the wood to the greatest advantage, the aspen splint is produced by flaking. Aspen possesses the quality of being flakable to a very high degree. The flaking is done by causing a knife to revolve around a log which rotates on its own axis. The wood is divided into ribbons of the thickness and width of a match; these ribbons are laid evenly, one above the other, and cut into square splints.

In consequence of the uniformity of the annual layers, aspen wood produces perfectly homogeneous ribbons or splints. This is not the case when other kinds of wood, like fir, etc., are flaked. The absence of all structure or grain further enables aspen wood to be flaked into thin shavings, which are worked by other machines into the familiar match boxes. Just this fact that both match splints and box shavings can be produced by one machine from one material calls for the employment of aspen wood.

Attempts have been made to flake fir and pine woods as substitutes for aspen, but it is not known that any results of importance have been obtained. The reason why the last-mentioned woods cannot be flaked is



WATEROUS CO.'S NEW WORKS, BRANTFORD, ONT.

probably because of the difference in the annual rings between the spring and the fall wood—that is, between the inside of the ring and its extreme outside the difference is too great. The fall wood is too solid, the spring wood too soft, and the annual rings are of varying thicknesses, according to the location of the tree, while, even in the case of pine, the knife is apt to slip and cut ribbons of unequal thickness. In the case of aspen wood, each ribbon is like the other, a circumstance of the utmost importance for the further processes.

Match manufacturers require that the aspen wood should be free from rotten pith, and, as far as possible, free from knots—free from pith, otherwise the wood cannot be fixed in the flaking machine. free from knots, because the wood round the knots is decayed. The wood should be further straight grown and of loose texture. The aspen is available for match making as soon as the trunk has a diameter of 8 inches. The demand is greatest for trunks with a diameter of 10 to 24 inches. To attain this size a period of twenty-five to sixty years is necessary, according to the nature of the soil, position, etc. Trunks from twenty to thirty-five years old are preferred to younger growths, for the reason that the method of manufacture produces the same amount of waste, whether the trunks be small or large.

The match factories which employ aspen wood are mostly situated in Silesia, Pomerania, Schleswig-Holstein, Bavaria, Rhine Province, Alsace-Lorraine, Rhine

Palatinate, and the Duchy of Anhalt. These factories use on the whole 4,000,000 to 5,500,000 cubic feet of aspen wood, of which about 3,000,000 cubic feet are imported from Russia.

**A FEMALE REPORTER IN A SAW MILL.**

NATURALLY, I visited the big mill first. At the St. Paul and Tacoma Lumber Company's Mill I found everything going to beat all. Capt. Everett Griggs, the superintendent, told me that the best way to see how lumber was manufactured would be to follow a log to the saw, then see a board cut and follow it until it was on the cars. Well, I waited until I saw a log coming up on the back porch and pulled on to what they called a deck, but which in reality was the floor. A man with the awfulest dirty hands yanked a piece of iron, and a great black iron fixing came up through the floor and hit the log a pop that knocked it clear across the mill, then it popped back out of sight. I asked a Swede what he called it, and he said "a steam nigger." I didn't say anything, but I felt like asking the Swede if he saw anything green about me.

I am sure the men had been posted about my coming, and just lied to me from one end of the mill to the other. They spoke about "dog" and a whole lot of things I know are not in any saw mill. Well, they got that log on to some kind of a machine, drove something into it that looked like picks, then a man pulled another piece or iron and away went that log, and buzz—the big saw took it. Well, it wasn't a minute before they sawed off a great big board with bark on one side of it. They run it along on rollers so fast I could hardly keep up with it. I ran nearly the whole length of the mill to catch it. Just as I caught it two men pulled it against a round saw, and when I asked them where that board would go next they smiled and said it wasn't a board, but only a slab, and good for nothing but fire wood.

I went around to what they called the pond. It was full of logs. I asked a man how much lumber they got out of a log. He said sometimes they got 24 or 25 feet. Then I asked them what they did when they came to a log with a hole in it. He said they sawed it up until they came to the hole, then run it through the scantling machine and made lath of it.

Then I went to H. C. Foster's office. When I asked him how old a tree should be before it should be cut up, he said he has issued orders to all of his millers not to cut a tree under 148 years old nor over

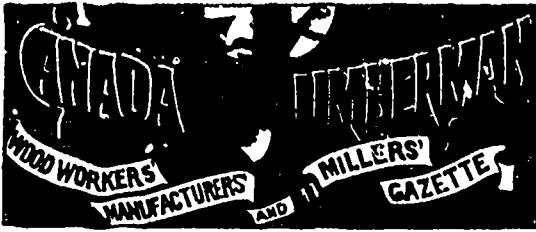
219. He said when they were cut too young the lumber was liable to be too fresh and if cut too old much of it was bultus. That seems reasonable enough to anyone.

Then I asked him what he thought of cedar. He said that whenever cedar was indigenous and grows prodigious that the vivisection of them showed a longevity of them unparalleled since the days of the flood. The only trouble he had with cedar was in the tendency of the knot holes to work out and leave the knots sticking in the board. Many carpenters object to it for that reason. Again, a great many eastern carpenters fail to get their squares right angled before the spring building begins, and as a result often make bad joints and blame our lumber.

I then asked him for an opinion as to what could be done in the saw mills to do away with the sawdust nuisance. He said it should be saved and a company organized to manufacture dolls. No stuffing is so cheap and valuable as sawdust for dolls.—Women's Tacoma News.

The Cookshire Mill Co., Sawyerville, Que., are building a small mill for cutting pulp wood. This is the only move yet made towards replacing the property destroyed by the late fire.

Talk of building a large mill in Newfoundland to manufacture sulphite and ground wood pulp for the European markets is renewed. Some German experts have been looking over the field during the past two months.



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THE CANADA LUMBERMAN is published in the interests of the lumber trade and of allied industries throughout the Dominion being the only representative in Canada of this important 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 15 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.

#### THE CHICAGO DRAINAGE CANAL.

EVERYTHING relating to the carrying trade on the great lakes is of such importance to the lumber interest that we do not require to apologize for referring at some length to the Chicago drainage canal, about which so much is being said in connection with the unprecedented low water, which has and is interfering so much with navigation, and which has been attributed in a large degree to the effect of the canal.

It will be remembered that the United States Government some time ago appointed a commission of engineers to inquire into the effect the canal was exerting on the water levels in the great lakes. This commission recently reported, and having been fortunate enough to secure a copy of the report from Washington, we are in a position to state how far the conjectures as to the effect of the canal on the lakes are correct, at least from the standpoint of the United States officials.

The commission consisted of Brigadier General O. M. Poe, U. S. Army; Major E. H. Ruffner, Engineers' Dept., U. S. Army, and Major W. L. Marshall, Corps of Engineers, all men well qualified, we should judge, to make an impartial inquiry. Their instructions were to consider and report upon "the probable effect of the operation of the Chicago drainage canal upon the lake and harbor levels, and upon the navigation of the great lakes and their connecting waterways." They met in Chicago on the 12th of August, and in company with the officers of the canal made a trip over the line under construction.

In the report a brief description of the work is first given. This we may pass over, as we are concerned only with the effect of the work on the navigability of the great lakes. The commission point out that this effect can only be ascertained by a series of minute measurements and observations. These were to some extent taken after the canal was placed under contract, but further data are required before an accurate determination can be arrived at. These observations must be made at the Niagara river, the only outlet of the

great lakes, supplemented by observations at the St. Clair river, where there is a considerable fall from the level of lakes Huron and Michigan.

The conclusion arrived at by the commission is that the levels of the great lakes (i. e., Michigan, Huron and Erie) will be lowered by the Chicago canal. To what extent remains to be shown by future investigation.

The water levels of the great lakes are very delicate. Storms, barometric changes, rain fall, and even tidal changes are felt. Records kept at Buffalo show a variation of as much as 13 feet between the lowest and highest readings. A series of very careful observations is therefore necessary to determine the effect of any one cause on the lake levels. The act authorizing the Chicago canal, and the intention of the trustees, contemplates the abstraction of 300,000 cubic feet of water per minute from Lake Michigan. This would probably permanently lower the water in the lakes three inches. But it is contemplated ultimately to enlarge the canal so as to abstract 600,000 cubic feet per minute, which would lower the lakes six inches. Mr. Johnston, assistant chief engineer, as the result of some observations made by him, thinks it may amount to seven inches. Any of these figures is enough to cause alarm to navigators.

As a rule vessels carry all they can take, so as to go out of one port and into that they intend to reach. Some harbors are deep enough for them to disregard this consideration, but it is the rule. If the average depth is reduced three or six inches they must load accordingly. A vessel that when light draws six feet, and loaded twelve feet, will, if the water is lowered three inches, lose three inches out of seventy two, or about four per cent. in capacity each loading; a vessel drawing twelve feet light and twenty loaded, would lose over three per cent. Should the load be reduced six inches these figures would be doubled.

The commission further point out that the effect of the canal on the inner harbour of Chicago itself, by creating a strong current, may be disastrous. With that, however, we have no concern, further than that it might effect the carriage of lumber to that city by vessel to a limited degree.

What is to be done, then? The commission recommend a series of close and accurate observations, and if it should be determined that the canal is going to seriously affect the navigation of the great lakes, the federal authorities at Washington must exercise their undoubted right to control what becomes not a state but a national affair, and take such steps as may be considered necessary to preserve the navigability of the lakes from injury.

There is one aspect of the case which the United States commission has not touched, and which has a special bearing upon the lumber interest. By a lowering of the levels of the great lakes the water will be drawn more rapidly out of the streams flowing into them. A very superficial knowledge of hydraulics will make this manifest. Many of our streams on which lumbering operations are carried on have diminished in volume, or have become subject to more rapid changes from flood to low water in consequence of the draining of swamps, the clearing of the forests and other causes arising from the settlement of the country. Anything that would tend to draw off their waters more rapidly must work injury to the lumber trade. The Canadian government has appointed an engineer to inquire into the effect of the canal on Canadian interests. We would suggest that he be instructed to investigate this feature of the case.

#### THE SPOOL BAR TRADE.

PRACTICALLY all the wood used for making spools for thread, in both Great Britain and America, is cut in the forests of Maine. The wood is shipped in the form of bars, from which the spools are turned in a lathe. So great is the quantity of lumber required each year for these seemingly insignificant articles that Maine will not be able to supply it much longer. About 4,000,000 feet is consumed per annum, 2,000,000 for export and 2,000,000 for domestic use. The business began in Maine twenty-five years ago, and the land which was cut over then is grown up with young trees, but they will not be ready to cut for twenty-five years more, as it takes fifty years for white birch trees to attain a growth to fit them for profitable use for the purpose indicated.

Spool bars are, however, being cut in considerable quantities in New Brunswick, the character of which province is in many respects similar to that of Maine, which it adjoins. One mill has recently shipped its season's cut to Scotland, and it is being equipped with steam power, which will enable it to make a larger output next year. Vast quantities of white birch are to be found on the Miramichi river, which will become available. The thread-makers cannot depend much longer on Maine for their supply.

There are large quantities of white birch up the Ottawa which should be suitable for spool bars. We are not aware that any of it has yet found its way to the market, but as the supply becomes exhausted in other places it will doubtless be turned to account, and prove a valuable asset, unless indeed the thread-makers should take to using some other material, paper for instance, for making spools.

#### EDITORIAL NOTES.

An English paper gives the value of the wood pulp imported into Great Britain from Canada last year as \$14,205. For the previous year it was only \$178,255. These figures indicate a large and rapid growth and are extremely satisfactory. A further increase may be confidently looked for in consequence of a short supply of straw for the English mills.

ONE of the best opportunities for investment in timber lands on the Pacific coast is said to be North-Western Oregon. It is estimated there are nearly 30,000,000,000 feet of spruce, fir and cedar on the five streams emptying into Tillamook Bay. Who of our Canadian lumbermen will go in and capture it? If it was the other way, and the timber stood on Canadian soil, we venture to say some enterprising United States lumbermen would soon have it.

THE question how to dispose of sawdust has always been a difficult one with millmen, and even in steam mills, where it is used for fuel, the subject will not down, for more sawdust is produced than the ordinary furnace can burn. A new industry is being started in Ottawa, which it is hoped, will help to solve the difficulty and at the same time turn to useful account the waste product which has caused so much perplexity. A Mr. Olier has patented a process for converting the dust into fuel. What his method is has not been given out, but we presume it is some plan of mixing it with tar, or other inflammable material, and pressing it into blocks. He has associated with him Mr. John McLatchie, and a plant is being set up at the Chaudiere, where abundance of the raw material can always be obtained. The fuel will be tested on a locomotive of the C. P. R. It will be cheaper than coal, will give a quicker fire, is cleaner even than wood, and gives little smoke or ashes. It is to be hoped it will prove all that is claimed for it. Better burn the saw dust in our furnaces than allow it to fill up our streams and kill the fish.

VERY little lumber is being carried through the Welland Canal this season, a condition of affairs for which the vessel owners blame the tolls which are imposed by the Government. The toll on lumber is 30 cents per M feet, and on coal, which the vessels count on carrying back as return cargo, 20 cents per net ton, (the vessel being paid freight on the gross or long ton.) In both cases this is considered excessive as compared with the toll on grain. Anthracite coal makes a convenient return load for lumber carriers going to Oswego, but the toll prevents vessels taking on cargoes, and they pass through the canal light, and go either to Buffalo or an Ohio port for a cargo of coal for the upper lakes. The toll on bituminous coal going east also prevents many vessels from using the canal. The Erie canal is free and makes that route the cheaper to Oswego. Shippers would prefer to use the Welland Canal for lumber, as it would go through without transshipment, whereas by the Erie canal route it has to be transhipped from lake vessels to canal barges at either Buffalo or Tonawanda, being deteriorated by the handling. Only two or three vessels are engaged in lumber carriage through the canal this season, and they belong to parties who own the lumber and have lumber yards at Ogdensburg.



Free canals in the United States and cheap railway rates have drawn away the traffic in lumber and coal through the Welland Canal, which seems a great pity when we consider the advantages it possesses as a means of communication between the great lakes. Are not canal tolls, like toll gates, an antiquated restriction on trade? The latter have been almost universally abolished. Why not also the former? It would be a boon for the lumber trade.

THE much discussed question as to what constitutes dressed lumber is not settled. Nor is it likely to be for some time, much to the loss of Canadian lumbermen who put in machinery for planing, and tonguing and grooving, under the impression that such lumber would be admitted free of duty to the United States markets. It will be remembered that certain United States customs officials held that while lumber planed on both sides might be admitted free as dressed lumber, when tongued and grooved it becomes manufactured lumber and is subject to duty. The distinction is a somewhat finely drawn one, and like many of the interpretations put on the tariff by United States customs officials is aimed to prevent Canadians having access to their markets. The matter was referred to the board of appraisers, who listened to a great deal of conflicting testimony. When they give their decision it will not end the matter, for should the question be decided against them the United States mill men will probably carry it to the federal courts. In the meantime we are shut out of the market, or have to pay the duty.

A mill-owner at Gravenhurst takes a somewhat pessimistic view of the lumber situation in this country. He says he has never known the business to be in a worse state than it is at present. The yards are filled with lumber which cannot be sold, and there is little piling ground. The largest mill on the Northern road is not running, as it has a two years' stock on hand. One of the largest concerns is shipping all its good common to the United Kingdom, not only in the shape of deals, but one-inch and upward. The smaller mills, he writes, will all be wiped out. We fear our friend is of the lugubrious cast, and is one of that class of people who always look on the dark side. While it is true that the lumber business, like every other line, is dull, we do not think it is quite so bad as the Gravenhurst man would have us believe. At all events there is a rift in the cloud, and though the sunshine of prosperity has not fully broken forth, there is a fair prospect that the clouds will soon disperse, and that the lumber trade will wear a smiling face again. Let us look on the bright side and hope for the best.

Mr. R. E. Gosnell, librarian of the British Columbia provincial library, was recently in Toronto on a visit. Speaking of the outlook for lumber in the Pacific province he remarked that the foreign trade, upon which they mainly depend, has been very bad. Mill-men have, he said, actually been losing money on their operations. Though prices have not risen, foreign demand is improving and he looks forward to a good time coming, when the timber of British Columbia, which he describes as the finest in the world, will prove a great source of wealth. When Mr. Gosnell was here the good news had not arrived of the reduction in duty on lumber entering the colony of Victoria, Australia, or he would doubtless have been in better spirits over the outlook. But it seems to us that the British Columbians do not cultivate as they might the vast market for lumber on the treeless prairies of the northwest. It is true settlement has been slow of late, but the magnificent crop of this year must give a great impetus to immigration, and while waiting for the opening up of Australian and other far away markets, more might be done to secure trade near at hand in our own country.

The old Egyptian monuments show that the saw was in use at least one thousand years B. C.

THE summer meeting of the American Forestry Association at Springfield, Mass., was held in a church. The subjects which came up for discussion mainly related to New England and New York forestry matters.



OUR friends in the United States contrive to mix a good deal of fun with their business operations, and when they meet in convention to deliberate on important interests, season their discussions with wit. One of the lumber organizations which recently met at Minneapolis is known as the Concatenated Order of Hoo Hoo, and has for its totem a black cat. Its chief officer is known as the Snark, and the other officeholders rejoice in such titles as Bojum, Scrivenoter, Bandersnatch, Custocatian, Arcanoper, Gurdon, etc. These names would suggest a school boy's organization for fun, but the Hoo Hoos exist for the purpose of regulating methods in the lumber trade. They evidently believe in the quotation which used to adorn the title page of Grip, that the gravest man is the fool. And why should we allow the sterner duties of life to drive out all its brightness?

FOREST fires appear to have been unusually prevalent all over the United States this season. In the state of Washington particularly the clouds of smoke are so dense as to interfere with the salmon fishing on the Columbia and with navigation on Puget Sound and streams in the interior. Considerable areas of timber have been destroyed, but fortunately there has been little loss of life. These fires do not start themselves. They are frequently the result of carelessness, and they do infinite damage to the lumberman. There are strict regulations in force respecting the setting out of fires, but it is difficult to carry them into effect. Too much care cannot be exercised in this regard.

HON. Mr. Hardy, Commissioner, and Mr. Aubrey White, Deputy-Commissioner of Crown Lands for Ontario, recently paid a hurried visit to Rat Portage and points along the north shore of Lake Superior. Mr. White informs me that the lumber trade at Rat Portage is very much depressed, with no immediate sign of recovery. Speaking of spruce and the supply for the Sault Ste. Marie pulp mill, he told me that there were reports of a good supply up the Nipigon river, but he and Mr. Hardy failed to find it, though they were not on an exploring expedition. He thinks any spruce which is to be found in Ontario south of the height of land is small in size and scattered. Most of our spruce is to be found in Quebec and the Maritime provinces.

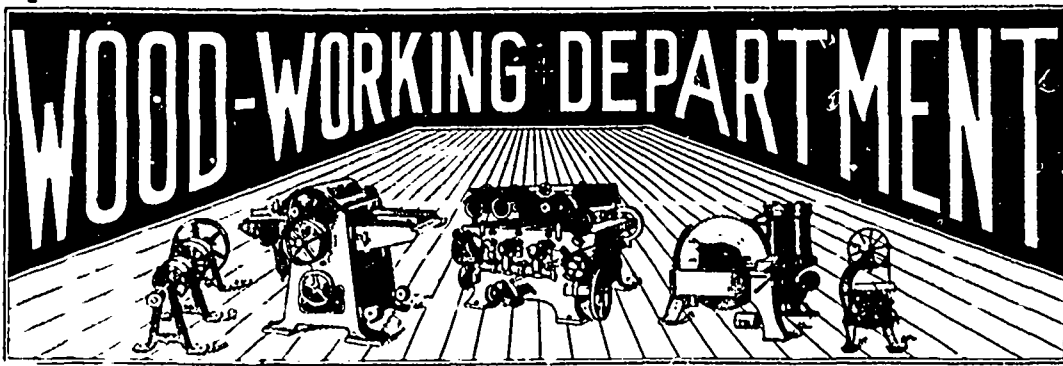
SOME idea of the demand for paper now-a-days may be formed from one fact. A large paper pulp mill has been built at the Canadian Soo, and will soon be in operation. The company, a United States one by the way, undertook to develop the water power there to the extent of 20,000 horse power, half of which they intended to use themselves and rent the other half. But after they got under way they determined to use the whole of it themselves. Yet the manager told Mr. White, Deputy Minister of Crown Lands, that they would not be able with their extensive plant to supply the New York World alone with the paper it requires. A gentleman from Australia recently visited the Sault and wanted to make a contract for all the pulp they could produce, which they had of course to decline.

ANOTHER concession has been made which will help lumbering in British Columbia. An order in council has been passed at Ottawa reducing the dues on timber cut within the railway belt of that province. A rebate is also allowed on manufactured lumber exported from the province to foreign countries. These concessions were the result of representations made at Ottawa of what the provincial government had done. The latter had reduced the dues and granted a rebate on timber cut outside the railway belt, so those holding limits within the belt felt that they were placed at a disadvantage. They represented the matter at headquarters with the result stated. It will be recollected that while the provincial

government holds the crown lands in general, the Dominion government took possession of a belt along the line of the Canadian Pacific Railway, for which compensation was made to the province. It will be seen that unless the two governments act together injustice may be done, and the passing of this order-in-council is simply the removal of an injustice.

CAPT. James Murray, who died at St. Catharines on the 27th ult., was a well known figure in shipping, contracting and lumbering circles. He possessed in a marked degree the characteristics of the Scottish race from which he sprung, and to this is due in a large degree the success which attended his enterprises. In 1837, when five years old, he immigrated from Argyshire, his native place, to this country, settling with his father's family on a farm in the county of York. Subsequently he went to St. Catharines, taking up his residence with an uncle. At sixteen he took to sailing, and in five years had reached the position of captain. Several years later he purchased a number of vessels and carried on shipping operations on an extensive scale, his vessels being known as among the finest on the lakes. He then took to contracting, and carried out extensive works on the Welland canal, along the lakes and on various railways. In conjunction with the firm of McArthur Bros., of Toronto, he established the Collins Bay Rafting Co., a well known company in the rafting and wrecking business, of which he was a director for some years. He was also president of the Casselman Lumber Co. His death was caused by an obstruction of the liver, and was quite unexpected, as he had been in his usual health up to within a few hours of his death. Capt. Murray is another example to young men of that energy and perseverance in the face of difficulties which is sure to win its way in the world.

THE possibility of transporting timber in large rafts by sea instead of the more costly freighting by vessels or rail seems to have been settled, though it must always remain a risky business, and he who would save in freight must be prepared to take the risk of loss, which cannot but always accompany such an enterprise. Numerous attempts of the kind have ended in disaster, but several of these large rafts have recently reached their destination, and as experience teaches how to put them together so they may best resist the storms which put them to the test, shippers will be more ready to assume the risk of transporting timber in this way. If I mistake not, the first successful attempt to convey a raft in this manner was from a Nova Scotia port to New York. Another large raft has just been taken from the Columbia river to San Francisco. Capt. Robertson, one of the managers, made a similar attempt last year, but the raft was broken up, resulting in a loss of \$40,000. Nothing discouraged, he made another attempt, and this time succeeded. The raft was put together at Stella, Oregon, and contained 7,000,000 feet. It was 225 feet long, 52 feet wide, and 30 feet deep, and drew 20 feet of water. The timber contained in it if put end to end would reach 90 miles. In shape it was like a huge cigar, having a middle girth of 139 feet, tapering to 40 feet at the ends. Over 60 tons of chain were used in binding it together. The saving in freight is estimated at \$25,000, a sum worth taking considerable risk to save. The timber is for the use of the Southern Pacific Railway in the repair of its bridges and trestles. Instead of using a tug as has been done before, a powerful steamer was employed. It is in contemplation by the same parties to take a raft from Puget Sound next season. The great danger in such attempts is stormy weather, which works the chains loose and allows the timber to get out. In this last attempt it was so closely bound together that not a stick moved, and the great ocean on which it was afloat proved so true to its name, that no stormy weather was encountered. That portion of the Pacific is very open, there being no protection whatever from westerly winds, and had there been a big blow the trip might not have been so successful. While this attempt turned out well it is hardly to be expected that such methods of conveying timber to market will ever become popular. If it could be relied on it would be a good thing for lumbermen on both of our coasts.



“MODERN WOOD-WORKING MACHINERY.”

THE above is the title of a little work which has reached the editor's table of the CANADA LUMBERMAN. It is one of a series on technical subjects, issued by Wm. Rider & Son, publishers of the Timber Trades Journal, London, the author being J. Safford Ransome, Associate Member of the Institute of Civil Engineers, and the writer of works on "Modern Labor," "Capital at Bay," etc. It is really a re-publication of a former work on "How to Select Wood-Working Machinery," with new chapters added and the old ones thoroughly revised, as requires to be done in the newer editions of technical works, on account of the rapid developments which take place in this branch of mechanics.

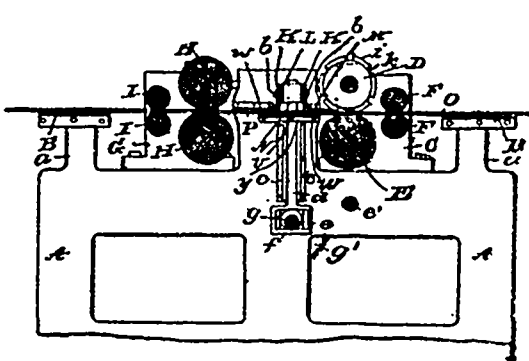
The general scope of the book is to point out the most suitable machines for wood-working, and the qualities to be looked for in such machines, giving instructions also how to obtain thorough knowledge of the machinery before rather than after purchasing. Why machinery fails to fulfil the expectations of its users is shown to arise from the following causes:

- (1) Insufficient workmen, (2) Injudicious placing, (3) Imperfect foundations, (4) Insufficient horse power, (5) A badly governing motor, (6) Prejudice against its use on the part of foreman or men.

Any of these will entail serious loss to the owner of machinery, and probably there is not a wood-working factory in the country which does not suffer from one or other of them.

The book contains thirty-five chapters, covering all classes of machines and motors, and has seventy-two illustrations. It must prove a most useful hand-book to all who are actively engaged in wood-working, and the price (3/6) is so low as to be within the reach of anyone.

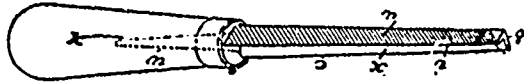
NEW CANADIAN PATENTS.



METHOD OF MAKING MATCH SPLINTS.

Patentee: The American Safety Head Match Company, assignee of Isaac D. Weaver, both of Lebanon, Pennsylvania, U. S. A., 5th July, 1895; 6 years.

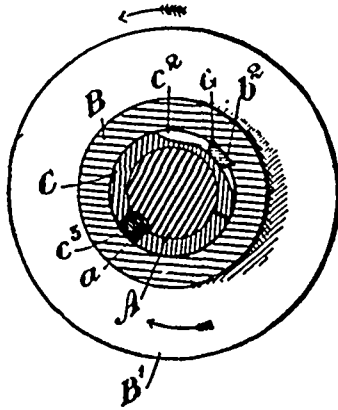
Claim.—The method of making match splints, which consists in slitting a sheet or slab longitudinally and leaving a back-bone or uncut portion between the slitted portions of the sheet, and then serving each alternate splint of the sheet at the back-bone of the match card. In a machine for making match splints, a revoluble cutter, and a pair of vertically reciprocating cutters having chisels to sever each alternate splint from each side of the back-bone of a match card, in combination with a driving shaft which operates the reciprocating cutter, a gear-wheel, a ratchet-wheel having a rock-arm supporting a pawl and a lever connected to a master gear-wheel and to said rock-arm and a suitable connection with the shaft of the revoluble cutter.



SAW FILE.

Patentee: The Arcade File Works, assignee of Alfred Weed, both of Anderson, Indiana, U. S. A., 5th July, 1895; 6 years.

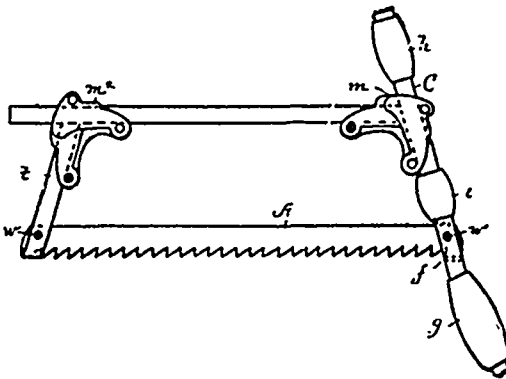
Claim.—The within described file having two flat faces, a, b, at an angle to each other, and with a groove at the back forming edges e, i to said faces, which edges are cut, substantially as and for the purpose set forth.



MATCHING HEAD FOR PLANING MACHINES.

Patentee: Cowan & Co., and Agnes Aussen Eby, assignees of Isidore Emanuel Eby, all of Galt, Ontario, Canada, 9th July, 1895; 6 years.

Claim.—The combination, with the matching head and cylindrical portion thereof, of a binding cam connection between the cylindrical portion of the matching head and the spindle as and for the purpose specified. The combination, with the matching head and cylindrical portion thereof, of a spindle having a vertical slot, a screw stud extending through the sleeve into the slot in the spindle, a key secured in a recess in the inside of the cylindrical portion and designed to co-act with a cam groove in the sleeve, as and for the purpose specified.

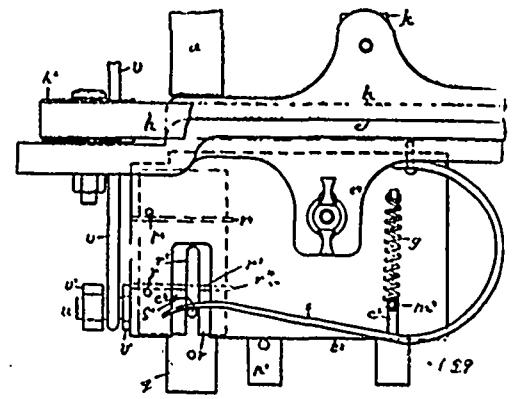


FRAME OR BUCK SAW.

Patentee: Nathaniel H. Shaw, Somerville, Massachusetts, U. S. A., 12th July, 1895; 6 years.

Claim.—In a frame-saw, the frame comprising a metallic handle-bar, a spring-beam and a front bar, said beam being detachably connected to the handle-bar and the front bar by couplings. The herein-described frame-saw comprising the handle-bar and front-bar, the beam D, detachably connected and secured to the handle-bar by clamps m and m'. The blade A, connecting the handle-bar and the front-bar, said handle-bar projecting

below the blade and above the beam and provided at these points with non metallic handles, substantially as described.



FEED MECHANISM FOR CORK CUTTING MACHINES.

Patentee: John Auld, assignee of Joseph Adelard, LaFrance, both of Montreal, Quebec, Canada, 16th July, 1895; 6 years.

Claim.—In feed mechanism for cork cutting machines, a horizontal conveyor travelling uninterruptedly in the same direction, and means for imparting an uninterrupted movement to such conveyor. In feed mechanism for cork cutting machines, the combination of the receiving hopper c, having agitator drum d and guiding groove e, the conveyor composed of travelling endless belt h and adjustable walls k, with means for operating such belt, the controlling devices consisting of the holder m and its carrier, the gate n and its carrier, and the stop p, the pusher q and the adjustable stop m' on the carrier of the holder, the adjustable stops n<sup>4</sup>, n<sup>5</sup> on the carrier of the gate and the connecting plate q<sup>2</sup> on the pusher side, all suitably guided and supported, and together with the operating lever t, springs g and s, cross-bar u, a main shaft and intermediate cam-lever-and-rod operative connections and means of adjustment, all substantially as and for the purpose set forth.

POINTS ON BELTING.

I HAVE a few words to say about belts, particularly on planing and matching machines. I have found it good policy and a great saving of time to always have an excellent spindle belt for each matcher on hand, so it can be put on at a moment's warning, as what is more annoying and vexatious on a rainy day than to have a spindle belt gather dampness enough to loosen all the splices, and not have another one ready to put on? I find it saves time and is economy, as soon as I see signs of a belt giving out in this way, to remove it and put on my extra belt, then look over, reglue and peg all of the splices which have started, and lay that up for the next emergency.

I use common glue and three-eighths or five-sixteenths shoe pegs. A good awl can be made in a few moments by taking an old three-cornered file and grinding an awl on the end which goes into the handle, then break off a piece of the other end and grind it square on an emery wheel, grinding heavy enough to draw the temper so it will not cut the face of a hammer. Be sure not to get the awl too large, so that the pegs will fly out of the belt while running.

I never have had but one piece in spindle belts, as they run much smoother than where there are two or more pieces. I use Blake's belt studs or lacing. I prefer the studs where there is room enough for belts to run, so there is no danger of catching on castings or set screws and tearing.

My top cylinder belts I make endless, and find them much less trouble than to have them fastened with hooks, studs or lacing. Besides running much smoother and being easier on boxes and bearings, they run much longer without taking up, and when you see they are getting loose, a few minutes at night is enough to take a splice apart and shorten the belt up one-half or three-quarters of an inch, as the case may be. In cylinder belts and spindle belts not running over a binder, I find it better to peg the splices from the inside of the belt, as they are not as liable to pull out in that way.

I find by using belts in this way all through a mill I

get along with much less belting, besides having much nicer running belts. I use all of the belts in the mill on this principle. One time I had a belt 64 feet long and seven inches wide running a 44 inch resaw. This belt was in four pieces, and had three or four bad slices which had started to tear and been fixed up with belt hooks. I thought of ordering a new belt, but on looking it over and the old belting on hand, concluded to fix it up. I cut out all the poor slices, putting in new ones and joined all pieces in the same way, putting in five inch splices. Then I picked out some of the best pieces I had and lengthened it out to the required length, making a belt all in one piece. It ran just as well as a new belt, and, as it is running yet, I cannot say as to its lasting qualities.

It would be very expensive, indeed, to put up shafting rigid enough to absolutely prevent all deflection, and any deflection disarranges a short belt more than a long one.

I believe all shafts deflect some, but if the load on the belt was absolutely constant the shaft deflection would adjust itself as soon as started, remaining adjusted until a different tension of the belt permitted another deflection of the shaft. Any deflection of a shaft will disarrange the alignment of a pulley thereon, and at the same moment give slack to the belt to the extent of the deflection of both shafts, and the pull is all on one side of the belt; that is, the side of the belt which travels to the driving pulley pulls and stretches, while the side of the belt which travels towards the driven pulley sags and takes up the slack caused by this stretch on the other side.

Very short belts or belts running vertically ought to be provided with a self-adjusting tightening device on the slack side. In case of long horizontal belts the weight of the slack side is of more value to take up the slack caused by the stretch of the full side, than the weight of the same side of a short belt. Then the slack of alignment caused by shaft deflection or otherwise, is not so injurious with long belts.

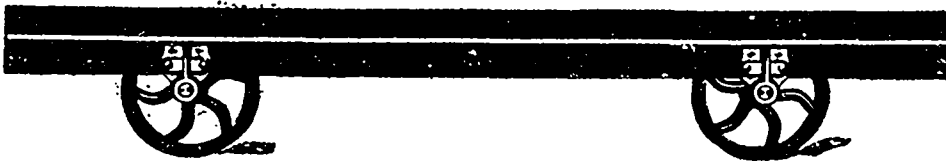
So, where it is not convenient to use long belts, the shaft should be larger and have close, strong bearings; if the shaft bearings, etc., must be weak, then use belts as long as possible.

Another thing about belts: The tight or pull side ought to be at the bottom and the slack side on top; then, when the belt pulls and stretches at the bottom, the top sags and takes up the slack thus made and laps more on both pulleys. But if the loose side is at the bottom, the sag will cause the belt to leave both pulleys to some extent and have less lap.—The Wood Worker.

**METAL TRUCKS FOR LUMBER DRY KILNS.**

THE Huyett & Smith Manufacturing Company, of Detroit, Mich., have applied for a patent on a dry kiln truck, a cut of which is herewith presented.

The advantages possessed by this truck over the ordinary wooden bunk, or any other metal truck on the



METAL TRUCK FOR LUMBER DRY KILNS.

market, will be more apparent upon an examination of the truck itself, but we shall endeavor to point out some of the reasons why it seems destined to displace the others.

The ordinary bunk which is usually made up by mill owners themselves, they simply buying the wheels, axles, boxes and bolts, in the first place weighs 120 lbs., and is a very cumbersome and clumsy thing to handle, requiring two men to carry it back from the dry to the green end of the kiln; not only that, but as it is subjected to such a high temperature and dry atmosphere inside the kiln, when coming out into the open air and being exposed to all kinds of weather, it is soon checked and split, requiring constant repairs.

On the other hand this truck weighs only seventy pounds, the sides being made of heavy sheet steel formed

into their peculiar shape by a very heavy press designed especially for this work. The wheels and boxes are made of malleable iron, and although weighing less than half what they would if they were made of cast iron, they are stronger and will stand any kind of a blow without breaking.

The light weight of the truck makes it possible for one man to carry it without difficulty. The material of which it is made up is, of course, in no way affected by sudden changes of the temperature and humidity of the air to which it is subjected, so that the life of these trucks is almost unlimited, and in case of a fire, should the kiln burn down, these trucks would be very likely to be preserved in perfect condition.

The manufacturers of this truck are getting them out by the thousands, having special machinery adapted for their manufacture, and in this way are enabled to put them on the market at an extremely low figure, so that they are within the reach of all mill owners, and although costing a little more than the ordinary wooden bunks, the difference in price is bound to be saved within a few months.

**DISHES MADE OF WOOD.**

THE oval scooped-out dishes of wood, which have become so familiar at the grocery for doing up butter, lard, and other commodities, and at the Sunday-school picnic as a receptacle for pie and pickles, are manufactured in Traverse City, Mich., and the factory turning them out is the largest in the world. The company buys the standing timber on a tract of land and works up everything in it. The factory consumes about 12,000,000 feet of lumber annually.

The logs, as they are cut in the forest, are floated down the Boardman River to the mill booms and, as they are wanted, are hoisted into the saw mill, where they are cut. For the butter dishes, maple is the only wood used. The outer slabs of the maple logs are slashed off and cut to dimensions of firewood. Then a few layers are sliced off for lumber. After the slabs and lumber are cut, a piece of timber, about six inches in thickness and eight inches wide, is left the length of the log, and this is the part reserved for the butter dishes.

The heavy timber is cut into blocks ten or twelve inches in length and boiled in huge vats until thoroughly softened. The hot blocks are placed in machines, which scoop out the butter dishes at the rate of 200 a minute. A curved knife revolving on a spindle does the work, the block being automatically advanced with each revolution of the spindle, and a knife working up and down taking off a slice just the thickness of the plate, so as to leave the surface the same as before. The dishes are scooped out of the solid wood exactly as they are found at the grocery.

As the dishes fall from the machine they drop into a funnel, which carries them to the dry kilns. Through the drying process they pass automatically and finally fall upon a long table, where a row of girls sort them and prepare them for packing. It takes about twenty

minutes for the plates to go through the drying process, and not a hand touches them until the girls sort them for packing. Ten machines are working constantly on the oval butter dishes and the capacity of the works is approximately 600,000 a day.

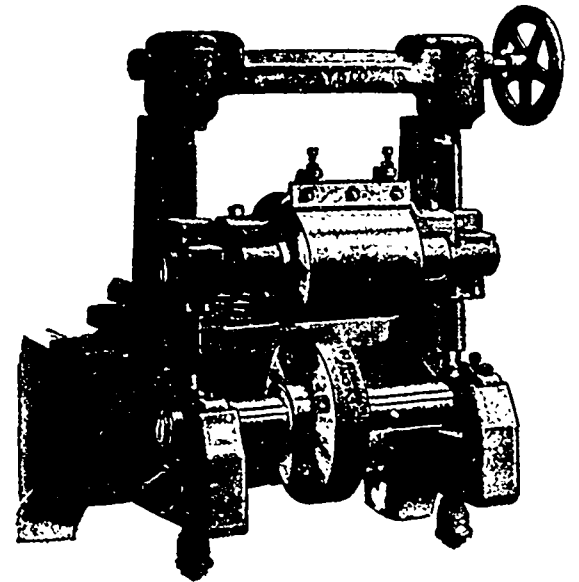
The most wonderful machine in the shop is that which manufactures the wire end dishes. For these the logs are cut into bolts, boiled, and then converted into veneers the thickness of the material used in the plates. Still hot and steaming the veneers are fed through a machine which cuts the veneer to the required shape and size, marks the folus, folds them and sews the ends of the dish with wire, and finally delivers the dish complete at the other end. The machines turn out the wire-end dishes at the rate of a 100 minute, and the factory facilities are for 200,000 a day.

**LUMBER STAMPING MACHINE.**

WE present to the readers of the CANADA LUMBERMAN an illustration of a new lumber stamping machine, which appears to be an improvement on anything of the kind that has been used in the past. It has been placed on the market by J. A. Fay & Co., of Cincinnati, Ohio.

Manufacturers of lumber pursue the proper course who affix to their products a private stamp or mark as a means of identification, but up to the present time the methods pursued have been crude and expensive in application. The impression left by a hammer on the end of a piece of flooring, ceiling, moulding, etc., gives that piece an individuality which it retains until a saw removes the end, after which it may be the product of any mill which suits the dealer's purpose. A pot of paint may inartistically proclaim the maker of certain flooring until the saw is again brought into play.

In the following illustrated description is revealed the remedial invention designed to impart to the product of any particular mill an individuality which cannot be obliterated, the product being indelibly stamped or branded with the maker's name and other distinguishing marks



LUMBER STAMPING DEVICE.

at short distances throughout its entire length, so that, in case of any division of the piece, each length will still bear the brand. Each piece of flooring, ceiling, moulding, etc., may by this invention be so marked that the customer can know at a glance whose manufacture it is and of what grade, thus preventing other mills and dealers from foisting on him inferior stock, or stock of one mill for that of another, and also enabling the manufacturer to identify his stock when occasion may arise. The mill making the stock may also provide each machine in use with some particular mark or number, thus identifying the product with the machine and locating the blame for inferior workmanship upon its author.

The improved method and apparatus, which is adapted to use on any make of machine, consists of a die, of any particular desired name, mark or number, supported on a shaft mounted on bearings adjustable in recesses, these bearings being provided with lips to prevent lateral displacement and the shaft with shoulders to prevent endwise movement. The die is provided with set screws to adjust it to different heights, and set nuts to hold it firmly in place. An idler roll, mounted on a shaft supported in bearings on a housing gibbed to standards, above the die, holds the lumber or other stock against it, so as to insure a proper impression on the material as it passes over the die. Screw rods, properly ground, and with a hand wheel to operate them, are provided to raise and lower the roll for different thicknesses of stock.

The device, attached as a general thing, to the feeding out end of the machine, is automatic in its action and does not operate to the detriment of the speed of the machine, the stamping being done while the lumber is being dressed by the machine.

Lumber manufacturers will at a glance realize in this the solution they have long sought for avoiding the unpleasant controversies which frequently arise.



## OTTAWA LETTER.

[Regular correspondence CANADA LUMBERMAN.]

THERE is no little excitement among lumbermen in this city over the action of one or two soreheads on the other side of the line as to what constitutes dressed lumber. Up to date the term included flooring, tongued and grooved, and these were admitted as such till a short time ago, when, as a local shipper puts it, a few "small big" men raised the point that dressed lumber means a board dressed on two sides only, and that flooring, tongued and grooved, comes under the classification of "manufactured goods." One of the largest lumber merchants in the United States is at present in the city, and in conversation with Mr. Peter Whalen on the subject said: "It is not honest on the part of the Americans to claim as they are doing. Flooring has always been looked upon as within the law of dressed lumber, and although it would be much better for me if it were classed as manufactured goods, still I cannot honestly say that it would be right to class it so." Meantime the Ottawa as well as other shippers are watching developments, as the classification of flooring as manufactured goods means the beginning of another tariff trouble in the lumber and timber business.

Mr. J. R. Booth, who has suffered losses by four large fires during the past year, is again a loser from the same cause, a fire having occurred on the 28th ult. at his log-hauling station near Calendar. Damage to the extent of \$20,000 was done, on which there is an insurance of about \$11,000. The station is a distributing centre for Mr. Booth's logs which come down Lake Nipissing. At Calendar they are conveyed overland by cars to the Mattawa waters. The property destroyed was a valuable one. It consisted of large storehouses, sleeping house, offices, stables and other buildings. All the firm's cattle and horses escaped.

The gang Pitman saw at Edwards' mill, New Edinburgh, broke a few days ago and caused one saw to stop. A heavy bar of iron, 7 by 2½ inches, was shortened by compression. The job of repairing the break is quite a heavy one.

A new industry is being started here, namely, the manufacture of fuel from sawdust. Mr. John McLatchie, surveyor, and Mr. Olney, inventor of the process, which the new industry is to test, are placing a plant in the old Rochester building at the Chaudiere. Should it turn out a success it will help to settle the question of disposal of sawdust.

Mr. J. R. Booth's lumber mill at the Chaudiere is being operated day and night, giving employment to 350 hands. When a representative of the LUMBERMAN visited it recently he was impressed with the fact that everywhere about the establishment systematic methods prevail. Operations proceed like clockwork, and the conversion of the raw material into lumber and other marketable products apparently takes place with the greatest conceivable saving of time and material. The statement may be the more readily understood when it is known that the band mills are operated at a speed of about two miles per minute. The mills and yards are at night brilliantly illuminated by upwards of fifty electric arc lamps, the current being supplied by the Company's own electric plant. At this mill, as elsewhere, there is a noticeable change in the character of the logs which are being converted into lumber. The quality of the timber is inferior to what it was say ten years ago, when mill owners went over the limits and cut only the choicest trees. Timber is not now so plentiful, and as a consequence less perfect material is being brought to the saw.

OTTAWA, Can., Sept. 22, 1895.

## BRITISH COLUMBIA LETTER.

[Regular correspondence CANADA LUMBERMAN.]

A PARTY of nine prominent lumbermen, of Wisconsin, have been on a visit to this province with the view of investing in timber limits. They first visited Puget Sound and then crossed over to Victoria. They expressed themselves well pleased with the timber resources of this province, and it is probable they will secure some limits before they leave. They say there is plenty of timber for a long time to come, in the East, notwithstanding what people may say. They report business looking up in the East and say the lumber trade must recover in sympathy with other lines.

Mr. J. M. Gordon, of Ottawa, Inspector of Dominion Lands Agencies, is paying his semi-annual tour of inspection to the Coast. He says that the amount of land sold in British Columbia during the past year has been very satisfactory considering the times. The magnificent harvest in Manitoba and the North West Territories this year will, he thinks, be an incentive to immigration next year. He is inspecting the timber lands owned by the Government. He says that considerable satisfaction is caused by the fact that the government has recently met the requests of the timber men in allowing, instead of 5 per cent. duty on the selling price, 50 cents per 1,000 feet, and a rebate of 40 cents on timber exported from the Province.

Dr. Watt, ex-M.P.P. for Cariboo, writes to a local paper urging the passing of legislation to preserve the forests, which, he says, are just as important to the successful working of the mines as is water. Great destruction has been wrought by fires, the losses being incalculable. Had the doctor not been defeated at the last general election he proposed to introduce legislation which would have had a tendency to preserve the forests.

A wedding took place at 7 a. m. recently at the residence of ex-Chief of Police McLaren, Vancouver. The bridegroom was Mr. Hugh McDonald, of the Brunette Saw Mill, New Westminster, and the bride, Miss Sophie Bowes, niece of ex-Chief McLaren. Rev. E. D. McLaren officiated. Mr. and Mrs. McDonald left on the morning train for Whatcom.

British Columbia yellow cedar commands as high a price as \$80 a thousand feet in the British market. An English firm, tempted by this price, is said to have secured 15,000 acres of cedar limits.

The C.P.R. is about to replace the long bridge by which their line crosses the Columbia at Revelstoke, with a new structure. Car loads of timber are now arriving for it and work will be commenced as soon as the water is low enough.

The Victoria Lumber & Manufacturing Co. will probably commence cutting at the Chemainus mill next spring, as the lumber market shows signs of improvement.

The Sayward Saw Mill Co., Victoria, will shortly put in a band mill.

Mr. Lidgate, who recently left here for the East, will open a lumber yard at Qu'Appelle, Assa.

R. Stevenson has completed his saw-mill on the Similkameen, near Princeton.

"Doc" Tomlinson is erecting a saw mill on Sheep Creek, just north of the boundary.

The C.P.R. is carrying quantities of B. C. shingles from the Sound to Eastern points in the United States. The Northern Pacific cannot supply cars, their rolling stock being pretty well taken up carrying grain and ore.

The duty collected in August in Vancouver was \$2,000 more than in the corresponding month last year, and the inland revenue \$2,000 more. This looks well for a revival of business.

The news of the reduction of the duty on lumber entering the colony of Victoria, Australia, has been received with satisfaction here. It is expected to give a great impetus to our lumber trade, as Australia is one of the principal markets to which we must look for the sale of our timber.

Mr. Wm. Tierny, of Vancouver, gives notice of application to the provincial lands department for a special license to work some 900 acres of timber lands in the New Westminster district. J. W. Hartney, of Vancouver, gives similar notice as to five tracts of land. H. H. Spicer & Co., of the same place, seek a license to cut timber on Gambier Island, Howe Sound.

Considerable interest is manifested in a gigantic combination which is said to be in process of formation at San Francisco, to include all the pine lumbermen on the Pacific coast of the United States. They assert that they cannot compete with British Columbia, where operators have only to lease their limits and pay for the logs as they take them out, and that in consequence British Columbia lumber is taking the place of what is produced at home, causing the shutting down of many of their mills, reduction of wages, and the carrying on of business at a loss. It is asserted that the combination will not raise prices locally, but that if it did no harm would be done. The Central Lumber Co., recently organized at San Francisco, is said to be the nucleus of the big combine.

NEW WESTMINSTER, B.C., Sept. 20, 1895.

## NEW BRUNSWICK LETTER.

[Regular correspondence CANADA LUMBERMAN.]

CONSIDERABLE feeling is manifested in connection with the neglect of some of the lumber surveyors in St. John to take out warrants from the City Council. Those who have passed an examination and secured a license are displeased that others should share in the work without a license. It is the intention of the Council to ask the Legislature for authority to compel all applicants to pass an examination. Three examiners will be appointed, who will be paid \$1 each per candidate, besides the usual fee of \$4.50 for a warrant. The permit will have to be renewed yearly or the authority will be cancelled.

Hon. J. B. Snowball is already sending men and teams to the woods. They will operate on the Tabusintac. Wm. Richards is sending men and teams to commence the winter's logging.

The Restigouche lumbermen have had a fairly good season. Much less shingle manufacturing was done this year than last.

Owing to the collapse of the U. S. shingle market the mill owners turned their attention to the production of deals for the British market.

The recent advance in freight has caused English buyers to show more anxiety in securing spruce deals to cover prospective requirements, and sales are being made more freely, with a prospect of an advance in price. New Brunswick birch has also sold well in the Liverpool market. All of which helps to make our lumbermen more cheerful.

Mr. James Carr, of Woodstock, who ships large quantities of hemlock bark, has recently purchased a block of 10,000 acres, chiefly wilderness, near the Newbury station on the C.P.R. The property was given by the Government a number of years ago to the Iron Works Company, to foster the mining industry. Mr. Carr's purchase also includes Mr. George Upham's rotary saw mill on the Gibson branch of the C.P.R. It is understood Mr. Upham intends building a mill on the To-bique.

ST. JOHN, N. B., Sept. 24, 1895.

## MICHIGAN LETTER.

[Regular correspondence CANADA LUMBERMAN.]

ALPENA, Mich., has enjoyed a fair run of orders thus far this season, and for the eight months ending September 1st had shipped 74,400,000 feet of long lumber. Most of the mills have a fair supply of logs, which will be increased before the season closes by the receipt of at least four rafts from the Canada shore.

Following the example of the Saginaw men the Detroit lumbermen have organized an association. They intend to make a test to determine what the 80 per cent. law of the state board of policy commissioners amounts to.

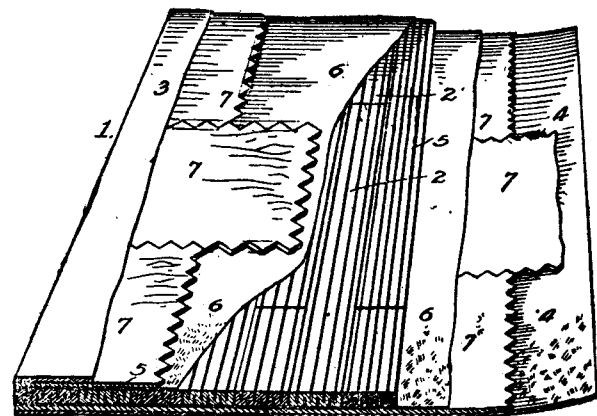
The Mershon case caused an animated discussion at the Buffalo convention. This is the matter in dispute between W. B. Mershon, of Saginaw, Mich., and the Pennsylvania dealers in which the former's goods have been back-listed on account of his dealings with builders in Philadelphia, contrary to the rules of the Pennsylvania dealers. The dispute is to be settled by arbitration.

It begins to look as if millmen along the Saginaw river would go into the winter with as large stocks, if not larger, on the mill docks than at the close of navigation last year. Prices for lumber are fully as low as during the worst period of the price panic in July and August. When an intending purchaser stops at Saginaw to enquire prices, he moves along to other points in the pine district, and that is the last we see of him. The natural inference is that somebody is selling lumber at less than cost, or perhaps giving it away, for local prices are held as near the cost of production as possible. There is a fair inquiry for better grades, but coarse lumber is going into pile at a rate which causes consternation among manufacturers. Mill after mill has been forced to shut down, having exhausted all their piling space.

SAGINAW, Mich., Sept. 24, 1895.

## ARTIFICIAL LUMBER.

AMONG the patents recently granted at Ottawa is one for artificial lumber, to Geo. S. Mayhew, of Minneapolis, Minn. This new product is shown in the accompanying cut, and though the claim as filed in the patent office is long-winded, as such claims usually are,



the substance of it is contained in the final paragraph, which is as follows:—

The combination, in an artificial material or composite material, of the thin wooden sheets arranged edge to edge, with carrying webs for adhesive material applied to opposite sides of said wooden sheets, thin wooden veneers arranged across grain to and secured upon said veneers, said wooden sheets provided with the closely arranged indentations in opposite sides, said veneers having serrated interlocking edges, and the whole secured together by an adhesive material and subjected to a heavy pressure and dried, substantially as described.

## THE NEWS.

—Montana's first house is still inhabited.

—A. Price will erect a planing mill at Aylmer, Ont.

—The Sayward Saw Mill Co., Victoria, B. C., will shortly put in a band mill.

—Arthur Macgregor has started a sash and door factory at Middleton, N. S.

—Miller Bros. & Co., of Glen Miller, Ont., are putting another machine into their pulp mill.

—All the spool bars sawed at Richards' mill, Boiestown, N. B., have been shipped to Scotland.

—T. C. Dawson is offering a 44 horse power saw mill at Renfrew, Ont., for sale. Falling health is the reason.

—I. B. Caldwell, of Lanark, has bought the eight mile Russell limit at Trout Lake and will build a saw mill at Lanark.

—Thos. Pink, Pembroke, has put in machinery to make handles for lumbering tools. Its capacity is 400 handles per day.

—Messrs. Gilnour & Hughson's sawmills at Chelsea have closed down for the season as the supply of saw logs is exhausted.

—In the Deseronto cedar mill 1,000 railroad ties, 20,000 to 27,000 feet of lumber and 70,000 to 80,000 shingles, are manufactured every day.

—P. P. Buck, liquidator of the Royal Pulp and Paper Co., of East Angus, Que., has declared a first and final dividend of sixty-eight per cent.

—The Gatineau shanties are filling up rapidly. Messrs. Gilnour, Hughson and Edwards have sent large numbers of choppers to the woods.

—The Royal Paper Mills company have commenced work on their new saw mill at Angus. It is said that the new mill will cost over \$10,000.

—Messrs. McAuly & Bolter, of Lower Millstream, Kings Co., N. S., who were burned out some time ago, have their new mill almost ready for running.

—Mr. John McAdam, of Woodstock, has purchased for his new mill a superior engine and circular sawing machine, and will soon be at work again.

—The timber from which the masts of the yachts Valkyrie and Defender were made was cut in Washington territory. It was the best description of Douglas fir.

—Ald. John McGoldrick has purchased Messrs. Cowan and McGinty's mill near Indiantown, N. B. He will remove the machinery and boilers and pull it down.

—Messrs. Goggin, of Penobscots, N. B., will start their steam mill in a few days. They have several hundred thousand feet to saw. This is the old Freeze mill.

—A quantity of good waney timber in the government boom at the mouth of the Gatineau refutes the statement of some lumbermen that no good timber remains on that river.

—Ernest Hutchinson has purchased from the St. Stephen bank the Todd lands on the Miramichi. There are three tracts, making in all 25,000 acres of good spruce land. The price paid was \$1.75 an acre.

—Regarding the prospects of Canadian trade in Australia, Commissioner Larke writes to the Department of Trade and Commerce that the saw-mill machinery of the colony is out of date and must soon be replaced.

—It is expected the new wood pulp mill at Eddy's will be ready in about a month. It will have four grinders and an output capacity of ten tons per day. The delay in completing it was caused by the breaking of some of the machinery on its way from the factory.

—Mr. J. F. Hamilton's new band saw mill, at Strait Shore, N. B., is in operation. The band saw has a speed of 20,000 feet a minute, and the mill will cut 2,000 feet per day for every man employed. At present there are 26 men. The machinery came from Ontario.

—The first shipment of lumber ever made from Fort William, Lake Superior, to Chicago, was recently sent to D. S. Pate & Co. It consisted of 654,000 feet, 354,000 of which was from the mills of Graham, Horne & Co., Fort William, and 310,000 from the Ontario & Western Co., Rat Portage.

—The Holland-Emory Company have sold part of the Township of Brown, with the mill at Byng Inlet, to the Byng Inlet Lumber Co., who are now operating the mill. At present they are cutting shingles, of which the mill's capacity is two hundred thousand per day. They intend taking out a stock of logs for lumber during the winter.

—The men working at Munro & Gordon's camp at Pogamasing had a somewhat unusual and dangerous experience during a recent storm. Lightning struck a rock near where they were working, knocking down fifteen of the men and three span of horses. The men escaped without serious injury, but two of the horses were badly stunned.

—James Wynard Steinhoff, David Alexander Gordon, Edward Kelle, all of Wallaceburg, Ont.; Joseph Atkins, of Cashmere, and Isaac Unsworth, of Florence, Ont., are applying for incorporation as "The Cashmere Manufacturing Co." to manufacture

staves, hoops and lumber, at Cashmere and Wallaceburg, with a capital of \$20,000.

—A New York lumbering firm talks of operating limits some 150 miles above Lake Teniscamingus on what is known as the Grand Lake, Victoria region. They are about three hundred square miles in extent, and are further up the Ottawa than any lumber has yet been cut. The river is not improved above the Quinze, and it would be with great difficulty that logs could be brought down.

—The tug Meteorama, while towing a raft of logs containing over 3,000,000 feet belonging to Mr. Hill, of Michigan, from Wau-buno Island, in the South Channel, to Playfair's saw mill at Midland, was caught in the gale of Sunday night, 15th Sept., and had to let them go. They were driven ashore at Sandey Island, but the boom did not break and they were recovered without much damage.

—The Middleton, N. S., box factory has shipped this summer 10,000 pairs of barrel heads, of which the largest buyers were F. C. Anderson of Kingston, who took 3,000, and W. E. Palfrey of Lawrencetown, 2,000 pairs. Nearly 1,000 strawberry crates, 40,000 baskets, and stock for 90,000 baskets have also been sold during the past three months. Twenty cars of lumber have been received during that time.

—The mill property at Bathurst, owned by the St. Lawrence Lumber Co., has been sold by R. L. Allport, the representative of the trustee of the English bondholders, to the Sumner Company of Moncton for \$29,000. The property consists of a saw mill, 240 square miles of timber lands, stores, etc., and some 6,000 acres of wilderness land. The Bersimis property is yet to be disposed of. It includes some 780 square miles of timber lands, a mill, a number of shops, houses, etc.

—J. W. Munro, contractor, of Pembroke, and D. O'Connor of Sudbury, have purchased the timber limits known as the township of Broder, about four miles south of Sudbury. The latter has also received a contract from Messrs. Booth & Gordon for cutting about six million feet in the township of Neelon. This will be sawn at McCormack's mill, which will be kept busy fully two years. This means an expenditure of nearly \$35,000 yearly in Sudbury. Mr. O'Connor has now in his employ thirty-five men in the woods and thirty at the saw mill.

—The St. Anthony Lumber Company, which has recently constructed large steam mills at Whitney on the line of the Ottawa, Arnprior, and Parry Sound, have started work. The mill proper is 207 feet long by 80 feet wide, with a shingle and lath mill attached 48250 feet, and storing shed 32x270 feet. The capacity is 250,000 feet a day, supplied by three band saws and one gang saw. Motive power for running the mill is supplied by a Corliss engine of 700 horse power. Sawdust belts carry a continuous supply of sawdust to the furnace.

### CASUALTIES.

—A lad named McAfee lost three fingers in Stetson's stove mill at Indiantown, N. S.

—A young man named Wm. Thompson was killed in one of the saw mill at Warren, Algoma district, last week.

—Harr. Cowan, a clerk in Barker's mill at Randolph, N. S., had one of his hands severely injured in the machinery.

—Wm. Clement, an employee of the saw mill at Palliser, B. C., was killed by a freight train on the C. P. R. a few days ago.

—Frank Venik, foreman of the Shawnigan Lake Lumber Company's camp, B. C., had both legs badly crushed a few days ago.

—James Gibertson was killed in Parter's saw mill at Perth, N. B., a fortnight ago. While holding a piece of scantling on the planer, it was caught by the belt and thrown against him, injuring him internally. He lived only half an hour.

While a party of some forty lumbermen were on their way from Montreal to Peterboro, to work for J. W. Howry & Sons, of Fenelon Falls, they became somewhat hilarious as the result of too much fire-water, and at Cornwall one of them drove his head through a pane of glass in the car window, cutting his throat so badly that he had to be left behind for medical treatment.

### PERSONAL.

Mr. J. Burstall, of Quebec, has returned from England by the Numidian.

Mr. James McDonald, of Halifax, has been appointed timber and tie inspector for the Coast Railway Co.

Mr. John Wilson, president of the Brunette Saw Mills Co., New Westminster, B. C., is on a visit to Ottawa and eastern points.

J. A. McRae, lumber merchant, Niagara Falls, Ont., is in Winnipeg. He is interested in the Ontario and Western Lumber company, and will remain some time in the west.

Mr. Peter McKay, deputy reeve of Tuckersmith, who has just chased a tract of land in Algoma, is about to go to that district to build a saw mill. His brother will accompany him.

Mr. Margach, crown timber agent at Rat Portage, accompanied by General Wilkinson, Mr. Geo. Drewry, and Mr. W. G. Cameron have been on a successful fishing tour to Bass Lake. The lakes in that neighborhood are being stocked with bass in accordance with arrangements made by the Ontario and Dominion Governments.

### FORESTRY IN NORWAY.

THE forest area of Norway is 19,288,626 acres, of which 2,314,635 acres are crown lands, 597,659 belonging to municipal institutions, leaving under private ownership 16,395,322 acres. The per cent. of the area of Norway covered by forest figures at 24.53. This is only equaled in Europe by Sweden, Russia, Austria and Germany. Norway, with under 10 acres per head in forest area supplies her own wants and has a net export of \$4.10 per head.

The forest wealth of Norway has for a long time been steadily declining. Since 1866 the Government has bought about 100,000 acres of woodland in different sections of the country, but the aggregate forest land of Norway has diminished in an equal ratio by the destruction of private woods. The value of public and communal forests is estimated at \$4,000,000, and they occupy only 12½ per cent. of the aggregate forest ground of the country. In Sweden the public forest amount to 16 per cent., in Bavaria 51 per cent., in Lusatia 70 per cent., in Prussia 68 per cent., and in France 35½ per cent., the total forest land.

A royal commission was appointed as long ago as 1874 to examine the condition of private forests and the general wood supply of the country, and their report was quite alarming. It was estimated that the five southern provinces of Norway, which together embrace about 17,000,000 acres, consumed in 1875 401,000,000 cubic feet of wood, while the reproduction did not exceed 293,000,000 cubic feet, which gave a years deficit of 108,000,000 cubic feet. Forty years earlier forest statistics recorded a fair surplus of production over consumption, and in 1855 there was nearly a balance. The commission stated that the yearly loss, already so large, must increase every year, while the government has no longer any means to arrest the destruction of the forests.

The extensive purchase of private forest by the Government was recommended, although the commission did not expect great results from the adoption of this measure alone. The spread of knowledge of rational forestry can have but a limited influence, although the Government has now established a few forest schools in different parts of the country. The only means of protection now left will be a law restricting the disposal of forest property by the private owners, and forbidding the destruction of young forest trees. Such a law already exists in France, Italy, Germany and Switzerland, and to a certain extent in Sweden. Its adoption in Norway was, in fact, proposed in 1882 by the government, but since then no further steps have been taken in the matter, public sentiment being much opposed to the projected restrictions.

The legislature finally took the matter in hand in 1889, and there are now many who urge immediate adoption of measures for preserving at least a part of the forests which still form an important factor of the national wealth and the principal resource of a large tract of the country. The forests have lately suffered the loss of many young trees of small dimensions, cut down either for exportation or for pulp manufacture at the domestic mills. The so-called cellulose wood, prepared from small trees and cut very short, to escape the export duty on wood, is at present in good demand in foreign markets, and is stimulating its destruction in Norway. Great Britain takes about two-thirds of the exports of Norwegian forest products. Australia also takes a large product, while the Cape of Good Hope and Port Natal have already doubled their consumption of Norwegian lumber, and at remunerative prices.

The pulp-wood business is developing into large dimensions in Norway. The export of wood pulp rose from 8,540 tons in 1875 to 26,055 tons in 1880, and 90,781 tons in 1895. The quantity of the exported timber was smaller in 1885 than in any of the previous five years, and was less by 49,000 registered tons than the average exports for the years 1881-5. The export of sawed and planed lumber have during the last years generally been somewhat over 480,000 registered tons, after having reached 502,000 tons in 1882, the largest quantity exported since 1873 and 1874, when it rose to 570,000 and 550,000 registered tons respectively. The exports of hewn timber have steadily declined, and amounted in 1885 to not much more than one-half of the average exports of the year 1875-80, and to one-third of the average exports of 1871-75. Also the shipping and mining timber and pit props were smaller than in the years immediately preceding.

### BOILER FEEDWATERS, THEIR TREATMENT.\*

By W. D. JACKSON.

**W**ATER is a wonderful agent produced and given us by nature, and has its advantages and drawbacks; it is the greatest solvent of all natural or artificial liquids known to chemistry; it becomes impregnated with all different elements, in one form or other, in which it comes in contact, and absorbs free carbonic acid gas from the air and ammonia from the air and earth. Carbonic acid gas thus formed becomes the life of the water and enables it to take up the otherwise insoluble carbonates of lime, magnesia, etc., holding them in solution as bicarbonate of lime, magnesia, etc.; the colder the water and the heavier the pressure the more gas it contains; consequently the larger the body of water or the deeper the well, the more heavily impregnated it is with the salts of lime, magnesia, etc.

All natural waters are imbued with the salts of the following mineral bases: lime, magnesia, sodium, potassium, iron, silica and aluminum, combined with carbonate, hydrochloric and sulphuric acids, and sometimes medicinal waters with phosphoric acid, or all of them to a more or less extent, according to the nature of the soil or the conditions in which the water percolates the soil.

The calcium, commonly termed lime, is taken up in the forms of sulphate and bicarbonate; the magnesia as bicarbonate, sulphate, and chloride; the sodium and potassium as chloride, sulphate and carbonate; the iron as bicarbonate. Iron as well as copper is found in solution as a sulphate. The aluminum exists in the water as a sulphate or in suspension as an oxide; the silica as silicic acid. When we find a water containing sulphate of iron or copper in solution, we generally find free sulphuric acid also.

The salts of lime and magnesia, iron, silica, oxide, etc., are scale-forming ingredients, the sulphate of lime forms a very hard compact incrustation, adhering very tenaciously to the hot metal, is very hard to break up, decompose or dissolve, and, like all sulphates, it is a very staple salt; it is conveyed into the boiler by the water as a sulphate, and as such enters the scale formation, and is not even soluble in its own acid, and it is impractical to dissolve it with hydrochloric acid except in laboratory work.

The only substances which can be successfully used in the boiler to break up and convert sulphate of lime into a form in which it can be readily washed out, are sugars properly blended, which, when used under the high heat, and the existing conditions of the steam boiler, convert this sulphate of lime into a complex mixture of saccharates and carbonate of lime, and this, in the presence of the tannin matters, is practically converted into tannates of lime.

Carbonates of lime and magnesia enter into the scale formation as such, forming a very compact incrustation, due to the great chemical affinity they have for hot metal, which is also the cause of the adhesive properties of sulphate of lime (gypsum). They can be readily and successively converted into a complex mixture of the tannates of lime and magnesia without any contamination to the steam or injurious effects to the steam receptacle or its connections.

Silica enters the scale formation as such, and also as silicate of magnesia. Sodium salts enter into the scale formation only in small quantities. Being very soluble they remain in solution until the water in the boiler becomes supersaturated, and unable to hold a greater quantity; these salts then cake on the hottest parts of the boiler, falling out of solution; this is very dangerous, having been the cause of the burning of a great many boilers in localities where the feed water is highly impregnated with soda salts. They cause internal corrosion, wasting away of the iron, eating through the joints and connections, and are the cause indirectly of one class of corrosion of which I will speak later under another head.

Chlorides of lime and magnesia, found in some feed waters, are very corrosive agents of iron. Being very unstable salts, they readily decompose with the high heat into oxides of lime and magnesia, entering the scale formation as such. The free chloride combines with the hydrogen of the water as a hydrochloric acid,

and has a direct corrosive action on the iron. The action of sulphate magnesia is very similar to that of the chloride under the influence of high heat. The sulphates of iron and copper are direct corrosive agents to the iron and boiler connections, and will not enter the scale formation.

It is almost impossible to neutralize sulphates of iron, copper or magnesia in a practical manner. If you do it with soda, and convert the sulphuric acid into sulphate of soda, you get an excess of soda salts, which sets up galvanic action. If you use lime, converting the sulphuric acid into sulphate of lime, you get such large quantities of gypsum that in a short time your boilers will be so full of a hard incrustation that it will be impossible to run them. The only thing which has been half way successful in the handling of soluble sulphates and free sulphuric acid, is a mixture of sugars and starchy matters of a complex organic nature, which have offset the action of the acid by breaking up the acid radical, taking the sulphur and incorporating it with the aid of some of its oxygen into its own organic compositions.

Speaking of sodium and potassium salts, I would ask if it does not look unreasonable to endeavor to treat water for the prevention of the scaling deposits by the use of sodium and potassium salts, yet these salts are, in 99 cases out of a 100, the principal ingredient of the so-called boiler compounds and water purifiers, and it is these salts which cause most of the internal corrosion of steam boilers by their galvanic action.

Internal corrosion is the eating and wasting away of the threads, plates and joints, causing leakage and also causing the boilers and their connections to assume unsafe conditions. Where the corrosion is due to chlorine, free hydrochloric or hydrofluoric acids in the water, we find the pumps and feed pipes eaten through, the submerged parts of the boiler being free from such action on account of these acids readily passing off with the steam, and we get a similar action again in the steam-exposed surfaces of the boiler and the steam piping.

Free sulphuric acid has a very similar action, attacking the feed pipes a great deal more rapidly than the boiler itself; its corrosive action in the boiler is more uniform and not so much of a pitting and grooving nature; its action in the steam piping having almost entirely a grooving appearance. Where the deleterious action is due to the presence of an acid, it is called a direct corrosive action, and is generally found prominent in the feed pipes (colder pipes) and in the steam exposed surfaces. Where the corrosion takes place mostly in the submerged parts of the boiler, it is generally an indirect action, due to an excess of salts or too pure a water, coming under the head of galvanic action, termed by electricians electrolysis.

The boiler, as it is generating steam, is also generating a certain amount of galvanic current. The boiler is a galvanic battery in itself, the valves and their brass connections, composed of copper, babbitt, and other alloys, are negative, the iron being positive, forming the negative and positive poles, and under the high heat and other conditions existing in the steam boiler we have a galvanic battery; not only is copper negative to iron's positive, but the very molecules of the iron in the plates and tubes are negative and positive to each other; but electrolysis does not take place in the plate because the impurities, or we might say, foreign matter, such as silicon, oxygen and carbon compounds, are not and do not act as conductors between these negative and positive poles; the water in the natural condition, that is, its chemical affinities and solvent properties, being satisfied with lime and other natural salts, will not act as a conductor between these poles, consequently, having no conductor, the battery is not connected by water, but when using distilled water, rain water, or water with an excess of sodium salts, we then have a perfect conductor, the water assuming the position of a battery and of a battery solution, connecting our negative and positive poles, and inciting and generating a galvanic current. We then have a true galvanic battery existing, due to the general make-up and influence in the steam boiler. The purer the water, or the greater the excess of sodium salts, the stronger our galvanic current, the more pronounced our electrolysis.

You well understand that water contains a very corrosive radical in the nature of a hydrate; the hydrate radical is HO. Water is composed of two atoms of hydrogen and one of oxygen, which is a very strong chemical combination, not readily decomposed except with a soluble metallic base or red hot metal, but in this case, under the influence of the galvanic current, the positive metal, which is iron, exercises a chemical affinity over the water, chemically combining with its hydrate, forming ferric hydrate, taking up the oxygen and part of the hydrogen of the water, freeing part of the hydrogen, which goes off with the steam. This ferric hydrate gradually converts into corresponding oxides, due to the high heat and boiling of the solution, gradually converting into the black magnetic oxide of iron, so named owing to the galvanic action in its manufacture. Its physical properties are that of a black gritty powder found at the bottom of the boiler when washed out, when electrolysis is going on. If you will take a boiler that is pitting from this cause, you generally find zigzag pits and grooves coated over with a baked film, and by tapping these with a hammer you find a reddish brown soft powder underneath, which is the more freshly formed ferric hydrate; that of a lighter shade is the partly converted oxides, and the few handfuls of black gritty powder from the bottom of the boiler, which you can examine after rinsing the other oxides from your hand, you will find to be the black magnetic oxide of iron.

Speaking of electrolysis, which we, from our standpoint, term galvanic action, we believe it truly exists as such, and to prove it consider the large ocean-going vessels and think of the trouble they have from this cause and how and why they treat it. They use tons and tons of zinc to offset this very action, due partially to using too pure a water on account of the hot well system, and further by what salt water they are compelled to use. We all know zinc to be one of the most positive metals known in galvanic battery work; it is more positive than iron. The zinc put into the boiler assumes the position of the positive pole, consequently it is destroyed in place of the iron by the battery solution in the steam boiler. Its reaction and conversion into its oxide are similar to that of the iron, it being destroyed under the same influences.

Of all the deleterious actions which take place in steam boilers this is the easiest to handle, for you simply need to satisfy that water with some vegetable starch and saccharine matter, and in that way break up your conductor between the negative and positive poles, whether they be brass connections (negative) and the boiler plate and flues (positive) or the molecules of the iron of the boiler plate. It is impossible to set up a galvanic action without the water assuming the position of the battery and acting as the conductor. This same saccharine inert matter in conjunction with tannin extracts will cause these pits and grooves in the iron plate (where the case hardening protective surface of the plate and tube is broken and the raw steel or iron exposed) to heal over, assuming that same case hardening appearance as before. Do not understand me to say that you can fill up the little holes, as that cannot be done, the iron being gone, but the surface of these little zigzag holes and pits will heal over, serving as a protection against the water or the atmospheric oxidation.

Scaling ingredients are converted from crystallizable scale-forming carbonates and sulphates, having a great affinity for hot metal, into non-crystallizable tannate and saccharates of lime and magnesia, being a complex mixture of these with some carbonate, the sodium salts being readily handled in the same manner. This complex mixture of the saccharates, carbonates and partially converted tannates is of an inert nature, having the physical properties of a soft oozy mud, of the same specific gravity as the water, and no affinity for hot metals, neither has it the clay-like properties, but it will readily wash out with the water when cleaning the boiler.

In conclusion I might say a few words relative to the deleterious action of oil in steam boilers. Many of you to-day are running large condensing plants with your hot-well systems, and you are getting oil, with the condensation, into the boilers, possibly 5 to 15 drops per gallon. These oil separators are a good thing, and

\* Read at the convention of the Northwestern Electrical Association, Chicago, July 18, 1895.

do, possibly, 50 or 60 per cent. of the work. You often hear of the tubes in a water-tube boiler buckling up and having to be taken out; you often hear of the bagging of the fire-sheet in tubular boilers. Why is this? The specific gravity of the oil is lighter than that of the water; the oil does not settle in its natural state. We explain it as follows: The oil coming into the boiler floats on the water; there is just a sufficient quantity of fresh water coming in to convey salts of lime, magnesia, etc., which are thrown out of solution, chemically combining with the animal oil as insoluble oleates, and mechanically combining with the mineral oils as a heavy mass, both these chemical and mechanical combinations being of a greater specific gravity than the water in the form of little globules, sinking to the bottom, the great chemical affinity and adhesive properties of this mixture causing them to adhere to the hot metal, and they, being a perfect non-conductor, retarding the transmission of the heat units to the water, concentrating heat in that part of the plate, causing the iron to melt, and the pressure in the boiler forces it down.

Sodium salts, so commonly found in water, or where it is used to counteract this action, saponifies the oil, causing the boilers to foam and carry over into the engines, and should not be used. This defect can be successfully handled with tannin extracts, the tannates forming complex organic compositions with the oils of

an inert, light, powdery nature, having no chemical affinity or physical adhesive properties and readily washing out with the water at the opening of the boiler. To prove this go to the tannery and watch the tanner take the hides out of his vat after he is through with the tanning process, and when he lets the liquor run out of the vat you will find two or three scoop shovels full of an inert powder, which readily dries out and is termed pure tannin by the tanning experts. They claim that this is insoluble, and are in want of a solvent so that they can successfully use it for its tanning properties. We do not believe this to be the case, as the tannin in this mixture is, chemically speaking, part of the mixture, and the tannin is satisfied by the fatty matters contained in the hide. We aim to get this same reaction with the oil by pumping into the boiler a properly blended mixture of slippery elm, starches, sugars and tannin extracts.

We have found that we can successfully cope with most of the deleterious actions taking place in steam boilers with vegetable matters, and vegetable matters only, sometimes using from 5 to 10 per cent. of carbonate of soda to partially cut the starches and aid in the action of the sugars, but, correctly speaking, we are vegetarians on this subject, and do not believe that perfect results can be obtained from any other methods known to science.

LOGGING IN MAINE.

THE drive of 1895 contains 35,000,000 of logs, which is an unusually small cut. It generally averages from 45,000,000, to 50,000,000. Undoubtedly the small cut this year is owing to the few operators, and the few operators are owing to the doctoring of the tariff. The driving crew was much smaller than usual this year, only ninety men being employed. Just before the drive arrives the wives, mothers and families of many of the drivers are on hand to draw some of the wages of the men, as oftentimes it is spent all too quickly unless they do obtain some of it before the men arrive. It will take more than \$20,000 to pay the help this year. Add to this the bills for provisions, utensils, etc., and the expense is well up to \$60,000. The East Branch drive is just behind the West Branch, and has 100 men employed, who will bring 17,000,000 of logs.

LARGE CARGO OF LUMBER.

The British steamer Strathgyle cleared from Scranton, Miss., recently with 3,203,000 superficial feet of lumber in the shape of deals for Rotterdam. Barring the Great Eastern's cargo of deals out of Montreal a few years ago, the Strathgyle's is the largest cargo of lumber or timber ever carried out of any port of the United States. She was cleared by Hunter, Benn & Co., of Mobile, Ala., timber shippers.

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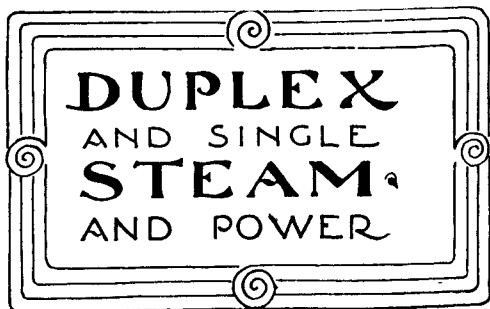
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**A TREE FELLING DISPUTE.**

An action brought by the Earl of Aylesford, against one Turner, in the English courts recently, to recover damages for injury done to farm buildings by the felling of a tree, possesses some points of interest. There was no dispute as to the facts, but some points of law arose. It appears that Lord Aylesford was the owner of a field at Meriden, Coventry, and the Coventry Clothiers' Company were the owners of an adjoining field, the latter being on a higher level than Lord Aylesford's field. A tree in the hedge belonging to the Company was purchased by the defendant, and he employed one Smith to fell it. It was essentially a case where great care was necessary to prevent it falling on plaintiff's land, but that was just what did happen. The tree, in falling, struck some farm buildings belonging to Lord Aylesford, and damage was done to the extent of £26. The first point for the judge's consideration was

that of negligence, and the second was whether the defendant was liable for the acts of the man who cut the tree. On the latter point the defendant's contention was that Smith was an independent contractor, and that defendant was not therefore liable for his acts.

After hearing the evidence, which went to show that due precautions had been taken, and that the rope which held the tree had been broken, judgment was given for the defendant, chiefly on the ground that the man who felled the tree was an independent contractor, though the judge thought it doubtful if there was negligence. It is likely the case will be taken to a higher court.

The Hydraulic Mining Co., of North Bend, B.C., which is controlled almost entirely by Ottawa capital, have just successfully carried a cable weighing 3,500 lbs. across to their mine. They are now building a saw mill.

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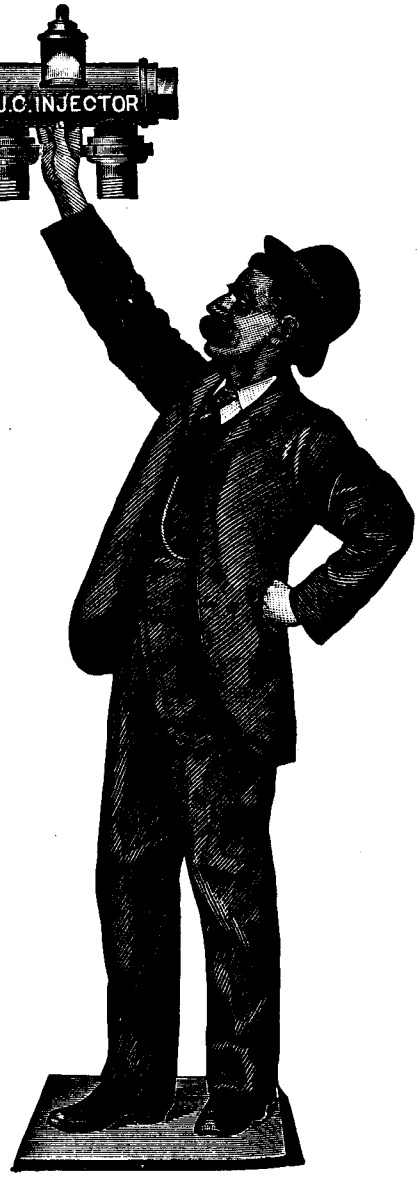
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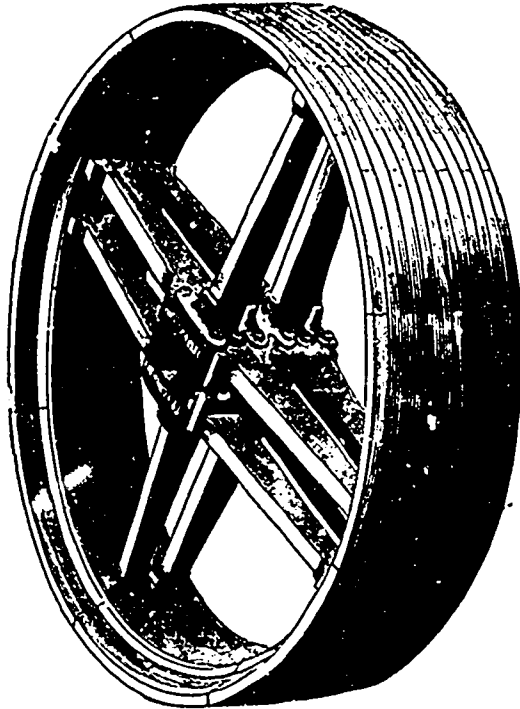
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WASHINGTON LUMBER EXPORTS.

THE state of Washington lumbermen have been finding good markets for their timber in China, Japan, Sandwich Islands, Australia and South Africa. Last year the foreign shipments from Puget Sound aggregated over 80,000,000 feet. One mill on the sound cut 86,000,000 feet last year, and one mill at Tacoma cut 175,000 feet a day of ten hours, or about 45,000,000 feet a year. The Washington lumbermen are anxious for the completion of the Nicaragua Canal, because that will give them water transportation to the Atlantic seaboard and to Europe for their long fir timber. The supply of this fir timber seems almost inexhaustible, but it is the last great stand of timber in America, and when the whole country begins to draw against it—in fact, when the whole world turns to Washington for its construction timber, its car building material, and its finishing lumber, it may disappear as rapidly as have the pine forests of Michigan and Wisconsin.



**DODGE PATENT . . .  
. . . WOOD SPLIT PULLEYS  
FOR MODERN SAW-MILLS**

See What the Big Fellows say

BUELL, HURDMAN & Co., Lumber Manufacturers,  
HULL, P. Q., CANADA, November 29, 1894.  
THE DODGE WOOD SPLIT PULLEY Co., TORONTO, ONT.

GENTLEMEN.—We take great pleasure in stating that we have a number of your wood split belt pulleys in our mills, and that they GIVE US EVERY SATISFACTION, and we CAN RECOMMEND THEM HEARTILY. Also, if any of our neighbors in this section would like to see them in operation, we should be PLEASED TO SHOW THEM AT ANY TIME.

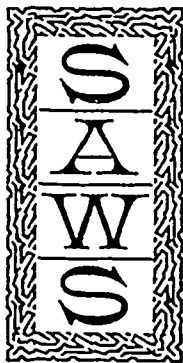
Yours very truly, BUELL, HURDMAN & Co.

SEND FOR CATALOGUE AND DISCOUNTS.

**Dodge Wood Split Pulley Co.**  
68 King St. West, Toronto.

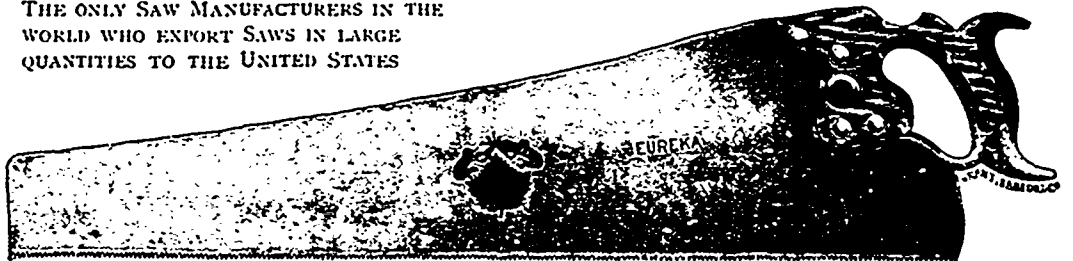
**SHURLY & DIETRICH**

MANUFACTURERS OF



THE ONLY SAW MANUFACTURERS IN THE  
WORLD WHO EXPORT SAWS IN LARGE  
QUANTITIES TO THE UNITED STATES

GALT, ONT.



SOLE PROPRIETORS OF THE SECRET CHEMICAL PROCESS OF TEMPERING : : Our Silver Steel Saws are Unequaled

**OAK TANNED BELTING**

TORONTO  
20 FRONT ST EAST  
TELEPHONE 475

THE J.C. Mc LAREN BELTING CO MONTREAL

**B. R. Mowry & Son**

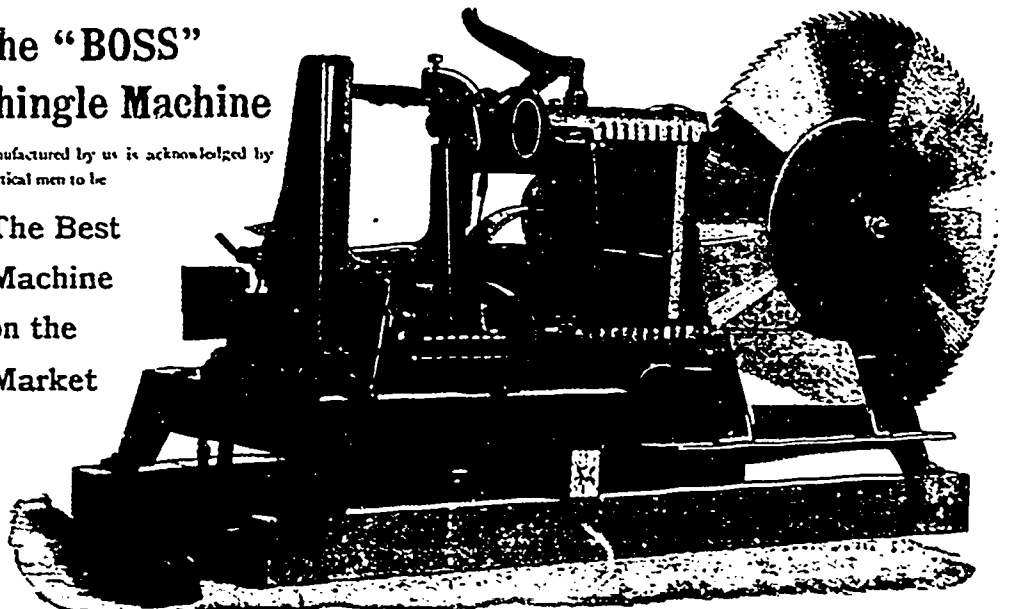
MANUFACTURERS OF

**SAW MILL  
AND  
SHINGLE MILL  
MACHINERY**

The "BOSS"  
Shingle Machine

Manufactured by us is acknowledged by  
practical men to be

The Best  
Machine  
on the  
Market



Shingle Machinery a Specialty

REPAIRING PROMPTLY AND CAREFULLY EXECUTED

Gravenhurst, Ont.

J. W. MAITLAND—H. RIXON J. G. AINSIE—W. STODARI

# MAITLAND, RIXON & CO.

OWEN SOUND, ONT.

## Saw Millers and Lumber Dealers

All kinds of Building Material kept in stock

WE MAKE A ... SPECIALTY OF LONG BILL STUFF IN ROCK ELM, PINE, CEDAR AND HEMLOCK  
Quotations furnished on application

## GALT MACHINE KNIFE WORKS



MACHINE KNIVES  
OF EVERY DESCRIPTION FOR  
Planing, Moulding and Stave Cutting  
Send for Price List

PETER HAY, GALT, ONT.

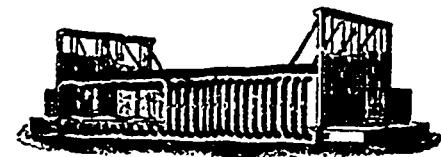
## THE DOMINION LEATHER BOARD COMPANY

— MONTREAL —  
MANUFACTURERS OF

## Friction Pulley Board

ROOFING, SHEATHING AND FLOORING FELTS

## THE PARMENGER



## PATENT DRY KILN.

The Latest, the Cheapest and Best FOR DRYING LUMBER, STAVES, HEADING, ETC.

Write for Particulars to J. S. PARMENTER, Box 512, Woodstock, Ont.

## MCEACHREN'S IMPROVED SYSTEM OF KILN DRYING. PATENTED.

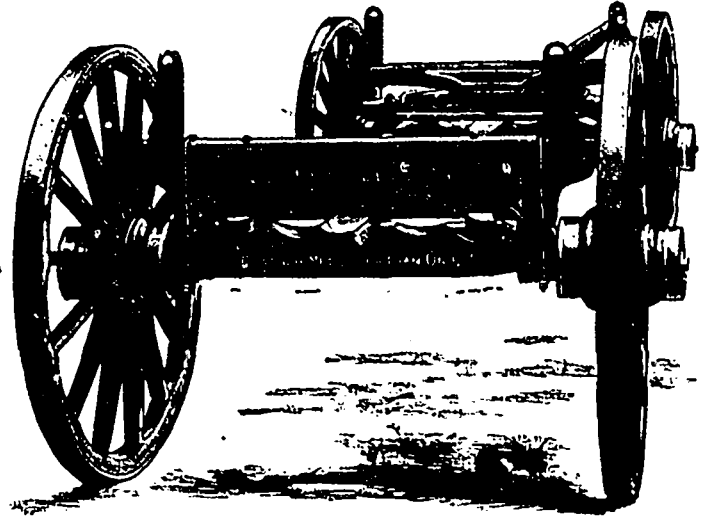


COST of erecting, running and maintaining the lowest and results the highest of any dry kiln and drying system in the market. Green Elm, Ash, Whitewood, &c., for furniture dried in six days; only exhaust steam 10 hours per day used.

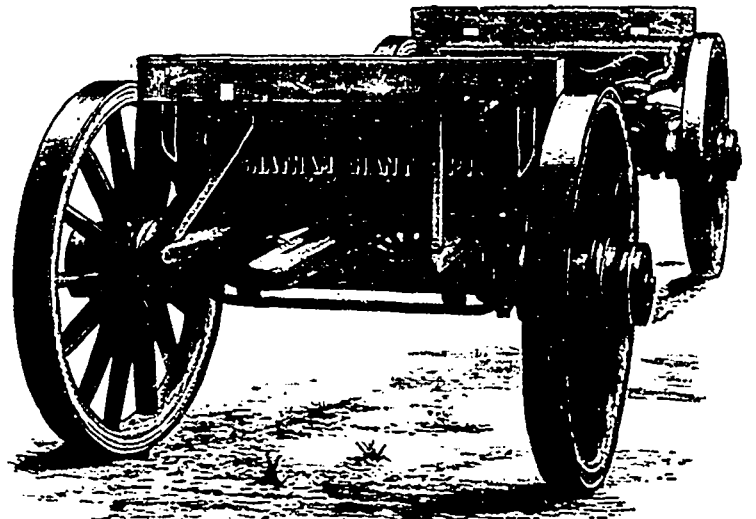
NO CHECKING, WARPING OR CASE-HARDENING.

THE MCEACHREN HEATING & VENTILATING CO. Galt, Ont.

# THE CHATHAM GIANT LOG TRUCK



IT must be self-evident that our GIANT ARM LOG TRUCKS, of which the above is a faithful illustration, is the best log truck made; but if conclusive evidence of this is wanted we refer to every mill man and lumberman in the county of Essex, Ont., where millions upon millions of Elm logs are gotten out every year on them, and where these trucks sell readily, while those of other makes remain unsold at \$5 to \$10 less.



### THE CHATHAM GIANT LOG AND LUMBER TRUCK

As seen above it is a Lumber Truck, but it is quickly converted into a Log Truck by bunks which are grooved at the ends to receive the stakes and slip down between them, and are perforated for side or lug poles. We build these trucks in all sizes from 2 1/2 to 4 inch Malleable Giant Arms. Farmers all over are extensively adopting the lighter sizes as general purpose wagons.

In reference to above trucks we would call the attention of the reader to the accompanying illustration of VANALLEN'S PATENT GIANT ARM with which they are equipped.

It will be seen that the hind bolster and sand-board are forced to rest upon the flat top of this arm, and being securely clipped to the axle forms a complete and solid truss and render the axles unbreakable and inflexible.

Our Malleable Giant Arm farm and teaming Wagons have no equals on this continent, of which the judges on vehicles at the World's Fair, Chicago gave us an unqualified certificate in the shape of a GOLD MEDAL AND DIPLOMA.

CORRESPONDENCE SOLICITED  
**The Chatham Mfg. Co., Ltd.**  
CHATHAM, ONT.



Sole Canadian Agents :-: Prices Reduced.  
**WATEROUS, BRANTFORD, CANADA.**

# LUMBERMEN AND MILL MEN!

WHO WANT  
THE BEST

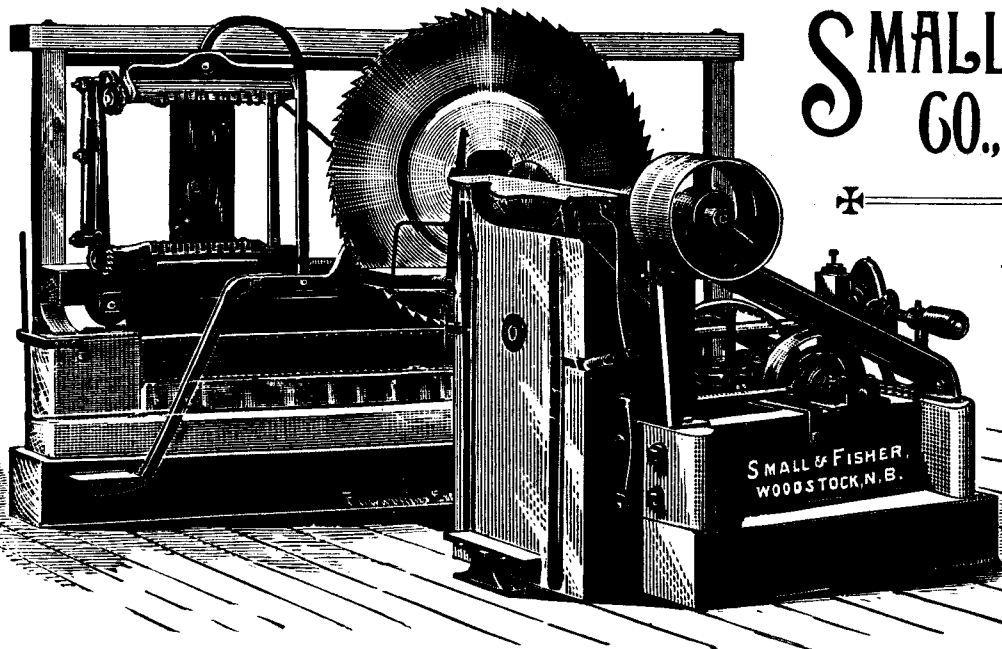


ASK FOR

## Bain's Heavy Log Trucks

Furnished with Steel or Cast Skeins, 3 1/4, 4, or 4 1/4 arms. Any width tire. Are well built of thoroughly seasoned timber, heavily ironed and well finished. Built of any capacity required. Are **STRONG, DURABLE, and LIGHT** running. A trial order will be most convincing. Satisfaction guaranteed. Write us for further information. Address all orders or inquiries to

**BAIN BROS. MFG. CO., Brantford, Ont.**



## SMALL & FISHER CO., Ltd.

Woodstock, N. B.

## Patent Shingle Machine

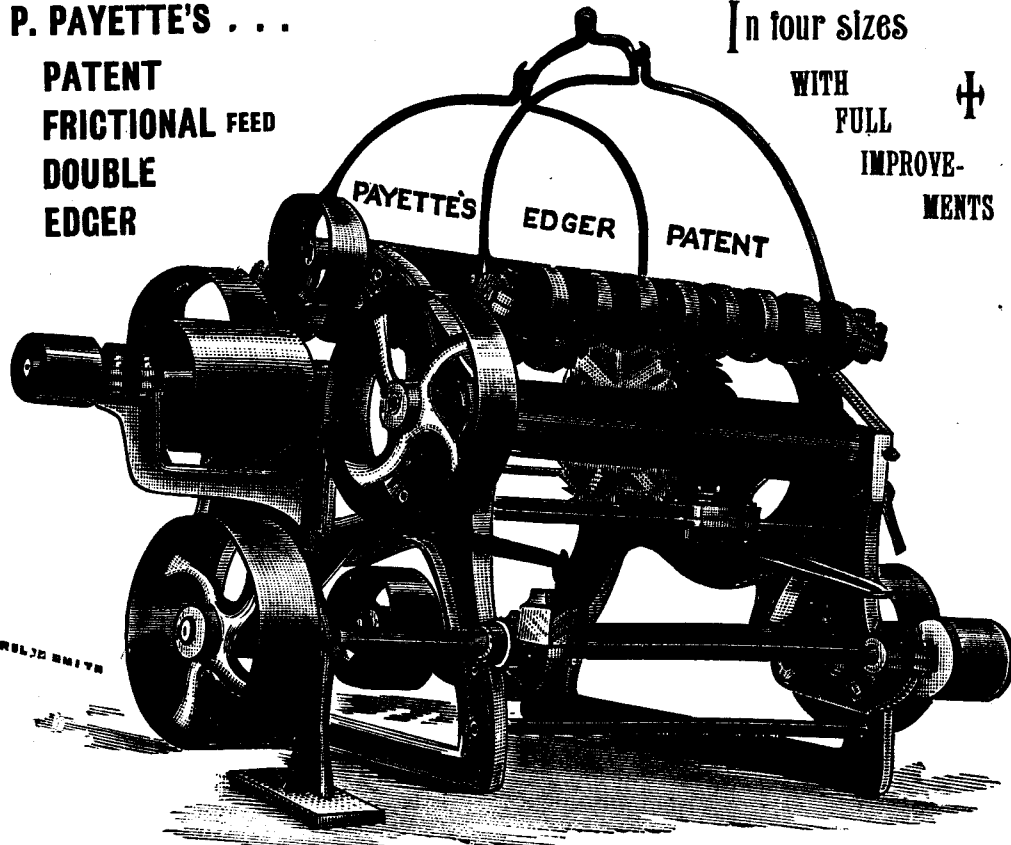
P. PAYETTE'S . . .

**PATENT  
FRICTIONAL FEED  
DOUBLE  
EDGER**

In four sizes

WITH  
FULL  
IMPROVE-  
MENTS

MANUFACTURERS OF  
**Saw Mill  
Machinery**



- Circular Saw Rigs, Light and Heavy
- Wood or Iron Frames.
- Rope and Chain Feed for Saw Car-
- riages.
- Live Rollers, Wood or Iron.
- Log Canters, Light and Heavy.
- Double Edgers, Friction and Direct
- Feed.
- Head Blocks, Light and Heavy.
- Mill Dogs, Saw Guides.
- Trimmer, Log and Carrier Chains.
- Set Works, Top Saws.
- Brass and Iron Fittings.
- Saw Swage for Circular, Gang or Band
- Swing Saws, Trimmers.
- Butting Tables.
- Boilers and Boiler Fittings.
- Shafting, Boxing, Pulleys, Hangers.
- Paper Frictions, Wood and Iron.
- Brass and Iron Castings of all kinds.
- Machinery for Lath Mill.
- " " Shingle Mill.
- " " Gang Mill.
- " " Re-sawing.
- " " Jack-Ladder.
- " " Drag Saw.
- " " Engines, Stationary and Marine.
- " " Pumps.
- " " Making Matches.
- Cant Hook Handles.

Terms and Prices on application.

**P. Payette & Co.**  
Penetanguishene, Ont.

## ... THE ... FLINT & PERE MARQUETTE RAILROAD

FROM  
**Port Huron and Detroit**

Is the Short Line to

**SAGINAW AND BAY CITY**

(Centres of the vast lumber interests of Michigan)

**MT. PLEASANT, CLARE, REED CITY**

**BALDWIN, LUDINGTON, MANISTEE**

AND

**MILWAUKEE, WIS.**

The last-named place reached by the Company's line of steamships across Lake Michigan.

The line thus formed is a short and direct route from

**MONTREAL TORONTO**

and all Canadian Territory

To **ST. PAUL, DULUTH** and Pacific Coast Points.

This road traverses a section of Michigan with unrivalled advantages to settlers. Cheap lands, thriving villages and towns, well watered with streams in all directions: a market for every product of Forest and Field.

The policy of the "F. & P. M." is known to all travellers and settlers.

**A. PATRIARCHE, Traffic Manager.**

GENERAL OFFICES: **SAGINAW, MICH.**



# THE ROYAL ELECTRIC COMPANY

MONTREAL, QUE.

Western Office: TORONTO, ONT.

Cable and Telegraph Address, "Roylelectric."

MANUFACTURERS OF

## Electrical Machinery and Apparatus

... FOR ...

**LIGHT and POWER**

SPECIAL ATTENTION GIVEN TO

**LONG DISTANCE TRANSMISSION OF ELECTRICITY  
FOR LIGHT AND POWER**

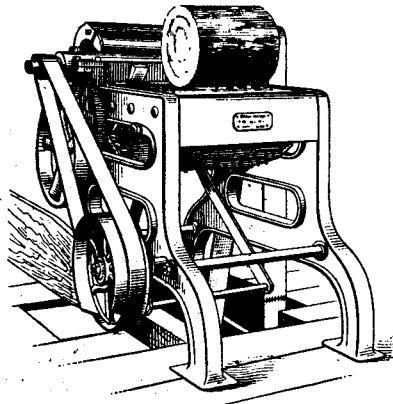
ALSO FOR

**ELECTRIC PLANTS FOR MILLS**

Distant water powers utilized and Mills lighted and operated safely.  
CORRESPONDENCE SOLICITED.

... STEARNS BROTHERS ...

# Patent Rossing Machine



Why you should use this Rosser. . . .

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

... MANUFACTURED BY ...

**EASTMAN LUMBER CO.**  
EASTMAN, QUE.

# Canada Atlantic Railway

**OTTAWA, ARNPRIOR AND PARRY SOUND RAILWAY**

— OPERATING THE —

*Ottawa and New York Lumber Line - Ottawa and Boston Lumber Line - Canada Atlantic Fast Freight Line*

(Operating over the Grand Trunk, Central Vermont, and Boston and Maine Railways.)

—: SHORTEST AND QUICKEST ROUTE :—

... FROM AND TO ...

OTTAWA	ARNPRIOR	HAWKESBURY
TORONTO	MONTREAL	BURLINGTON
BUFFALO	QUEBEC	BOSTON
DETROIT	HALIFAX	NEW YORK
TONAWANDA	PORTLAND	ALBANY, &C.

AND ALL POINTS IN CANADA AND THE UNITED STATES.



**R. A. CARTER**  
Contracting Agent, 115 Board Trade  
MONTREAL

**CAPT. J. H. WILLIAMS**  
15 Lumber District, Albany, N. Y.

**JOHN SMITH**  
Ontario Agent, Board Trade  
TORONTO

**G. J. SMITH**  
General Freight Agent, Ottawa

P. S.—The opening of the Ottawa, Arnprior and Parry Sound Railway, Ottawa to the Georgian Bay, offers to the manufacturer and purchaser a new district not heretofore reached by any other line.

# Dauntless Shingle and Heading Machine

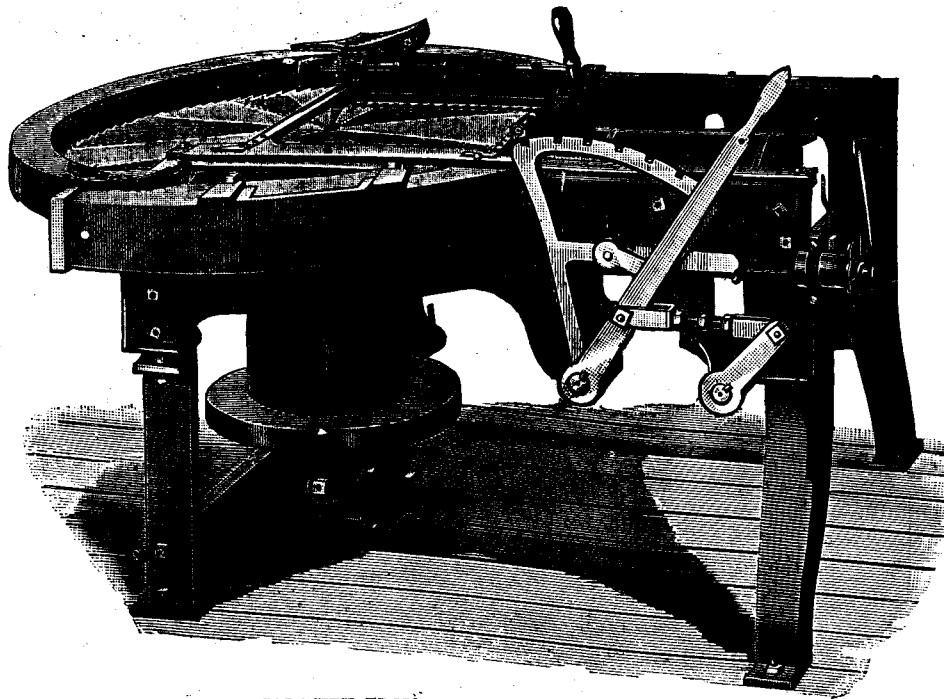
∴ WILL make more Shingles per day than any self-acting machine with vertical saw in existence, and more Shingles from the same quantity of timber.

### THE FRAME

... Is of Iron throughout, very heavy and rigid, strongly bolted and braced.

### THE CARRIAGE

... Is very light and strong, made of forged Cast Steel Plate, running on steel ways or tracks. Will take in a block 18 inches wide and 19 inches long, adjustable for 16-inch or 18-inch shingles.



—CAPACITY FROM 25,000 TO 50,000 PER DAY—

[COPY.]

HASTINGS, Dec. 3, 1894.

F. J. DRAKE, Esq., Belleville.

Dear Sir,—We have waited two years before giving you our idea of your machinery. This we did to thoroughly test it, and can now say we know what it can do.

Your Saw Mill is equal, or nearly equal, to any we have seen of much heavier make, and far in advance of any light rig in the market. The capacity per day is fully up to your guarantee, 40 M per day. We have tested with eight men.

The Shingle Mill cannot be beaten for any kind of timber. Ours being in a manner a custom mill, we have good, bad and indifferent timber, but for all it does the work satisfactorily.

You may use this in any way you please, or refer to us at any time.

Yours truly,  
(Sgd.) W. J. & H. W. FOWLDS.

## ( F. J. DRAKE )

PATENTEE AND ... MANUFACTURER OF **SAW, SHINGLE AND LATH MACHINERY**

Care Canadian Locomotive & Engine Co., KINGSTON, ONT.