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Wood-Workers', Manufacturers' and Millers' Gazette

TORONTO, CANADA, SEPTEMBER, 1901

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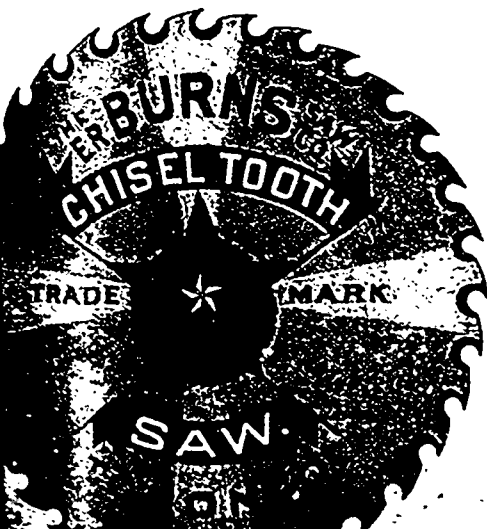
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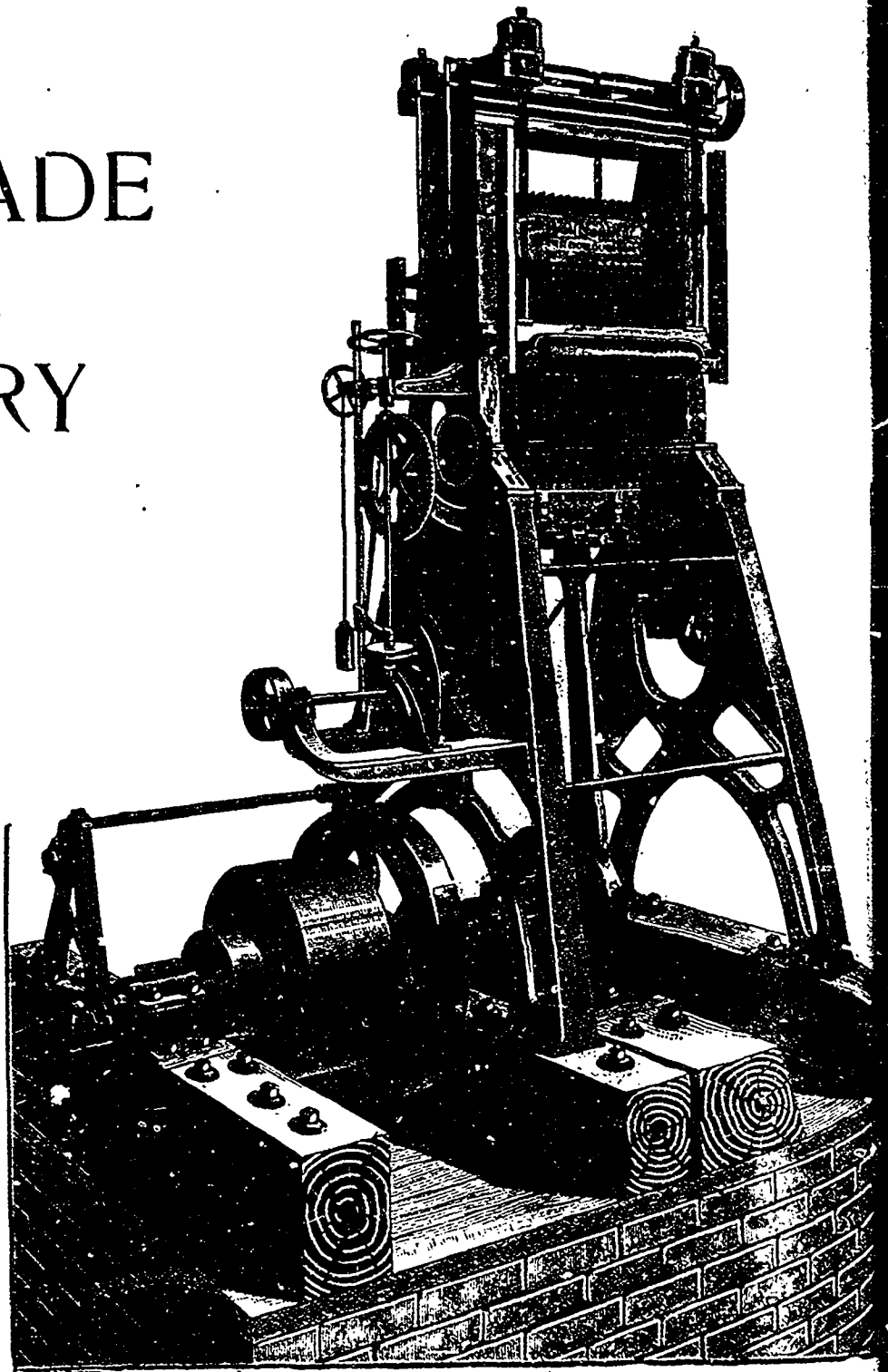
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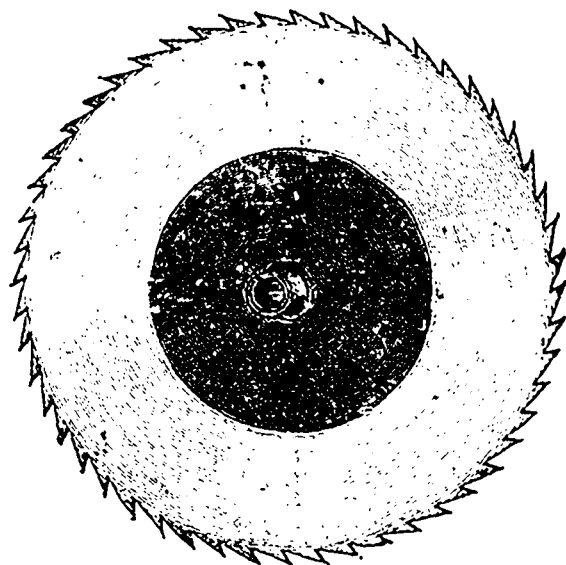
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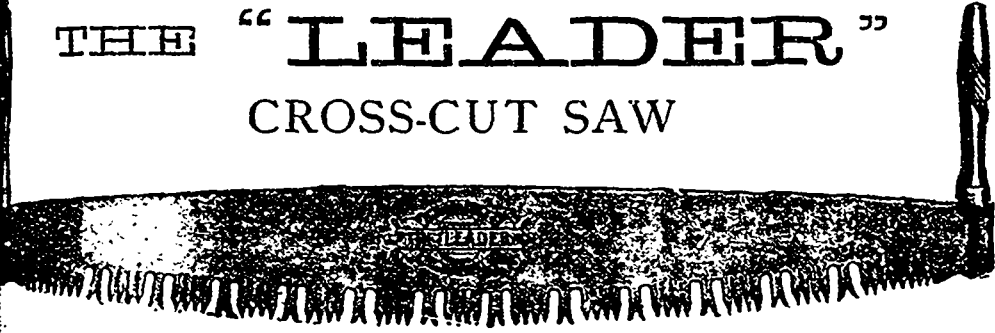
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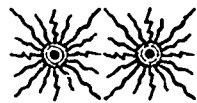
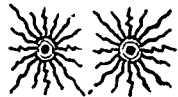


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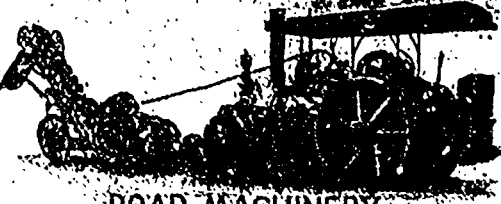
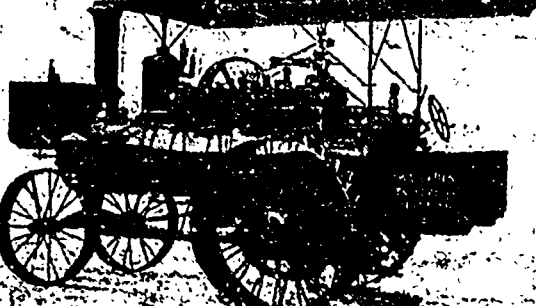
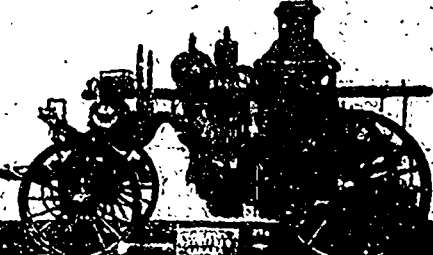



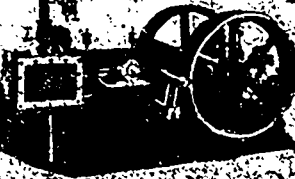
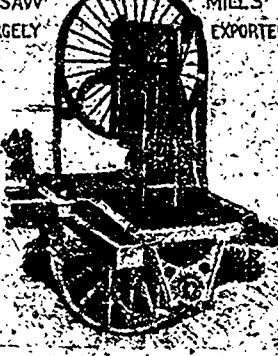

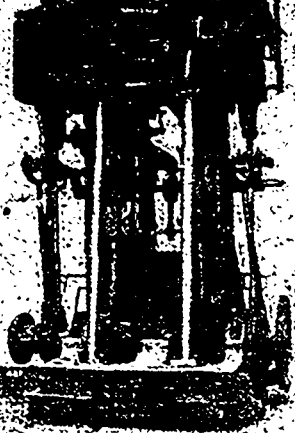
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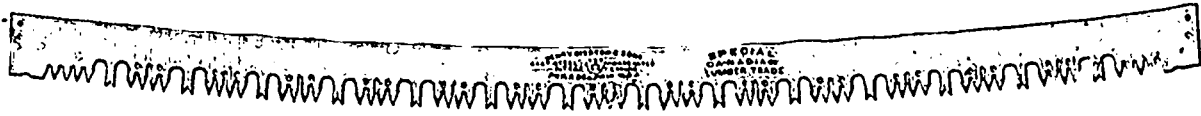
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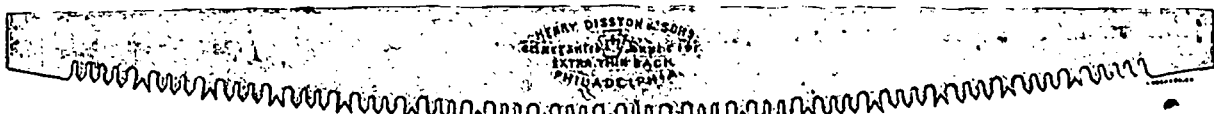
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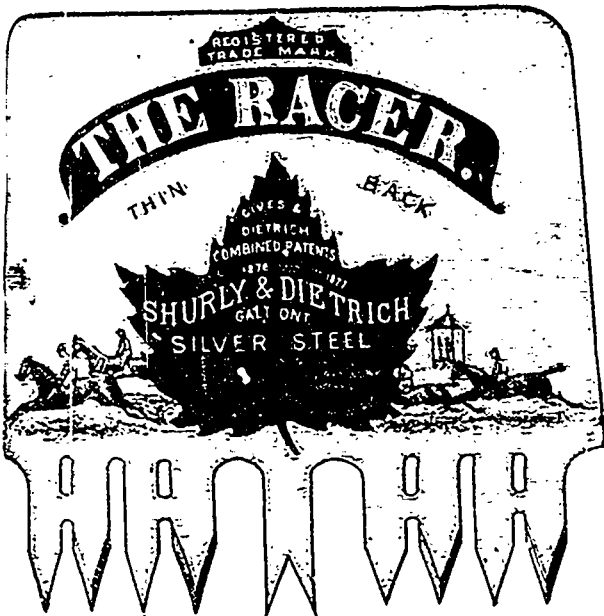


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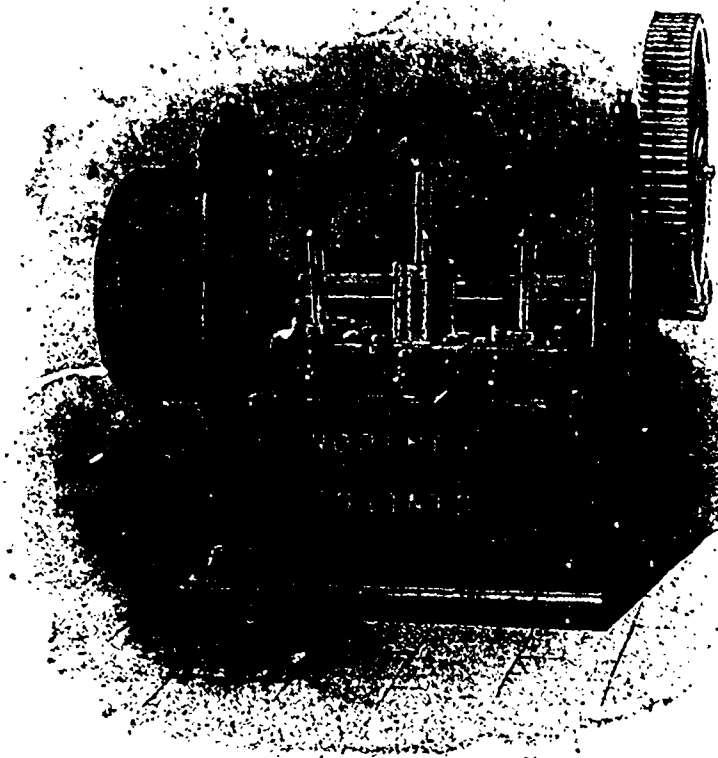
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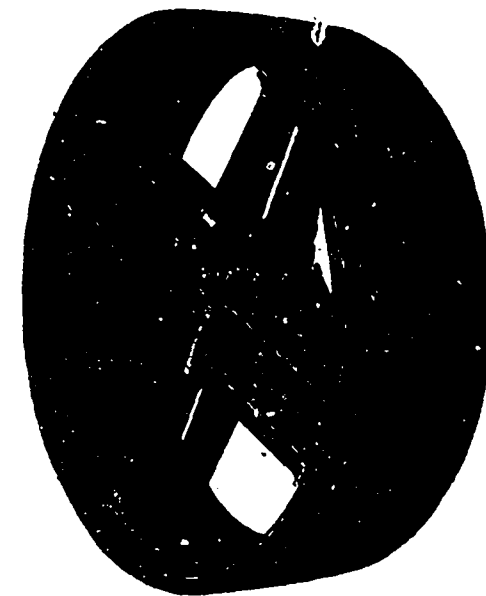
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THE CANADA LUMBERMAN

TORONTO, CANADA, SEPTEMBER, 1901

TERMS, \$1.00 PER YEAR
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TIMBER AND FORESTRY EXHIBIT.

A representative of the CANADA LUMBERMAN who is now in Great Britain has forwarded two photographs of the Canadian timber and forestry exhibit at the Glasgow Exhibition. The photographs, of which reproductions appear in this number, are believed to be the best which have yet appeared in print, and give a good understanding of the variety of timber products on exhibition. The timber is shown in all stages of development, from the rough trees as they are cut in the forest to the highly polished furniture into which they are ultimately transformed. We are informed that the exhibit has attracted much attention, the visitors including many users of timber in Great Britain who have heretofore known little of the timber resources of Canada.

WHITE PINE CONDITIONS.

At the semi-annual meeting of the Mississippi Valley Lumbermen's Association, held in Minneapolis on August 20th, a most important report on market conditions was presented by the secretary. As this Association represents the majority of manufacturers in the leading white pine district of the United

States, the statements presented will no doubt interest many of our readers. The report is therefore given in part below:

At the close of the year 1899 the country thought that the climax of prosperity had been reached and that the pendulum would begin to swing in the other direction. While it is true that 1899 broke all records in the production and consumption of lumber, yet the year 1901, if it maintain anything like the record it has already achieved, will prove a close second if indeed it shall not set a new high water mark in point of demand at least.

Following the restoration of confidence last November it became evident that the pendulum of prosperity was not likely to begin on its

backward journey at once. The movement of lumber since the first of the year has increased monthly. Shipments by the manufacturers of the Mississippi and Wisconsin valleys for January, 1901, were 126,239,302 feet. In July, 1901, they were 258,405,860 feet, an increase of 132,166,558 feet, or 105 per cent. in seven months. In January, 1900, the shipments by the same manufacturers were 114,255,775 feet, and in July, 1900, they were 188,887,489 feet, an increase of 74,631,-

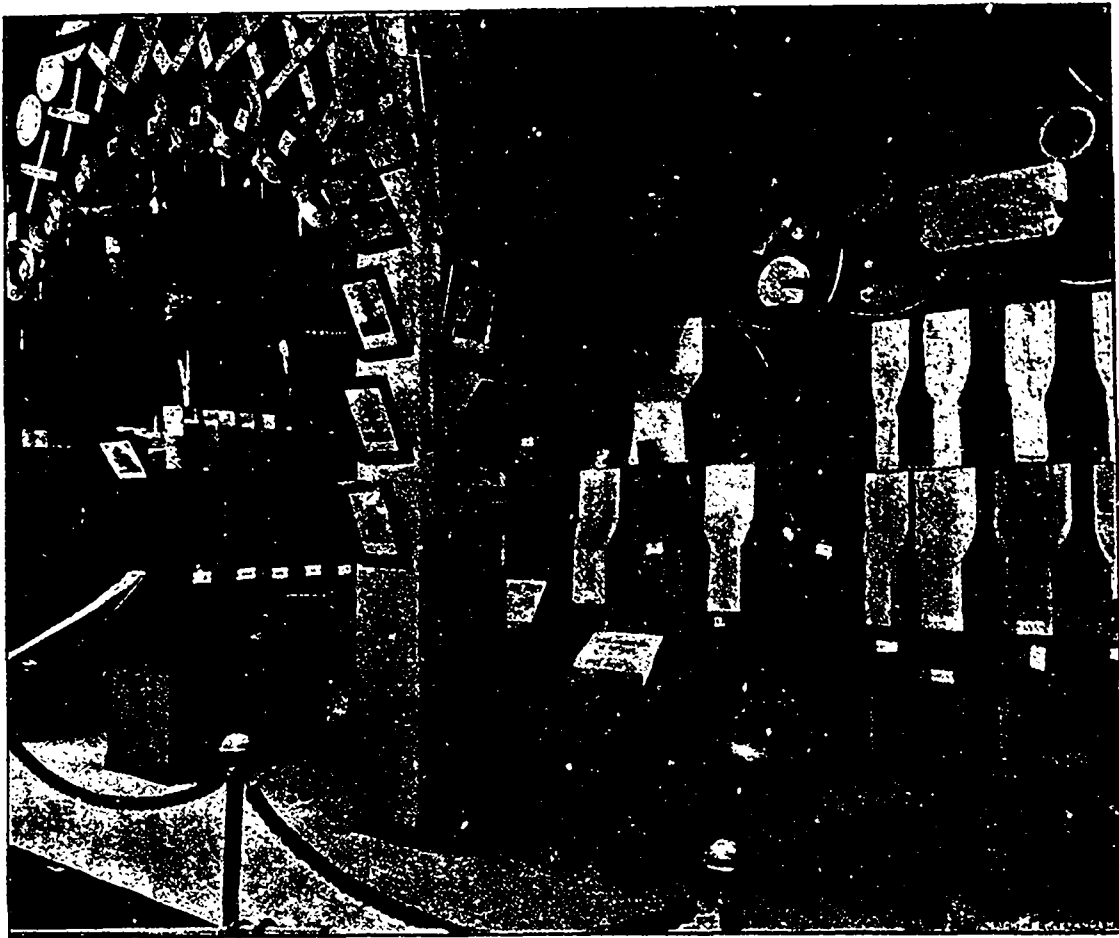
The very satisfactory demand of the year has come largely from the country and indicates the extent of the building activity in the whole Mississippi valley. The greater part of the lumber sold in 1899 was used for special purposes, manufacturing plants of all kinds being large consumers and the demand for box lumber being unprecedented. While the demand from this source has been large this year, owing to the general prosperity of the country, yet the demand for actual construction has never been as great. This is a most pleasing phase of the situation, as it indicates the material development of the country.

In order fully to understand this heavy movement of our product, it must be noted that our competition with other woods has never been less. A large grain crop in the southwest last year, followed by a good crop of cotton for which more actual money was realized than any previous cotton crop the south ever raised, put the business of the yellow pine producers upon a very satisfactory basis. Nearly as much cotton and cotton products were sold abroad during the year as all the provisions and breadstuffs combined, and a price of 10

cents for cotton has resulted in a general development of the whole south country, with a consequent good demand for lumber.

The reports of the yellow pine clearing house for the first five months of this year are exceedingly flattering. During that time last year this cut exceeded the shipments by 63,000,000 feet, while the shipments this year for the same time exceeded the production by 92,000,000 feet; and this in view of the fact that the cut this year was greater by 64,000,000 feet.

The production of hemlock for the season may be somewhat less than for last year, but the aggregate is not sufficient to cut any serious competition at any time.



CANADIAN TIMBER AND FORESTRY EXHIBIT, GLASGOW EXHIBITION.

714 feet, or 65 per cent. Shipments for the seven months of this year were an even 25 per cent. greater than for the same months last year, or an increase of 270,000,000 feet. Shipments to date are as large as during the first seven months of 1899. Exact figures for that year are not obtainable, but it will be remembered that the heavy volume of business of 1899 was during the latter half of the year. A possible increase in the production of this season over last year can have but little effect upon the market in view of the largely increased sales. There is no doubt that shipments to date would have been considerably larger had manufacturers' stocks been in condition.

The situation at the head of the lakes developed before the opening of navigation, when about 60 per cent. of the season's cut had been sold. Lake shipments have kept pace with those by the interior mills, shipments for July being the largest ever known. Duluth alone shipped 55,000,000, exceeding the largest previous month on record by 10,000,000 feet.

A year ago building in Chicago was tied up by a strike. A comparison between the building of last year in that city with that of the present year will explain some of the increased call for building material. For the seven months to August 1 last year Chicago had issued 1,620 building permits, aggregating \$6,645,340, while for the same time this year there have been issued 3,692 permits, representing \$20,945,355. The building permits for twenty of the principal cities of the United States for the July just passed show an increase over last year of 42 per cent.

PRESENT AND FUTURE DEMAND.

But it is hardly necessary at this time to analyze the conditions which have prevailed during the past half year. Suffice it to say that they have been satisfactory. The question that now faces us is: "Is the demand for lumber likely to continue in as satisfactory volume during the remainder of the year?"

Having begun the year with stocks in badly broken condition, the situation in that regard has not improved up to this time, as sales have very nearly kept pace with the production. It is a fact that the assortments of lumber in the hands of the white pine manufacturers are to-day more poorly adapted to the needs of the general trade than at any time in the history of the business. Buyers have been unable to get many staple items which they desire, and the extent of the "piecing up" among the manufacturers themselves has indicated a demoralized condition.

Most of the lumber which has been shipped up to this time has gone into actual consumption. There has been comparatively little buying for the future, and the stocks held by the dealers are generally not more than is required for immediate use. While some orders have been placed in anticipation of a shortage of cars, dealers generally, both line and single yard, state that they will be obliged to buy stock for the fall trade.

As a natural consequence of the failure of spring wheat in North Dakota and northern Minnesota last fall, the manufacturers of northern Minnesota were obliged to seek a market for their product in the territory south of Minneapolis. This meant a very large increase in the amount of lumber to be dis-

posed of in southern Minnesota, Iowa, Illinois and the southwestern states. This year, however, a very satisfactory crop of wheat is being harvested in the north-west, with the result that the northern Minnesota mills will be able to market most of their product in the tributary territory. This is far more of a factor in the general situation than is at first realized. Last spring the north-western railroads took a large number of settlers into the Red River valley and immediate country, an estimate placing the number at 30,000 people. These were for the most part men who had sold their valuable farm lands in the middle states at a high price, being tempted by the cheap and fertile lands of the northwest. With their first year's crop a success these settlers, who are builders of new homes, have become large users of lumber. This increase will very largely offset any de-

crease in the amount of shingles of 29 per cent.

It will be remembered that in 1899 there was a general scarcity of lath which encouraged their greater production in 1900, somewhat at the expense of shingles.

On January 1, 1901, manufacturers representing the same territory held 772,003,626 feet of lumber. This did not include the inventories of all those who had reported stock on hand August 1, but those not included, being about thirty, manufacture not more than a million feet a year each.

Up to August 1 this year seventy-four firms in the Mississippi and Wisconsin valleys had shipped 1,392,611,771 feet of lumber. Had reports of sales been received from all whose inventories were included in the annual stock sheets compiled January 1, they would show that the year's stock was turned this year between January 1 and August 1. As a large number of our members report this to have been true with them we take it that our statistics are verified.

SHIPMENTS GREATER THIS YEAR

Shipments for the year to date have been 23 per cent. greater than those during the first seven months of last year. The stock of lumber on hand August 1 this year is 7 per cent. less than that held by the same firms last August. No comparison with the total feet on hand last year can be made as our reports do not include all who reported last August.

The amount of lath held by the manufacturers of the Mississippi and Wisconsin valleys this August is 19 per cent. less than that held last year.

The amount of shingles is 24 per cent. less than that held last year.

Therefore, in brief, the statistical situation is as follows:

An amount of lumber equal to that held by the manufacturers on January 1 had been sold up to August 1.

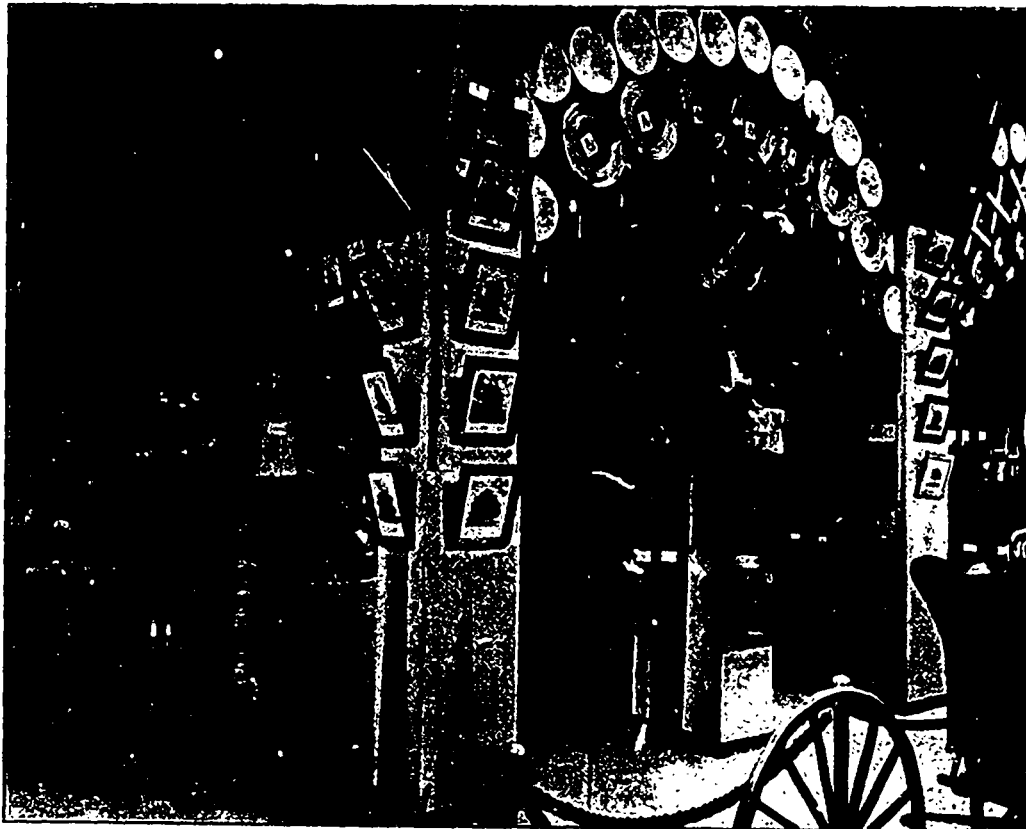
Sales to August 1 were a quarter larger than during the same time last year.

The lumber on hand August 1 was 7 per cent. less than that on hand last year. This is 18 per cent. less than that held on August 1, 1899, or, considering the same percentage of decrease to apply to all the stocks reporting the former date, is 346,330,768 feet.

The amount of lath as compared with a year ago is 19 per cent. less.

The amount of shingles as compared with a year ago is 24 per cent. less.

We stake this as a verification of our statement that the demand for the year has been largely for building purposes.



CANADIAN TIMBER AND FORESTRY EXHIBIT, GLASGOW EXHIBITION.

crease which might be experienced from the southwest, where the corn crop is a partial failure. The aggregate production of northern mills last year exclusive of Duluth, Cloquet and the range was 420,000,000 feet.

NO DECLINE IN SIGHT.

Those who have been expecting to see a decline in the price of lumber will be disappointed, and in this respect the prosperity of the northern lumberman is more than temporary.

On August 1 last year 156 manufacturers, including nearly all of the white pine producers west of Michigan, reported a total of 1,708,821,362 feet of lumber on hand. This was a decrease of 215,238,465 feet over that held by the same firms on August 1, 1899, or 11 per cent.

Reports from the same manufacturers showed an increase of 21 per cent. in the amount of lath held August 1 last year over the amount on hand August 1, 1899, and a

LOGGING WITH ELEVATED CABLES.

To the Bridal Veil Lumbering Co., of Bridal Veil, Oregon, is due the credit for two innovations in handling timber in a rough mountainous country. The trailing of logs between the rails with a locomotive was first successfully demonstrated at its camp. This plan is now in general use all over the Pacific coast, wherever the grades of logging roads are too steep to admit of the handling of logs with cars.

The accompanying picture shows the adaptation of a method which is working successfully in handling timber out of deep canyons, where it is not practicable to reach it by means of railroads. Mr. Palmer, the president of the company, and who superintends the logging operations, decided to try the plan of logging the timber in a canyon about 150 feet deep and 500 feet wide by means of a wire cable secured to trees on either side of the gulch. The timber in this gulch had previously been abandoned on account of the excessive cost of logging.

The cable used is a six-strand, plow steel rope, 550 feet in length. The cable is suspended from trees on either side of the canyon, at an angle of about 45 degrees, on which is mounted an ordinary block. An engine in the canyon yards the logs to the trolley line. A bridle is passed around the center of the log, which is hoisted to the top of the canyon in about seven minutes by another engine. When the log is relieved the trip line is carried back by its own momentum. When the writer witnessed its operation a log scaling about 1,400 feet was being hauled. Logs scaling 3,000 feet have been successfully handled.

Logging timber by means of wire cables has been in general use in the south for several years, but the Bridal Veil Lumbering Co. was the first successfully demonstrating the feasibility of this plan in handling the big trees on the Pacific coast. There is little doubt but this plan will be generally adopted in logging gulches where it would be too expensive to build logging roads, due either to natural obstacles or the limited amount of timber to be handled.

The above is reprinted from the Columbia River and Oregon Timberman, Portland, Oregon.

THE BAND RESAW FOR THE SAW MILL.

In discussing the utility of the band resaw for work behind the big saw, either circular or gang, a prominent maker of resaws gave it as his opinion that it is not so much its rapid cutting for a limited time as it is to have a machine that will stand a moderate feed, say 50 to 60 feet a minute, and keep steadily at it. A high rate of feed involves more saws in a given time, more wear and tear during the actual cutting, and shorter life to the saws and machine. At the same time, the resaw would have to wait on stock for a third of its time, taking an ordinary run of logs. While the big saw is getting a log sawed into cants for the

resaw, there is all the slabbing to be done, the bill and piece stuff to be worked out, and the cants, from two to eight pieces from each log, are to be sawed out of the way.

A resaw at a moderate feed will easily take care of this amount of stock, as it is not intended that the common run of boards shall be sawed on this machine; but rather the better grades and wide stock for special bills. That is another feature of band saw practice that prohibits the using of fast feed. Any one who has had the chance to watch a band mill cutting can not fail to notice that the sawyer will slow down his feed in heavy cuts, even on heavy mills carrying 12-inch blades. For the big mill and wide and heavy blades to have to slow down the feed on heavy cuts, would indicate that it would be good practice to follow on a narrow blade, 6 inches or less, of lighter gauge and with less machine power and equipment.

What would be the gain to run a feed of 100

effort and a useless wear on the machine.

Furthermore, the blades will be worn out faster in doing just the same amount of work, and the chances are the filer will have a hammering job on hand every time he fits up the saw, as the heavy work will keep the blade hard against the guide about half the time. This is all in reference to sawing stock in the mill right from the big saw, in many cases being sitch on both edges and ranging in width from 10 to 22 inches. A piece of sitch may be a foot wide on one end and 2 feet wide on the other, as this stock is to be taken ahead of edger. —H. E. Haner, in *The Wood-Worker*.

NEW SHINGLE MILL.

On May 26th last the shingle mill of the Spicer Shingle Mill Company, of Vancouver, B.C., was completely destroyed by fire. Steps were taken immediately to rebuild, and early in August the new mill was put in operation.

The new mill is a two storey frame structure 35 feet wide and 110 feet in length, with a detached boiler house measuring 32x68. The boiler house is constructed with an iron roof and iron sides. The mill itself and all the buildings are whitewashed inside from a recipe furnished by the Board of Fire Underwriters, and outside they are coated with special fire-proof paint.

The power for driving the machinery is furnished by three 60 inch by 14 feet boilers and an 18x24 slide valve engine. The mill is equipped with several Johnson-Schaake upright shingle machines manufactured in New Westminster. In addition there will be two cut-off machines for preparing the blocks and a special machine for shingle binders. The power is distributed from a four inch steel shaft which runs from one end of the mill to the other. The capacity of the mill is 350,000 shingles in 24 hours.

EQUIPMENT FOR FOREST PROTECTION.

Mr. N. McCuaig, General Superintendent of the Forest Protection Service for district No. 1, in the Province of Quebec, makes the following suggestion in regard to fire ranging.

"A soldier on the battle-field without his rifle and ammunition is of very little account, and largely similarly situated is the best fire ranger, far away from help in the forest, face to face with his enemy—the fire—without any implements. Here are the articles that are articles that are usually employed in fighting fires, viz., spade, hoe and pail. There is little doubt if the Government offered a suitable reward to native mechanical ingenuity, a tool would be shortly forthcoming that would combine the spade and hoe in one implement and convenient for either purpose and not exceeding three and one-half pounds in weight. This, together with a rubber cloth pail, the whole at a trifle of expenditure, would constitute an equipment by which the ranger would be in a position at any moment to deal with a fire in its incipient or more advanced stage. The cost of such articles, including the leather belt, should not exceed three dollars per ranger."



CARRYING LOGS ACROSS A CANYON WITH A WIRE ROPE.

feet for three or four minutes and then let the saw run idle for the same length of time? Say a log 16 feet long would make eight cants to be resawed and it would take three minutes to saw up the log. This would take 128 feet for the resaw, just a little less than a minute and a half's work for the machine at a hard strain, and then wait for nearly twice as long a time to get some more stock. Now, on the other hand, suppose the logs should run to lower grades for two or three logs, your resaw is doing nothing and waiting to be put through its work on a uselessly high feed.

The fact that it can be done speaks well for the tool and is quite a consideration where the cants can be piled up on one side, to be run on extra time or at night but the ordinary, everyday use of a band resaw is to run at such a speed and rate of feed as will keep cleaned up behind the mill, and any rate of feed over and above what it takes to do this is simply wasted

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

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

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 25 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.

DRIVING OF HARDWOODS.

STREAM driving of pine, spruce and other soft-wood logs is accomplished without difficulty, the nature of the timber being such as to permit it to float. With hardwoods it has always been regarded as almost an impossibility to drive the logs any distance, owing to their weight and the tendency to absorb water.

The difficulty of driving hardwoods has been one of the obstacles in the development of the hardwood industry in this country. On many timber limits which have been stripped of the pine, there may be found large quantities of valuable hardwoods, which have been regarded as useless by reason of inability to get them to the desired point for manufacture. Recently many experiments have been made to discover a method by which these hardwoods could be made to float satisfactorily, and it seems that at least a measure of success has been achieved.

From the opinions of Canadian lumbermen published elsewhere in this number, it will be seen that the matter has received no little attention, also that there still exists much skepticism as to the advisability of attempting to drive hardwoods, the great drawback being that the quality of the timber at the end of the log deteriorates while seasoning necessary to cause the log to float is taking place.

The most successful method of driving hardwoods is probably the one adopted by certain lumbermen of Maine, which is to cut the timber during the summer, skid the logs, and haul them upon the snow the next winter, and drive them in the spring, when they have become sufficiently seasoned to cause them to float.

Peeling the logs is another plan which seems to have been followed with some success by Canadian lumbermen. Mr. Irving, of Buctouche, N.B., has found little difficulty in driving hardwoods, his policy being to peel the

logs in the summer previous to the spring driving season. Of course, the cost involved in peeling the logs must be placed against the utility of this plan. Mr. Irving relates a significant incident as to the finding of a number of hardwood logs in the bottom of a pond. Notwithstanding that they must have been there for twenty years, they were found to be perfectly sound.

To deprive the tree of the bark for three or four inches deep all round, near the butt of the tree, and to plug the end of the log, are other methods which have been employed with a measure of success.

The subject of driving hardwoods is a most interesting and timely one, and might with advantage be further discussed in these columns. The opinions and experiences of lumbermen generally are invited.

INSURANCE ON LUMBER PROPERTY.

It is very questionable whether the Underwriters have not taken an unwise step in making the recent sharp advance in the rates of insurance to be charged hereafter on lumber property. If the insurance in the lumber business has been carried at a loss, as is claimed, it could only be expected that this would not continue. Business is conducted for pecuniary advantage, and if such is not the result it behooves the management of any business to endeavor in some legitimate way to bring about the desired change of conditions. The action of the underwriters is quite within their rights; but in our opinion is not altogether warranted by circumstances.

While lumbermen throughout the entire Dominion are affected, the question, so far as we know, has not been discussed in caucus except by the Lumbermen's Association of Ontario. The members of that organization contend that it is most unfair to advance the rate in the manner the Underwriters have done, and are at a loss to understand the system of rating on which the new schedule is based. It seems to disregard very largely the nature of the risk. No distinction, so far as the rate is concerned, is made between a water power mill and a steam mill, nor is any allowance made for the fire protection appliances with which a mill may be equipped. The insurance companies have, without visiting the mills to ascertain the nature of the risk, demanded from the lumberman increased premiums ranging in some cases above 150 per cent.

The hazard of a water power mill is necessarily much less than that of a steam mill. In the case of the former the material in and around the lower portion of the mill is invariably more or less damp, and, in some cases, saturated with water. There are many mills in which it is necessary to use rubber and gandy belting, the conditions being such as to make the use of leather belting almost impossible. With a steam mill having a battery of say four or five boilers, and with pipes running in and around the floor of the mill to operate the steam niggers, saws, etc., the position is different, and the danger from fire greater. Is it not a strange anomaly, therefore, that the Underwriters

should place both kinds of mills on the same footing in respect to rating?

The advance in the rate on lumber especially shows a lack of consideration on the part of the Underwriters. The rate has been fixed apparently without regard to the hazard caused by proximity to the mill. It is admitted that lumber is not endangered from fire if placed 100 feet from the mill, yet the Underwriters allow a correspondingly lower rate on lumber according to the distance over 100 feet at which it is placed from the mill. This would seem to indicate that they regard the mill as endangering the lumber no matter what distance the two may be separated, and if such is the case why should not a mill well equipped with power appliances be given a lower rate than a mill without such appliances, or a water mill where no fire is needed, be given a lower rate than a steam mill?

According to the new schedule the average rate on lumber is perhaps about 3½ per cent. This rate, we understand, is higher than prevails in the United States, where the rate on all good risks is only 2 per cent. The companies there, we understand, require a space between each yard or dock, although sometimes they make exceptions to this rule. The statement was made at the recent meeting of Ontario lumbermen that companies doing business in both the United States and Canada will give a lower rate on lumber in the United States than in Canada. If such is the case, it would be interesting to learn the grounds on which such discrimination is based.

The suggestion that the lumbermen should form an insurance company to carry their own risks brings up a subject which calls for the most careful consideration before action is taken. Nevertheless, we believe that if the present exorbitant rates are maintained, the lumbermen will find some method of protecting themselves from fire at less cost than if they should continue to insure their property under the present schedule.

It will no doubt be of interest to learn some particulars of the Lumber Mutual Fire Insurance Company of Boston, a company which was organized in February, 1895, and began writing insurance in the following month. This company insures only lumber and wood-working plants, and is authorized to transact business in the United States and Canada. For the last three years the company have paid a dividend of 20 per cent., and the financial statement for the year ending July 31st, 1901, shows the company to be in a strong position. The dividends paid since organization have been \$32,683.82, and the net cash surplus \$42,862.96, making total profits to policy-holders \$75,546.78. Another organization which is meeting with success in the lumber insurance business is the Lumber Underwriters at Mutual Lloyds, composed largely of lumbermen throughout the Eastern States. It is said that this company has succeeded in benefitting its members by a considerable reduction in insurance rates. From these facts it does not appear that the business of insuring lumber has been as unprofitable as the Canadian Underwriters would lead one to suppose.

DRIVING OF HARDWOOD LOGS.

A Successful Experiment in the Eastern States.—Experiences and Opinions of Canadian Lumbermen.

The question of driving hardwood logs is just now receiving more than usual attention, on account of what is claimed to be a successful experiment conducted during the past summer by certain lumbermen in Maine. It is understood that an entire drive of hardwood logs safely reached its destination, the loss by sinking not being more than in the case of pine and spruce. It seems that the logs were cut during the summer of 1900. They were then skidded, hauled upon the snow the next winter, and sent down the river in the spring. In the meantime they became seasoned, causing them to float. The seasoning process, it is understood, is facilitated by allowing the trees to lie for a week or so after felling before cutting them up into logs, as the leaves before drying up will draw nearly all the nourishment from the trunk.

The opinions of some Canadian lumbermen as to the successful driving of hardwoods were solicited, and are given below:

J. P. NEWMAN, Warton, Ont.: I have never had any experience in driving logs, but we raft hardwood logs from 30 to 60 miles in a loose boom. From the experience I have had in rafting hardwood logs I should think it would be a hard matter to drive them, as we find it very difficult to raft them unless it is with some lighter timber to which we can dog or wire them, as there is always a large percentage of the hardwood logs that will sink unless they are so floated up by lighter timber. In reference to cutting hardwood logs from the tree one season and holding them over until the next to season, I have found that unless hardwood logs are manufactured the same season they are taken out they will doze from six inches to two feet on each end, and to prevent this we always make it a point to have our hardwood logs all cut out, as nearly as possible, by the first of September (rock and soft elm excepted.) I might say that not nearly so many logs sink if they are left on the shore six weeks or two months after spring opens.

A. HAGAR & CO., Plantagenet, Ont.: We have had very little experience in the matter, but we once bogged some hard maple and birch logs to be rafted and delivered at our mill. The party got out some, but failed to deliver them, and we drove them the next year ourselves, and were very successful, they being seasoned for a year. We only drove them a distance of about forty miles, but we did not lose one by sinking. Of course, there were only a small quantity, and we cut them up as soon as they arrived at the mill.

J. D. IRVING, Buctouche, N.B.: I have driven hardwood logs, all kinds, for the past fifteen years. They are peeled the year before driving, and dried out fairly well. Of course, the drier the better, if they are to be on a long drive. They drive far better than spruce; in fact, when you drive them with spruce they will run out ahead of the spruce and your drive will work much better. For instance, when logs begin to run, if you can get any move out of them the hardwoods will be sure to go, whereas with spruce alone you frequently have to work them little by little until you get a good run out of them. The hardwood, as you may know, becomes as slippery as an eel as soon as it goes into the water. Regarding keeping them afloat any length of time, mine have been driven about 10 to 15 miles to a main rafting ground, and I have frequently had them remain in the raft all summer, in which case I throw a stop across the rafts and pin them to it. I always raft them with spruce or hemlock, which hold the hardwood in the manner I have stated. I always watch mine, and when I see any beginning to sink pin them up. I think as a general thing they will remain above water without any trouble for two or

three months, after that they begin to settle. My rafts come into salt water, which is, of course, a shade stronger than fresh. Anyone taking out a large drive of hardwood would have to avoid getting them stuck in the stream over summer, in which case they should be hauled or rolled out to dry. If they remained in the water over winter they would scarcely drive next spring. I cut away an old mill dam a couple of years ago, and in the bottom of the pond there were about 200 hardwood logs. They have been there about 20 years or more. I am having them hauled out on the bank to dry and drive next spring. They are as sound as the day they were cut in the woods.

TITOS. A. PICKARD, Mar, Ont.: During the six years I was in business in Owen Sound, we cut from one to one and a half millions each year, all hardwood, and rafted all our logs. As to the success of rafting hardwood, we give it as our experience that if the water is smooth there is not more than 10 per cent. loss in rafting maple, beech and birch from forty to sixty miles, with logs cut during the winter and rafted the following summer from June to August. Have had no experience in running them on a stream, but in case of being caught in a sea you are sure to lose from 50 to 100 per cent. I don't think holding logs until the following season is practical, for if they are not in the water by August following the winter they are cut, they will spoil at the ends very quickly. We never adopted any method to keep them afloat, simply rolled them into "bag boom" and towed away at the rate of from one to one and a half miles an hour.

C. H. WITTHUN & CO., Warton, Ont.: Our experience with hardwood is that it cannot be successfully driven in small streams. We raft our hardwood logs after letting them dry for about four to six months, and then the best of the logs, "butt logs," will sink. The success of safely landing them at the mill depends entirely on the weather—if nice and calm we may get off with a small loss, but if rough we run large chances of losing more than twenty per cent., and if we are not very careful to keep in sheltered water, the chance of landing any of them is exceedingly small. Then there is another drawback. If hardwood lays too long on the beach in the summer time the logs get dozed on ends, and the lumber is not worth within two dollars per M of what winter cut hardwood is worth.

J. R. BOOTH, Ottawa.: I have never had any experience in the floating of hardwood logs in the way you mention; but to give my opinion I do think they would float if cut and laid up for summer for a short distance or until they became water soaked; but the greatest difficulty would be, I fear, in the sap wood becoming dozed in the warm weather, which I have found to be the case in some few I had left over in the woods by sleighing breaking up early in the spring before I got them out. I found all the logs that the heat of the sun got at were more or less sap dozed, whilst the bottom logs in the rollway were quite green, and I think would sink if put in the water the same as if put in from the stumps. Two years ago I put in the water 42 birch logs as an experiment, and only one of them reached my mill, and this one was in the water three months and barely floated; the rest I never saw sight of.

KING BROS., Quebec, Que.: We have had very little experience in driving hardwood logs and are unable to make any suggestion, but the writer, in the course of conversation with some people coming from the lower provinces, gathered that the most successful plan had been found to deprive the trees intended to be cut of the bark to the extent of three or four inches in width all the way around the bottom of the tree, the effect of which is represented to be that the tree dies without injuring the fibre of the wood, and when cut the following year the tree is found drivable, that is, the wood is so dry that it will float without sinking.

W. J. TRENOUTH & BRO., Powassan, Ont.: The only hardwood logs we have driven is ash, elm, basswood and birch. Ash, black and white floats well. Basswood will float until the water gets warm. Rock elm floats well; soft elm will float well if it is good timber but a poor quality will sink. Birch will only float a very short time and we find it is the poor quality of it that sinks. We have been told that if the birch is peeled it

will float, but we never tried any experiments in floating hardwood logs, but believe they will all float better if peeled.

J. & T. SCOTT, Allan's Mills, Ont.: We have been driving hardwood logs for a number of years, and would say that the logs are more successfully driven when they are cut a year before, but we sometimes cut them in the winter and drive them in the following spring, pining cedars to them by means of 1½ inch oak or rock elm pins. A cedar log 6 inches in diameter at the small end will float an oak log about 18 or 20 inches.

THE ORILLIA EXPORT LUMBER CO., Orillia, Ont.: We have had considerable experience in the handling of hardwood logs, and we do not think that it would be practicable to cut them one season and float them the next. We will not say that they might not float, in fact we think that they would, but we think they would be so badly damaged by laying over, as to make them unfit for lumber and not worth much for anything else. It is a well known fact that hardwood logs such as we get here, with the exception of elm and ash, are materially damaged if they lay out of the water after the month of July following the winter they were taken from the tree, as after that date they deteriorate very fast.

A. & P. WHITE, Pembroke, Ont.: We have never had any experience in the driving of hardwood logs, but would be glad to know what steps can be taken to successfully accomplish that end, as we have a large quantity of hardwood on our limits, which is practically valueless unless we can devise some method of getting it down the river without sinking.

J. & T. JARDINE, Kingston, N. B.: We have had some experience with hardwood logs. We peel the bark off the trees and let them dry all summer, and the next spring they float all right. Some parties claim that the best way is, after the tree is peeled not to cut off the top until the fall when you commence hauling. They claim that the sap goes up into the unpeeled top, and thus lightens the butt of the tree. When logs are peeled we think there is no trouble driving them.

A. TAIT, Orillia, Ont.: Have no experience in driving hardwood logs, but feel quite certain that to cut and to hold hardwood logs over until they dry would render them useless for any manufacturing purposes.

CHEW BROS., Midland, Ont.: We have never undertaken the driving of hardwoods, outside of ash and basswood. This class of timber, if banked till driving season opens, can be driven the same season without any loss. Any hardwoods that we have sawn, such as oak, maple, beech, birch and elm, have not required to be driven, only towed, and in order to prevent such logs from sinking, we invariably resort to rafting as is customary in the trade. Our experience has been that it does not pay to risk towing without, as the loss sustained by logs sinking would much more than cover extra expenses incurred in rafting. Of course, this method would not apply where logs have to be driven down a stream, in which they would be likely to get broken up. We have not, in course of our lumbering operations, found it necessary to experiment in this connection, as principal part of our output is pine and floatable timber.

SNIDER LUMBER CO., Gravenhurst, Ont.: In reference to the driving of hardwood logs such as oak, birch and maple, we find that cribbing them is the safest and best way to drive them. Basswood and ash will float for a few months without losing any by sinking, while soft elm will float for some time. We have peeled soft elm logs in the spring, and after leaving on the bank for several weeks before dumping them found they floated high for several months. We think that cutting hardwood logs the previous season and allowing them to season would spoil them, as we find by leaving them on the bank until July the ends will be dozy from 1 to 1½ feet into the log. This is especially the case with basswood, birch, maple and beech, and cutting them a year in advance would, we think, render them useless.

N. & A. DYMONT, Thessalon, Ont.: We think that if

the logs were seasoned for a year, as you state, they would float long enough to be driven a reasonable distance.

ONTARIO LUMBER CO., Toronto, Ont.: We have had no experience in driving hardwood sawlogs in any appreciable quantity. We have occasionally driven oak timber, which would sink very readily when put into the water after cut. We found by boring a hole with a 3 inch auger at both ends of the log, and driving in a plug, leaving a small air space between the bottom of the auger hole and the plug, that they would float successfully in this way. We have known instances where hardwood has been left on the bank to dry, and by painting the ends of the logs just before watering, they were driven successfully, but the distance must not be too great.

MACPHERSON & SCHELL, Alexandria, Ont.: Your statement about cutting logs the previous season and allowing them to stand over and season would mean, so far as maple, elm and birch are concerned, to let them become useless. Maple and elm are damaged by September considerably, birch less. Seasoned logs may float until they become saturated. Plugged logs will float if the vacuum is perfect. Frozen logs will float early in the season, but will go down when the water is warmer and the logs become fully soaked, and the sap cells filled with water. Have tried floating hardwood logs but not successfully. The specific gravity of oak, maple and birch in a large percentage of logs is greater than water, and I do not see how such logs can float after the sap cells become filled with water. A large percentage of hardwood logs will float for a short time, but will go down after a few days.

PETER NADEAU, SR., Grand Casapedia, Que.: In our district we drive very little hardwood of any description, the principal drawback in doing so being the sinking of logs coming down the river and also when in booth. The only safe and satisfactory way of driving them is by rafting them with spruce, cedar or pine. The logs are placed side by side, every second one being a spruce or cedar. Cross pieces are laid across at the ends and holes bored through the cross pieces and into the birch, then wooden pins are driven in solid. This is the only satisfactory way we know of, even if costly; otherwise there is sure to be a great deal of loss. The cutting of birch and hardwood the previous season is also a good way if the bark is taken off, giving the lumber a chance to dry; otherwise it will dry very little and in a few months will get dozy and stained.

WILLIAMSON & CROMBIE, Kingsbury, Que.: We have not had very much experience in driving hardwoods, but have got out ash, birch and basswood in small quantities, which were peeled in the summer and lay in the woods until the following spring, and then drove to our mills where they lay in the water until fall. These logs when taken into the mill and sawn were found in perfect order, and we have no hesitation in saying that logs got out in this way should turn out altogether satisfactory to the manufacturer. You, of course, understand that basswood got out in the winter is a great deal better than water-soaked timber, which becomes discolored.

J. B. SNOWBALL COMPANY, Chatham, N.B.: We have been in the habit of getting small quantities of hardwood off our small streams, and find that if peeled a season in advance, we are able to float the larger portion of them down our small brooks in the spring, but as soon as the water gets warm in the summer, they again absorb large quantities of water and sink. Our experience is that they can be handled for say three months after being put in the water in the spring. There is, however, more or less loss. Black-hearted birch will not float sufficiently at any time to pay for handling. We only have birch, maple, beech, ash, and this class of hardwood here, and our experimenting has been entirely with these, and our experience is that there is very little, if any, difference in the time we can keep the different kinds afloat. In preparing our stock in this way, we still find a few logs that will not float sufficiently, and we generally twitch these out of the brooks, and leave them over for the following year. Ours is a tidal river, and all our mills are on

salt-water sites. In bringing hardwood logs from the delivery booms to the mills, we generally raft about one-half spruce and half hardwood, so as to make the passage (which is from 20 to 50 miles) in safety, but after arriving at the boom and the rafts being broken up, we find our loss is considerable, say from 5 to 10 per cent. All things considered, we could not recommend this mode of handling hardwood, and we only do it in case of necessity, and where timber and logs are not within reach of railway or other communication.

KELLEY BROS., River Hebert, N.S.: We have had no experience in driving hardwood logs. We should say that if the logs were barked all around they would not doze or sap rot and ought to drive alright. We think they would as well as sapling pine. Of course, the longer they stay in the water the heavier they get.

THE VICTORIA HARBOR LUMBER CO., Toronto, Ont.: We have never towed hardwood logs in any quantity. We have brought a few oak logs which had been cut and left one season on the bank, from French River to our mills, and towed them mixed with pine, and as nearly as we remember, we succeeded in getting about 50 per cent. of them to our mill. We would hardly consider that a success.

GILMOUR & COMPANY, Trenton, Ont.: We have never found driving hardwood logs satisfactory. We have only driven them a short distance from the pond to the mill, and in our opinion it would be almost impossible to drive them any distance, as so many of them would sink that the expense and loss would be very great.

M. BRENNEN & SONS MFG CO., Hamilton, Ont.: We had some birch logs peeled early last summer and floated this spring, and driven down the river. They floated very satisfactorily, but the timber appeared to be a little dozed, and would not like to say what the lumber will be like until we make a shipment. They were not cut into lumber as early in the spring as might have been, which perhaps would have been advisable.

UPPER OTTAWA IMPROVEMENT CO., Ottawa, Ont.: We have had practically no experience in driving hardwoods. We drive pine, spruce, tamarac, hemlock, cedar and occasionally a few ash, so few that we are not able to venture an opinion as to the percentage of loss. We handle about 3,000,000 pieces annually, among which are not more than 300 to 500 ash logs. We draw out and rollway for a year partly sunken logs wherever practicable, and thus avoid any appreciable loss. Of course, no amount of drying will make a shaly log float for any length of time, but sappy logs, if taken out of the water and allowed to dry for a year, float well.

THOMPSON & AVERY, Sharbot Lake, Ont.: We have found that by leaving hardwood logs on the bank for a short time in the summer, they will dry out enough to float for a short period, say two or three weeks, but to leave them on the bank for a season the timber taints in the ends of logs and the lumber is not so nice, besides, the logs will sink if left long in the water. We find by leaving birch, maple and basswood on the bank all summer the timber is almost spoiled. Elm will, however, not suffer even if left the whole season, and will float.

CRAIG & AUSTIN, Kinmount, Ont.: We have been experimenting on floating hardwoods for some years, and last year (1900) we made a success of it by falling the trees during the bark peeling season, from June 1st to August, peeling off the bark, and leaving the tree lie till the fall months, then cut and skid the logs and dump on the shores until the ice goes out in the spring. We believe any hardwood will float; we have swamp elm now floating like pine. We are peeling even our basswood this year.

JONES BROS., Warton, Ont.: Our experience is in rafting, not river-driving, but we presume the action is the same in both cases. We raft hardwood logs at all seasons of the year. Early in the spring many of them sink, and even at this season some will sink, after lying on the shore all summer. Wherever possible we dog,

or wire sinkers to logs floating high, and this means used in this section to bring them in. To wire up logs would not be practical in most of the river. We never tried cutting logs the previous season, but would suppose that if they were cut very early, that most of the logs would be completely ruined for use. For instance, any hardwood logs left on the shore a season would not be worth rolling into the water. Any hardwood logs cut, say last winter, and left on the shore end of August, would make lumber that most of the world would not buy at more than half price. The lumber would be dozy.

MAITLAND, RIXON & CO., Owen Sound, Ont.: cannot speak with any authority whether the hardwood can be driven successfully or not down streams, as we have never had any experience in driving hardwood logs, as all our logs are drawn to the shore and rafted from there. But one part of your letter struck me as something peculiar, that is the holding of hardwood logs for a year to dry them out to run them down stream. Hardwood logs in our part of the country held for a year, are spoiled. Hardwood in the east states must be different to what ours is. Our opinion of running hardwood logs is that it cannot be done successfully.

PITTS & CHARLTON, Victoria Harbor, Ont.: We had no practical experience in the driving of hardwood logs. We have heard that cutting the previous season and allowing them to remain over a season, would produce the desired results, that is, to prevent sinking. We would give it as an opinion that if hardwood standing timber were girdled, say during the winter season when the sap is down, and in effect killed, and then cut in saw-logs the following season, as we are informed the practice with cypress, this would be found advantageous.

J. MCBURNEY & SONS, Callender, Ont.: We have never tried driving hardwood logs with the exception of basswood, which we find sink if left in the water long. It is claimed by our men that if bored four or five inches in the end and plugged basswood logs will float, but we have never tried it.

THE PEMBROKE LUMBER CO., Pembroke, Ont.: We have had no experience in handling hardwoods in the manner you state. Any hardwoods we have taken down were loaded or banded to other floatable logs. The writer is of the opinion that hardwood logs held over in the woods for a season will float the following April and May, or for such time as the water is high.

REID BROS., Hepworth Station, Ont.: Cutting hardwood logs and leaving them over for a season, is not their entirely for first-class lumber, as there is at least two feet on each end spoiled. We have not had any experience driving hardwood logs, but keep our logs in a mill pond at one of our mills, and find they are easily kept afloat. They are usually wired to soft logs and can be floated on the lake without any loss in good weather. Driving on the river has not been accomplished successfully here.

H. CARGILL & SON, Cargill, Ont.: We have driven some hardwood logs without any special preparation but not successfully. They might be driven successfully as you suggest, but we find they spoil very quickly and think a good deal of timber would be wasted cut the previous season. We find hardwood logs cut along in September will spoil or rot to some extent in the ends before it can be sawn in the winter. Come through Windsor on the train a few days since the writer noticed hardwood logs being unloaded off the train and made up into rafts in the river.

R. WATT, Warton, Ont.: My experience has been that if hardwood logs are held over more than one season they doze at the ends and sap-rot and become practically useless. I raft my logs here, but do not commence before about the first of June, and between that time and the middle of July they should all be watered, otherwise they commence to doze. The majority of them will float, but when we get what we call dozers we usually wire them to a softwood log. If the spring happens to be late and cloudy the logs do not spoil so soon.

MEMBERS ASSOCIATION OF ONTARIO. A special meeting of the Lumbermen's Association of Ontario was held in the Board Building, Toronto, on August 15th, with Waldie, the President, in the chair. Matters of interest to the lumber trade were discussed. The President explained that the Board of Management had not seen their way to affiliate with the Canadian Manufacturers' Association. The association desired that, in respect to an export duty on lumber, an exception should be made in the case of hardwoods, and that these should be admitted free. To this proposition the Lumbermen's Association would not agree, on the desire of the lumbermen that all lumber imported from the United States should be subject to a duty. Secretary, Mr. Tyndall, brought up the question of union labor in respect to the load-

high prices for pork, oats, etc., and such high wages, to go on and force their business.

It was pointed out that there was much difficulty in greatly curtailing operations, as it was almost necessary, where there was a large investment in plant and where an operator was the owner of a large number of horses, to provide employment for such plant and horses.

Mr. N. Dymont, of Barrie, stated that it was his intention to curtail operations in the woods the coming winter to the extent of 50 per cent.

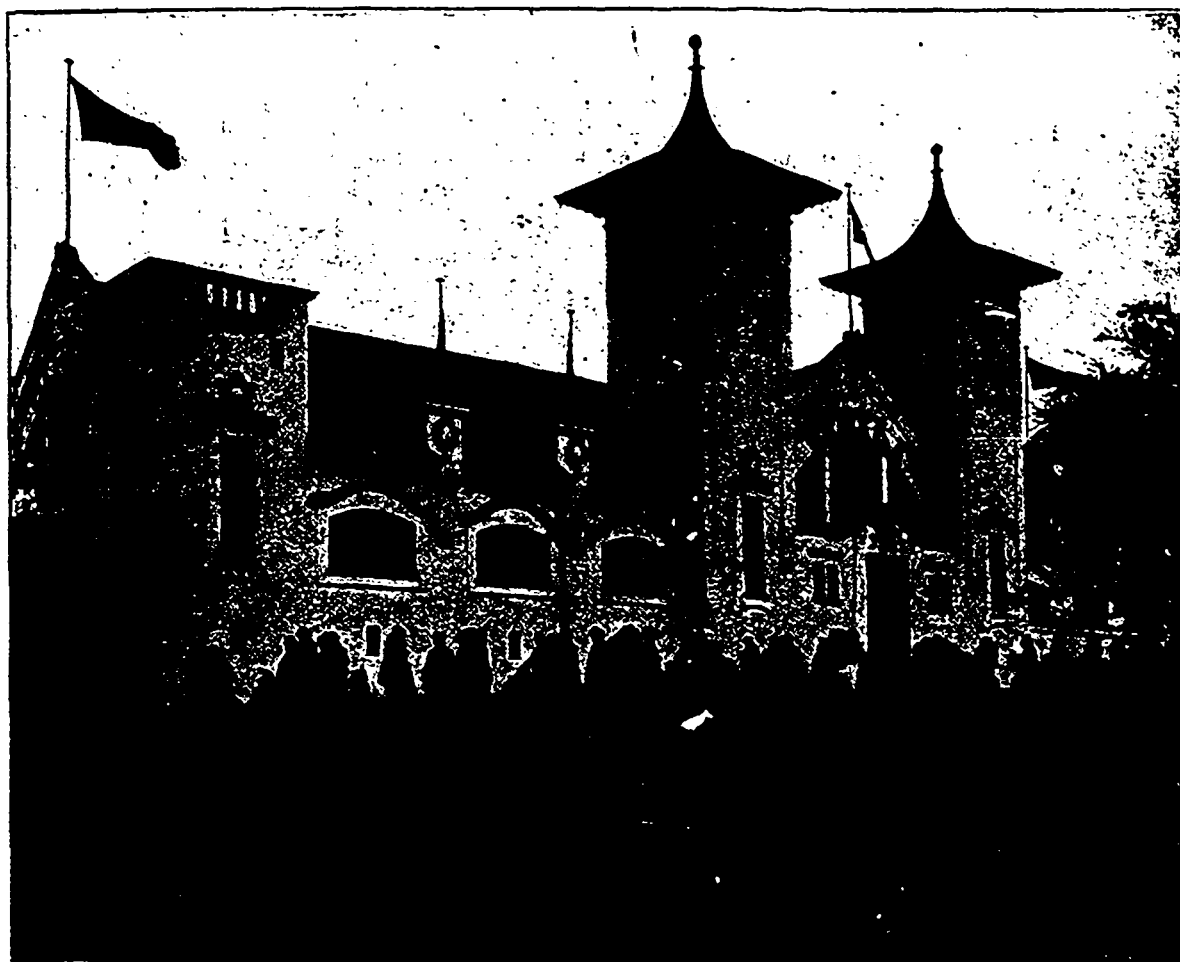
The President remarked that in the winter of 1897-98 wages were about \$16 per month, but in 1899-1900 they were \$27. He thought that it now cost about \$7 per thousand feet to get logs out of the woods and into the booms. Pork was 40 cents higher than one year ago.

A general discussion followed on the cost of taking out logs and manufacturing lumber. In logging labor was said to represent about

Mr. Bertram endeavored to impress upon lumbermen the necessity of following the policy above outlined. It seemed to him that it would pay lumbermen better to consider their holdings of timber in the nature of an investment, and to extend their operations over ten years rather than to cut out their limits in half that time. He referred to the good fortune of the present holders of white pine timber. In about five years, he said, all the merchantable white pine on the south shore of Lake Superior would be cut, and Canadian owners of white pine, after that time, would certainly reap the benefit.

Mr. George Thomson, of Goderich, said that the timber in the north of Michigan would be completely exhausted in five years.

The President brought up the insurance question. He characterized the action of the insurance companies in respect to the recent



CANADIAN PAVILION, GLASGOW EXHIBITION.

unloading of boats. He said that a handler's union had been formed, and their demands were such as to seriously affect the interests of all shippers. While they demanded the same wage scale as was paid in other and similar places, they were not willing to give an equal service with these

question of wages of men in the industry was then discussed. It was shown that wages had been steadily increasing for the past few years, and that the cost of supplies was higher. This brought up the question of curtailing the log output during the coming season. Mr. John Bertram stated that they had three years of fairly good prices for lumber, and he thought it would be unsafe for lumbermen, when they had to pay such

55 per cent. of the cost, while the average cost of manufacturing lumber, including saw bill, repairs, piling, etc., was about \$2.

The following resolution was then submitted and unanimously adopted:

"Moved by Mr. N. Dymont, seconded by Mr. C. Beck, that in view of the present conditions attached to the carrying on of the lumber business, the increased value of stumpage, the difficulty of procuring suitable labor, and the uncertainty of demand for the product, the members of the Lumbermen's Association are of the opinion that it is very desirable to decrease the quantity of logs to be taken out next season, and those present agree to curtail their operations, and advise that all the members of the association follow this course, and so conserve their timber holdings."

advance in rates as most arbitrary and unjust. For instance, a water power mill with a first-class steel burner had been advanced in equal proportion with a steam mill with a poor burner. The underwriters had made a scale based on the distance the lumber is piled from the mill, without regard to the character of the mill, style of burner, or yard arrangements. If an advance was necessary, he thought it should have been a percentage instead of a flat advance.

Mr. Bertram said that his mill had been standing since 1852, and for nineteen years he had paid insurance premiums without ever having a fire either in mill or lumber yard, yet his insurance had been raised from 1 1/4 to 4 per cent.

Mr. Charles Beck proposed that the lumber-

men should carry their insurance among themselves. He thought that by this means they would get cheaper insurance. The advisability of affiliating with the Millers' and Manufacturers' Association was suggested, and on the motion of Mr. Bertram, the following resolution was adopted :

"Resolved, that the recent advance of rates of insurance on lumber, ranging from 50 to 225 per cent., is, in our opinion, not warranted by the circumstances, and the Board of Management are requested to communicate with saw mill owners, whether members of the association or not, with a view to taking joint action, either in forming a new insurance company by associating themselves with other manufacturers, and so dividing the risk, or by joining on favorable terms some existing institution ; that the Board of Management report as soon as possible to a meeting to be called for the purpose, and take action with a view of remedying the present abnormal conditions."

Mr. Dymont stated that it was possible to obtain from the same company cheaper insurance for lumber in the United States than in Canada.

The President referred to the action of the Ontario Government in passing an order-in-council compelling the medical inspection of lumber camps. This order was passed last winter and took effect on September 1st.

Those present were unanimous in condemning the regulations, which they thought to be unjust. One of the gentlemen present stated that not a case of smallpox on the north shore had originated in the lumber camps, but that it had been carried from the Michigan Soo and distributed from hotels along the C.P.R. Some striking comparisons were made between the conditions under which the men in the woods and people in the large cities live, the opinion being expressed that much greater need exists for a compulsory inspection of dwellings in cities than of the camps in the woods. It was also shown that the regulations requiring the men to take out certificates of freedom from smallpox were improperly carried out, and that it was simply a means of adding to the revenue of doctors. No action regarding the order-in-council was taken, but it is probable that the matter will be considered by the Board of Management.

The lumbermen have experienced some annoyance from "jumpers" from camps after their expenses had been paid. It was pointed out that there was a law to protect employers, but that it was often found inadvisable to enforce it. This law is an amendment to the Act Respecting Master and Servant, and reads as follows :

The Act Respecting Master and Servant is amended by adding thereto the following section :

"In case any person enters into an agreement under which he receives as an advance of wages, money, food, lodging or railway or steamboat ticket, to enable him to reach any place at which he has engaged to perform labor, work, or other services, if such person thereafter, without the consent of his employer, leaves his employment before the money or

cost of such food, lodging or transportation has been repaid, he shall, on proof thereof before a justice of the peace, be liable on summary conviction to a penalty not exceeding \$25 ; and in default of payment of such penalty to imprisonment in common jail of the county or district for a period not exceeding thirty days, as the justice may direct."

A general discussion followed respecting the price of lumber, after which the meeting adjourned.

AMERICAN FORESTRY ASSOCIATION

THE summer meeting of the American Forestry Association was held at Denver, Colorado, on August 27th, 28th and 29th. There were two sessions daily and an open meeting on the evening of the 28th, at which Mr. Gifford Pinchot, Forester of the United States Department of Agriculture, gave an illustrated lecture entitled "The Government and the Forest Reserves."

Altogether, the meeting was very successful, about twenty papers on subjects pertaining to forestry being presented.

One of these was by A. D. Hopkins, on "Insect Enemies of Forests and Forest Products." The author briefly reviewed the subject of insect enemies of forests and forest products, and its relation to the scientific methods of forest management, giving as examples the ravages of the chesnut timber worm, the oak timber worm, the spruce destroying beetle, and certain enemies of the forests of the north-west, which, by the adoption of improved and inexpensive forestry methods, may be controlled, so as to prevent the loss of a vast amount of timber. Doctor Hopkins also referred to insects injurious to forest products used in railroad construction, and methods of preventing losses ; insect enemies of stored hemlock and oak tanbark, and the simple remedy suggested by a knowledge of the habits of the pest. He also spoke of the difficulties met with (owing to insufficient funds and assistance) in conducting the elaborate experiments necessary to determine important facts relating to the life and habits of the more destructive species, and to demonstrate the practical application of results.

Doctor Hopkins also presented a paper on "Forest Conditions in West Virginia." He related the observations made during a recent trip through the forest areas of the state of West Virginia, which furnish (in their varied conditions of primitive growth, extensive lumbering operations, exhausted supply of merchantable product, depredations by fire and insects), some of the leading problems, which are so important to study, with a view of determining scientific methods of management and protection. He referred to the fact that the harvesting of the forest crops, which represent one of the important natural resources, continues unabated ; but called attention to the marked difference (from the old method of culling out the best timber for special purposes), in the present utilization of all kinds of available products in one operation. Thus a clean sweep is made, and little is left

for the forest fires, except the debris. In sections, the conditions are favorable for profitable second growth forest. An example of what a natural second growth will do, under utter neglect, is had in an area of some thousand acres denuded some seventy to hundred years ago, to supply charcoal for furnaces, which is now yielding a quantity of chesnut telephone poles, pins and other minor products. Much encouragement is found in the fact that some of the wealthiest owners of extensive forest are beginning to consider and apply improved scientific methods in harvesting forest products, providing for the perpetuation of profitable forest growth, and encouraging reforestation of the denuded areas. Dr. Hopkins mentions one of these public spirited men, who although eighty years old, is contemplating the extensive planting of a future supply of railroad ties.

In a paper on "The Reforestation of Watersheds," T. P. Lukens said that depletion of forests caused extremes of flood and drought, as shown by the present conditions in Southern California as contrasted with the same area prior to the introduction of unrestricted sheep and cattle grazing, and methods of lumbering and destructive logging. Originally the mountains and valleys were heavily forested and the streams flowed continuously. The effect of these abuses is seen in the increased flow of streams, and the rapid deterioration of the originally productive soil. The remedies proposed are the absolute prohibition of grazing, except within fenced areas, the employment of rangers to guard against fire, and to enforce the grazing regulations, and the inauguration of improved methods of lumbering under trained foresters.

"The Progress in Tree Planting" was treated by William L. Hall. The past year, he said, has been notable for the planting of timber. Never before were so many trees planted in a single year. The work is limited to the plains but extends throughout the Mississippi Valley and to the Atlantic States, where some of the largest operations are now in progress.

In the west besides for general utility plantations have been established as investments and have proved profitable. The success has influenced more extensive planting for the same purpose. Eastern planting has two purposes in view. First, to utilize waste land. Second, to protect water supply. For these purposes extensive planting is now being done. Both in the east and in the west the planting problem is being studied to develop cheaper and more rapid methods, for on the success and rapidity will depend the importance of planting in American forestry.

IMPROVE YOUR BUILDINGS.

Messrs. W. A. Fleming & Company, 771 Canal street, Montreal, have recently concluded arrangements for the general distributing agency for the famous Lythite Cold Water Paint and National Wall Coating. Lythite, although only a dry powder, when mixed with cold water, is claimed to produce a perfect paint, suitable for both interior and exterior work. It is made in white and black and 24 colors. White Lythite is the whitest white paint made, and is valuable for the interior walls and ceilings of houses, factories, railway buildings, engine-rooms, store-rooms, elevator shafts, area-ways and hosts of other places where the greatest possible amount of light is required. Messrs. Fleming & Company state that this paint increases the light and reduces insurance when used. It costs about one-fourth the price of ordinary paint. For use on calcimine and plastered surfaces, the best materials is National Wall Coating. This coating, the agents state, has great covering power, will not run, lap or show joints and possesses excellent sanitary properties. W. A. Fleming & Company gladly send color cards and all the facts about their valuable products upon request.

THE HOE CHISEL-TOOTH SAW

It is hardly necessary to describe to our readers the general features of the Hoe chisel-tooth saw; its merits are already well known. For many years it has been the endeavor of the right minds to invent something better than the Hoe chisel-tooth, but it seems as though the master mind which conceived this article went at once to the bottom of simplicity, which is the true element of success in a tool of this kind. The design of the Hoe chisel-tooth is something that can be grasped at once, and a child may readily understand its mechanism. To this simplicity is added a perfection which gives the tooth all the rigidity of that of a solid saw, combined with the advantages of a removable tooth.

Messrs. R. Hoe & Company have spared no expense in the constant perfection of this remarkable tool, and every succeeding year produces a better article than that produced the year before. No material is allowed to pass to the manufacture of these saws, bits and blanks without first being subjected to the most rigid tests in the various stages of manufacture.

There are now, we are informed, over 5,000 of the Hoe chisel-tooth saws in successful operation, not only throughout the United States and Canada, but in Great Britain, Australia, New Zealand and other British Colonies, West Indies, Cuba, Mexico, Central and South America, Russia, China and Japan; in fact, wherever lumber is marketed. They accurately any kind of timber from pine to gum-vitae and are especially successful in frozen timber.

TIMBER ESTIMATING.

Timber estimators have, as a rule, been reticent concerning their methods. Their employers, who buy and sell on their estimates, do not ask them.

As long as those immediately concerned are content, there is no need of literature on the subject; but when the value of the property in the hands of people inexperienced in sales by estimate is at stake and the owners have no personal knowledge of the record of the several estimators, they have a right to some idea of the manner of doing the work.

The fundamental principles of estimating are very simple and consist in ascertaining the number of trees, their dimensions and the percentage of merchantable timber in them. The measurement of a tree is very simple and of little importance.

The principal difficulties of estimating are: 1. Locating the land to be estimated. 2. Determining the number of trees. 3. Determining the average size of the trees. 4. Determining the percentage of defects. 5. Determining the proportions of the several grades of lumber.

In locating land the most intricate problem of land surveying may arise even where the land has been subdivided into sections or when it is divided into so-called forty-acre tracts. In such cases the adjustment of errors and the establishment of lost and obliterated corners require a high degree of technical skill.

In practice, lines are run and location is kept by compass and pacing or by transit and chain, according to the accuracy desired and the difficulties of the ground.

The counting of trees may seem a simple matter and under some circumstances it is. When all of a small group of trees are in view from one point it is easy to count them, but a large tract of dense timber or a few timber trees among dense saplings are different problems.

The defects of timber, whether from rot, crooks or worm holes, are matters of close study. They are to be familiarized (though never mastered) only by long study, not only in standing timber, but also in seeing defective logs put through the mill.

In estimating grades of lumber that may be manufactured from the timber in question, the highest skill is necessary. In considering methods of estimating, the differences of general forest conditions are also to be borne in mind; that is, whether the forest is broken by openings, such as lakes, swamps, meadows, brush land or burns, or whether it is young and thrifty or old and defective. In the application of European methods used in estimating cultivated uniform forests there to primeval or natural or irregular forests here, there should be great caution, for uncultivated forests rarely have such a uniform stand. That one acre may represent a forty-acre tract or that any portion of a large forest can be chosen to represent the whole is a very serious question. In this fact lies a difficulty inexperienced men are apt to stumble over. The selection of representative tracts to be measured or closely estimated to serve as a factor for the whole tract is a problem the most skilled estimators are reluctant to undertake. — Pacific Coast Wood and Iron.

A FEW COMMON BOILER TROUBLES.

BLISTERS—Blisters often appear on the plates of a boiler after the boiler has been in service a short time. Formerly, when iron plate was used in boiler construction, it might be said to be exceptional to find a boiler that had been in use for some time without showing, somewhere, evidences of a blister. This was because the mode of manufacture of the iron tended to produce a laminated product of such a character that a part of the plate could easily separate from the rest of it. If at some point the various layers of plate were not firmly united to one another, the heat conducting power of the plate would be materially lessened where the layers were not firmly united, and the result would be that outer layers could become so much overheated as to soften and bulge outward. Now that steel is used so commonly in the manufacture of boilers, it is rare to find a blistered or laminated plate, although occasionally they do occur. Blisters, in most cases, are harmless, as they cover only a small area. A blister on the heating surface can be best treated by chipping off the projecting part so as to leave a clean surface of the sound plate exposed to the fire. Unless the blister is very large in extent, it is not wise to cut out the part of the plate in which it occurs. Many a boiler has had its strength materially reduced by having part of the plate cut out in this way and replaced by a single riveted patch, when the other seams of the boiler were double riveted.

FIRE CRACKS—There are cracks extending from the edge of the plate to the rivet holes. On the horizontal tubular type of boiler they are found chiefly on the girth seams over the furnace, and in internally-fired boilers any of the joints in the firebox may show them. (The inner side of the door is liable to be attacked also.)

In most cases fire cracks do not leak unless they extend past the rivet hole. In this case a 1/8-inch hole should be drilled at the end of the cracks, and a stud-bolt screwed into it. This will stop the leakage and prevent a further extension of the crack. Firecracks are due to several causes. Thus they are especially likely to appear when the material composing the plate is hard, and does not possess a proper degree of ductility. Again the plate may have been injured in the construction of the boiler by the careless use of the drift pin. Poor management of the firedoors is also responsible to a considerable extent; for when the firedoors are thrown open while a hot fire is burning, so as to allow the cold air from the outside to strike directly against the heated plates, a sudden contraction of the material results, and this is likely to be followed not only by fire cracks, but also by leakages at the seams in general, or at the tube ends at the rear head. Care should always be taken to avoid all unnecessary admission of cold air against the plates when the boiler is under steam.

OIL—When heavy lubricating oils, or oils of any sort that leave a considerable residue upon evaporation, find admission to a boiler, it is almost certain that defects will sooner or later make their appearance, and will be followed by an expensive bill for repairs. The commonest way for oil to get into a boiler is by being pumped into it together with the drips from a system where exhaust steam is used for heating, and the water of condensation is returned to a receiver. In all systems of this kind an oil separator should be used, and the drip from this should be carried to a sewer. (The writer remembers a case in which the drip from sewer, so that the oil passed into the receiver even more the separator was led into the receiver instead of the directly than it would have done had there been no separator present. The boilers at this point were nearly ruined in a very short time). In some cases the exhaust pipe from the engine may be provided with a separator, and yet the receiver may receive the returns from one or more pumps, each of which contributes a certain amount of oil. Oil also gets into the feed water in connection with condensing engines, when the condenser water taken from the hot well is used as part of the feed. It is impossible to prevent oil getting into the boiler when feed water is taken from this source. The importance of excluding oil absolutely from boilers can hardly be understood by those who have not seen the damaging effects that may result from the admission of even a small quantity of it.

PITTING—Pitting in boilers or piping is usually observed where the water is kept for a considerable time at a temperature somewhat below 212 degrees. The boilers mostly affected by this sort of trouble are those used for heating; and in these it is observed chiefly in the autumn and spring, when the boilers are used only part of the time. At such times pitting is likely to be very marked, and it is nothing unusual to see a set of tubes used up in two or three years. In an instance that came under my observation, a new boiler was put into service for power in the month of December, being used in connection with five others. Business becoming slack at this factory, about the time the new boiler was installed, only three of the available six boilers were needed at any one time. The practice was to use three of the boilers for two weeks, and then to allow these three to stand idle for two weeks, without emptying them. In the following August three of the tubes in the new boiler gave out. Upon investigation it was found that the tubes in this boiler were all badly pitted. The three that had given out were replaced with new tubes, and the boiler was thoroughly boiled with soda ash. Two more tubes gave way during this process, and were replaced.

The battery was then put in use again under the same conditions as before, except that every boiler was now emptied when not in service. This occurred eight years ago, and the tubes are still in good condition. The tubes in the older boilers were not affected, as they were covered with a film of scale which protected them. To protect boilers in which pitting takes place, the writer would advise that about 10 pounds of lime be slacked and put in each boiler. This will cause the formation of a thin scale which will prevent pitting for a time. When this protective coating is dissolved away, the operation should be repeated. Of course this treatment is not recommended for a boiler in which there is already a plentiful supply of scale. This should naturally be understood, because it is not in these boilers that pitting occurs. Still, it may be as well to speak of this point explicitly in order to avoid misunderstanding. — R. A. Douglas, in American Electrician.

THE NEWS

George A. Huff is building a saw mill at Alberni, B.C.

Charles Warwick, of Shedden, Ont., has sold his saw mill.

George Dutch, who operated a saw mill at Seaside, N.B., died last month.

Morrison & McCammon have established a lumber yard at Grand Forks, B.C.

G. H. Bawtinheimer & Sons will open up a lumber yard at Red Deer, N.W.T.

J. H. Bolton has purchased the lumber business of Turnbull & Davidson, at Darlingford, Man.

R. N. LeBlanc, of Bonaventure, Que., has lately added new machinery to his saw mill equipment.

John E. Moore, of St. John, N.B., has purchased the mill property at Pleasant Point from C. E. Barnhill.

Vigars & Company, of Port Arthur, Ont., have closed down their saw mill for the season, after making a large cut.

The Columbia Saw Mill Company, of Hazlemere, B. C., has been dissolved, J. B. Kinney continuing the business.

S. R. Poudin, planning mill owner, Ottawa, has admitted a partner and changed the name to S. R. Poudin & Company.

The Cleveland & Sarnia Saw Mills Company, of Sarnia, Ont., have obtained an Ontario charter of incorporation.

Forest fires were reported to be raging in some parts of New Brunswick and Nova Scotia during the last week of August.

The Pigeon River Lumber Company have commenced work on the building of a new saw mill and offices at Port Arthur, Ont.

It is reported that William A. McPherson is negotiating for the purchase of the saw mill at Port Daniel, Que., owned by Moreault & Bodard.

J. C. Risten & Company, Limited, wood-workers, and H. Chagnon & Company, sash and door manufacturers, Montreal, have registered partnership.

The Revelstoke Lumber Company, of Revelstoke, B.C., has elected James McMahon president, R. Hous-ton secretary, and D. Robinson manager.

A cornmeal mill will be built at Owen Sound, Ont., by Chandler & Company, of Richford, Vt. A large copper shop will be erected to supply barrels.

The Rat Portage Lumber Company are putting in a large band mill and other new machinery in their mill at Beaver Mills, Ont., recently purchased from Hughes & Long.

W. R. Way, of Beaverton, Ont., has built a shingle and tie mill at Wilberforce, and has secured a large contract for sawing from McCormick & McLeod, of Bracebridge.

David Gage, of Lindsay, Ont., has recently built a saw mill at Goula's Station for the Clergue Syndicate, of Sault Ste. Marie. It is said that the mill will have a capacity of 60,000 feet per day.

A. Tait, lumberman, of Orillia, Ont., has entered suit against ex-Mayor Sanderson for unstated damages for alleged libel and slander growing out of statements made at a recent meeting of the Orillia town council.

The new wood-working factory of James Leigh & Sons at Victoria, B.C., is under construction. Machinery is being installed for the manufacture of office supplies and furnishings, boxes and sash and door work.

Charles Woodruff, of Toronto, has gone to Woodruff's Bay, Lake Joseph, to operate a saw mill, the machinery for which was purchased in Toronto last month. The mill will be a circular and will cut hardwoods and hemlock.

The Saginaw Lumber & Salt Company are about to commence the removal of their saw mill from Saginaw, Mich., to Sandwich, Ont. The company has purchased twenty-eight acres of land on the river front below Sandwich, which is regarded as a very desirable location by reason of its contiguity to Detroit.

J. & T. Charlton, of Collingwood, Ont., are extending their lumber yards and putting down new switches.

Several Michigan operators will probably close down their mills in Michigan when the present season is over. The mill of C. K. Eddy & Sons is now idle and may not go into commission again on the Saginaw river. The mill of Pitts & Company is in the same position. It is probable that some of these firms at least will transfer their operations to Ontario.

The Cushing saw mill at St. John, N.B., is now being operated to its fullest capacity, the weekly cut being one and a half million feet. In about two weeks the Miller & Woodman mill recently acquired by the Cushings will be ready for operation. Eight shingle machines and one gang saw will be put in operation.

An important lumber deal was concluded last month, by which W. R. Williams, Henry Patton and F. G. Smith, of New York, secured control of the timber lands on the St. Mary's River, Cuyshoro county, owned by the Nova Scotia Lumber Company. The property comprises about 75 acres, and is thickly wooded with spruce and birch. The company contemplate carrying on operations on an extensive scale.

The Van Buren Lumber Company has recently been organized at Bangor, Maine. The company will have a capital of \$500,000 and consists of Thomas Cochran, of Edmunston, N.B., John N. Stevens, of same place, and Allan E. Hammond, of Van Buren. The company will operate two saw mills at Van Buren, one at Edmunston and one at St. Anne, N.B. It is also proposed to build a mill at Frenchville, N.B., with a yearly capacity of 25,000,000 feet.

A dispatch from Sarnia, Ont., dated August 8th, says: For twenty years past the price paid for unloading lumber from vessels has been fifteen cents a thousand feet, with very little variation. A few days ago the newly-formed Longshoremen's Union put on a new scale making twenty cents the minimum, with additional charges for certain kinds of lumber, and a rate per hour of thirty to thirty-five cents. The present rate per thousand for bringing lumber from Georgian Bay to Sarnia is \$1. The extra wage means five to ten per cent. extra at each end, and there is little left out of the dollar when the cargo is finally landed.

READING CAMPS.

Mr. A. Fitzpatrick, of Nairn Centre, Ont., the originator of the movement to establish in isolated districts free reading camps for the benefit of those engaged in lumbering and mining operations, states that satisfactory progress is being made, and that fully 35 reading camps will be in operation this fall, principally in the districts of Algoma, Parry Sound and Nipissing. Speaking of the movement he says:

"This year I am not building any camps at my own expense. The lumbermen are offering to erect the buildings. Including employers at pulpwood operations, the lumbermen have volunteered to erect thirty-five separate shanties at their respective camps, half of them to be furnished at their own expense. That means that the lumbermen of this Province will invest about five thousand dollars in reading camps. To supply daily and weekly newspapers in French and English, and magazines to these 35 reading rooms, and to supply about 25 other camps that have no special buildings for the purpose, will require \$1,200 or more. I also wish to furnish these with paper files and innocent games, and about half of them with stoves, lamps and a few chairs. This will require at least \$800 more. To say nothing of my personal expenses, including postage, which must be met in some way, we shall require at least \$2,000 to carry on this winter's work successfully. I do not hesitate for a moment to ask the public for this amount, and have not the slightest doubt but that we shall get it. The action of the employers in mines, pulp-wood and other lumbering operations in themselves taking the initiative in this work is almost without precedent, and should be encouraged by the heartiest co-operation on the part of the Provincial Governments and the public generally. We do not ask other manufacturers at their own expense to provide reading, church and school accommodation for their men. We pay our taxes and assist them to do this. To fail to co-operate with the employers of labor in isolated localities in a matter of such vital importance to the whole community would

be, to say the least, criminal. Their effort to elevate these men and counteract the dull and deadening influences of their life is most commendable, and should be seconded by every lover of his country and by every member of all Provincial governments."

COMMERCIAL USES OF SAWDUST.

Some twenty establishments in Europe make each acid out of sawdust. There are six in Germany, twelve in England, one in France, and one in Belgium. The sawdust of some wood is better than others for this purpose. Yellow and white pine, dried, contain 94 per cent. of oxalic acid; oak, 83 per cent.

Sawdust is used in Scotland to some extent in making floor cloth and linoleum, certain kinds of heavy stamped or embossed material to be used instead of wall paper, coarse wrapping paper and millboard, and certain coal substitutes for domestic use. It is also employed (mixed with melted tallow and pressed in squares) in making fire-lighters. Sawdust is not employed in any chemical manufacture in Edinburgh, except to a very slight extent in the manufacture of gunpowder and other kinds of explosives.

The average current price of dry white sawdust according to "Trade and Industry," Manchester, England, is 10s. 6d. per 2,240 lbs., although as high as 18s. has been offered. The price was formerly about 8s., the advance being largely due to the high price of coal, which has caused the mills to use their sawdust as fuel; also to the fact that the value of sawdust as material of manufacture is beginning to be recognized.

THE LATE MR. NELSON GRAY.

By the death of the late Mr. Nelson Gray, who took place in Montreal, on August 15th, the lumber trade of Canada loses one of its oldest and staunchest pioneers. Sixty years ago Mr. Gray first took down his rafts of lumber to Montreal and Quebec, and from that day to this his name has stood for sterling enterprise, honesty and worth.

It is seldom that the life of a nation is so identified with that of any man as in the case of the late Mr. Gray. Long before the whistle of a steamboat was heard on our rivers, or the trail of the railway was seen in our fields, he was getting out his logs, bartering his merchandise, opening up the country and clearing the rocky road of Canada's advance to nationhood.

Born in Williamsburg, Ont., on Nov. 7, 1822, he entered the lumber business while yet a mere lad. In 1842 he married Marjory, eldest daughter of Alexander Cockburn, the founder of the village of Berwick, Ont., and shortly after moved to the county of Simcoe where he founded the village of "Gray's Corners," now the large and thriving town of Finch. Here he established a general merchandise, lumber and peat business, building up quite a competence while yet a young man. But on one winter mid-night a fire spreading from some unknown cause spread from building to building, and before anything could be done beyond saving the inmates, the work of years was utterly destroyed. It is related of Mr. Gray in this connection that when a party of friends called to condole with him on the morning after the fire, they learned that though now practically penniless he had got together a group of men and was even then back in his limits getting out timber. Another story related of him tells of an accident in mid-stream, a broken crib and a decent Lachine Rapids on three sticks of timber.

In 1865 Mr. Gray removed to Acton Vale, Que., where he developed an extensive lumber trade with the States, supplying large quantities of shipping timber for the United States Navy during the Civil War.

Although doing business in Montreal on and off for many years, it was not until about twenty years ago that he made his headquarters in Montreal, where he had remained and transacted business until the day of his death. Though meeting with heavy losses he never failed to recover that position of honorable independence which his ability invariably commanded.

Up to the time of his death, at the ripe age of 78 years, it might be truthfully said that he was a man without an enemy, a Canadian merchant of the first school, one of the fathers of the lumber trade, and a landmark for two generations now unhappily removed.

Mr. Gray leaves a widow and seven children to mourn their loss—four daughters and three sons.

MISCUT LUMBER.

D. H. BLOOMER. St. Louis Luncheon

There is an irresistible temptation latent in the mind of every sawyer to make a "big day's cut," to a certain extent to mill owner shares in this excess of the sawyer, and in many instances he is the prime factor and moving spirit in urging the mill to a degree of serious damage to his own pocket.

The first and most important duty of the mill superintendent is to determine the exact capacity of his mill; and by this I do not mean how many logs the mill can be made to cut in a given time or how many thousand feet of logs can be run through it in a given time or eleven hours, but how many feet of lumber can be properly manufactured in a given time with the available activity under ordinary conditions.

I have applied every form of mathematical calculation known to economic principles, in the manufacture of lumber, to find some tenable excuse for the miller, up to date I am "still behind the house." Just as soon as you discover that your mill is turning out miscut stock you have also learned that there is something wrong somewhere; it may be with the filer or the sawyer; may be with the carriage or carriage track, or some defect in your equipment; but one thing is certain, the time for investigation is at hand and if you fail to investigate and rectify the evil, you are in the wrong position, and my advice is that you engage in "fishing or 'possum huntin'." So that you will not sense the evils of neglect in this important matter, I will do a little illustrating and ask you a few questions that have presented themselves to me in my solution at various times in the past. When you are shipping two-inch lumber in the rough and find a plank twenty to thirty inches wide per cent clear throughout, three inches thick at one end and an inch and a quarter at the other end, do you do with it? Oh! you lay it out and sell it for 1/2. Do you? Well, I have drummed all the domestic markets over pretty thoroughly in the past and I do not know of any one who will take a board for anything better than cull and this represents a decrease of four-fifths in the value of your lumber (when the stock would be 1st and 2nd clear lumber manufactured), and taking the average lumber product as a basis of calculation, the loss is about twenty to twenty-four dollars per thousand and figuring the decrease in value alone. But about the loss in material and freight in case there is no way at hand to dress it down to a unit before shipment? and if there is how much does the cost of dressing down?

There are so many different kinds of miscut lumber and so many different features of loss on account of size and distinct material that it would be an arduous task to even begin to mention them all, from the one I have given, you can easily trace the others in case you know anything much about lumber.

Not only everyone whose methods of manufacture

result in poorly manufactured lumber has some way of excusing the defect, and I know of several who justify it or at least who think that they justify it and let me tell you how they do it.

They figure the cost of production at \$6 per M; this includes timber cutting, log handling, delivery of lumber from the saw mill to the piling yard, also the cost of piling and loading on cars, then they calculate that they can saw 20,000 ft. of well manufactured lumber per day, or by crowding everything to the utmost, 30,000 feet, in which there will be about 5000 feet of miscuts; then the operation proceeds to embrace "six times ten is sixty" (or the full cost of production of the amount of lumber cut in excess of the mill's capacity) to take care of the damage entailed by the rush movement.

Granting this system of computation to be correct in every detail, the management would be radically wrong, but it is not correct because the actual cost of sawing the logs under the mill roof is the only item that can be figured against the destruction of material and let us see how much this really is. I am going to use the prices that have come under my observation at the mills during the past three weeks; in my calculation log cutting per thousand 50c.; hauling to mill, \$2.50; conveying lumber from mill to yard, 30c.; piling, 40c.; loading on cars rough mill run, 60c.; this figures up \$4.30 for the work outside of the sawing and \$4.30 deducted from \$6.00 leaves \$1.70 for you to figure against your loss on miscuts. Look into this matter, "Mr. Rush," and tell me if you find anything wrong with this calculation.

I mentioned that sometimes the filer was to blame for miscut lumber, and sometimes the sawyer, etc., but I have made up my mind that by far the greater amount of mischief lies in crowding your mill above its capacity. You can't cut 100,000 feet of lumber per day with an 80,000 mill; you can't cut 30,000 feet a day with a 20,000, and make merchantable lumber, and it is not good management to do so.

When you take a log that is worth \$10 at one end of your mill and send \$5 worth of lumber made from this same log out at the other end you are on the wrong tack.

I am just a little sorry that I haven't more time to devote to this subject, as it is by all means the most important subject for consideration by the small mill operator in the whole process of production and is being too much neglected by this class everywhere. It should be considered by every mill operator that logs have an intrinsic value that should be enhanced and increased through the medium of labor instead of being decreased and destroyed. I will touch this matter again some future time.

PERSONAL.

It is rumored that the honor of knighthood is to be bestowed upon Mr. J. R. Booth, the enterprising lumberman and railway king of Ottawa. It is universally acknowledged that such an honor is well deserved.

CASUALTIES.

Alex. Miller, working in a sawmill at Ragged Clute, near Shawville, Que., met with an accident by which he lost three fingers.

James Lindsay, millwright in Robert Watt's sawmill at Winton, Ont., was seriously injured by a splinter of wood from the lath machine, the splinter entering deeply into his head through the eye, producing concussion of the brain.

BURNING GREEN SAWDUST.

The chief engineer at the Midway Saw Mill, Midway, B. C., writes to the CANADA LUMBERMAN as follows:

"In the August number you have an article on burning green sawdust. I think the party who is having trouble has not got furnace room enough. We had similar trouble. Green sawdust takes large furnace room and combustion chambers, which can only be got by using a Dutch oven or extension furnace. It can be made of a size to burn green sawdust and almost anything else, for elm or similar sawdust. The grate surface should be twice as large as for wood or pine sawdust. I think I saw one of these furnaces illustrated in THE LUMBERMAN last winter."

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WOOD PULP ~

DEPARTMENT

NORWEGIAN WOOD PULP.

Reporting upon the trade and commerce of Norway, Consul-General Dundas states that the production of pulp, especially mechanical pulp, was not appreciably larger in 1900 than in the preceding year, owing to the scarcity of water, but prices were very high—on the average about 55s. per ton, compared with 28s. to 29s. in the summer of 1899, when as much as 65s. was paid for prompt delivery—and as the demand was very great, manufacturers were masters of the situation. But only about half of the production profited by the rise in prices, the rest having been sold in advance. As formerly, the United Kingdom was the largest customer, with Germany, France, Belgium, Spain and others in order of precedence.

The quantity exported was :

	1899.	1900.
Dry.....	19,768 tons.	21,546 tons.
Wet.....	284,023 "	301,545 "

Of which Christiania supplied :

	1899.	1900.
Dry.....	8,741 tons.	6,670 tons.
Wet.....	34,265 "	38,052 "

The same conditions applied to cellulose, or chemical pulp, added to which the high price of coal is said to have been felt in no small degree by those works dependent on its use, so that on the whole 1900 is characterized as only a fairly good year, some factories doing well, but others the reverse. The total export was 94,885 tons dry and 10,288 tons wet (of which 68,525 tons went to the United Kingdom), compared with 75,731 tons dry and 7,490 tons wet in 1899. The quantity exported through the port of Christiania was 31,403 tons dry and 4,020 tons wet, compared with 17,814 tons dry and 3,948 tons wet in 1899. The foregoing figures include a little re-exported Swedish cellulose.

THE PULP MARKET.

For some time past there has been pronounced weakness in the wood pulp market. In Great Britain, it is said, there are large stocks of mechanical wood pulp, with very little demand, and offers have been made at 37s. 6d. per ton c.i.f. Manchester. Paper-makers are making requests to defer deliveries. On the other hand considerable purchases have been made for next year, so that it would seem that paper-makers have faith in brighter times ahead, and believe that prices have reached rock-bottom. Reports from Scandinavia state that prices are now showing a tendency to harden.

In Great Britain dry mechanical pulp is quoted at £5 to £5 3s. c.i.f. London and Manchester; and 50 per cent. moist at £1 17s. 6d. to £2 7s. 6d. The price of chemical pulp delivered at same ports ranges as follows :

Sulphite, bleached, £12; unbleached, £9 5s. to £9 10s.

In the United States prices are correspondingly weak, ground wood pulp being quoted at \$13 to \$14 per ton at the mill. Most of the mills have been enabled to keep in operation all summer, not having been shut down for any length of time on account of inadequate water; consequently, the stock of pulp is rather heavy. Some of the Canadian mills are also carrying more than the usual supply of mechanical pulp.

COMBINE OF PULP MANUFACTURERS.

A meeting of the American Sulphite Manufacturers' Association was held at Niagara Falls, N.Y., on August 19th. The following Canadian companies were represented: Laurentide Pulp Company, Grand Mere, Que.; Riordan Paper Mills Company, Merritton, Ont.; St. John Sulphite Fibre Company, St. John, N.B. A proposition was submitted to the meeting to establish a company to act as a central selling agency, the object being to regulate the price of pulp and to make the produce more uniform and of recognized grades. Each company to hold stock in proportion to the tonnage of pulp produced. The agency would be governed by a board of directors, each mill being entitled to a representative on the board. The product of the mills would be marketed by the company, receiving for its compensation two per cent.

The plan was fully discussed and was placed in the hands of a standing committee to consider and report at a meeting to be held in New York on September 18th. It is realized that it would be necessary to secure the co-operation of all pulp manufacturing companies in order to make the scheme the success it is intended to be.

PULP NOTES.

The statement of the Maritime Sulphite Fibre Company, of Chatham, N.B., values the mill property and equipment at \$1,204,572.70.

Wood pulp was imported into Great Britain during July last to the extent of 46,942 tons, an increase of 65 tons compared with July, 1900.

Mr. Menier is said to be negotiating to build a mill on the island of Anticosti for the manufacture of wood pulp, chiefly for export to France.

It is reported that a Canadian syndicate has been looking over a water power at Holeb Falls, Maine, with a view to the erection of a large pulp and paper mill.

A representative of an English syndicate last month visited the provinces of Quebec and New Brunswick looking into the possibilities for establishing a large paper manufacturing plant. It is desired to establish a paper mill

with a capacity of 200 tons of paper per day. The water falls at Grand Falls, N.B., was, it is said, considered very favorably.

It is stated that J. W. Munro, M.P.P., of Pembroke, has sub-let to a United States firm his contract for the construction of pulp mills at Webbwood, Ont., for the Spanish River Pulp & Paper Company.

Pulp for paper was imported at Barcelona last year to the extent of 2,784 tons, of the value of £22,372, a drop in quantity but an increase in value compared with the previous year, when 3,158 tons were received, of the value of £21,520.

The W. & A. McArthur Company, of Cheboygan, Mich., who operate a saw mill at Little Current, Ont., are said to be figuring on the erection of mills at Cheboygan for the manufacture of pulp and paper, in order to utilize their water privileges.

Honorable W. C. Wells, Commissioner of Crown Lands for British Columbia, has entered into agreements with the Pacific Coast Power Company, of Victoria, and the Industrial Power Company, of Nelson, by which these companies acquire extensive timber limits on the British Columbia coast for the purpose of engaging in the manufacture of pulp and paper.

Application has been made for the incorporation of the Franco-Canadian Steam Navigation Company, of Canada, Limited, with headquarters at Montreal and capital of \$1,000,000. The Clergues, of Sault Ste. Marie, Ont., are interested. It is proposed to establish a direct service with France, which service it is expected will greatly facilitate the shipment of Canadian pulp to that country.

Tenders were invited a fortnight ago for the necessary power development and construction of pulp mill at Brompton Falls, Que., for the Brompton Pulp & Paper Company. The buildings for which tenders were invited include a pulp mill 142 x 84 feet, two storeys high, and a wood-preparing building 67 x 65 feet, two storeys, both of brick and steel construction with gravel roofs. The president of the company is George E. Bearce, of Lewiston, Maine. E. W. Tobin, M.P., of Brompton Falls, Que., is a director.

A petition was filed at Osgoode Hall, Toronto, on August 25th, on behalf of Charles Reimsborrow, of Chatham, N.B., for investigation into the affairs of the Maritime Sulphite Fibre Company. It is alleged in the petition that the company, without consent of its creditors or without satisfying their claims, conveyed to the Royal Trust Company, of Montreal, and Hugh Robinson, Montreal, certain real and personal property, representing the whole or main part of their assets in trust for the benefit of bondholders, said fund amounting to \$500,000.

A pulp maker, who is well posted on the wood question, made the following statement while in attendance at the recent meeting of Sulphite Pulp Manufacturers: "American pulp makers need not expect to get any wood from Ontario. The two years' limit in which wood from there could be exported is now up, and exports must cease so far as timber from the Crown lands are concerned. For instance,

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are 6,000 cords of wood from Sturgeon lands that has been offered in the market for 50 a cord, peeled and sawed in 2 feet lengths. There was at first a prohibition against its being sold at all, but finally the authorities allowed it on condition that it be manufactured in Canada. They absolutely prohibited its exportation under any conditions. Again, Quebec has reduced her stump prices from \$1.90 a cord, with a \$1.50 rebate, to 25 cents a cord, with a 25 cents rebate. She, however, was careful at the same time to re-quire legal cord for wood cut on Crown land from 1,000 feet to 600 feet, which it is. No, sir; if Americans want our wood they must build their paper and pulp mills in Canada." It is announced that the Edward Lloyd,

Limited, of England, have contracted to handle the entire output of the mills of the Laurentide Pulp Company at Grand Mere, Que. Mr. S. C. Phillips, who is closely associated with the Lloyds, made this statement when in Montreal recently: "Three or four years ago there was little or no interest felt in Great Britain in Canada's pulp wood supply, yet the change has been so rapid since then that they are now receiving from Canada one-sixth of the total quantity consumed in the Old Country, and Canadian competition with Norway and Sweden has been most successful in the English market. For years, he said, the trade in Great Britain was at the mercy of the Scandinavian exporters, but the latter have been placed on the defensive by the excellent quality of the Canadian product. Formerly the excessive

freight rates worked to the disadvantage of Canada, but the figure is now comparatively low, and Mr. Phillips does not hesitate to say that in two or three years the Canadian product imported into Great Britain will reach one-half of the total quantity used in the three kingdoms, and as the total value is about \$15,000,000 yearly, half of this will fall into Canadian hands. The Scandinavian forests are somewhat depleted, although still large, but if they last twenty-five years the Canadian supply is good for 200 years at least.

The Garfield Oil Company, of Cleveland, have an extensive and attractive exhibit of lubricating oils in the main building of the Toronto Exhibition. Owing to the increasing demands of their Canadian trade, this company are opening a branch in Toronto. Mr. R. S. Flint is their Canadian representative.

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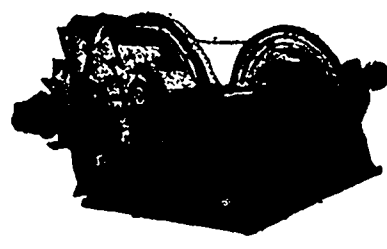
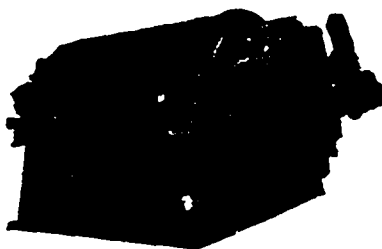
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AUSTRALIAN TIMBER AND TIMBER GETTING.

In a report by the Queensland Inspector of Forests, descriptive of a visit to New South Wales, that official gives some interesting particulars regarding operations in the gum forests. The system of working is that any person desirous of cutting gum must apply to the State Head Forester for a permit, for which he pays 10s per month, and may employ as many men as he may desire, giving to each a certificate that he is so employed. The State Head Forester allots a certain portion of the reserve on which the permit may be used, and as the timber is cut it is branded by the Crown at the stump, both log and stump being branded with white lead, each with a running number as well as with its length and circumference, a sub-forester entering every such number in his book for the State Head Forester's information. The timber is then removed to the river depot, and if left in the depot three months, royalty must then be paid thereon. For instance, timber removed to the depot in January would require to be paid for at the end of April, and if not removed after the royalty is paid the owners must still hold a permit costing 10s per month. No red gum is allowed to be cut under a circumference of 7ft. 6in. at 5ft. from the ground, but small

timber for piles, girders, &c., can be obtained at 15s up to a length of 30ft., but above such length 6d per running foot is charged.

For the purpose of assisting in the production of this timber a system of thinning-out and cleaning-up of the reserves is adopted, and about 25,000 acres have been dealt with, on the following lines:—Gangs of men, about 12 in each gang, are employed under an overseer at a wage of 7s per diem to the men, and 8s to the overseer, to ringbark any large and useless trees, and to thin out waste or crooked saplings, the latter being rooted out; and as this is done all fallen timber is gathered in heaps and burned, thus cleaning-up the reserve. This work costs from 6s to 10s per acre. The outlay may appear heavy, but it is most valuable for the following reasons:—

1. It prevents the destruction of numberless plants, saplings, and trees by fire, through the fallen timber making a far larger volume of fire than the grass alone would make.
2. The destruction by ringbarking of useless timber and the cleaning by fire is found to produce numberless young gum plants, and to greatly increase their growth.
3. As each tree or sapling fit for cutting as a pile is worth at least 15s, the cost of the work is not to be compared with the future benefit to the state therefrom.

4. The cleaning-up of the reserves, which are in many parts let at a rental of 3d per acre for grazing, tends toward obtaining a higher rental by the increase in production of grass for pastoral purposes.

5. The dead trees and logs being cleaned up enables the timber-getters to get more timber.

6. From examinations of portions of the reserves before and after thinning out and cleaning up, and from the healthier appearance of the young trees on the cleaned areas, in comparison with those uncleaned, and which is considered is due to the trees obtaining a larger proportion of air, light, moisture, and growing space, it appears that the work will be reproductive and greatly assist to maintain an ample and permanent supply of mature timber.

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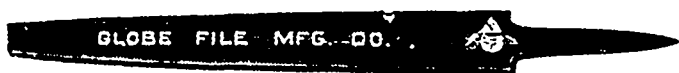
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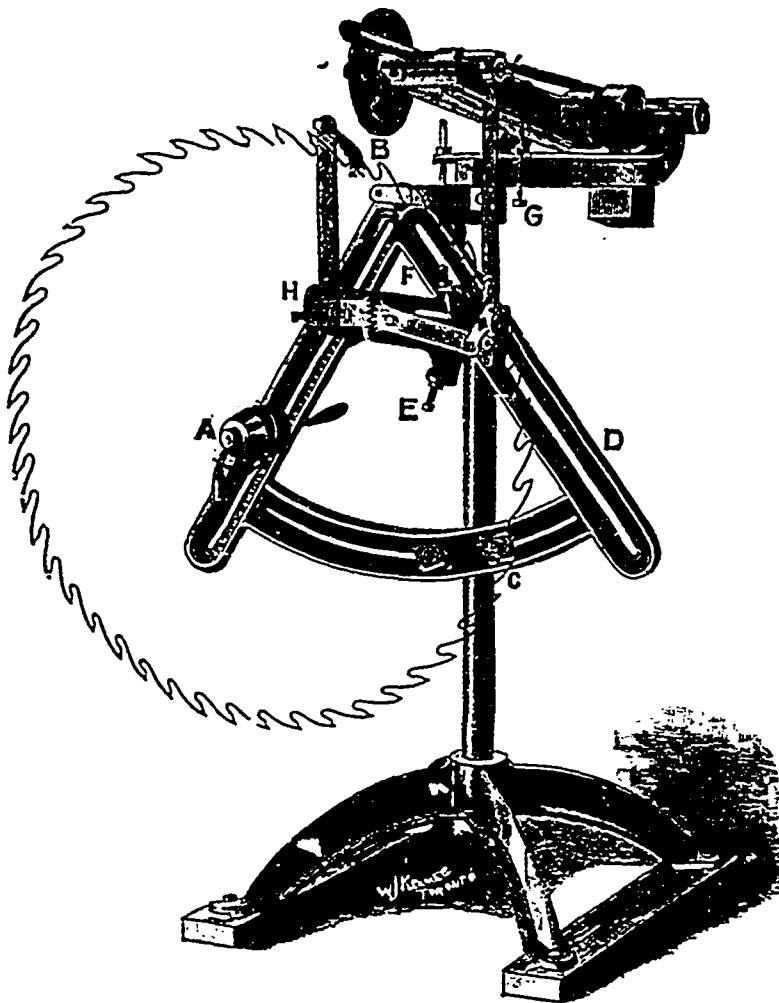
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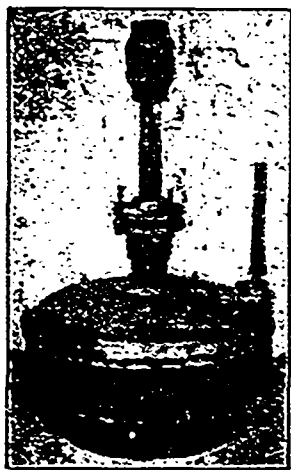
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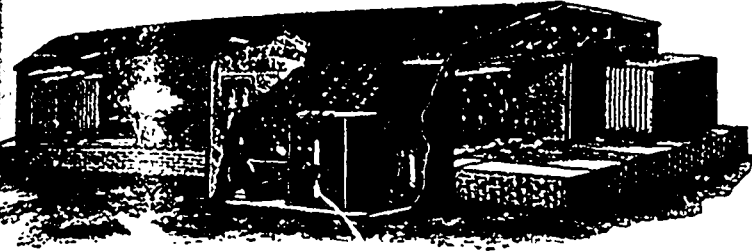
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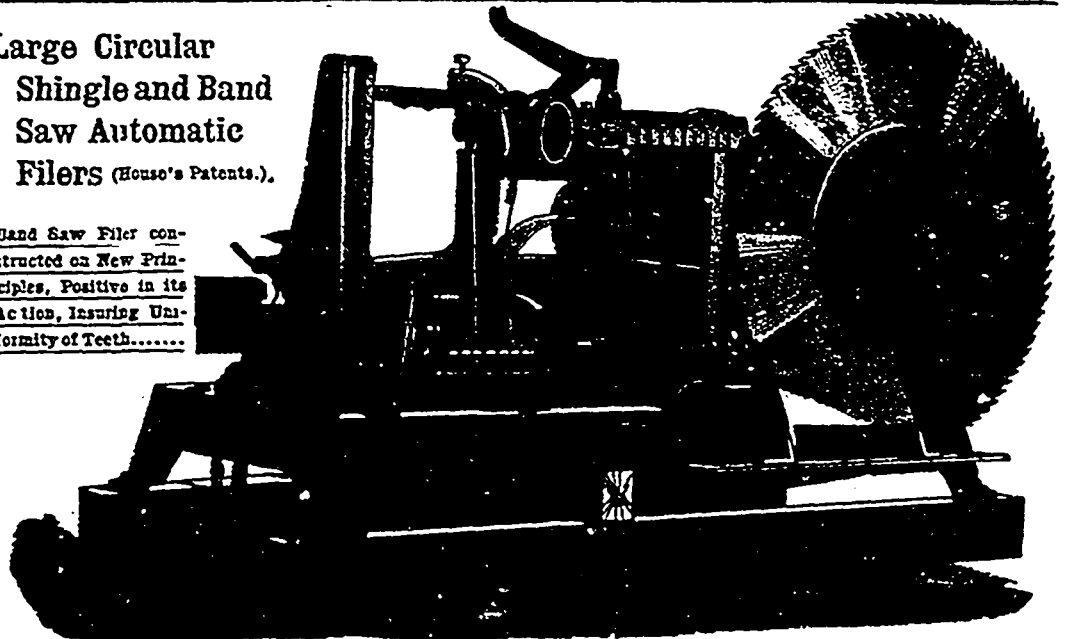
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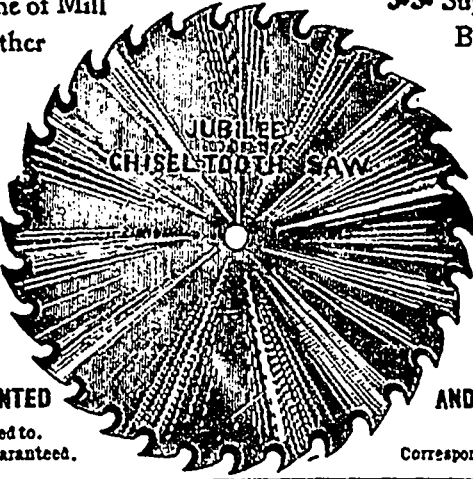
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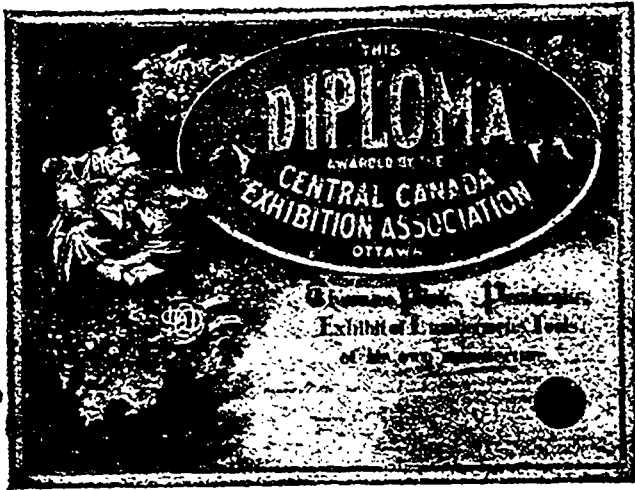
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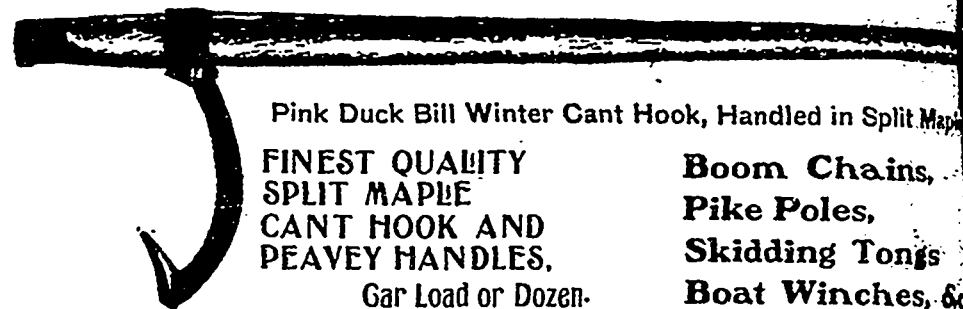
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