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THE CANADA LUMBERMAN

Wood-Workers', Manufacturers' and Millers' Gazette

VOLUME XXIV.
NUMBER 4.

TORONTO AND MONTREAL, CANADA, APRIL, 1904

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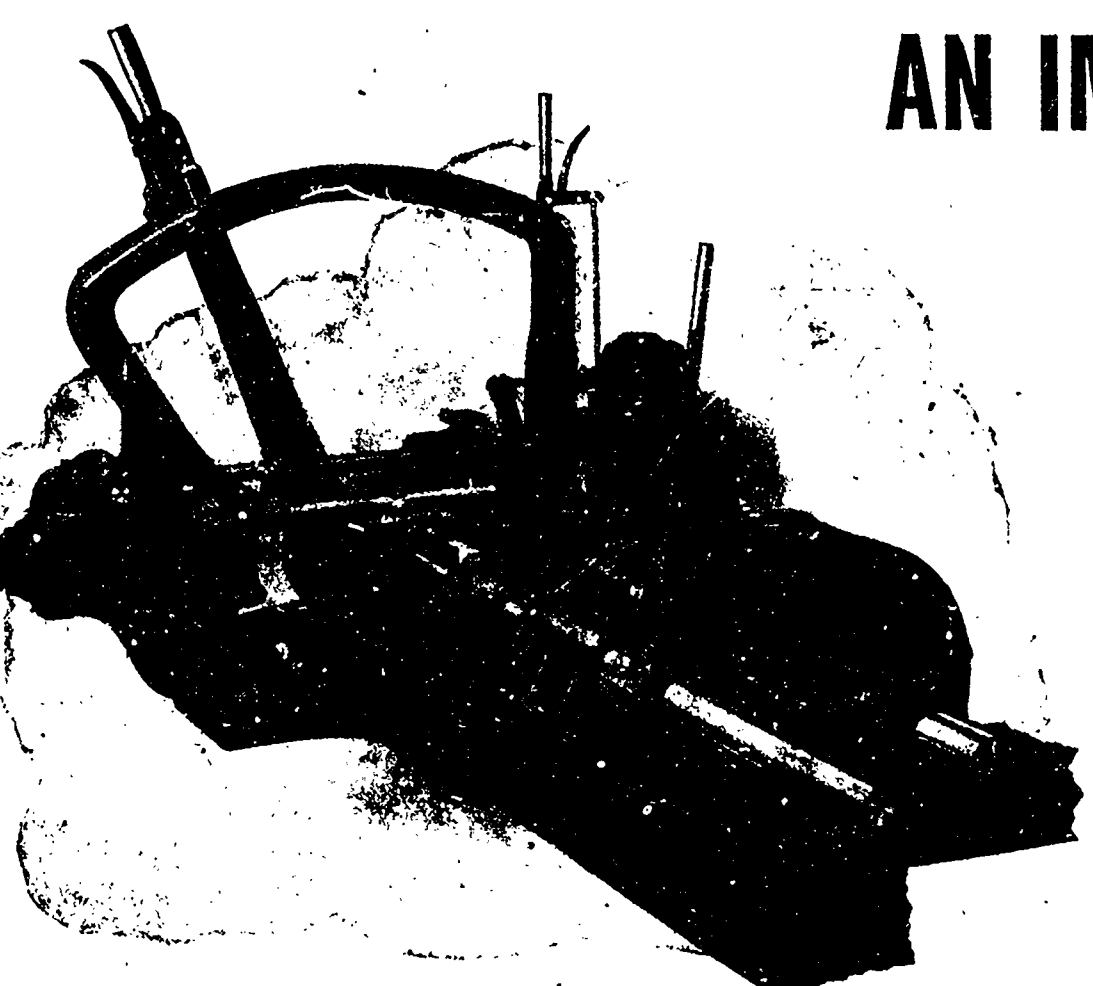
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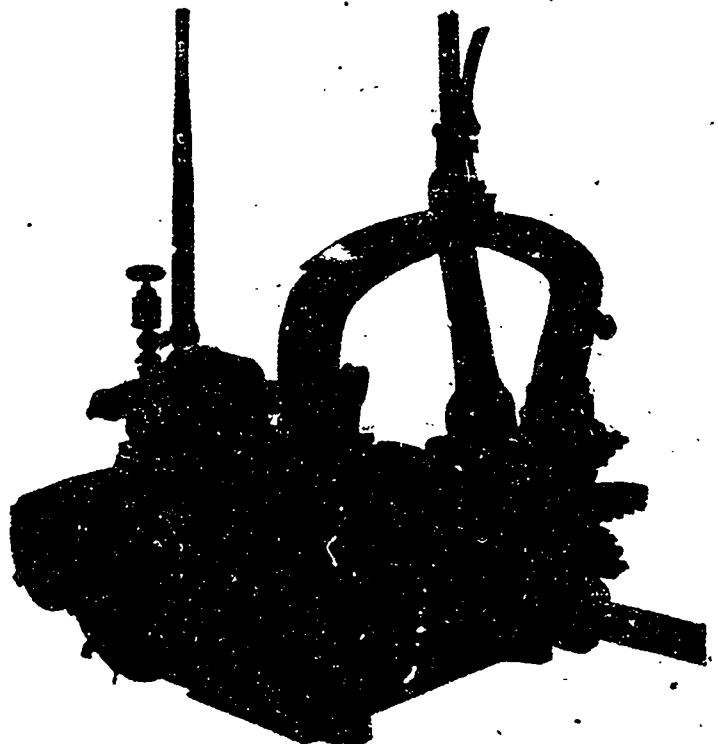
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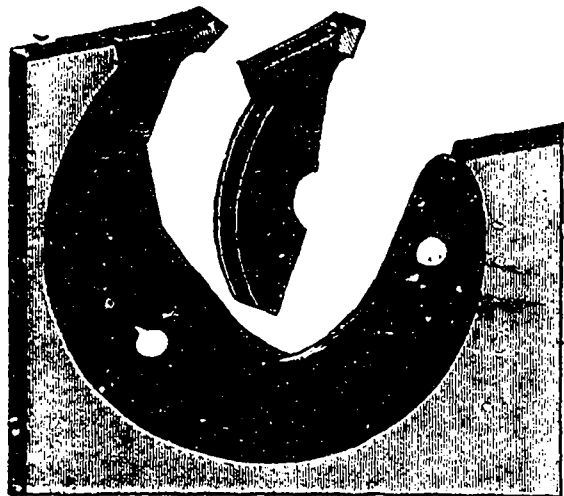
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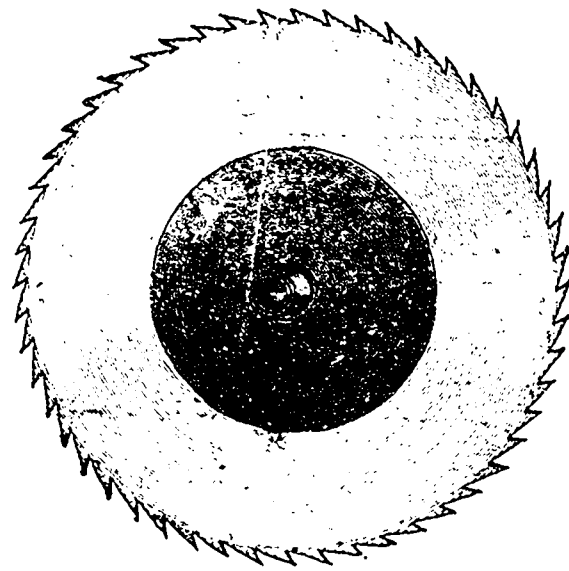
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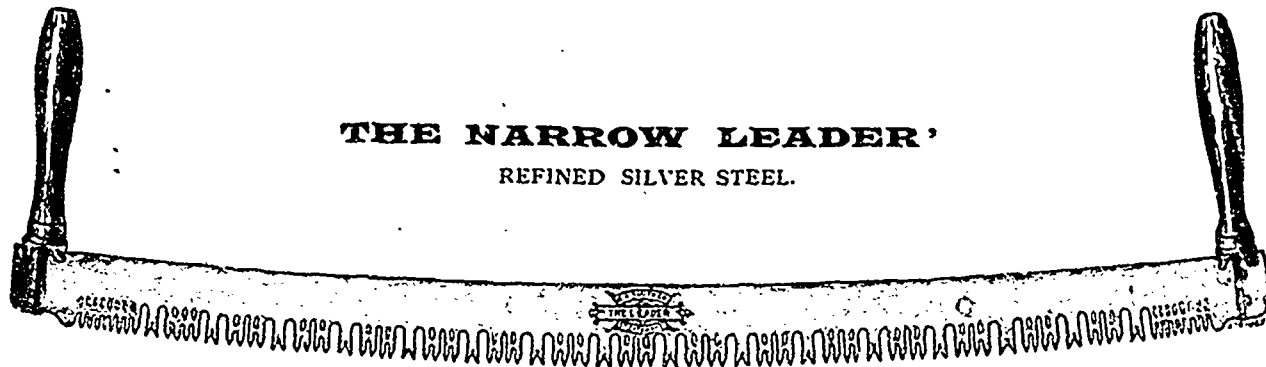
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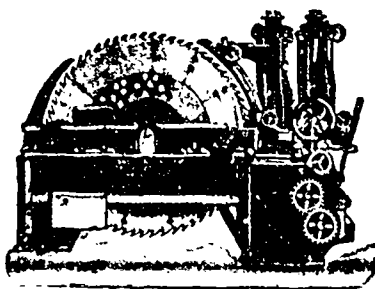
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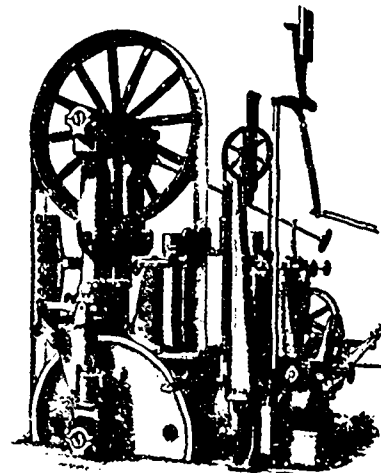
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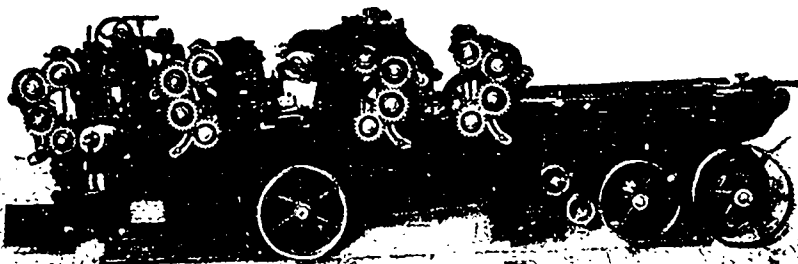
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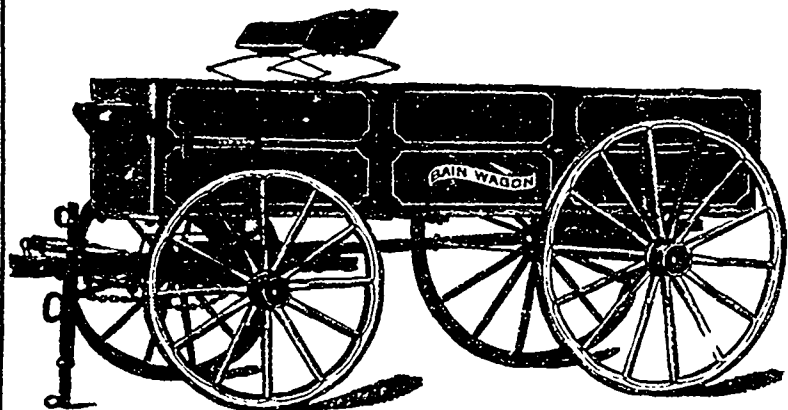
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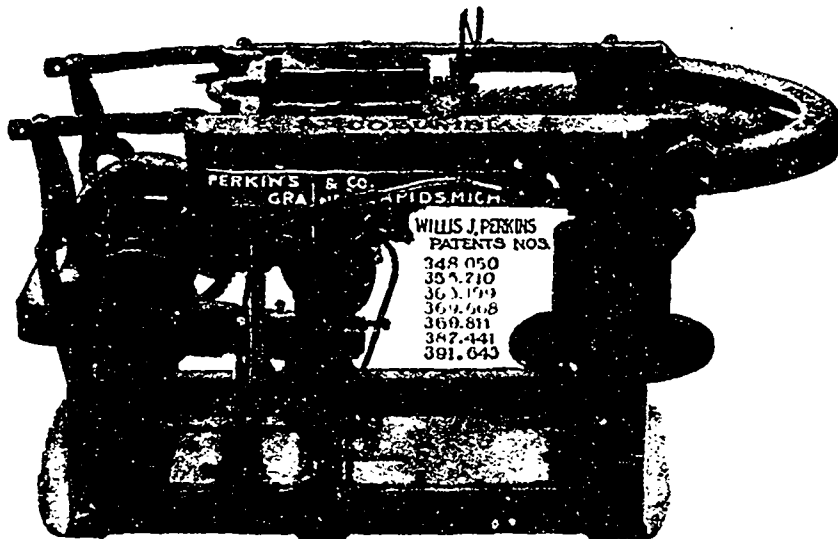
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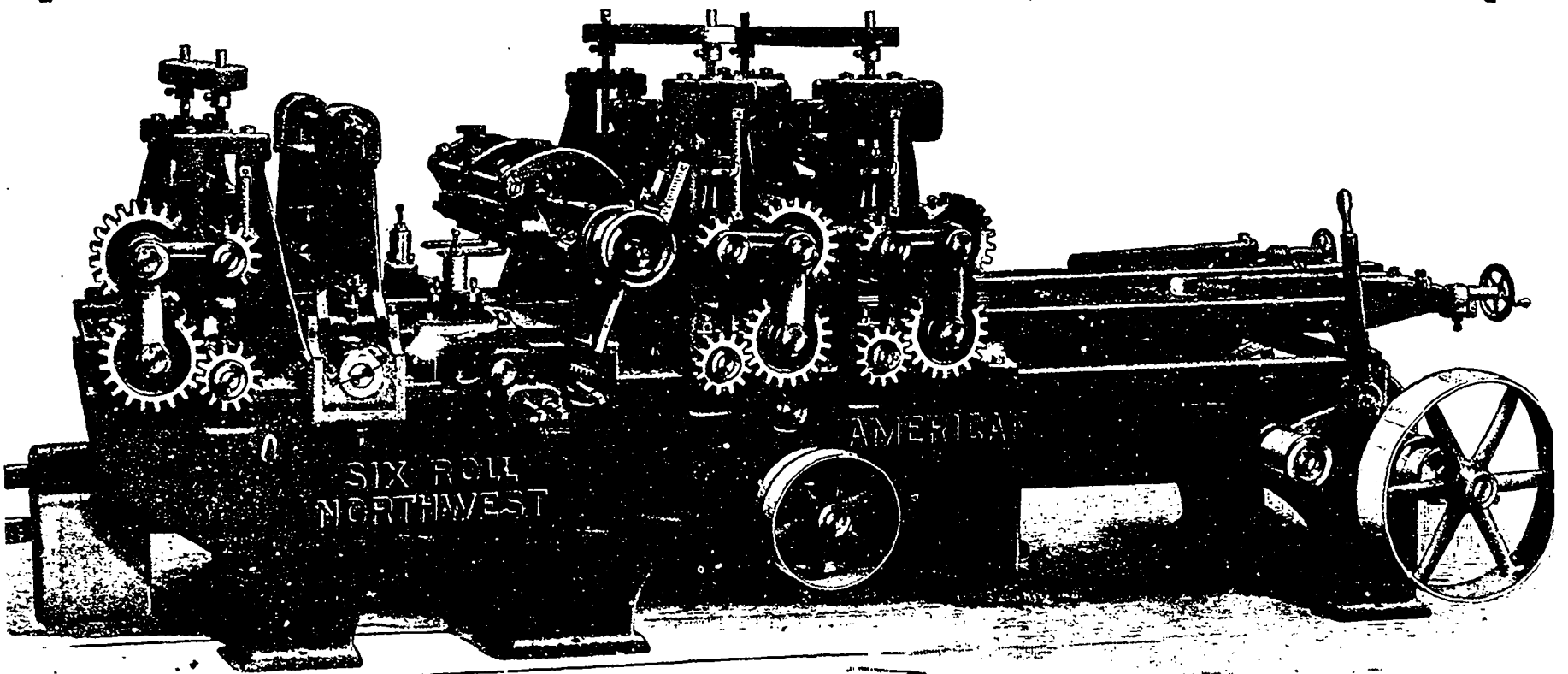
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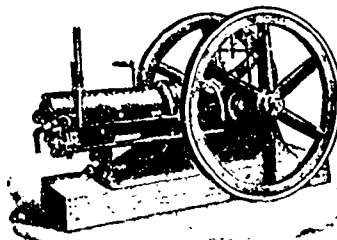
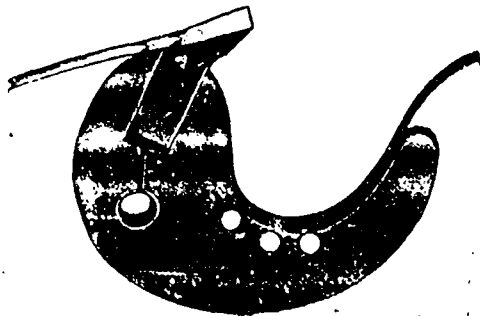
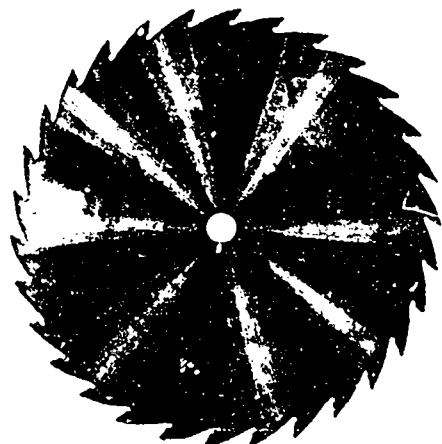
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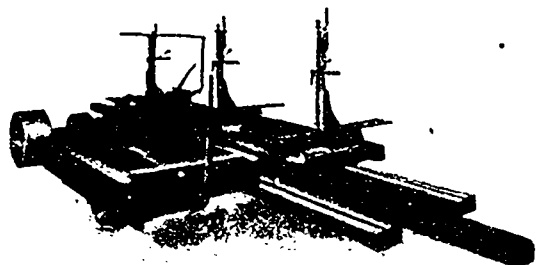
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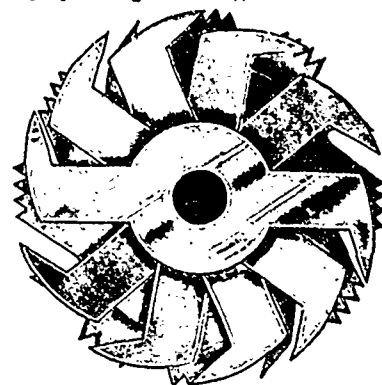
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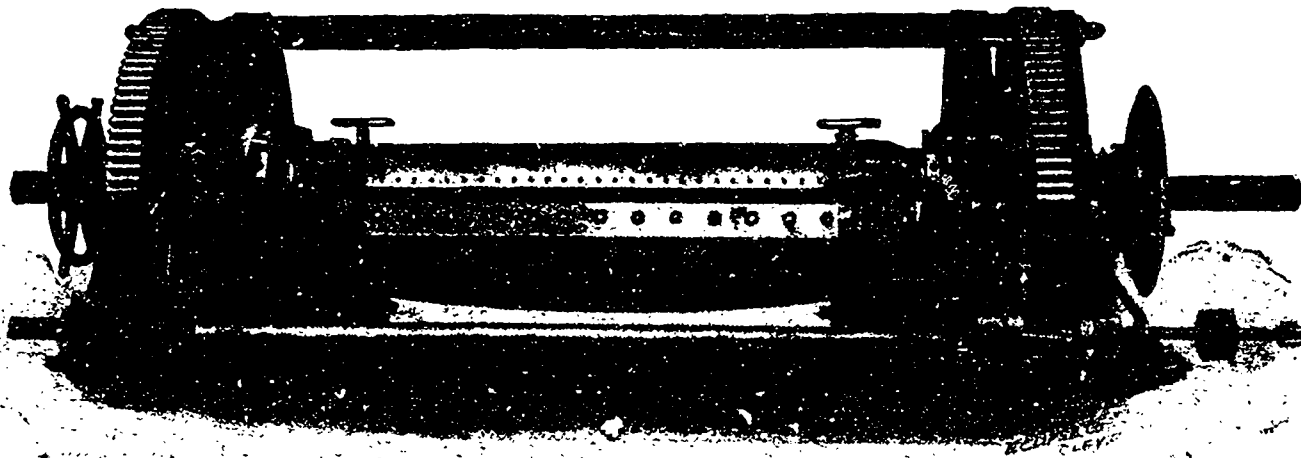
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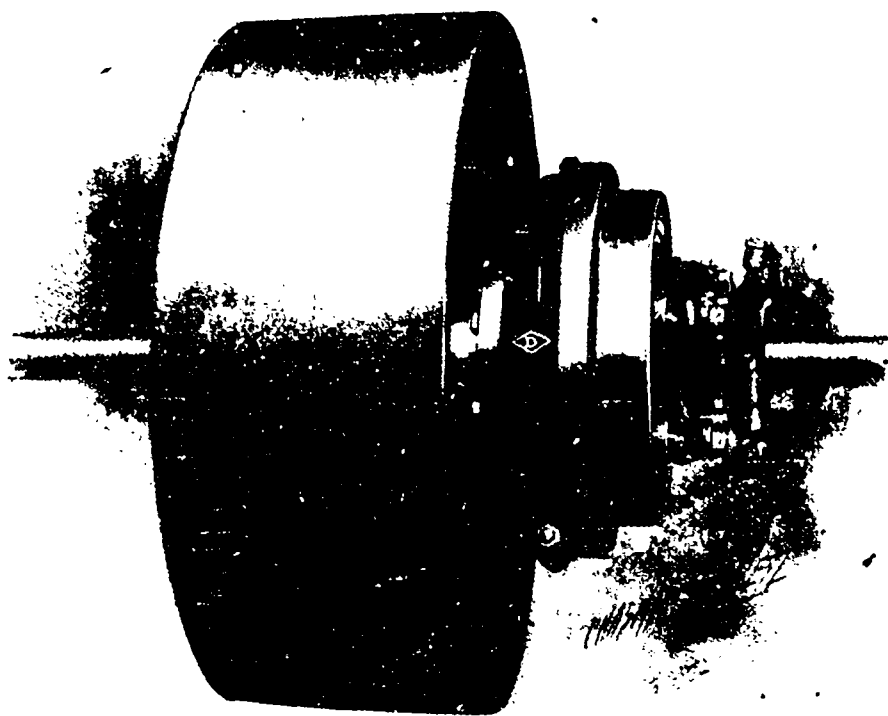
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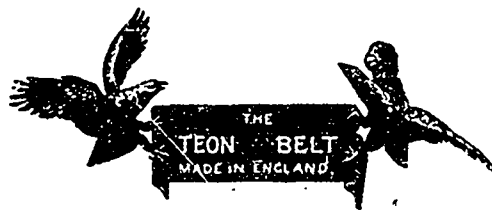
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THE CANADA LUMBERMAN

VOLUME XXIV.
NUMBER 4

TORONTO AND MONTREAL, CANADA, APRIL, 1904

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CANADIAN FORESTRY ASSOCIATION

Large Attendance at the Fifth Annual Meeting in Toronto. Valuable Papers Bearing on the Conservation and Reproduction of Forests, Followed by Interesting Discussions.—Quebec the Next Place of Meeting.

The fifth annual meeting of the Canadian Forestry Association opened in the Reception Room of the Parliament Buildings, Toronto, on Thursday, March 10th, at 10 a.m., the President, Mr. Hiram Robinson, of Ottawa, being in the chair. Among those present were the following: E. Stewart, Secretary, Ottawa; R. H. Campbell, Assistant Secretary and Treasurer, Ottawa; Hon. E. J. Davis, Commissioner of Crown Lands, Toronto; Aubrey White, Deputy Commissioner of Crown Lands, Toronto; Thomas Southworth, Director of Forestry, Toronto; E. G. Joly de Lotbiniere, W. C. J. Hall, Quebec; Hon. John Dryden, Minister of Agriculture, Toronto; Prof. Philbert Roth, College of Forestry, Ann Arbor, Mich.; Hon. J. E. Evanturel, Toronto; William Little, Westmount; Rev. A. E. Burke, Alberton, P.E.I.; Prof. Reynolds, Dr. W. A. Muldrew, Prof. H. L. Hutt, George Creelman, H. S. Peart, Guelph; Samuel Russell, M. P. P., Lanark; F. G. Todd, Montreal; Prof. W. L. Goodwin, G. Y. Chown, Kingston; E. J. Xatviz, New Haven, Conn.; Norman M. Ross, J. M. Macoun, J. W. Wardrope, Ottawa; Thomas Conant, Oshawa; J. C. Shook, Peterboro; N. Silverthorne, Summerville, Ont.; James Gillies, Carleton Place; D. G. Cooper, Collingwood; Marcell Hoehn, Berlin; Anson Groh, Preston, Ont.; D. James, Thornhill; Valentine Stock, M. P. P., Tavistock; A. Hislop, M. P. P., Walton, Ont.; Rev. Dr. John Burwash, John Bertram, Prof. John Loudon, W. A. Charlton, M. P. P., William Houston, Prof. Galbraith, Prof. Ramsay Wright, G. B. Kirkpatrick, A. B. Leake, Prof. Squire, S. S. Cann, Prof. J. H. Faull, W. Ryan, William Mahaffy, E. B. Biggar, J. J. Bell, T. S. Young, Toronto.

After the reading and adoption of the minutes of the last meeting, the President made a brief address, pointing out the importance of the forestry question. He referred to the danger of fire from the carelessness of settlers, hunters and others. He believed the Government officials were doing their best, but it was also necessary to educate the public.

REPORT OF BOARD OF DIRECTORS.

The report of the Board of Directors, submitted by Mr. Stewart, showed that the membership had increased from 400 in 1903 to 479 in 1904. Twenty-four new life members were added during the year. The financial report showed a substantial balance on hand. The re-

ceipts were augmented by a grant of \$300 from the Ontario Government and \$200 from the British Columbia Government. The report stated that a large percentage of the membership of the Association were in favor of an official organ to be devoted to the interests of forestry.

Owing to an extended period of dry weather in the summer of 1903, fires were numerous and resulted in considerable loss to timber. That the loss was not much greater is attrib-



MR. AUBREY WHITE,
President-Elect of the Canadian Forestry Association.

uted to the efficient work of the fire ranging staff.

Attention is called by the report to the possibilities of danger to the forests consequent on the construction and operation of railways. The establishment of a railway line through timbered land has usually resulted in disastrous consequences to the forests, largely owing to want of care on the part of the contractors and others in charge of the work of construction, as well as to lack of sufficient supervision by the companies operating the roads for the protection of this valuable asset. It was suggested that the Association give an expression of its views in such a way as to influence the authorities, both government and railway, to take such action as may prevent the development and extension of the Canadian railway system from becoming an

agent in hastening needlessly the destruction of the forests.

The report further stated:

The operations of the Dominion Forestry Branch in connection with the tree-planting scheme have shown steady expansion. This is clearly evidenced by the figures of the distribution of plant material. In 1901, the first year of operation, 18 settlers were supplied with 63,780 trees, and for the present year, 1904, 1,030 settlers will be supplied, 1,700,000 trees having been provided for this purpose. The total distribution, including 1904, will be 3,210,467 trees and 1,518 lbs. of seed to 2,064 settlers. It is estimated that the applications for the year 1905 will reach the number of 2,300.

A recent estimate of the area of timber reserves under control of the Dominion places the figure at 15,135 $\frac{3}{4}$ square miles, or 9,686,880 acres, 3,449,600 acres being in Manitoba, 5,612,800 in the North-West Territories and 624,480 acres in British Columbia. A decision has been reached to open the Rocky Mountains Foothills Timber Reserve to disposal under license. As this reserve controls the water supply of a large part of Southern Alberta where irrigation is necessary for successful agriculture the conditions are unique, and the administration of this reserve should not be carried out on the same principles as are adopted in connection with other tracts. Licenses should certainly not be granted without an inspection of the limits, and there should be such supervision of the operations as to prevent injury to the water supply, whether through increasing the danger from fire or otherwise.

Your directors desire to draw the attention of the members of this Association, as well as that of the public in general, to the fact that a Commission was appointed by the Government of Quebec in March, 1902, to (1) Make a critical study of the laws and regulations respecting public lands, woods and forests, colonization societies, works and roads, and the protection of settlers, as well as the carrying out of such laws and regulations;

(2) To enquire into the number of causes of the difficulties between settlers and holders of timber licenses and to advise upon methods for their prevention and removal;

(3) To find out what are the sections of the country most suitable for colonization;

(4) To ascertain whether the present colonization roads are sufficient to give access to the good farming lands, the extent of surveyed lands large enough, and the work performed by colonization societies deserve encouragement;

(5) To enquire whether, in the interests of the colonization of the Province, it is ex-

pedient to contribute towards the building of certain bridges and to grant subsidies in lands to certain railway companies.

(6) To study the new proposals or systems which may be submitted to it, and, taking into account the financial resources of the Province, to recommend those which tend to amend the laws and regulations so as to foster colonization and the development of forest industries.

The scope of the Commission being a very wide one and the subjects to be investigated of vital interest to the Province of Quebec in particular, and of interest to all the other Provinces of the Dominion, the report of this Commission will be looked forward to with great interest.

The Province of Prince Edward Island has also appointed a Commission whose duties are similar to those of the Province of Quebec.

The consideration of the Directors' report resulted in a lively discussion as to an official organ, which culminated in referring the matter to a special committee, which subsequently recommended the publication of a monthly or quarterly journal as a means of disseminating information regarding the principles of forestry, the Board of Directors to complete the necessary arrangements.

Mr. Frederick G. Todd, landscape architect, of Montreal, read an interesting paper on "Our Native Forest Trees and Their Use in Ornamental Planting."

Forest Reproduction in Germany.

At the afternoon session a paper on "Forest Reproduction in Germany" by Dr. A. H. Unwin, late of the Dominion Forestry Branch, was read by Mr. Norman M. Ross. After naming the native trees of Germany, Dr. Unwin outlined briefly the system of forest reproduction adopted in that country. The principle of cutting a forest with regard to getting a regular and annual yield has been kept up from the start both where planting had to be done to restock the cut areas and also where the forest could be left unassisted to reseed itself. And it is to this that the splendid financial results are due which each state in that country now shows.

Calling the growing trees in a forest the forest capital, what they took and take was and is only the interest or what actually grows each year in wood, and with increased care and better management that capital has been increased from 26,040 feet B.M. to 31,800 feet B.M. per acre and the interest taken greater still in proportion as timber prices have risen. At the present time spruce pays about 4 per cent. on the capital represented when grown pure under a rotation of 90 years. This is on medium mountain soil in the Bavarian Alps. Fifty years ago these forests were just being used to their fullest capacity; before that they had scarcely been touched as being inaccessible. Experiments with the reproduction of white pine show that it can be profitably grown or reproduced either by self-sown seeds or planting with three year old trees. In the former method the old and original crop is gradually removed, leaving spaces sometimes as much as half an acre between the trees where the young trees come up in large

quantities. When the area is seemingly well stocked more of the old trees are taken, still leaving a few so as to insure all spaces being filled in. In this way it has been found that from the first cutting of the old stand to the complete clearance of the same and restocking of the area by self-sown seed it takes seven to ten years, this being done without any cost for seed or preparation of soil. The old stand is of a dense nature and so the forest soil is covered with needles and twigs which rapidly decay when exposed to the atmospheric agencies. This leaves the soil in a receptive condition for the seed. Most of the branches and tops of the trees cut down are either used as faggot wood or burnt. The spruce, the next most important tree to us, is largely reproduced by planting, or about 80 per cent. of all areas. This is done by cutting the forest by strips up the mountain side, moving in opposite direction to the prevalent wind. When a strip is first cut it is three-quarters to a tree's length in width. This gradually widens as the first area becomes re-seeded. Finally the first re-seeded area has become old enough to cut again. A rotation of 85 to 90 years is adopted and yields timber of 16 to 18 inches square on medium soil. This size pays best as, if left to get larger, the increase in price does not more than pay for the interest on the money represented by the original trees. The Scots pine, another important tree, and its counterpart, the Norway or red pine here, is one which must have a good future. This is usually planted as one or two years old untransplanted seedlings. In a few districts natural seeding takes place, when the old crop can be removed in three successive cuts with two years between each, the first being made previous to a seed year, the second after a good seed year, and the third about two years after the young seedlings have got started. Even then a few trees are left to stand over to re-seed blank spaces until the end of the rotation and produce very large timber.

Mr. John Bertram, of the Collins Inlet Lumber Company, and Chairman of the Dominion Transportation Commission, then read a paper on "Forest Management in Ontario", which appears on another page.

DISCUSSION.

Mr. N. Silverthorne, referring to the papers by Dr. Unwin and Mr. Bertram, stated that years ago it was said that pine would not follow pine, but this was contrary to his experience. Mr. Thomas Conant spoke of the difficulty of obtaining seeds to plant. He had obtained his supply from Germany, and had had better success in growing from seeds than in planting young trees. He had met with some success in planting black walnut trees, as of 10,000 trees planted, 7,000 were thriving.

Mr. Joly stated he had found it advisable to collect pine seeds in March, as the cones were open in the spring. He thought if seedsmen knew how easy it is to collect seeds they would give the matter more attention.

Hon. E. J. Davis spoke of the reforestry methods adopted by the Ontario Government. He hoped to have the regulations governing forest reserves in practical operation very short-

ly. He asked Mr. Bertram to give his views as to the policy which should be adopted in respect to berths sold to licensees where the pine timber only was disposed of, also as to what payment the Crown should receive if the licensees were allowed to continue in possession of the property in perpetuity. The buyer of a timber limit purchased only the timber on the berth, not what grew thereafter, consequently it was only fair that the Government should get some remuneration for the accretion if the license were made permanent.

Mr. Bertram was non-committal, but promised to give the Commissioner an answer at a later date. He referred to the changes in lumbering methods. Years ago the sole object was to cut down the timber as soon as possible and get the money out of it. After studying the question of forest reproduction, he adopted the opposite policy, and in his lumbering operations as now conducted he cut no more timber from year to year than the accretion of the timber. This was the true system of lumbering. He was glad to know that to-day many lumbermen were alive to the necessity of protecting the young pine.

Prof. Roth said the United States Government had set aside 60,000,000 acres of land as forest reserves, the policy originating in 1891. The timber on these reserves was sold on the stump and cut under the direction of the Government, which in his opinion was the only proper way. While the private individual made the best farmer, the state made the best forester. Touching upon forest fires, he said it was a great question whether it is not better to have people scattered through forest reserves, rather than a large tract uninhabited, as under the latter condition it is difficult to obtain help to extinguish a fire.

A paper on "Forestry Education" was read by Prof. Loudon, of Toronto University, which was followed by a discussion in which Prof. Goodwin, of Kingston, Prof. Muldrew, of Guelph, and others participated. On motion of Mr. Bertram, a resolution was passed requesting the Ontario Government to make an appropriate grant to found a school of forestry. This concluded the business of the day, and in the evening a banquet was held at the King Edward Hotel, at which about about one hundred persons were present. Mr. Aubrey White acted as chairman. The following responded to toasts: "Canada," Mr. J. W. St. John, M.P.P.; "Our Legislators," Mr. Valentine Stock, M.P.P., and Mr. J. T. Clarke; "Our Pioneers: The Lumberman and Settler," Mr. John Bertram and Hon. John Dryden; "The Forester: The Farmers Whose Crops are Trees," Prof. Roth; "Our Educational Interests," Prof. Chown and Prof. Ramsey Wright; "The Press," Mr. William Houston and Mr. John A. Cooper.

SECOND DAY.

The first paper on the programme for the second day was by Mr. Aubrey White on "The Crown Timber Regulations of the Provinces of Canada." It will be found elsewhere in this number. The paper created a discussion as to the tenure of licenses. Mr. Bertram said that the Ontario Forestry Commission, of which he

was a member, had recommended that the Government should assume control of large areas where the timber had been cut off and the limits abandoned, as they were a source of great danger to adjoining limits. In the last Government sale the time limit was fixed at fifteen years, which in his opinion was too short, and he believed the Government would see the advantage of making an extension to twenty years in future sales. What was to be done with the large quantities of spruce, hemlock, balsam, and hardwood trees found on what may be termed pine limits, was a question which required consideration. Pine would not germinate under the shade of these trees. He suggested that the Department of Crown lands take steps to ascertain whether the cheaper woods could not be cut out and utilized to advantage, and the pine thus given a chance to grow. It would be a great advantage if a cheap plant could be installed in the woods for producing extract of hemlock. A small plant for making mechanical pulp might also assist in solving the problem of the profitable utilization of the cheap coniferous woods.

Mr. White explained that timber licenses absolutely terminated on the 30th of April each year, which gave the Government the right to adopt new regulations for the following year. The licensee, however, had the right of renewal each year for the period covered by his license provided he complied with the regulations.

Prof. Roth said in respect to wood alcohol he understood quite a large plant was necessary before it could be operated at a profit. There was an acid plant at Cadillac, Mich., which was a paying undertaking. The gas and tar were used for fuel. He advised caution in endeavoring to get rid of timbers which now seemed worthless, as in later years they might be found very valuable.

Hon. Mr. Davis stated that where the lands are not suitable for agriculture the Government is considering means whereby the hardwood timber could be made available and be manufactured.

The discussion then veered to forest fires, and a resolution was passed specifying the period during which settlers should be permitted to set out fires.

A paper on "The Laurentides National Park" was read by Mr. W. C. J. Hall, of the Department of Lands, Forests and Fisheries, Quebec, followed by one on "Forestry in Relation to Irrigation" by Mr. J. S. Dennis, Commissioner of Irrigation for the Canadian Pacific Railroad.

Prof. H. L. Hutt, of the Ontario Agricultural College, submitted an interesting paper at the afternoon session on "Some Ontario Forest Problems." He said that what was needed at the present time was a larger staff of experienced foresters, who would personally oversee the forests of the north.

Mr. E. Stewart gave an interesting account of the progress of tree planting on the western plains. Of all trees planted 85 per cent. were growing. Including the allotment for this spring, the Government will have sent out over 3,000,000 trees, the cost of growing and distribution being about \$1 per thousand trees.

Last year an appropriation of \$40,000 was made for the work.

The following resolution was passed: "That the Association urge upon the Federal and Provincial Governments the immediate necessity of a thorough examination of the water courses of Canada, with a view to the proper maintenance of the forest growth so essential to the welfare of the country, also that in view of the early commencement of the proposed trans-continental railway, that the Government arrange an agreement with the contractors for an efficient control to prevent forest fire, and when built that the railway be asked to establish an effective patrol along the afforested line of railway."

Upon the invitation of Mr. Joly de Lotbiniere, it was decided to hold the next annual meeting in Quebec on the second Thursday in March, 1905.

The election of officers resulted as follows: Patron, His Excellency the Governor-General; Hon. President, Wm. Little, Montreal; President, Aubrey White, Toronto; Vice-President, E. G. Joly de Lotbiniere, Quebec; Secretary, R. H. Campbell, Ottawa; Treasurer, Norman M. Ross, Ottawa; Directors, J. R. Booth, Ottawa; John Bertram, Toronto; Dr. Saunders, Ottawa; Prof. John Macoun, Ottawa; Thos. Southworth, Toronto; E. Stewart, Ottawa; H. M. Price, Quebec; Hiram Robinson, Ottawa.

At a subsequent meeting of the Board the following Vice-Presidents for Provinces were named: Rev. A. E. Burke, Alberton, P.E.I.; Hon. J. W. Longley, Halifax; Hon. J. B. Snowball, Chatham, N.B.; Hon. S. N. Parent, Quebec; Hon. E. J. Davis, Toronto; Sir Daniel McMillan, Winnipeg; Hon. L. J. Forget, Regina; Wm. Pearce, Calgary; F. D. Wilson, Fort Vermillion, Atha.; H. Bostock, Ducks, B. C.

HIGH PRICE FOR PINE TREES.

The owner of any number of large white pine trees is doubtless much richer than the average person imagines, as a recent transaction would indicate. There stands on the south side of Lake Scugog, in Ontario County, four hundred acres of timber, which is the only important block of timber in the vicinity. Two hundred acres of this is owned by Mr. Thos. Conant, of Oshawa, and one hundred acres each by Mr. Mackenzie and Mr. Smith, of Oshawa. Last fall certain parties approached the owners with a view to buying some of the trees. Mr. Conant was unable at the time to accompany the buyers to his property to examine the timber, and consequently only the trees on the other two hundred acres were obtainable. Two trees, 4½ feet at the butt, were sold for \$400 each, and eleven trees at a price ranging from \$80 to \$120 each. The timber was hauled to the C.P.R. station and three flat cars were required to carry the two large trees. It was shipped to England, where it is to be used for ship masts. This accounts in part for the high price paid, as perfectly straight grained trees of sufficient length and suitable for masts are becoming very scarce. Our Canadian shipbuilding firms are paying as much as \$100 per tree for similar purposes.

BAND SAW SHARPENING.

Finely sharpened teeth are essential to the best results in band saw cutting, and the comparative merits of emery wheels and files, together with the practical details pertaining to the operation of sharpening machines, are good subjects for consideration. An automatic sharpener is an indispensable machine for band saw work, but very much depends upon the construction and adjustment of the machine itself as to the quality of the work it performs. The rapid introduction of band and band resaw mills has called for the careful exercise of inventive genius in the perfection of band sharpeners, as well as for the exercise of the best mechanical skill and the use of the best material in their manufacture.

In a band saw sharpener it is essential that the machine be abundantly heavy and very rigid for handling all saws within its capacity; that the feed of the saw shall be positive and uniform; that the inclination and motion of the emery wheel shall be variable, to permit of any hook and any shape to the throat; that the boxes and slides shall be provided with efficient oiling devices, and kept free from dust; that the wear of the emery wheel shall be compensated by a faster speed motion, and that means be provided for withdrawing the emery dust from the machine.

A sharpener should be bolted firmly to the floor or to a substantial bench support, if it is of size for band resaws, that the machine may be free from vibration. The opinion is now general that the best method of carrying the saw to the machine is to support it upon adjustable post brackets, the machine being equipped with a front and back feed finger in preference to the method of supporting the saw on a set of adjustable pulleys, with single feed fingers.—Packages.

NEW ELECTRIC SAW MILL.

An extensive plant, including several buildings and a lumber dock, has been erected at St. John's, Oregon, by the Central Lumber Company, for use in connection with a new electric sawmill. The interesting feature of the equipment is the large machine upon which the sawing is accomplished. This consists of four saws, the largest one being driven perpendicularly by a 75-h.p. motor, and the other three horizontally by a 45-h.p. motor. All the saws and the motors are suspended on a steel frame, which moves backward and forward, while the log remains stationary. To bring the logs from the river a ball-bearing truck, operated by a 20-h.p. motor, and running on an incline, is used. Recently, in testing the machine, about 15,000 feet of lumber was sawn up, and, although the work was not executed quite as rapidly as was expected, it was nevertheless done in a most satisfactory manner. A high class of lumber was used, and it was cut very smoothly, there being none of the roughness noticeable in freshly sawn wood coming from the ordinary mill. It is believed that a greater speed will be acquired after the machine has been in operation longer. An attractive characteristic of the mill is that logs of almost any size may be handled, and there is very little waste. For instance, an immense log 7 ft. thick, which had proved too much for the larger ordinary sawmills, was cut with ease by this machine, and produced all told about 1,700 feet of board.

THE SYSTEMS OF ADMINISTRATION ON TIMBER LANDS IN CANADA.*

By AUBREY WHITE,
Deputy Commissioner of Crown Lands of Ontario.

Having been requested to read a paper at this meeting of the Forestry Association, I have chosen as my subject "The Systems of Administration of Timber Lands in Canada," a subject which lies within the scope of our studies and ought to be of importance to any society taking an interest in the preservation of our forest wealth.

I have not confined myself to the provincial systems only because my paper would not be complete without some reference to the Dominion laws and regulations, and I have strayed a little afield to notice the system prevailing in Newfoundland, which we hope soon to see included in the constellation of nations, if I may so put it, which form this great Dominion.

I suppose I might have contented myself with making a collection of the laws and regulations covered by my field of study, and have read them to you, leaving you to form your own opinions about their efficiency, but I have thought it would be more interesting, as well as instructive, if I were to take the most important of the systems and trace it from the seed up to the full grown tree with its numerous branches of regulations.

The most important system is that prevailing in Ontario and Quebec, and I bracket the systems of these two provinces together, because they have grown from the same germ, were under one management until the year 1867, the date of Confederation, and since then have differentiated very slightly. The seed of our system was sown in the period known as the "French Regime," when, in grants of Crown Lands to the Seigniors, the oak timber, and later on the pine, was reserved to the King, and did not pass with the soil. Some of the principles that govern free grants under our legislation of to-day are found in these grants, and as was to be expected, some of the difficulties which exist to-day were troublesome even in that early period. As to a typical grant, I take that made to Sieur de la Valliere by the Governor of Quebec in 1683. In it we find (1) that settlers are to be put on the land and that they must take possession, make improvements and keep house and home within two years, otherwise the location was to be forfeited, (2) the oak timber was to be reserved to the King and had to be protected, (3) the necessary roadways and passages had to remain open, and (4) the mines and minerals were reserved to the King. In our free grant system there is required (1) actual residence and improvements, (2) the pine timber is reserved to the King, (3) roads and streams are reserved, and (4) the mines and minerals are also reserved to the King. The reservation of the oak timber was not a dead letter. I have read one permit familiar name—granted by the Governor in 1731, authorizing the holder to enter upon a Seigniorship and cut and remove the timber required for building a vessel, which timber was to be brought to Quebec and there inspected and received, and a great deal of our square timber is to-day brought there to be inspected and received for shipment. Trespasses were provided against, and the regulations were drastic, which not only included confiscation of the timber, as in our day, but also forfeiture of the horses and plant engaged in taking out the stolen timber. The settlers' grievances were also present, we find that a settler having cut some oak trees in process of clearing and sold the logs cut from them, the Seignior immediately fined him. The settler appealed his case to the Governor, who in effect said: "How can he clear the land without cutting down the oak trees, why should he burn them if he can turn them into money? It is in the public interest that trees felled in the course of clearing should be sawn into boards and disposed of in order that the settler may obtain a little money to assist him in making his improvements rather than that he should be obliged to burn them on the land," and he further confounded the Seignior by calling his attention to the fact that the oak was reserved not to him but to the King. If the settler cut beyond the limits of his clearing, or failed to improve his location, any timber cut

by him was held to be a trespass. Here are the very same regulations that prevail to-day under which the settler may cut and sell timber required to be removed in clearing his land and commits a trespass if he cuts beyond the limits of clearing or before he has become a bona fide settler. The right to take timber free of charge for public works, such as bridges, colonization roads, etc., was reserved in the grant to the Seignior, and the same reservation is found in our timber licenses to-day. After what I have said you will see why it is I go back to the French Regime for the beginning of things.

When the British took possession the Governor's attention was directed to the timber question. Pine, of course, was reserved to the King for naval purposes, but the Governor went a step further and issued instructions that areas containing quantities of pine were to be reserved absolutely, no settlers were to be allowed in them, and—wise precaution—no sawmills were to be erected anywhere near pine reserves, except by his express permission. Now you will note that down to the end of the year 1700, though the pine was reserved to the Crown, and pine areas were to be kept isolated, there is no mention of any authority being given to enter upon the Crown domain to take out timber for ordinary lumbering purposes, and here to dispose of the question of pine reservations, which by the way are now, over 100 years later, being made for the first time, it will be sufficient to say that none were made; the policy was proposed, but no life given to it. What was done was to insert a reservation of the white pine to the King in all patents issued.

We now come to a period when timber was cut for exportation from Canadian forests. The reservation of the pine, as already stated, was to be for naval purposes. Shortly after 1800 the attention of the contractors to the dockyards in England was called, perhaps by some wide awake Canadian, to this reservation, and perhaps it was said by some Canadian advocate of "Preferential Trade within the Empire": "Why do you not come to Canada and get some of your timber there instead of getting it all from the Baltic?" Be that as it may, the Naval contractors did apply to the Home Government for permission to cut masts, etc., in Canadian forests, and licenses—mark that word—were issued, one of which is now in my possession, dated 7th October, 1807, authorizing Messrs. Scott, Idles & Company to cut timber in the forests of Canada. This license was directed to the Surveyor General of Woods & Forests on the Continent of America—fancy that for a jurisdiction. Messrs. Scott, Idles & Company transferred their rights to Messrs. Muir & Jolliff, of Quebec. The Lieutenant-Governor-in-Council of Canada directed the Deputy Surveyor General of Woods for Canada to mark the trees that might be cut—quite a contract for him, was it not? No attempt seems to have been made to inspect this cutting, much less mark the trees, and the cutting was limited only by the ideas of the people who were operating under these licenses. Here we have the first issue of any form of authority, under British rule, to cut timber on the Crown lands, and the name of that authority, viz., license, has been continued ever since. This business of contractors for dock yards cutting by proxy was the genesis of our square timber trade; it centered in a few Quebec merchants, and these gentlemen were the precursors of those great firms which afterwards made Quebec famous as one of the principal timber markets of the world. It is to be noticed that the licenses did not cover any area. The holders of them went where they pleased, cut the best timber and paid nothing for it. The first of these licenses was issued in 1807 but it was not until 1826 that we find any attempt at regulation or supervision. Such a system as this created discontent, it being in the nature of a monopoly, and at last people began to take the law into their own hands, go into the forests and cut as they pleased without any authority.

To bring an end to the discontent, bring order out of chaos, and more important still to obtain some revenue

from the timber cut, Sir Peregrine Maitland the Lieutenant-Governor, issued a proclamation on the 3rd May, 1826. Under this any person was at liberty to go into the forests, along the Ottawa and its tributaries, and cut as much timber as they wished subject to paying three cents per cubic foot for oak, two cents per cubic foot for red pine, one cent per cubic foot for white pine, and four cents each for saw-logs suitable for deals. If trees were cut that did not square eight inches, double these rates were exacted.

Under these regulations, bad as they were, we have the first attempt to collect revenue from Crown timber. Under this system disputes as to boundaries took place and there was no proper supervision of the cutting. The next year Mr. Peter Robinson was appointed Commissioner of Crown Lands and Surveyor General of Woods & Forests. He had authority to grant license over such territory as the Governor approved of. The licenses were to be limited as to quantities, 2,000 feet was all that could be cut under one. They were to be advertised in the York Gazette at an upset price and sold by public auction. Here is the first provision for an auction sale of Crown timber. The licenses ran for one year only, but timber had to be cut within nine months and the dues had to be paid within 15 months, and the timber was to be measured by a Government measurer. This system never took life—it died still-born. The regulations established by the proclamation of 1826 seems to have been continued in the Ottawa region at any rate and not much timber was cut elsewhere for export.

In 1840 the system was described to be as follows:—The person desiring to cut applied in the summer or autumn, stating quantity desired to be cut. A license was issued; the Licensee paid 25 per cent. of the dues on the quantity applied for in advance and entered into a bond to pay the balance when the timber came out. When the timber reached Bytown, the following season, it was measured and went on to Quebec. The parties applied for a license for only a small quantity so as to keep down the advance payment, but in practice they cut as much as they pleased. The dues were finally paid at Quebec on all the timber they took out.

We now come to the period of responsible government and the union of the provinces of Upper and Lower Canada which brought about a closer guardianship of the natural wealth of the country. The union took effect on the 10th February, 1841. A year later instructions were issued by the Hon. John Davidson, Commissioner of Crown Lands. They were intended to secure suppression of trespass and to introduce the principle of competition among lumbermen. These instructions are dated the 30th March, 1842. Under them licenses could be issued at the former rates. The licenses were to be for a fixed period, at the expiration of which they were to absolutely cease and determine. The former Licensee could get a new license for the same territory provided he came forward and applied before the 1st August. Provision was made for sale by public auction in cases where there were conflicting applications. No greater extent than ten miles was to be licensed to one person; 5,000 cubic feet of timber per mile had to be made annually.

On the 24th June, 1846, new regulations were made. Under these new limits must not exceed 5x5 miles; current licenses to be renewed for three seasons, after which they were to be curtailed to 5x5 miles, but existing Licensees might select the particular part of their limits they desired to keep. Licenses not applied for before the 15th August were to be put up for sale on the 1st September following, as well as any other berths for which more than one application had been received, and sold to the highest bidder. Here again we have the principle of a public sale, although one would say that 15 days was a very short period in which to make an examination. The quantity of timber to be taken out in each mile was reduced from 5,000 feet to 1,000 feet, and, after the 1st September, limits were to be granted to the first applicant complying with the conditions of sale. Parties applying for territory or unexplored limits were to furnish a sketch by a sworn Surveyor describing the territory and tying it to some known point. If the sketch was afterwards found to be incorrect the license could be declared null and void. In order to induce the lumbermen to keep a close eye on one another, provision was made

* Paper read before the Canadian Forestry Association, Toronto, March 10, 1904.

that a forfeited limit was to be licensed to the party giving information as to the non-fulfillment of the conditions of the license, and failing the application of the informer, then to the next applicant. These instructions also specifically declared that licenses were not transferable and that any attempt to transfer them would entail forfeiture. Applicants had also to declare who were associated with them in the application.

Two months later, on the 14th August, 1846, other regulations were published. The only important change made by these regulations was that limit-holders might transfer their limits with the sanction of the Department of Crown Lands, a provision that has come down to our own time, and the quantity of timber to be cut each year per mile was reduced from 1,000 to 500 feet.

In 1849 a Select Committee of the House was appointed to consider the causes of depression in the lumber trade and suggest a remedy. This Committee made two reports in which they stated that the depression was caused by over-production, which was stimulated by the uncertain tenure of licenses and the threatened subdivision of the licenses already granted. Also that provisions requiring a certain quantity to be produced, without respect to the state of the markets, had a bad effect, and that the want of any decisive action by the department with respect to disputed boundaries was demoralizing. The uncertainty of the tenure and the disputed boundaries caused great trouble. Wealthy lumbermen who had the advantage of large numbers of men, would go in where they liked, without respect to others' rights, and rush out all the timber they could manage to cut in one season. As a remedy, positive right of the renewal of licenses was recommended so as to give certainty of tenure. Surveys of boundaries, and the imposition of ground rent for the areas covered by the license, was also suggested, and it was recommended that no distribution of areas should take place. It was further pointed out that under the regulations the practice with respect to the collection of dues was to ascertain the quantity by counting the number of sticks and averaging them without respect to size at a certain number of feet per stick, which average was too high in some cases and too low in others, and with respect to this the suggestion was made that dues should be paid on the actual contents of the timber ascertained by count and measurement.

The result of the report of this Committee was the passage of the "Crown Timber Act", which, with comparative little change, is to-day the law under which all the timber licenses are issued in the provinces of Ontario and Quebec. This Act provided that the Commissioner of Crown Lands might grant licenses for unoccupied territory, at such rates and subject to such conditions, regulations and restrictions as the Lieutenant-Governor might establish from time to time. No license was to be granted for a longer period than twelve months and all the licenses expired on the 30th April of each year. The territory licensed was to be described in each license. The licensee was given absolute possession of the territory so that he could prosecute trespassers and seize timber cut by them. The making of sworn returns of the timber cut year by year was provided for, and there were many other provisions of less importance. The first regulations under this Act are dated 5th September, 1849. Agencies were established — agents might, on application, grant licenses, apparently without referring the applications to the Commissioner of Crown Lands. Sketches of the territory applied for had to be furnished. The area of timber limits was increased from 5 miles by 5 miles to 10 miles by 5 miles. Licenses were to be confined as far as possible to one side of the river. There was no restriction to the number of limits a man might hold. The timber was to be cut and paid for at certain rates. Transfers of limits were to be in writing and not valid until approved by the Commissioner of Crown Lands. It also provided that settlers or squatters cutting without authority, if they cut any timber except for building-fencing, clearing, etc., were to be treated as trespassers. These restrictions contained a distinct provision for renewal of licenses. The proper counting and measuring of timber cut was also provided for, and a clause was inserted in the regulations that actual settlers were not to be interfered with in the clearing of the land, etc. Here the settler first appears in the regulations. Under these regulations all a person had

to do in order to obtain a limit was to make application to the Agent, furnish a sketch of the territory he desired to obtain and give security to pay the dues on the timber cut. There was no provision for competition except where adverse applications were received. Generally speaking, the principle of selling limits by public auction appears to have been entirely absent from the regulations.

In 1851 fresh regulations were promulgated. The new provisions provided I call particular attention to this that sawlogs cut on the public domain, if exported, paid double dues. Ground rent at the rate of fifty cents per mile was imposed. Here we have discrimination against the export of logs and the first imposition of ground rent. The ground rent was to be doubled each year that the limit was not worked. Vacant territory was to be granted to the first applicant provided he called and paid the ground rent, in the Bytown Agency within three months, elsewhere one month. If adverse applications were made for the same territory then the right to receive the license was decided by lot. Here we notice a gambling spirit in deciding the rights of individuals. Who would toss up for a limit to-day? There was also a provision to sell to the highest bidder in case of clashing of applications. Registers of the licenses issued were to be kept in the Agencies and the Crown Lands Department and were to be open for public inspection. Decisions of the Crown Timber Agents as to the disputed boundaries were to be final until reversed by arbitration. If one party failed to appoint his arbitrator then the Crown Timber Agent took the position. Should they not be able to agree on an umpire the Commissioner was to appoint one. Transfers of limits were allowed subject to the approval of the Commissioner of Crown Lands. Parties defying the regulations of the Department or the decision of the arbitrators were to be refused further licenses and their berths forfeited and disposed of. Security had to be given for the timber dues, etc.

In 1855 an Order-in-Council was passed dealing with the ground rent question, and fearing apparently that the imposition of ground rent might lead to the idea of the rights of ownership, in order to prevent any misunderstanding, this order-in-Council contained a declaration of great importance, to wit, that the changes made are not to imply that the Government cannot increase the ground rent or timber dues at any time in the future as the circumstances of the trade may render it expedient. Previous to the year 1857 no information could be obtained about the transactions of the Crown Lands Department except by special Return to the House, but on motion of Mr. A. T. Galt it was in the session of 1856 ordered that an Annual Report of the management of the Crown domain should be submitted to the Legislature each session. The first Report, and it was one of the best reports that has ever been issued by the Department, was made for the year 1857.

In 1857 another change was made in the time for the payment of the ground rent; it was now to fall on the 30th April in each year, the day on which ground rent becomes payable under the present regulations. The cases of competition which came up under the regulations forced upon the attention of the Commissioner the principle of selling timber berths by public auction, for in the report of the Commissioner of Crown Lands for the year 1859 it is stated that wherever competition existed or could be excited, recourse had been had to the plan of disposing of the timber by public auction. Between the years 1856 and 1860, attention was sharply drawn to the practice of people purchasing under the pretense of settlement valuable timber lands, thus depriving the Crown of its revenue and the licensees of what they believed to be their property. Energetic steps were taken by the Department to stop this system of plundering. Numerous sales were cancelled when the lands were found to be valuable for the pine timber. Under the settlement regulations then prevailing, strange to say, the settler could burn whatever timber he cut in the course of clearing his land, but if he cut it into sawlogs and sold them he was guilty of trespass. The good sound position laid down by the Governor during the French Regime was departed from with disastrous results. The settlers were very much embittered and a deplorable state of matters came about. Some remedy had to be found, consequently new regulations were passed under which a

class of license called a "Settler's License" was issued to settlers who erected a house 16x10, cleared five acres in every hundred and had been six months in residence. A fee of \$4 was charged for these licenses. Timber dues were charged upon the timber cut and these dues were applied in payment of the purchase money of the land with a refund of any money collected in excess of the purchase money, less 10 per cent. for collection. Any person who is familiar with the history of lumbering and settlement in Canada during the period from 1856 to 1866 will know the bitter feelings that existed between the settler and the timber licensee, and how the Department was beset with criticism and difficulties in respect to clashing of interests and the providing of a remedy. Settler's licenses apparently did not meet the difficulty and the issue of them greatly fell off until they entirely disappeared.

In 1866 new Crown timber regulations were made. Sales by public auction were provided for. These sales were to be held on the 10th January and on the 10th July each year, or any other date that the Commissioner might fix. The limits were to be offered at an upset price of \$4 per mile, the highest bidder to have the berth. If there was no bidding the berth was granted to any person paying the upset price. The Commissioner could sell between the dates of auction sales at \$4 per mile to any person who applied for a berth. One berth only could be sold to each applicant. Timber licenses were to expire on the 30th April in each year. Ground rent was continued at 50 cents per mile. No licenses were to issue on a smaller computation than 8 square miles. The ground rent was to increase annually on berths not worked until it reached 23s. 4d. (\$4.67) per mile. When occupation took place it reverted to the original rate of 50 cents per mile. 500 feet of timber or 20 sawlogs had to be made every year for each mile of the limit; renewals of licenses were provided for if the regulations and payments were complied with. Applications for renewal had to be made in writing every year before the 1st July. Transfers could not be made if dues were owing.

We have now come to the period of Confederation which was consummated on the 1st July, 1867. Since then each province has been free to manage its own affairs and enact such laws and regulations as would best carry out the policy suited to its circumstances. It is a great testimony to the wisdom of the Legislators of by-gone years that the Crown Timber Act of 1849 has remained the charter, so to speak, of the timber licensing systems of Ontario and Quebec, very few amendments having been made to it in either province. The great strength of the Act is that it only lays down broad principles, leaving the management of the Crown domain to be carried out by regulations as experience teaches or emergency requires. It may be worth while to state the broad principles laid down. (1) The Commissioner of Crown Lands may issue licenses, which licenses are to cover all kinds of timber during their currency; (2) licenses are to run for one year only and then absolutely determine; (3) proper returns of the cutting of the timber are to be made; and (4) timber cut in trespass is liable to seizure and confiscation.

Since Confederation the act has been amended as follows. Timber on road allowances is declared to be covered by the timber license. Lots which have been sold to actual settlers are to remain in license until proof of settlement duties is filed in the Department; the Commissioner of Crown Lands can sell those timbers on pulp concessions which are not covered by the concession and no pulp concessions can be granted for a longer period than 21 years, and most recent and most important, pine timber and spruce on lands under license must be manufactured in Canada. It will be seen that the points touched by the Act are not very numerous, but the field left for legislation is enormous—just listen to the language of the Act, "The Commissioner of Crown Lands may issue timber licenses subject to such rates and conditions, regulations and restrictions as may from time to time be established by the Lieutenant Governor in Council." No attempt is made to define what sort of conditions or restrictions may be imposed, anything that comes within the meaning of these words can be done by regulation. This discretion taken in combination with the absolute termination and legal death of every timber license

within one year of its birth, places almost unlimited power in the hands of the Crown. Take one example, when our good friends over the border undertook to treat us, as we thought, unfairly, and the Government of Canada could not act without making matters worse and perhaps ruining the lumber trade, we were able, by passing an Order-in-Council, to attach a condition to all licenses to the effect that timber cut on Crown lands must be manufactured in Canada, thereby transferring a goodly portion of the sawmill business of the State of Michigan to the Province of Ontario and leaving our friends who would not come over to Canada in the position of Lord Ullin when the waters wild went o'er his child. These regulations being very important, they were afterwards crystallized into an Act of the Legislature. Several Acts have been passed by the Legislature since Confederation amending the Crown Timber Act or affecting lumbering interests and I will just mention them. There is an Act affecting the rivers and streams which declares that everyone has the right to use these waterways for floating timber or logs; the Culler's Act which requires that persons desirous of culling logs cut under license shall pass an examination and be licensed by the Commissioner of Crown Lands; the Act for the preservation of the forest from destruction by fire, under authority of which fire rangers are put upon limits at the joint expense of the Government and the Licensee; the Act affecting liens of employees on sawlogs and timber; an Act amending the Free Grants Act, which reserves the pine timber on lands located after 5th March, 1880, and enables them to be continued in license; the Act for the driving of sawlogs and timber, which made some needed provisions with respect to parties who might be inclined to shirk their fair share of the expense and responsibility.

On the 28th May, 1869, the Crown Timber Regulations of 1866 were abrogated and new regulations were made by the Lieutenant-Governor-in-Council of the province of Ontario. To a great extent the old regulations were incorporated in the new; of course some new clauses were added at that time, and others have been added since. The most important clause in the new regulations was the requiring of survey, exploration and valuation of the timber limits before they were offered for sale. Then due advertisement of the sale, which was to be by public auction and to the highest bidder. Another important change was the increase of timber dues from 50 cents per thousand B. M. to 75 cents per thousand and of the ground rent from 50 cents per mile to \$2 per mile. Another was the requiring of a more elaborate system of returns, with power to the Commissioner to have an inspection made of the books, records, etc., if fraud in returns was suspected.

In 1887 the regulations were again amended by increasing the timber dues from 75 cents per thousand to \$1 per thousand and the ground rent from \$2 per mile to \$3 per mile.

In 1890 for the first time the sale held in that year by authority of Order-in-Council covered only the pine timber and the dues were again increased for the purposes of that sale to \$1.25 per thousand.

In 1903, for the purposes of the timber sale held in that year, the dues were increased from \$1 per thousand to \$2 per thousand and on square timber from \$20 to \$50 per thousand feet cubic, and the ground rent from \$3 to \$5 per mile. Regulations affecting the last three sales were passed fixing a time limit beyond which licenses were not to be renewed of from 10 to 15 years. Regulations have also been made to the effect that lands located or sold to pass automatically out of the timber license for anything but the pine timber on the day of sale. Regulations have also been passed that require Licensees to give sufficient timber for local sawmills upon being paid the fair value of the same. Regulations have also been made requiring that pine and spruce shall be manufactured in Canada, which of course have been crystallized into legislation, and more recently regulations have been passed requiring that hemlock bark shall be used in Canada.

Having traced the history of the license system, and given you the substance of the recent amendments to the Ontario laws and regulations, I shall now proceed to refer to the different laws and regulations prevailing in the Dominion and Newfoundland. I shall refer to these in a general way and briefly. It is only

necessary to call your attention to the principles of the systems and to the wide divergencies of the laws and regulations. The licensing systems prevailing in Ontario and Quebec have as I have said a common origin and have run nearly along parallel lines.

The New Brunswick licensing system dates back to the 26th August, 1817, when the Lieutenant Governor in Council framed a set of rules with regard to timber license. One interesting provision in these early regulations was that licenses were to be giving only to British subjects. No dues appear to have been charged at that time.

Nova Scotia had no timber licensing system until quite recently and the British Columbia system is comparatively modern and is based somewhat on our system, differing very widely, however, in the matter of tenure and the rates of ground rent and dues. The Dominion system is also based largely on the Ontario system with such modifications as different circumstances have called for. I have not succeeded in tracing the Newfoundland system back to its origin.

In Ontario the Commissioner may issue licenses after sale by public auction, a reserve bid being fixed but not made public. The licenses are annual and terminate on the 30th April in each year, but by regulations are renewable. Ground rent runs from \$3 to \$5 per mile and is subject to increase or decrease. Dues on pine timber run from \$1 to \$2 per thousand feet and are subject to increase or decrease. Pine logs, pulpwood and hemlock bark are required to be manufactured in Canada. Fire rangers are placed upon all licensed lands, one half of the expense being paid by the Licensee and the other half by the Government. These rangers are selected by the Licensees. \$1 per mile is charged for transfer bonus on limits that are transferred.

In Quebec the Commissioner may issue licenses after sale by public auction. Limits have to be advertised for thirty days if of an extensive character, and small limits for fifteen days only. There is an upset price made public at the date of sale. The licenses terminate on the 30th April each year and are renewable by regulation. Ground rent is \$3 per mile and is subject to increase or decrease. Dues on pine run from 80 cents to \$1.30 per thousand, subject to increase or decrease. There is no restriction as to the exportation of logs except that pulpwood must pay 25 cents per cord additional if exported. Fire rangers are appointed by the Government upon the recommendation of the Licensees and a tax called a fire tax is charged upon the limit to pay the expenses of the fire ranging.

In New Brunswick the Commissioner may issue licenses. The mode of disposal is that applicants are required to petition for the limit they wish to obtain and to deposit in the Department \$20 per mile. The limit is then advertised in the Royal Gazette for 14 days, after which it is put up at public auction and if the applicant is the highest bidder he gets the limit. If somebody else bids more he gets the limit and the applicant gets back his money. Limits are not to exceed 10 miles in area. The ground rent is \$8 per mile and subject to increase. Dues on sawlogs are \$1.25 per thousand, subject to increase. There does not appear to be any fire ranging system. The measurement of logs is made by Government cullers. There does not appear to be any restriction as to exportation.

In Nova Scotia there is no provision for sale by auction. The Governor in Council may issue leases to cut timber, which leases are to be for a period of 20 years, renewable for another 20 years if conditions are complied with. The price is to be 40 cents an acre—not annual—if timber below the diameter of 10 inches is not cut. If timber is cut below 10 inches down to 5 inches the price is 50 cents per acre. The only provision for public auction is where there are adverse applications for the same territory. If lands are not suitable for agricultural purposes they may be leased for pulp purposes as arrangements are made with the government.

In British Columbia limits may be sold by public tender and are to go to the highest bidder. Annual ground rent \$160 per mile; dues 50 cents per thousand feet B.M. If a mill of certain capacity is erected on a limit the ground rent is reduced to \$96 per mile. Dues are abated by one-half on lumber or timber that is exported from the province. The license or lease runs for a period of 21 years, and as this provision is statutory

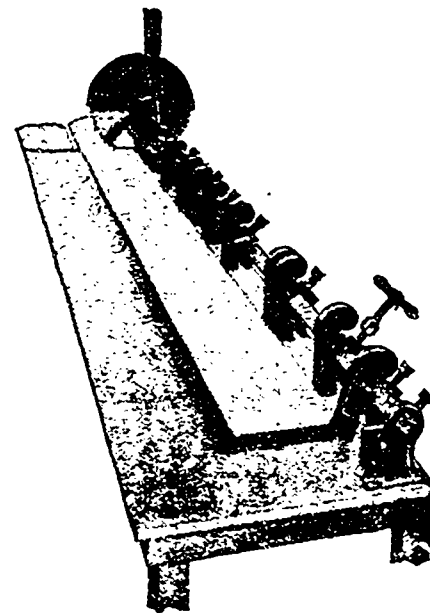
it is presumed that dues cannot be changed during that period. There is another class of licenses called "Special License," which cover only an area of 640 acres. These are issued at the discretion of the Commissioner, for a period not exceeding 5 years, and may be renewed at the discretion of the Commissioner. Annual ground rent on these licenses runs from \$115 to \$140. There is another system of licensing called "Hand Licenses," which are given without competition and it is presumed are intended to cover only small quantities. They run only for one year. Timber must be manufactured in the province. There is no provision for fire ranging on British Columbia lands.

In the Dominion of Canada lands may be put up for competition by tender and go to the highest bidder. Annual ground rent \$5 per mile; west of Yale \$32 per mile. Dues 50 cents per thousand. Licenses are annual and expire on the 30th April in each year and are subject to renewal. There is a fire ranging system on government lands paid for entirely by the Crown.

In Newfoundland there is no provision for public sale. Limits are granted by authority of Order-in-Council at a bonus price fixed by the Governor in Council, which varies according to the situation of the limit and not to be less than \$2 per mile. In any case notice is to be given in the Gazette for one month. There is an annual ground rent of \$2 per mile. Dues on timber are 50 cents per thousand in Newfoundland and in Labrador 25 cents per thousand feet B. M. Licenses may be granted for fifty years or such further period as may be deemed necessary. Licensees must erect a saw mill and work his limit; sawmill to be capable of cutting 1,000 feet every 24 hours. No person having a limit can buy logs from another Licensee or cut them by agreement on any other limit than his own. Pulp limits may be granted by the Lieutenant-Governor-in-Council; not more than 150 miles to any one individual or company. The license may run for 99 years or longer. There is a bonus of \$5 per mile and ground rent of \$2 per mile, and the timber is subject to 50 cents per thousand feet B. M. Pulp concessionaires have to expend \$20,000 in plant. All kinds of timber, pulpwood, etc., must be manufactured in the colony.

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FOREST MANAGEMENT IN ONTARIO.

-BY JOHN BERTRAM.

The most important feature within recent years of forest management in Ontario has been the setting apart of certain areas of suitable territory as "Forest Reserves."

The first, though not spoken of strictly as a forest reserve, was created in 1893 as the Algonquin Park, with an area of 1,109,383 acres, situated on the height of land between the Ottawa river and its tributaries and the Georgian Bay waters. Then followed under the Forest Reserve Act in 1899 the Eastern Forest Reserve, being part of Townships north of the city of Kingston, containing about 80,000 acres of land that had been lumbered over and afterwards burned, but now carrying a heavy crop of young pine. In 1900 by Order-in-Council the Sibley Reserve was set apart, being a portion of the Township of Sibley and including Thunder Cape, 45,000 acres more or less. On January 11th, 1901, there was created the Temagami Reserve, comprising 1,408,000 acres, within which is the beautiful lake of the same name. Most of the territory in this reserve is still covered with virgin pine and is of great value. An extension to this reserve west and north was made on the 16th December, 1903, adding 2,368,000 acres, so that now the area of the Temagami Reserve is 3,776,000 acres. The total area so set apart in the Province of Ontario being 5,010,383 acres.

Nothing but words of commendation can be used in speaking of the wise and far-sighted policy of the Ontario Government in having inaugurated this policy, and it should be followed up by a still greater extension of the system, as fast as exact information is acquired by the Bureau of Forestry.

There is still a very large area of country extending to the west and north from the last named reserve, along both sides of the watershed between the Georgian Bay and James Bay waters, quite unfit, in a general way, for grain growing, but well suited for the growth of conifers, by which it is at present largely covered. The land is in possession of the Provincial Government and only a small portion of it is under license. Within the area stands a large proportion of the white and red pine not yet sold, and how to deal with this remnant of what was once a mighty forest in Ontario is the pressing question. It would be quite superfluous to offer an argument before the Dominion Forestry Association about the value of white pine, or the necessity of strictly caring for its future growth in all localities where it at present exists; the extension, therefore, of the present reserves to cover the pine bearing territory north and south of the watershed is self evident. The height of land runs in an uneven line in a westerly direction from the sources of the Montreal River to the source of the Mississauga River, which flows to the Georgian Bay, and within this area, north and south of the line, is the as yet unsold pine. The general character of this great territory makes it far more valuable for a forest reserve than it can ever be for agricultural purposes, and there should be no hesitation in placing it in the proper place. The policy pursued by the Department of Crown Lands in selling only the white and red pine on licensed lands is open to question. It is very desirable that on all berths the growth of pine, as the most valuable wood, should be facilitated and encouraged; this can hardly be done by cutting down all the merchantable pine and leaving its place to be taken up by balsam, hemlock, spruce or any other wood covering the ground. Good forestry requires that the merchantable trees of these varieties should also be cut down to allow the seed of the pine to germinate, which it will not do under the close shade of other trees. Hitherto it would not pay lumbermen in many places to cut either hemlock, spruce or balsam, but now that the price has increased they should be cut down and not allowed to usurp the place of more valuable timber; and the same may be said of localities where hardwood predominates. If the pine is cut down and the crown of the forest left intact, then pine will not come up again under its shade, or if it does, will be under stunted conditions.

Looking, therefore, to the re-growth of pine a different policy will have to be devised than what amounts to extermination of the pine and the encouragement of

the growth of inferior and less valuable varieties. It is manifest that if the red and white pine only on a berth are sold and the term of fifteen years retained, when the berth at the end of the time comes back into the hands of the government it will be covered only by inferior varieties growing with accelerated speed, having been freed from the overshadowing influence of the pine. No special formula of treatment can be given, as each berth will present a different problem, but any intelligent forester can work towards the desired end and it is for the Department to see that in their selling policy this is kept steadily in mind.

There is another view with reference to forest reserves that although occasionally spoken of has not been seriously discussed, that is, the desirability of extending the reserves to land now under license to lumbermen. The preservation of young growing pine is attracting year by year more of the thoughtful lumberman's attention; the old notion of pine not succeeding pine is passing away, and a keen sense of the value of young pine trees coming up again after the original forest has been cut down, is now prevalent. There can be no question of selling land to settlers that is fit for cultivation; but because a license has been sold covering the district which is more fit for forest growth than farming is an additional reason why it should be retained for that purpose, and placed in the forest reserve permanently. No question can then come up between the lumbermen and the settler which hitherto has led to so much bad feeling. Any lands so reserved can remain in the hands of the licensee subject to any reasonable change in the regulations the Department may deem it wise to impose. Good judgement and a close examination of the districts would be necessary together with a general policy governing large areas. A patch of reserve here and there taken out of licensed lands is not what is thought of, but when the general character of a district is found suitable then this phase of forest management may come up for consideration.

Speaking of reservations so far, it has been looking to the propagation of white and red pine, but there is another question of great interest to the province. The height of land between Georgian Bay and the great Northern Basin, and which is the back-bone of Ontario, extends from the sources of the rivers running into Georgian Bay and Lake Huron around the north end of Lake Nipigon and westward; the prevailing timber being spruce. This region has been ravaged by fire from time to time, the prevailing timber is small, the land utterly unfit for cultivation, and it has been looked upon as a wilderness, under no kind of surveillance, and liable to be set on fire by any wandering intruder. Is it not time that this vast territory should be brought under an efficient system of fire protection? Let alone, it will only go from bad to worse and probably, in time, from recurring fires, become a veritable wilderness. There is at present supposed to be a large quantity of merchantable timber and pulpwood growing on it, and pending the question of making it a vast forest reserve, which does not require an immediate decision, it would surely be in the interests of the province to find out what timber is on it and to take immediate steps to have it brought under the system of provincial fire protection.

The only other question to be touched on in this paper is one that is dimly in the minds of many people in this province and probably also in other provinces; and that is what should be done with a very considerable area of land in the Dominion suitable for both farming and forestry, of which the district of Muskoka may be taken as a type. Muskoka is a beautiful and healthy country with a bracing and invigorating climate, mostly hilly, with innumerable streams and lakes of clear water abounding with fish and game, an excellent example of the features of the country found within the Laurentian range, the hills, as a rule, not rising more than a few hundred feet and covered with trees. Between thirty and forty years back, while large lumbering operations were being carried on, this district was opened to settlers, and while it cannot be denied that many of them have done well, still a number of abandoned farms can be seen by anyone driving through the district, and many settlers while remaining there and being averse to giving up their holdings are fighting an uphill battle on account of the character of the soil on which they are located. The

district being of Laurentian rock has all the characteristics of the formation; the rock having been subject to attrition for untold ages, has given a constitution to the soil very different from the limestone series or from the ordinary alluvial deposits. In many circumscribed spots of greater or less extent as good soil can be found as anywhere, but they are limited in extent, the general character of the country being better fitted for tree growth than for agriculture. The good soil is splendidly adapted for the growth of clover and timothy, potatoes and roots of all kinds; the grass will produce the very best cheese and butter, the milk being rich and delicious.

It is manifest that a country of this kind, which has a population of thrifty farmers, cannot be depopulated even if it could be shown that better financial results would accrue to the holder if it were all kept under forest; the conditions point rather to mixed holdings of greater extent than at present prevail. Instead of trying to make a living as a farmer only, the proprietor should be encouraged to acquire larger acreage and become a forester as well as a farmer. An ideal condition for the district would be for the proprietor to own say 1000 or 1200 acres; cultivate the really good part wherever found within his boundaries and keep the rest of it in forest. A knowledge of forestry could be acquired by reading, or it could be imparted by professors or students giving lectures and lessons on best methods. What a wonderful change would be brought about in the productiveness of the forest if this were carried out. Trees could be planted where needed, poor varieties cut out, thick patches thinned, and the product utilized in many ways, merchantable logs or trees sold from time to time, and the whole forest looked upon as the most valuable crop the nature of the soil could produce. Authentic statistics can be obtained, particularly in Germany, of the net value of forest product extending over long periods. The writer will give an instance which came under his own observation in 1902 when visiting Scotland. A patch of spruce forest containing eleven acres had just been cut down and sold en bloc to the owner of a portable saw mill. The timber was fifty years old, and so from the amount received the proceeds were easily calculated, and it was found, taking the opinion of the agent of the estate as to the rental value of that particular land, that the timber had given three times as much rent per annum than if the land had been rented for agricultural purposes. Of course it was not good land for cropping, but well suited for young spruce as an examination of the yearly growth fully testified and by which the age of the trees was tested.

The occupation of the forester and farmer would appeal to many people and with personal care and attention would become a profitable pursuit, pleasant and agreeable, away from the hurly burly of city life. Personal attention to this style of forest would give a much larger growth of feet per acre than in a forest reserve which could not possibly receive the same care. In a minor degree there are many farmers in old settlements who would find it more profitable to devote a part of their farms to tree growth. All uneven or hilly land should be planted, the main business being farming and tree growth secondary, just as in the northern districts sylviculture should be the main business and farming subsidiary. There is another feature of forest management in townships partly settled which should be considered. Very often abandoned farms are sold or offered for sale by the Municipality for taxes and also denuded lands on which there is no clearing. It would be well to give the township power to acquire these lands and hold them as a Municipal property; in time they would become valuable and a source of income. Let them be held as township forest reserves, and to show how the idea is growing of the value of young trees, Mr. Thos. Southworth, of the Forestry Bureau, has had application already for some townships seeking to acquire this very power; give it to them by all means, it would help to increase the value of all timbered lands and give a new view of the worth of our rocky back country and help transform what is in many cases looked upon as a worthless wilderness into one of the most beautiful of all nature's scenes, a country covered with forest.

The incidental but very real value of keeping a considerable area in every district under forest cover has not been touched upon, as it does not come within the scope of this paper.

* Paper read before the Canadian Forestry Association, Toronto, March 10th, 1904.

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LUMBERING AND FORESTRY.

Much space in this number is given to a report of the proceedings of the Canadian Forestry Association meeting in Toronto, a perusal of which will repay any of our readers. The paper by Mr. White is a splendid résumé of the Crown timber regulations and should be preserved for reference by all lumbermen; Mr. Bertram's paper is a valuable addition to forestry literature.

Time has brought about remarkable changes in the management and manipulation of the forests. A few years ago the hewers of timber in this country gave no thought whatever to future growth; to-day forestry and lumbering go hand in hand. The owners of timber land recognize as never before the wisdom and necessity of protecting and assisting the growth of young trees. Old ideas are being discarded, and new methods adopted conforming with the requirements as dictated by a closer and more intelligent study of the conditions. And how erroneous were some of the earlier theories. For instance, it was supposed that, when the land was cut over, the white pine was invariably succeeded by a crop of inferior trees, but the dense growths of young pine now to be found on cut-over lands prove the fallacy of this theory.

The advice of the modern forester to the lumberman is to be conservative in his operations. The day for striving to rid the land of its timber as quickly as possible has gone by. The perpetuation of the lumber industry demands that more consideration be given forest preservation, and the application of methods to that end will result in greater returns to the owner of the land than has generally been supposed. The ideal method is to cut each year only the equivalent to the growth of the timber. This plan, we are glad to know, is now being carried out by Mr. John Bertram,

of the Collins Inlet Lumber Company, whose operations stand as a worthy example to other lumbermen. Mr. Bertram cuts only the accretion of the timber, and, to use his own words, expects to be able to continue lumbering indefinitely so far as his timber supply is concerned.

Little is yet known in this country from actual experience regarding the rapidity of forest growth, but the observations of a few men who may be termed leaders in the science of forestry furnish a basis on which calculations may be made with some degree of accuracy. Opinions of such experts are crystallized in the report of the Ontario Forestry Commission. Here it is stated that a young tree which would cut only one log 8 inches in diameter and 16 feet board measure would, if allowed to stand for thirty years, grow in diameter at the rate of one inch in five years (in some cases the growth is as rapid as one inch in two years), and hence would give a butt log of 14 inches diameter, 16 feet long, or 100 feet of lumber, board measure. In addition to this, however, the tree would have grown sufficient in height to give two more logs, one say of 11 inches and one of 8 inches diameter, both 16 feet long, measuring respectively 49 feet and 16 feet board measure, or a total for the tree of 164 feet board measure. Thus a tree which would require forty years to produce 16 feet board measure of merchantable timber, would, in the thirty following years, have increased to 164 feet board measure. This is considered the period of greatest relative growth. After attaining a diameter sufficient to make a 14 inch butt log, it is estimated that the tree would continue to gain at the rate of $3\frac{1}{2}$ per cent. per annum. These calculations show the necessity of protecting the young growth of pine, and are recommended to the consideration of lumbermen and others in the possession of land not suited for agricultural purposes.

THE REFUSE OF SAW-MILLS.

Notwithstanding the modern methods and improved machinery which are now employed in the manufacture of timber, there is still a vast amount of refuse around saw mills which is simply wasted, and in many cases an expense is involved in getting rid of it. Too much emphasis cannot be placed on the necessity of utilizing this refuse in some manner whenever it is at all possible to do so. The location of a mill determines very largely whether the refuse can be profitably disposed of or whether it must be destroyed in the cheapest possible manner. A certain manufacturer of lumber on the Georgian Bay has carefully considered the question of utilizing the edgings and other small stuff around his mill, and with almost incredible results. He claims that the revenue derived from the sale of such material now covers the cost of operating his mill. In this case the situation is favorable and it is doubtful whether many other mills could accomplish as good results in this direction. Another manufacturer we have in mind determined to endeavor to utilize what had previously been waste material, but it was found that the cost of labor, which was the chief item of expense, was greater than the returns from the

sale of the material. The extent to which the waste product of a saw mill can be utilized is limited to the point at which there is a margin of profit accruing from the operation. There is, however, a large quantity of material which is burned or otherwise destroyed which might in many cases be profitably utilized, and the best method of doing this is a question to which millmen cannot give too much consideration.

EDITORIAL NOTES.

A correspondent has called our attention to the difficulty of obtaining suitable shingle bands in this country. He states that in British Columbia tin bands have been made around the canneries in order to use up their scrap material, and that one or two firms in the east are making bands out of their scrap, but they do not produce a rolled band, which is claimed to be the only satisfactory article. With other kinds there is said to be more or less breaking of bunches of shingles, which means loss of money and trade. Our correspondent argues that the present duty of 30 per cent. should be reduced or abolished entirely, on the ground that it would be of great benefit to Canadian mill men, whereas little injury would be done to home manufacturers, inasmuch as even in the face of the 30 per cent. duty a large proportion of the shingle bands used are imported from the United States. It is not probable that the Dominion Government could at the present time be induced to make any alteration in the tariff. This being the case, there would seem to be an opening in this country for some enterprising manufacturer who would turn out shingle bands equal in every respect to those to be obtained from the United States.

Realizing the increasing scarcity of timber and the probability of a more economical use of forest land, the Weyerhæuser Timber Company has signed an agreement with the Bureau of Forestry of the United States by which the Bureau agrees to prepare working plans for the conservative management of about 1,300,000 acres of the company's timber lands in Washington. The Northern Pacific Railway Company has also requested the Bureau of Forestry to prepare working plans for its timber land holdings in Washington and Idaho. The timber lands of these companies are the most extensive privately owned tracts for which the Bureau has yet been asked to prepare working plans. The task of putting these lands under careful management will be of great magnitude, but the companies believe that the importance and value of the work thus accomplished will far outweigh the labor and expense involved. It is understood that the companies bear the expenses for travelling and subsistence of the persons engaged in the work, but that the salaries of those so engaged will be borne by the Department of Agriculture. The Department reserves the right to publish and distribute the plan and its results for the information of lumbermen, forest owners and others whom it may concern. Last summer a party of foresters made a study of the Norway pine on the Weyerhæuser Company's lands near Cloquet, Minn., and a working plan for these lands is now in preparation. The above facts suggest that the time is not far distant when the lumbermen of Canada may seek the aid of expert foresters in the management of their timber lands.

WESTERN RETAIL LUMBERMEN'S ASSOCIATION

Thirteenth Annual Meeting in Winnipeg.—Freight Rates Discussed.—Mutual Fire Insurance System Desired.

The thirteenth annual meeting of the Western Retail Lumbermen's Association was held in Winnipeg on Wednesday, March 23, and was continued in the morning and afternoon of the following day. The Association includes in its membership nearly all the retail lumber dealers in Manitoba and the Territories, or we may say from Lake of the Woods to the Rocky



MR. J. L. CAMPBELL, Melita,
President Western Retail Lumbermen's Association.

Mountains. Manufacturers and wholesalers are admitted to membership as honorary members, with the privilege of speaking and voting at the meetings. A large number of active members were present from all sections of this vast territory, but comparatively few honorary members. Those who registered were:

Jas. A. Badgley, Emerson; W. H. Duncan, Regina; J. A. Thompson, Arcola; W. H. Clark, Edmonton; Thos. Gibson, Portage la Prairie; A. M. Stewart, Thornhill; W. W. Ireland, Carberry; H. McRae, Plum Coulee; J. Hanbury, Brandon; W. A. Murkill, Dominion City; A. A. Batard, Morris; T. R. Preston, Elen Ewen; A. Z. Brown, Saskatoon; Mr. Craig, Strathclair; H. E. Meilieke, Dundurn; C. Meilieke, Hanley; J. E. Walker, Rocanville; Jas. A. Ovas, Winnipeg; John R. Bunn, Milestone; B. C. Sharpe, Moose Jaw; R. Kinney, Gladstone; James Conn, Indian Head; A. W. Sherwood, Indian Head; J. D. Kenney, Brandon; W. C. Thorburn, Broadview; R. Lockhart, Fort Frances; J. H. Vanwart, Calgary; E. R. J. Forster, Crow's Nest; B. Harvey, Qu'Appelle; Chas. Willoughby, Regina; J. C. Parrott, Saltcoats; A. D. H. Renuart, St. Pierre; Wm. Scott, Port Arthur; D. J. McDonald, Port Arthur; Peter Selmeary, Altona; G. A. Shaughnessy, Savanne, Ont.; M. McManus, Winnipeg; J. E. Hedderly, Dauphin; Chas. Bantry, Dauphin; D. Sinclair, Winnipeg; Jas. B. Dupos, St. Jean; R. J. Friesen, Gretna; W.

F. Ramsay, Killarney; H. S. Springate, Winnipeg; S. G. Marling, Pense; Jos. W. Ross, Whitemouth; B. Harvey, Qu'Appelle; D. Ross, Whitemouth; E. A. Burbank, Solsgirth; Jos. Conway, Crystal City; A. Dunlop, Dunrea; A. Serkan, Niverville; Geo. Holland, Starbuck; G. W. High, Killarney; S. Fargey, Belmont; W. J. Robertson, Cartwright; Wesley Howard, Mather; A. N. Shaw, Miami; G. E. Davidson, Manitou; A. A. Hunt, J. Orfield, A. G. Gould, L. D. Smith, T. A. Cuddy.

The meeting was called to order on Wednesday afternoon by Vice-President A. M. Stewart, of Thornhill and Morden, who occupied the chair. A telegram was read from President J. L. Campbell, of Melita, stating that owing to recent serious illness his physician had forbidden him from attempting the trip to Winnipeg, in the face of the storm prevailing. Telegrams were also received from other members, including some of the directors, who were unable to reach the city in consequence of the snow blockade on some of the branch railway lines. Much sympathy was expressed for the president, who is an exceedingly popular member, on account of his recent severe illness.

The first business taken up after reading of minutes was the presentation of reports of officers. Secretary Isaac Cockburn read the report of the president, which had been forwarded by mail. After reviewing the work and scope of the Association, the address concluded as follows:

PRESIDENT'S ADDRESS.

It was never the intention of the promoters of this association to found a combine or monopoly. The objects in view were to improve the business and financial standing of the retail dealer, to enable him to give the public a better service, to insure him a fair and reasonable return for his labour and capital, to enable him to live and meet his obligations without unduly enhancing the cost of lumber to the consumer. Surely, these are laudable objects. That the founders have not been altogether disappointed we have only to look at the results. Where will you find larger, better and more varied stock in better condition than in the retail yards of this country? What class of business men gives so large a measure of financial accommodation to its customers? Surely, these are very great and substantial advantages, especially in a country such as this where the settler for the most part is so largely dependent upon the generous treatment of the business man. And this favorable condition of the trade has been brought about without unduly enhancing the price to the consumer. I submit without fear of successful contradiction that no other similar business man in this country has so small a percentage of profit on his goods as the retail lumberman. I am perfectly satisfied that were the whole question of gains and losses submitted to a committee of disinterested business men, not only would this contention be sustained, but also it would be found that the percentage of profit is not higher than that obtained before this association was called into existence. True, lumber has advanced in price during the last few years; so have land

and wheat and horses. In lumber, as in these, the price is fixed by the immutable law of supply and demand. At no time in the history of this country has the demand for building material been so great as in recent years. This great demand could only be met by increased energy and consequent increased cost of production. These conditions and these alone are responsible for the increase in price. Notwithstanding this, I think it better to have met the demand, even at greater cost, than not to have met it at all.

It is true that men connected with our association have used their best endeavours, vainly, I am glad to say, to make it a machine for the establishment of a combine or monopoly. Their propositions were vigorously and successfully opposed by men of loftier minds, who saw iniquity in the attempt and danger to the well-being of our association. Foiled in their designs they sought revenge by trying to ruin through calumny what they could not destroy through bad counsel. These men succeeded in loud voiced acclaims in agitating the public mind. Their utterances were so extravagant, so exaggerated, so wide of the facts, that had they not mentioned this association by name, we would have been forced to the conclusion that they did not mean us at all."

SECRETARY'S REPORT.

Secretary Cockburn in his annual report, noted the prosperity evidenced by the finances of the association, which now has a year membership of 498. The honorary membership stands at 90. These figures show an increase of 155 active and 27 honorary members during 1903. General harmony prevailed among the members although there had been a small percentage out of harmony for unduly cutting prices. Continuing he said: "It is well known that our by-laws do not permit of more than a charge of 20 per cent. over the wholesale cost to be the price, and I have no knowledge of any price list exceeding that as a



MR. D. E. SPRAGUE, Winnipeg,
Vice-President Western Retail Lumbermen's Association.

cash basis, and I do know of price lists which are at less than that on that basis. It has been alleged that an exorbitant price has been charged in some instances by isolated members, but I have striven without success to discover any such case. However, this may have possibly occurred, and with the considerable membership we have there may be some one individual member disposed to take an undue advantage of the unthinking, but it does not follow from the rules in the by-laws of the association that any one member is privileged or can debar another member from selling lumber on a basis of 20 per cent. over the wholesale cost at any one point. I should much regret to find that any member would be dishonorable enough to overcharge his customer when

opportunity offers itself. In the various business spheres there have been found persons who would turn aside from probity and fair dealing to take undue advantage in the matter of gain when afforded opportunity. You can rest assured that were I to receive evidence of a transaction of that nature I would speedily bring it before the directors and expulsion would follow. It is scarcely fair to circulate statements of that nature and withhold information as to the culpable party.

In the interests of the advancement and development of the country the Canadian Pacific Railway Co. have made a deliverance on the necessity of cheap lumber to be provided for the intending settler. With this we are in accord with them and are most desirous that it may be made possible, and with this purpose I would most respectfully suggest that the railway company take into their serious consideration the great part devolving upon them in bringing about a reduction in the cost of lumber to the consumer, and not necessarily by their embarking into the lumber business either as manufacturers or otherwise, but instituting a more liberal and reasonable lumber tariff.

Sir Thomas Shaughnessy recently in delivering an address at the Canadian Club in Toronto, spoke as follows: "Transportation was the greatest question of every community. In this country, many portions of which are unpopulated, transportation becomes of paramount importance. Nothing exercises so important an influence upon the progress and at times upon the destiny of a country as the transportation system."

Mr. Whyte having already given emphasis to the importance of cheap lumber in the encouragement of the settlement and development of the country should not now be slow to remedy the existing responsibility of the C.P.R. Co. for the stupendous lumber tariff in force by causing at once to be made a revision of the same with a general overhauling and cutting down process and lowering of the tariff rates upon lumber. With this being done great will be the blessing and relief to the lumber dealer, the settler and the country at large, otherwise most assuredly so long as the C.P.R. continues the dominant railway for the carriage of lumber in the western country the lumber must be high in cost, excepting in districts where the railway haulage is short indeed.

I have been glancing over the lumber tariff somewhat, but before referring to it I would first direct your attention to the bald statement of a newspaper of Vancouver announcing that the C.P.R. had reduced the tariff rate on lumber \$2.50 per thousand feet. Of course this was something pleasing to send forth to the public, but I am sorry to say misleading in the extreme, and you will be surprised how little change really did take place in the way of reduction. Hitherto the shipments from the coast were subject to a tariff of 40c. per 100 lbs. upon fir lumber, and upon cedar and other lumber 50c. per 100 lbs. The tariff has now changed upon cedar and other lumber to 40c. per 100 lbs., upon dimension and the lower grades up to that of ship-lap, being the same rate as that of fir, but upon grades of cedar and other lumber better than ship-lap grade the former rate of 50c. per 100 lbs. continues in force. The coast manufacturers have issued a circular to the retail dealers intimating that they have decided to reduce ship-lap and common grades of lumber \$1.00 per thousand feet, the better grades remaining at former prices, and the freight tariff, I am informed, remained just what it was on the better grade of lumber. It is not necessary for me to state to you that the quality of lumber that has been reduced in price comes in competition with the dimension and ship-lap of the mountain, the pine and spruce lumber, and which being of less haulage have been mostly sought after by the dealers. I have been told that the mountain manufacturers are reducing their lumber to the extent

of \$1.00 per thousand feet in the hope that the C. P.R. will reduce the tariff upon that lumber to the extent of 50c. or 60c. per thousand feet. This will show you how disappointed has been the looked for reduction on the cost of lumber and that the C.P.R. have given away very little, and that apparently very reluctantly. The freight charge is high, and necessarily is made high to the dealer, when a freight of \$8.00 or \$10.00 per thousand has to be added to the mill price at place of shipment.

Then again there appears to be an apparent unfair and unjust discrepancy existing in a tariff upon lumber pertaining to several branch lines upon a haulage of similar miles on the main line 7c. per 100 lbs. more than to Otterbourne, having a similar mileage. This extra charge on dressed lumber is \$1.40 and undressed lumber \$2.10 per thousand feet. Kehoe, 123 miles from Portage la Prairie, the extra charge is 8½c. per 100 lbs. more than to Emerson, a similar mileage, being extra per thousand feet dressed lumber \$1.70, and undressed lumber, \$2.55. Macdonald, 10 miles from Portage la Prairie, extra tariff 3c. per 100 lbs., more than to Poplar Point, which is 16 miles from Portage la Prairie, extra cost per thousand feet 60c. upon dressed lumber, 90c. per thousand on rough lumber. Rapid City from Brandon, 33 miles, tariff 4½c. more than to Melbourne, 35 miles, being extra cost per thousand feet, 90c. on dressed lumber and \$1.35 for undressed. Miniota on the Miniota branch, 77 miles from Brandon, extra cost 6c. more than to Portage la Prairie similar mileage, extra per thousand feet, dressed lumber \$1.20, and undressed, \$1.80.

The Kirkella branch is much higher per mileage than upon the Miniota branch, a car from a point on the Canadian Northern Railway to Rocanville on that line the freight charges amount to equal to \$8.00 per thousand feet having a mileage on the Canadian Northern Railway of 172 on spruce lumber shipped over the Canadian miles with a 10c. rate and a mileage of 147 miles on the C.P.R. with a 14c. rate. Then a car shipped to a point on the Kirkella branch from British Columbia costing at the mill \$154.97 and the railway freight on the same \$261, totalling \$415.97, showing the net manufacturer to receive 32.45 per cent., Railway Co. 54.66 per cent., retail dealer 12.89 per cent. The following is a memo showing the disproportionate charges of the C. P. R. Northern Railway and that of the C.P.R. being shipped to points on the Canadian Pacific Railway:

Shipped to—	C.N.R.		C.P.R.		Total Miles.
	Miles.	Rate.	Miles.	Rate.	
Rapid City	136	8	59	9	195
Oak River	136	8	74	10	210
Miniota	136	8	103	12	239
Minnedosa	136	8	44	7	180
Newdale	136	8	62	9	198
Foxwarren	136	8	110	12	245
Langenburg	136	8	145	14	281
Yorkton	136	8	188	15	324
Austin	173	10	28	6	201
Carberry	173	10	49	8	222
Kirkella	173	10	147	14	320

Taking the comparative charges of the above on a basis of 100 miles for each line of railway, the Canadian Northern Railway will be found to have charged a rate of \$5.85 per 100 lbs. on 100 miles while the C.P.R. Co. charge 11 1-2c. per 100 lbs. on 100 miles, or being a higher charge of 56 1-2 per cent. over that of the Canadian Northern or equal per thousand feet by the Canadian Northern \$1.17, and that of the C.P.R. \$2.30 per thousand feet, or an excess charge of the C.P.R. Co. for the same mileage of \$1.13 per thousand feet or 96 1-2 per cent. greater.

A car of lath shipped from Ladysmith to Calgary the manufacturer received therefor \$44.55; the railway company for freight \$182.45, making \$227.00; the cost to consumer, \$243; for this the manufacturer gets 18 1/4 per cent., railway company

75.12 per cent., retail dealer 6.54 per cent.

Car, Vancouver to Regina, three cars 64,534 feet.—

Manufacturer gets at mill	\$64.54
Railway gets	695.00
Dealer	206.50

Sold to consumer at	\$1,593.74
Manufacturer gets	43.44 per cent.
Railway gets	43.62 per cent.
Dealer	12.94 per cent.

733,780 feet sold at Innisfail.—

Railway charge for freight	19.06 per cent.
Retail dealer	13.10 per cent.

One car from Vancouver to Dundurn.—

Cost at mill	\$158.84
Railway charge for freight	212.49
Retail dealer	87.01
Cartage	9.70

Cost to consumer	\$2,468.03
Manufacturer gets	33.00
Railway freight	35.44
Retail dealer	18.70

Two cars to Moosomin, railway gets on cost to consumer, 33.17 per cent.; dealer 17.33 per cent.

On four cars, Vancouver to Morris, railway gets on cost to consumer 41.02 per cent.; retail dealer gets 14.78 per cent.

In addition to the above, I have procured from a number of dealers along the main line of the Canadian Pacific Railway and the Pembina, Minnedosa and Yorkton, Prince Albert and Edmonton branches, a statement of the cost of lumber from Vancouver and the mountains, covering about twenty-eight points, and I find that the railway company receives for freight an average of 25 97-100 per cent. of the cost of the lumber to the consumer, and that the retail dealer receives an average of 15 21-100 per cent. of the cost of the lumber to the consumer. This, I think, should be conclusive as to whether the retail dealer obtains excessive profits upon the business done by him when it is borne in mind that the expenses entailed in carrying on a lumber business are estimated to be 10 per cent. thereon. I also think the public can readily conclude whether the railway company are really doing their utmost to lessen the cost of lumber in the matter of transportation.

The lumber areas are more or less widely separated and manufacturing for the markets of this country is being carried on at all points. Commencing at the west end of Lake Superior and westward and north through the Dauphin district and on to Prince Albert, Edmonton and south along the Calgary and Edmonton railway, as far south as Okotoks and High River, and the vicinity tributary to Macleod together with the extensive operations of both the mountain and coast of British Columbia. On these several timber areas there are over one hundred mills manufacturing lumber and shingles for this market, and as to the price of lumber at wholesale, competition at selling is carried on actively. Spruce lumber, somewhat lower in price, has become much in request of builders, and this present season the manufacture of it will amount to one hundred and fifteen million feet or over. We find the manufacturers of spruce competing in this class with the white pine and mountain lumber, and white pine and mountain lumber being pushed for sale at all points, and the extensive manufacturers of the coast are everywhere in the market. At present owing to the high cost of transportation, the white pine manufacturers are unable to successfully meet competition west of Indian Head.

Much unfavorable comment has been advanced as to the restrictive tendency of the association. In answer to this I might state that there are now three hundred and thirty-seven active members or retail dealers who attend to the retail lumber business of this province and the Territories, and with the operation of railways now in course of construction there will be over 500 lumber yards. At one hundred points there are tw

lumber yards, sixteen points, three yards, seven points, four yards, and eight in the city, with increasing membership as the business warrants it. On lines of railway in course of construction all applications for membership without any preference in the matter of priority of application are granted, and in extending the association beyond its present confines all dealers are accepted on an equality.

This association is careful to look into the interests of the purchaser as well as the seller of lumber, insisting that no exorbitant charge be made on lumber, and the requirements of the country for lumber is carefully looked after. This association is administered by a careful board of directors who are capable of grappling with any situation that may arise. There is no association whether mercantile or professional which is conducted on broader lines, and the members of it appreciate the advantages of it to them in their business. Exception has been taken to this association as being calculated to foster high prices, but it will be observed from the preamble and by-laws of it, that such is not contemplated, and rather that the purpose is to enforce legitimate business conducted on a moderate percentage over the wholesale cost, as therein stated, and I think as shown by the foregoing statement of the percentage received by the retail dealer it is very moderate indeed, especially after deducting therefrom the expenses attending a retail yard and interest account, which must necessarily mean a considerable sum.

As to the undue cost of lumber on the part of the manufacturers, I do not think there need be any concern, when it is taken into consideration the large and varied manufacturing interests, having a storing disposition on the part of manufacturers to prevent an accumulation of lumber in stock. Nor need there be cause for alarm as to the supply of lumber, which will be found to be quite large enough to meet all demands. At the end of the lumbering season of 1903 there was estimated in the lumber yards of the mills to be about 140,000,000 feet and perhaps 80,000,000 feet in the yards of the retail dealers throughout the country. The probability is that at the end of 1904 the lumber in stock at the mills will be found to have increased."

DISCUSSION.

The Secretary was highly complimented upon his excellent report, and a long discussion followed on freight rates, as dealt with in the report. The exorbitant freight charges were roundly denounced and many individual cases of excessive charges were reported. The agitation throughout the country on account of

the high price of lumber was dealt with. The farmers blamed the lumber dealers for this, but it was easily shown that the enormous railway rates were the cause of the high cost of lumber. The dealers claimed they were selling their stocks on a margin of 15 to 20 per cent. On this small margin they were obliged to carry large stocks and often also sell on long credit dates in order to assist and accommodate their customers. The freight charges, which represent a large portion of the cost of lumber, had to be paid in spot cash, while they were obliged to sell on credit largely. On this basis their margin of profit was very small.

The election of officers followed. John L. Campbell was re-elected president and D. E. Sprague, of Winnipeg, was made vice-president. Three vacancies on the Board of Directors were filled by the election of the following: G. B. Housser, of Portage la Prairie, J. E. Parrott, of Solsgirth, and G. E. Davidson, of Manitou.

On resuming on Thursday morning the first matter taken up was the question of a mutual fire insurance system for retail lumbermen. This was debated at considerable length and with a general feeling in favor of an effort to establish such a system at once. The rates of insurance paid by lumbermen were declared to be exorbitant, and were shown to range from 2 to 5 per cent. One or two members declared that they had been compelled to pay even higher rates. A special committee was appointed to secure information and report to the executive, and the directors were authorized to go on at once with the adoption of a system of fire insurance if the committee's report were favorable. The feeling of the members was very strongly in favor of immediate action in this matter, as they believed they were being heavily mulcted by the insurance companies.

A discussion on the lien laws next followed. A committee was appointed to confer with the proper authorities in an endeavor to have the laws of Manitoba and the Territories remedied.

In the afternoon the longest discussion of the meeting took place on the position of wholesalers in the Association. This was precipitated by a motion from Mr. Smith to the effect

that honorary members should be dropped from membership. He contended that as this was a retail association it should be composed solely of retailers, and he charged that the wholesalers had had too much voice in directing the affairs of the association in the past. Several members seemed to agree with this; others wanted the situation to remain as it was, but the consensus of opinion seemed to be in favor of having the wholesalers present at the meetings and allowing them to take part in the debates, but not permitting them to vote. The prevailing opinion was that every effort should be made to work in harmony with the wholesale manufacturers, as their interests were largely identical.

An amendment was moved by Mr. Clark to the effect that honorary members should be debarred from holding office or voting, and that they should be relieved of the payment of membership fees. The amendment was carried practically unanimously. The honorary members will therefore remain on the membership roll, but will be barred from voting and holding office. In this connection it may be noticed that the manufacturers have recently formed an association of their own, independent of the retail association. In the future, no doubt, it will be found advisable to hold the annual meeting of the two societies—wholesale and retail associations—at the same time, so that a conference could take place on any questions requiring joint action.

A resolution to the effect that membership should be refused to any applicant who had less than \$5,000 capital to invest in his business was put upon vigorously, and did not come to a vote.

The last discussion took place on the question of line yards, as introduced by the delegates from the western branch associations. The western delegates asked the association to declare against line yards. A long discussion followed and some strong speeches were made against the line yards. Representatives of line yards present declared that they were living up to the rules of the association. Several amendments and counter motions were introduced, and finally a motion to postpone indefinitely put a stop to further discussion.

On motion of Messrs. Graham and Van Wart a recommendation to the Board of Directors was made to increase the salary of the secretary by the sum of \$300.

An adjournment indefinitely was then carried.

LUMBER INSURANCE AT REDUCED COST



Pennsylvania Lumbermen's Mutual Fire Insurance Co.

632 DEXEL BUILDING

PHILADELPHIA, PENNA.

TRANSMISSION ROPE.

The Consumers' Cordage Company, of Montreal, having received many enquiries from time to time regarding the relative efficiency of three and four strand rope, give the following reasons for the position they take in always recommending three strand rope in preference to four strand:

Three strand rope is laid more closely, has no heart and the strands bear on each other evenly. On the contrary, there is a space left in the centre of four strand rope, which is usually filled up by a heart. The rule in making rope to get at the number of yarns put into the heart is that the heart should contain 1/13th of the total number of yarns in the strands composing the rope. Supposing a four strand rope contained 132 threads, the heart would be equivalent in bulk to 10 threads, while the strands would contain 33 threads

apiece. It is readily seen how much inferior in strength the heart is to any single strand, and it is not surprising that when a strain comes upon the rope that the heart is the first to break. After the heart is parted a space is left inside of the rope, one of the strands cuts in, the rope is stranded and after a time goes to pieces. With a three strand rope this does not occur, for the strands bear evenly.

Furthermore, the strength of four strand rope is much inferior to that of three strand. We give you below tests of three and four strand rope made by United States Government at the Watertown Arsenal.

COMPARATIVE TESTS, PURE MANILA ROPE.

Cir. Size	3 Strand.	4 Strand.
2 1/4 inch.....	6206 lbs.....	4633 lbs.
3 ".....	9800 ".....	8583 "
4 1/2 ".....	20873 ".....	18100 "

The above is the average of three tests.

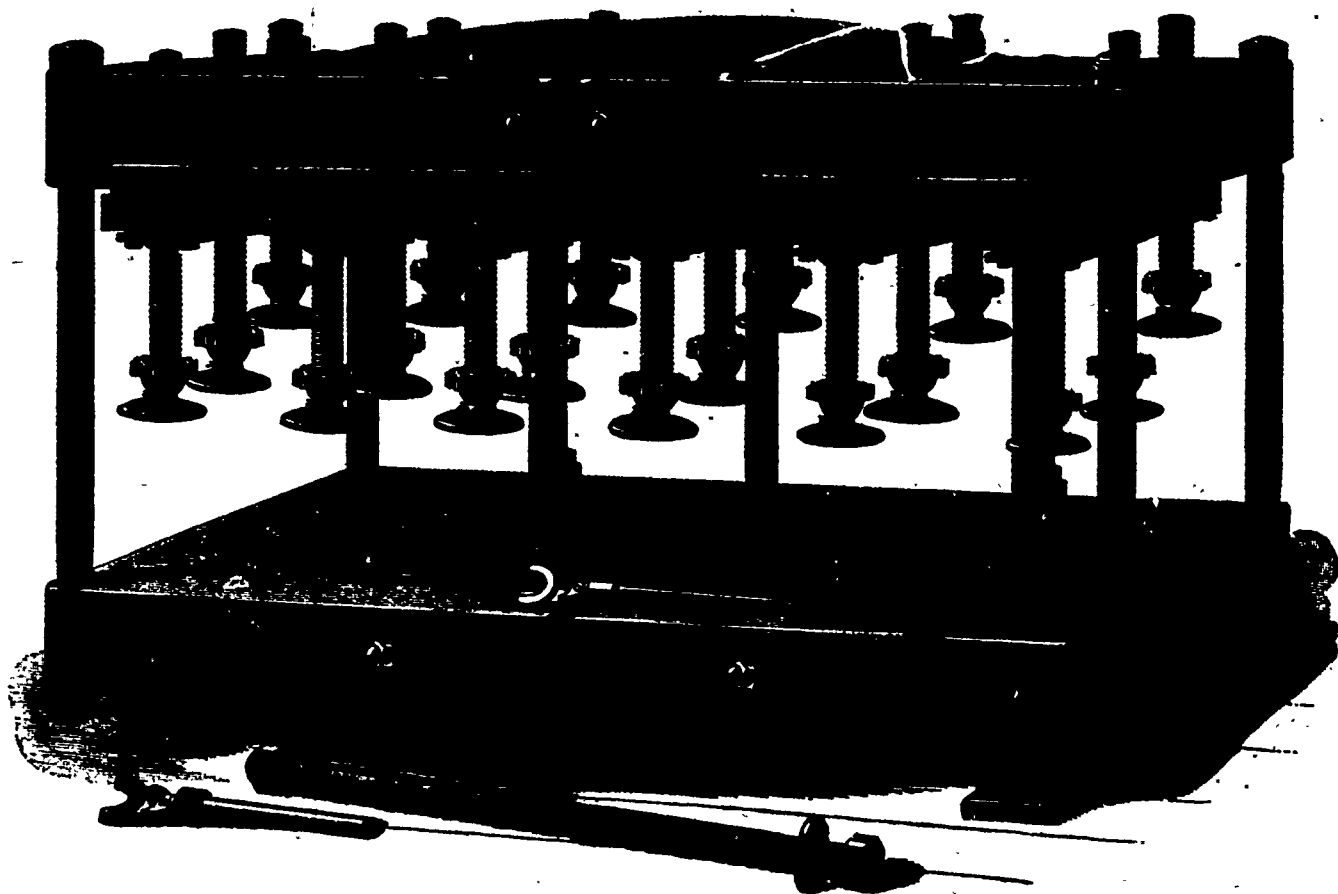
There is no room for question but what three strand rope is stronger than four strand rope. Three strand rope is also much better adapted for transmission of power because it can be more easily and thoroughly spliced, no matter how expert a man is employed for this purpose.

A company was recently formed at Victoria, B. C., with a capital of \$50,000, to conduct lumbering operations and build a saw mill at Port Renfrew. It is now stated that the proposed mill will be erected at Victoria.

The Preston-Bell Furniture & Lumber Company have the crib-work for their new saw mill at Fort Francis, Ont., well under way. The mill will be 84 x 40 feet, equipped with modern machinery, electric light, etc., and will have a capacity of 60,000 feet per day.

If you are using glue to any extent it will pay you well to thoroughly investigate the subject of

MODERN GLUE - ROOM APPLIANCES



No. 26 VENEER PRESS.—With Guides and with Screws Fitted for Ratchet Wrenches.

This engraving represents our improved large complete Veneer Press, which is the most convenient and best paying press of this kind ever introduced. In it are combined all the features of advantage, insuring perfect work and convenience in operation. The principal points of advantage are: A solid and perfectly true plate to clamp the stock against. **Screws adjustable in both directions** in the press. **Ratchet Wrenches** to apply the pressure at lower end of screws. **Guides** to keep the stock in line while being pressed. **Open side**, allowing stock to be placed in position from the front. Most of these points are only found in this style Press.

The **top and Base** are extra heavy and are strongly ribbed and braced, and are strengthened by large steel truss-rods drawn tightly over their arches.

The **Cross-sections** are also strengthened by steel draw-rods.

The **Screws** are made of 2-inch steel, 24 inches long, and have square threads.

The **Nuts** in which the screws work are made of the **best and toughest malleable iron**, are tapped out, have a **long thread-bearing**, and are adjustable in the cross-sections which slide in planed ways, lengthwise of the press. By this arrangement the screws can be placed closely together or in almost any position to suit the operator.

The Press is 8 feet 6 inches extreme length or 8 feet 1 inch long between end uprights, is 36 inches extreme width of base, and 30 inches wide between uprights; has six (6) Cross-Sections with three Screws each (18 screws). The weight is about 6,000 pounds.

The Press as shown is 37 inches between base and top, and will take in 25 1/2 inches between the bottom of flanges on screws and top of base. This distance can be increased or diminished to suit the purchaser.

The number of Cross-sections and also the number of Screws in each Section can be altered to suit the purchaser.

Our special Glue-Room Catalogue No. 1197 shows Veneer Presses of various sizes and styles, Hand and Power Glue Spreading Machines, Trestle Clamps, Double Clamps, etc., etc. We send this upon request to all interested parties. Be sure to mention the number, 1197.

HAMMACHER, SCHLEMMER & CO.

New Home after May 1, 4th Ave. and 15th St.

Hardware and Tools

NEW YORK CITY, Since 1848

THE NEWS

—Hugh Baird is offering for sale his saw mill at Markdale, Ont.

—Goss Bros., saw mill, Ashcroft, B. C., have been succeeded by W. H. Davis.

—The Canada Wood Grain Company, Limited, Toronto, has been incorporated.

—W. M. Jarvis has sold his retail lumber business at Red Deer, N.W.T., to M. Jarvis.

John McElrea has sold his lumber yard at Sidney, Man., to the Canadian Elevator Company.

—It is stated that a company of Minnesota lumbermen purpose erecting a large planing mill at Emerson, Man.

—The Porto Rico Lumber Company have sold their retail business at Nelson, B.C., to A. G. Lambert & Company.

—The Tyee Mining Company have established a saw-mill in connection with their property at Mount Sicker, B. C.

—The Bocabec Box & Lumber Company, of Bocabec, N. B., recently added a rotary and lath machine to their plant.

—The equipment of Sewell's mill at Maugerville, N. B., has been increased by the addition of a planer, dynamo and boiler.

—The Morris Manufacturing Company expect to have their new planing mill at Hartney, Man., in operation this month.

—D. Leckie & Company have sold their lumber business at Hartney, Man., to the Prairie Lumber Company, of Winnipeg.

—The Abbotsford Lumber Company, of Abbotsford, B. C., have recently added a donkey engine to their logging equipment.

—The Springer Lumber Company have leased the Trotter planing mill at Sturgeon Falls, Ont., and will install a new dry kiln.

The Great Northern Lumber Company has applied to the City Council of Vancouver, B. C., for foreshore rights on False Creek.

—Cavers & Saunders, planing mill and lumber, Dutton, Ont., have dissolved, and the business will be continued by Mr. Saunders.

—Mr. Lloyd is placing new machinery in his saw mill at Westholme, B. C., and in future will manufacture all kinds of general mouldings.

—Conn & Ballantyne have completed a new saw mill at Franktown, Ont., the equipment including a circular saw and an 18 h.p. engine.

—The Winnipeg Casket Company, of Winnipeg, Man., are adding a department for the manufacture of boxes, packing cases and similar goods.

—The Canadian Lumber Company, which recently completed a saw-mill at Trout Creek City, B. C., are now building a planing mill and dry kiln.

—The Columbia River Lumber Company are estab-

lishing a new saw mill at Kault, B.C., to contain gang saw and to have a capacity of 60,000 feet per day.

—The St. John River Log Driving Company has made application to the New Brunswick Legislature for an Act to continue the corporation for ten years.

—James A. Patterson, of Salmon River, N.B., has leased the saw mill at Robinson's Point, five miles below Fredericton, and is installing new machinery therein.

—W. J. Dean has built a new sash and door factory on the shore of False Creek, Vancouver, B.C., where he will be able to take his raw material directly from the scows.

—The Ludlam-Ainslee Lumber Company, Limited, of Leamington, Ont., has been incorporated, to carry on a general saw mill and wooden ware business, with a capital of \$50,000.

—The Hastings Shingle Manufacturing Company, of Vancouver, B. C., have decided upon the erection of a large mill at Moodyville. In addition the flume near Moodyville will be improved and enlarged.

—The British Columbia Lumber & Shingle Manufacturers' Association have elected the following officers for 1904: President, E. H. Heaps; vice-presidents, J. G. Scott, J. A. Sayward, W. Hepburn; secretary, R. H. H. Alexander.

—The Union Manufacturing & Trading Company, Limited, has been organized at Rockland, Ont., to manufacture builders' supplies, lumber, etc. The promoters include J. A. Cameron and G. C. Edwards, lumbermen, of Ottawa.

—The St. Raymond Paper Company has been incorporated, with headquarters in Montreal, to manufacture lumber, pulp, paper, etc., capital \$500,000. The incorporators are John McCaw, W. J. Buchanan, John Adair, J. P. Enwright and B. W. Murison.

—The Vancouver Clear Cedar Mill Company, Limited, has been incorporated by the British Columbia government, with a capital of \$25,000, to carry on the saw-mill business at Vancouver, B. C., conducted by Albert B. Betts, A. C. Davidson and Harold Urquhart.

—The Royal City Mills, of Vancouver, B.C., recently prepared a stick of spruce for the Dominion Government, presumably for exhibit at the World's Fair. It is forty-eight inches wide, sixteen feet long and three feet in diameter, and has not a single knot or blemish.

—The River Ouelle Pulp & Lumber Company, in which William Power, M.P., of Quebec, is interested, are building a new steam saw mill at St. Pacome, Que., in which they will install a double cutting band. They expect to have the mill in operation by May 20th next.

—The Christie Woodworking Company, Limited, St. John, N.B., has been incorporated, to do a general woodworking business. The capital stock is \$40,000. The members are James Christie, Charles D. Christie, William A. Christie, Alexander Christie and Mary A. Christie.

—W. McKessock, of Nakusp, B. C., has recently constructed two fine barges, 125 feet in length and 36 feet beam, for the Harbor Lumber Company, of Revelstoke. He has also built a tug for the Yale Lumber Company, the machinery for which is being supplied by

N. Thompson & Company, of Vancouver, who are now installing boilers for the same company.

—The Okotoks and High River Lumbering & Development Company, Limited, is seeking incorporation, to aquire the business of lumbering and mining now conducted by the Okotoks and High River Lumbering & Developing Syndicate at Okotoks and High River, N.W.T.

—The Red Deer Lumber Company, which has established a large saw mill at Red Deer, N. W. T., is composed of O. A. Robertson, St. Paul, president; J. A. Brown, George B. Barnes, jr., St. Paul; W. P. Dutton, Winnipeg; G. W. Dutton, Sycamore, Ill.; and S. G. Comstock, Moorhead.

—The saw mill of F. E. Sayre & Co., St. John, N. B., resumed operations recently after having been closed down since Christmas. In the meantime there was installed machinery for the manufacture of staves and heading, and it is the intention to further increase the equipment in the near future.

—Chappell Bros. & Company, of Sydney, N. S., who have one of the largest and most up-to-date wood-working plants in Eastern Canada, are increasing the facilities of their branch factory at Glace Bay and have placed orders for a number of woodworking machines with J. Ballantyne & Company, of Galt, Ont.

—The Tobique River Log Driving Company, of Woodstock, N. B., desire amendments to their act of incorporation to change the date and place of meeting to the first Wednesday in April of each year at Fredericton and giving the right to the company to receive tenders for the driving of logs instead of sale by public auction as at present provided.

—Lemon, Gonnasson & Company, of Vancouver, B.C., are making extensive improvements and additions to their planing mill and sash and door factory. A new saw mill, with a daily capacity of 20,000 feet and 130x40 feet in size, is in course of erection, the boilers for which will be supplied by R. Seabrook, of Victoria. The company expect to have the new plant in operation within three months.

—The Sarnia Bay Timber & Salt Company has been incorporated, with a capital of \$300,000, to acquire the business of the late Edmund Hall at Sarnia and Nairn Centre, Ont. The new company is composed of W. D. Lummis, of Toronto; J. J. McFadden, of Sault Ste. Marie; W. J. Bell, of Sudbury; John Ferguson, of Renfrew; Lorne Hale, of Pembroke, and William Anderson, of Ottawa, all well-known lumbermen.

—E. Stewart, Dominion Superintendent of Forestry, has recently been in the west, and when in Winnipeg consulted with government officials regarding the advisability of selling portions of permanent timber reserves in Manitoba on which settlers have encroached. The reserve particularly affected is in the Riding Mountains, south of Dauphin, where a large number of people have squatted and have made improvements in spite of repeated warnings. It is understood that in order to stop future encroachments of this kind on permanent timber reserves an act will be passed by the Legislature defining the boundaries of timber reserves and providing that timber lands squatted upon cannot be transferred to any person except by legislative enactment.

CRAIG MINE CRYSTAL CORUNDUM WHEELS

Our Pure Crystal Corundum Saw Gummars have no equal for their rapid, cool, cutting properties.



Read the following from Bulletin 180 of the United States Geological Survey, which says:
"Often a distinction is made between emery and corundum, many persons not recognizing emery as a variety of corundum.

Emery is a mechanical admixture of corundum and magnetite or hematite. It is, of course, the presence of corundum in the emery that gives to it its abrasive qualities and makes it of commercial value, and the abrasive efficiency of emeries varies according to the percentage of corundum they contain."

Emery is imported, mined by Greeks and Turks and contains only about 25% corundum. Our Crystal Corundum is guaranteed to be 98% pure alumina, a Canadian product, mined and manufactured by Canadians for Canadians.

HART CORUNDUM WHEEL COMPANY, Limited, Hamilton, Ont., Can.

THE Wood-Worker and Retailer

AN ELECTRICALLY OPERATED SASH AND DOOR FACTORY.

The new mill of the Baltimore Sash & Door Company, at the corner of Sharp and West streets, Baltimore, Md., is a good example of modern methods, and illustrates the great advance made in machine installation and factory equipment during recent years. The arrange-

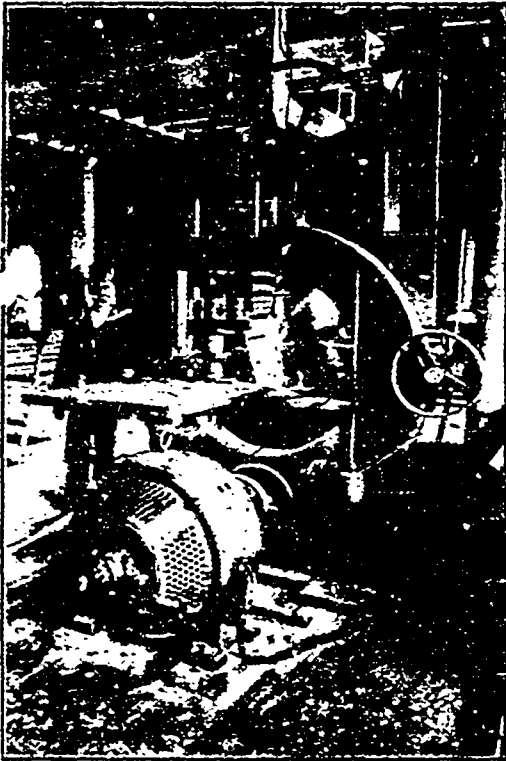


FIG. 1. 40 INCH BAND SAW.

ment of apparatus shows careful and skillful planning and permits easy handling of material, with a maximum saving of time and labor. No space is wasted, and yet about each machine there is abundant room for operation, together with free head-room and a noticeable absence of the intricate belting and shafting usually found in wood-working establishments.

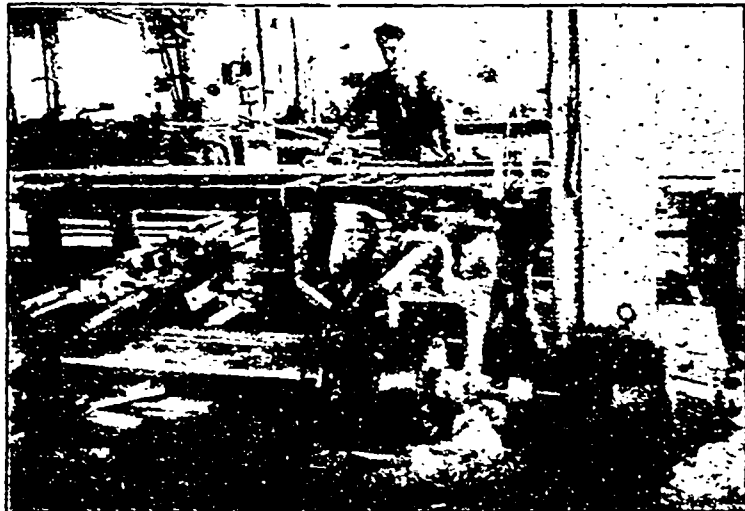


FIG. 2.—CUT-OFF SAW.

Good light abounds everywhere. These obvious advantages are largely due to the foresight of the managers of this company in adopting a system of electric distribution of power and a well thought out plan of motor drive. The plan of driving larger machines each by its own motor is skillfully combined with group driving for lighter apparatus, the conditions peculiar to the work to be done being the determining factor in this division.

The mill has a present capacity of five hundred doors and six hundred complete window sashes per day of ten hours, or approximately one hundred and fifty thousand doors and one hundred and eighty thousand sashes in an ordinary working year. A specialty is made of high grade cypress and white pine.

The main building contains two floors, the first occupied by the door and moulding departments, while the second is largely devoted to the manufacture of sashes. An electrically operated elevator connects the two and provides adequate facilities for handling the necessary material and machinery.

Exhaust pipes over each machine collect the sawdust and shavings and feed into a storage tank over the boiler-house outside the main building. In this way cleanliness is always secured, and fuel sufficient for the power needed is delivered to the boilers, practically without handling and at an almost negligible cost. Draught for this purpose is provided by a 55 inch Sturtevant blower, mounted on a platform under the ceiling of the first floor and driven by a 42 h.p. Westinghouse open type multipolar motor. The entire system of blower, piping, storage tank, etc., was installed by the Dixey Blowpipe Company, of Baltimore.

The power plant is located in a separate building. Steam at eighty pounds pressure is developed in a pair of horizontal return tubular boilers, installed by the Thomas Brassher Company, of Baltimore, and equipped with the appliances necessary for burning sawdust fuel. All dust and dirt of fuel are confined within automatic feed pipes leading to the furnace. Boiler and engine-room join but are separated by a brick partition.

A 155 h.p. Ball & Wood simple automatic engine, direct connected to a 100 k. w. 250 volt direct current Westinghouse generator, is at present in service. A second unit will be added later, as the mill is to be enlarged. A marble switch-board, with all requisite apparatus, furnishes control for the power and lighting circuits, which are run to distributing panels on each floor of the main building. From these distributing centers branch lines run to the various motors and lamps in each department. Means are also provided for the control of each motor at the machine or

group of machines which it drives. Semi-enclosed Westinghouse direct current Type "S" motors have been adopted as standard; though a few of the multipolar open type are also used. There are, at present, about thirty motors with approximate total capacity of 250 h. p.

The machine equipment consists, in part, of: 16 inch cut off saw, 4,000 ft. per minute, made by J. A. Fay & Company, with 3½ h. p., 700 r. p. m. motor; end paneller, made by E. B. Hayes Machine Company, with 3½ h. p., 700 r. p. m. motor; panel raiser, capacity 600 panels per day, E. B. Hayes Machine Company, with 15 h. p., 600 r. p. m. motor; 14" moulder,

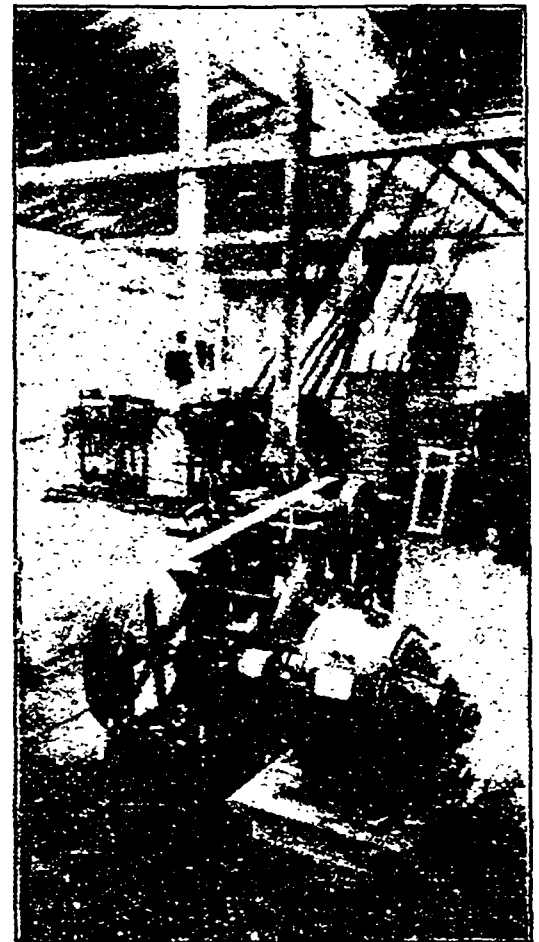


FIG. 3.—SASH STICKER.

J. A. Fay & Company, with 15 h. p., 900 r. p. m. motor; 9" moulder, J. A. Fay & Company, with 10 h. p., 1000 r. p. m. motor; No. 4 "American" 40" band resaw, with 10 h. p., 630 r. p. m. motor; "American" double surfacer, with 7 h. p., 900 r. p. m. motor; 42" band resaw, with 10 h. p., 600 r. p. m. motor; 16" swing saw with 3½ h. p., 1600 r. p. m. motor; vertical shaft variety moulder, 3000 r. p. m., J. A. Fay & Company, with 2 h. p., 1200 r. p. m. motor; 42" sander, J. A. Fay & Company, with 15 h. p., 650 r. p. m. motor; scroll saw with 2 h. p., 1200 r. p. m. motor; eight drill rail borer, E. B. Hayes Machine Company, capacity 500 rails per day, with 6 h. p., 700 r. p. m. motor; door clamp, E. B. Hayes machine Co., one door per minute, with

3½ h. p., 1120 r. p. m. motor; dowell driver, E. B. Hayes Machine Company, with 3½ h. p., 700 r. p. m. motor; double end tenoning machine, E. B. Hayes Machine Company, with 15 h. p., 1100 r. p. m. motor; 28 in. drill stile borer, E. B. Hayes Machine Company, with 10 h. p., 630 r. p. m. motor. This machine will in one day turn out material for 1200 doors.

On the first floor a 3½ h. p. motor operates

character. Large orders have already covered the entire output and made an increase in capacity necessary. Additions are being prepared and largely increased facilities provided to meet the growing demand for a well made product.

AMERICAN NO. 15 DOUBLE SURFACER.

The accompanying illustrations represent a new machine just brought out by the American Woodworking Machinery Company. It is intended for general

ing three knives. The journals are of large diameter, running in long, self-oiling boxes lined with the best babbitt metal.

The top cylinder is double belted. The bottom cylinder is carried in heavy yoked boxes and arranged to slide out from the working side of the machine for sharpening and adjusting the knives. The yoke is clamped rigidly to the frame and has a vertical adjustment on gibbed ways by means of screws and worm gearing. The lower delivery roll is carried on the same casting, requiring no independent adjustment in changing from a double to a single surfer.

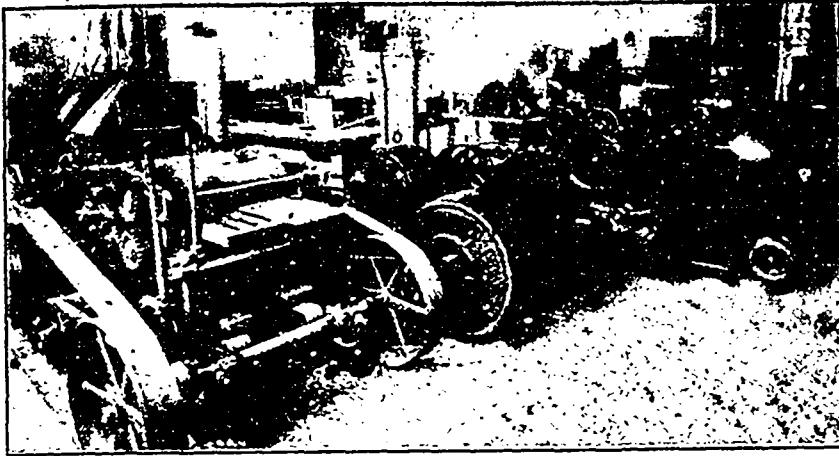
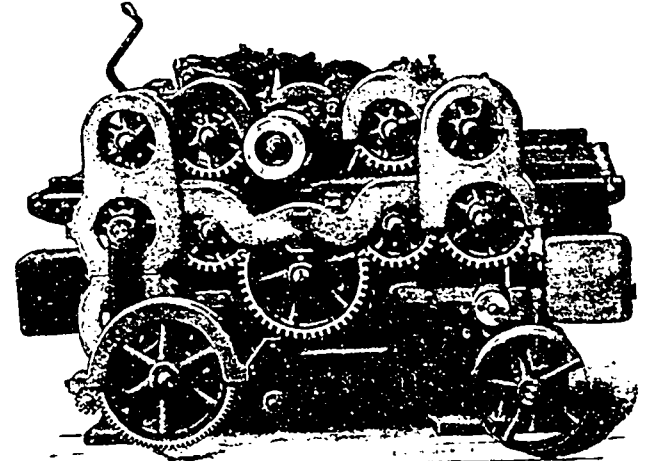


FIG. 4.—MOULDER AND PANEL RAISER.



GEARED SIDE.

a small group of emery wheels and saw files in the repair shop. In the sash department 10 h. p. and 15 h. p. motors, respectively, operate two short line shafts, to one of which is belted two "American" sash stickers, one hollow chisel, one franking machine, one buzz planer and one gang rip saw, while the other drives a six inch, four sided moulder, one combination saw,

planing mill work and box factories and is built in two sizes to work 26 or 30 inches wide by 8 inches thick.

The bed raises and lowers by means of four large screws with bronze nuts, connected and operated by bevel gears and worked by a single crank. The bed is built in the most substantial manner, all working surfaces being planed and fitted and the whole strongly braced.

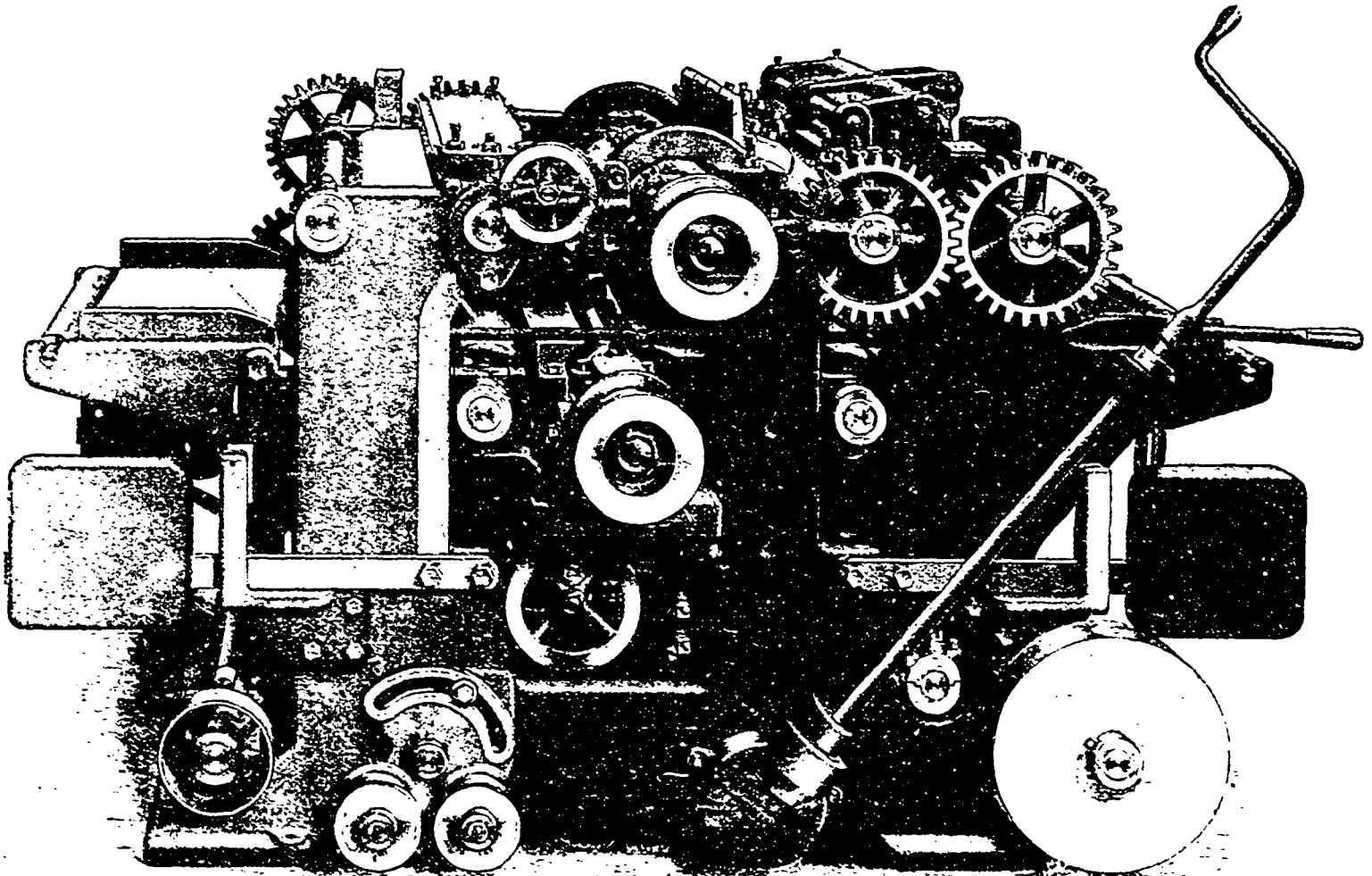
The feed consists of four rolls driven by heavy gear-

The lower cylinder is provided with a spout and the upper cylinder can be hooded, to which are attached pipes to take care of the dust and shavings.

The chip breaker is made in four sections, each of which rises independently.

The pressure bar for the upper cylinder forms the bed plate for the lower cylinder and is adjustable by connected screw and worm gearing, worked by one hand wheel.

The expansion gear system is the most modern con-



No. 15 DOUBLE SURFACER—BUILT BY AMERICAN WOOD-WORKING MACHINERY COMPANY.

one single end tenoning machine, one "American" sash dove-tailer, one chain mortiser, one pony planer, and one emery grinder.

During six months' operation the mill has more than filled the expectations of its owners, and has again demonstrated the convenience and economy of motor drive for work of this

ing made from accurately cut patterns. The lower boxes are adjustable without the use of wrenches. All pressure is obtained by weights and all gears are protected by housings. The top in-feed roll is divided so as to receive two pieces of lumber of uneven thickness and the pressure is equally applied to both the centre and outside boxes. The divisions of the roller have a parallel lift by means of connected yokes.

The cylinders are of hammered crucible steel, carry-

struction, heavy and strong, allowing a wide range of feed and making the machine a very powerful feeder.

Every part or piece of the machine is lettered or numbered for convenience in ordering.

For fuller description and prices on the above, or any other woodworking machinery, we would refer our reader to the American Woodworking Machinery Company, 136 Liberty street, New York City, and 43-45 South Canal street, Chicago.

THE LUMBERMEN'S ASSOCIATION OF ONTARIO.

The annual meeting of the Lumbermen's Association of Ontario was held at the Queen's Hotel, Toronto, on Thursday, March 17th, succeeding a luncheon provided by the Board of Management. Among the members and guests present were Mr. W. D. Lummis, president; Hon. E. J. Davis, Commissioner of Crown Lands, and Messrs. John Bertram, Aubrey White, Thomas Southworth, W. B. Tindall, R. Laidlaw, J. S. Playfair, W. B. McLean, W. P. Bull, Toronto; John McLelland, Parry Sound; James Playfair, D. L. White, jr., and D. Turner, Midland; Robert Watt, Wiarton; R. Cook, South River; W. T. Toner, Collingwood.

The Secretary, Mr. W. B. Tindall, read the minutes of the previous meeting, also the following statistical report:

STATISTICAL REPORT.

PRODUCTION OF WHITE PINE LUMBER.—The total production of mills in North-Western Ontario, which embraces all mills on the Georgian Bay, Northern Division of the Grand Trunk Railway to Callender, and Canadian Pacific Railway, North Bay to Rat Portage, in 1903 was 485 million feet. The comparison with former years is as follows: 1899, 351,000,000 feet; 1900, 476,000,000 feet; 1901, 466,000,000 feet; 1902, 510,000,000 feet; 1903, 485,000,000 feet, a decrease between 1903 and 1902 of 25,000,000 feet.

STOCKS ON HAND.—There is in pile at the mills about 150,000,000 feet, of which 100,000,000 is sold waiting spring delivery, and the balance is unsold. From all I can learn there seems to be a great scarcity of the low grade lumber, absolutely none in first hands, and what is available being held by dealers for distribution. The comparison with previous years follows: 1899, 120,000,000 feet; 1900, 216,349,000 feet; 1901, 81,000,000 feet; 1902, 170,000,000 feet; 1903, 150,000,000 feet.

PROBABLE PRODUCTION OF 1904 LOGS.—I estimate this at 420,000,000 feet.

The answers to the enquiry as to whether last year's prices would be maintained or not, are unanimous that they would, and a good many are looking for a 10 per cent. increase, and one has to consider that the increased cost of log production this winter in the greater portion of the district will require fully a 10 per cent. increase to be in the same position as last year.

It is of interest to look for a short time at the statistics given for the competing points of the United States. The figure given for the states of Michigan, Minnesota and Wisconsin are as follows:

PRODUCTION.—1899, 6,056,508,000 feet; 1900, 5,485,261,000 feet, decrease 571,247,000 feet; 1901, 5,336,448,000 feet, decrease 48,813,000 feet from 1900; 1902, 5,294,395,000 feet, decrease 42,053,000 feet from 1901; 1903, 4,791,852,000 feet, decrease 502,543,000 feet from 1902.

STOCKS ON HAND (Same Period.)—1899, 2,728,271,000 feet; 1900, 2,839,706,000 feet, increase 111,435,000 feet; 1901, 2,388,256,000 feet, decrease 451,450,000 feet; 1902, 2,112,719,000 feet, decrease 275,537,000 feet; 1903, 1,964,532,000 feet, decrease 148,187,000 feet. Total decrease since 1900, 875,274,000 feet.

In reference to these districts I would like to call your attention to the fact that it is the first time since 1879 that their output had dropped to the 4,000 million figure. In 1899 it stood at 4,806,443,000. The highest point was reached in 1890, being 8,597,623,000, and the falling off in 13 years to 1904 has been 3,805,771,000 feet or 44.26 per cent., the decrease being steady since 1898.

The cut of hemlock for the same period in the same district is as follows:

Total Cut—1889, 868,410,000 feet; 1900, 1,166,288,000 feet; 1901, 1,264,943,000 feet; 1902, 1,277,814,000 feet; 1903, 1,334,404,000 feet. Increase from 1899 to 1903, 465,994,000 feet in total cut.

Stocks—1899, 287,820,000 feet; 1900, 622,312,000

feet; 1901, 574,406,000 feet; 1902, 441,634,000 feet; 1903, 515,935,000 feet.

A communication was read from Gillies Bros., of Braeside, regarding the freight rates on cedar railway ties and lumber, and urging that the Association take up the question with the railway companies with a view to obtaining the removal of the present discrimination against cedar products; also one from the British Timber Trades Federation regarding the cutting of lumber to meet the particular requirements of the British market.

The president submitted his annual address, which was, in part, as follows:

PRESIDENT'S ADDRESS.

It is a pleasure to me as President of the Lumbermen's Association of Ontario to welcome so large a number of the members of the association and also to welcome the prominent gentlemen who are with us as guests at our annual meeting.

The conditions which prevail to-day in the lumber business in Ontario are in most respects similar to those which obtained a year ago, and it is felt from present appearances that the prices will be in most respects similar to those of last year. In fact, we hear that in the Ottawa district some lumbermen have secured an advance of 10 per cent. on sales already made and they are holding out for this advance for future sales.

The lumber market has been such that the cost of banking logs is fully as great, if not greater, than it has been heretofore. There has been virtually no variation in the cost of supplies or horses.

Unfortunately for the lumber business, this winter's severe weather has greatly retarded all industries, as a result of which we are at a loss to estimate the exact bearing the delayed shipments of lumber will have on the future outlook of the trade. It is a very difficult matter to consume a twelve month's supply of lumber in the space of ten months, and the shipments of lumber for the past two months have been practically nil. As against this, however, there is the fact that in some districts, owing to the heavy snow storms, comparatively small stocks have been taken out for the current year.

It is a fact, however, that the railroad equipment is hardly sufficient for the demand, as lumbermen at all seasons of the year experience delay and difficulty in obtaining cars. This matter your Committee is taking steps to have laid in proper shape before the railway authorities.

It affords us pleasure to recall the result of the Government sales held in December last, at which several features were worthy of note, among which we might mention, first, the fact that Mr. Thomas Mackie, M.P., paid at the rate of \$31,500 a mile, which is the highest amount ever paid in Ontario for standing timber; second, the sale realized in all the sum of about \$3,700,000, which is the largest amount ever realized at any sale of standing timber held in the Province; third, the Crown dues and annual rentals were larger than had previously existed, and the timber sold was limited strictly to pine and to a period of fifteen years. The sale as originally called specified a ten year limit, but your Board of Management waited upon the Government and secured an additional two years—although we urged the Government to make the time twenty years, which, in our opinion, is a sufficiently short period.

The perusal of the records of the sale shows that the timber limits were sold to a large number of individual operators, and this, we feel, is a guarantee that the prices paid would be held with a firm hand even should a depression come, as there are no large holdings in any place that would be forced on the market in such a way as to cause a depression or slump in the value or price of standing timber for the future.

We are pleased to note that the present season's output in, as far as can be ascertained shows a reduction of 25 per cent. on the output of a year ago. This, together with the assured outlook for building operations, not only in the cities and towns of Ontario, but also throughout the rural districts here as well as in Manitoba and the Northwest, added to which we might mention the large public works already under way and

in contemplation and the large influx into Canada of immigrants of some substance both from Europe and the United States who are settling in New Ontario and throughout the West—these conditions with others that might be mentioned will be sufficient, we feel, to tide us over to a very large extent the dull times which are already being felt across the line.

Our Association should as soon as practicable take into consideration the question of establishing a standard for the grading of the lumber products of Ontario in such a way that the grades would be uniform and have a recognized standard in the markets both in Ontario and in the importing countries to which our stocks are shipped.

The President added in substantiation of his remarks as to the restricted log production, that last year 223,000,000 feet of new logs came through the Spanish river booms, while this year the estimated quantity was 146,000,000 feet.

Mr. John Bertram said he thought the time had arrived when the question of perpetuating the lumber business should receive consideration. According to the estimates of the Department of Crown Lands, the Government would not say that they had more than 10,000,000,000 feet of white pine timber still unsold. Assuming this estimate to be correct, it meant that the supply would not last much over ten years, and it was very necessary that if the lumbermen were to continue in business they should operate their limits with great conservatism. He urged that as far as possible individual operators should restrict their cut. He was much impressed with the fact that certain lumber firms in the United States were employing expert foresters to investigate and recommend such plans for the operation of their timber tracts as would produce the best results, having regard to the perpetuation of the business. One firm had voluntarily reduced their cut from 40,000,000 feet to 20,000,000 feet annually, and expected to be able to continue lumbering indefinitely.

Mr. Bertram said the policy of selling the pine timber only would soon lead to the extinction of the pine, for pine would not grow under the shade of hardwoods. He had seen pine trees 30 years old less than an inch in diameter, the reason being that the conditions for growth were unfavorable. The sun must get to the soil before the pine seeds would germinate. He suggested that the Government should change their regulations so as to permit of the cutting of other timber, which would then give the pine a chance to grow. It was his intention to cut all the coniferous trees on his own limits from a forestry standpoint. He thought there would in the near future be a demand for all classes and sizes of timber and that nothing need be permitted to go to waste.

Mr. John McLelland expressed his approval of Mr. Bertram's remarks, adding that in Germany the settlers were interested in forestry and in the perpetuation of the timber supply. He cited examples of pine growth on rocky lands to show that pine timber would grow where there is very little soil.

After further discussion, in which Messrs. Watt, Turner and others took part, the following resolution was unanimously carried:

“Moved by James Playfair, seconded by W. B. McLean, that a special committee of five, consisting of Messrs. W. D. Lummis, Robert Laidlaw, and A. A.

FOR THE CAMP

We have a very suitable lot of goods for camp supplies. We make this kind of trade a specialty. You who are not getting suited just as well as you would like, try us for your next order, and give us a chance to demonstrate our ability to give you satisfaction in this very important department of your business.

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Wright, of Toronto, John McLelland, of Parry Sound, and D. L. White, jr., of Midland, be appointed to consider and report to a meeting of the Association on the policy of the Department of Crown Lands in selling the pine only to license holders, and to investigate if it would not be better forest policy to encourage the cutting of hardwoods and coniferous trees, and in this way give the young pine an opportunity of propagating itself and greater assistance in reaching sound mature growth than is possible under the present regulations."

As affecting the car shortage, it was stated that there is probably 1500 car-loads of lumber waiting shipment along the line of railway between Orillia and Midland. The following resolution was adopted:

"Moved by W. P. Bull, seconded by Robert Laidlaw, that the Board of Management take such steps as may be necessary to lay before the Railway and Transportation Commission and railway authorities the views of this Association as to the shortage of cars and the freight rates on railway ties and cedar posts and lumber, as outlined in the letter from Gillies Bros., of Braeside."

A discussion arose as to the advisability of the members of the Association meeting together more frequently, and arrangements may be made for monthly meetings, to partake somewhat of a social character. Such meetings would afford an opportunity of discussing trade conditions, even if there should be no important association matters to be considered.

The Board of Management and officers of last year were re-elected, as follows: President, W. D. Lummis, Toronto; first vice-president, R. Laidlaw, Toronto; second vice-president, Geo. Thomson, Goderich; secretary-treasurer, W. B. Tindall, Toronto; J. B. Miller, W. B. McLean, W. P. Bull, Toronto; R. H. Roys, Sandwich; James Playfair, D. L. White, jr., Midland; W. J. Sheppard, Waubaushene; W. J. Ard, South River.

WHITE PINE SAPLINGS.

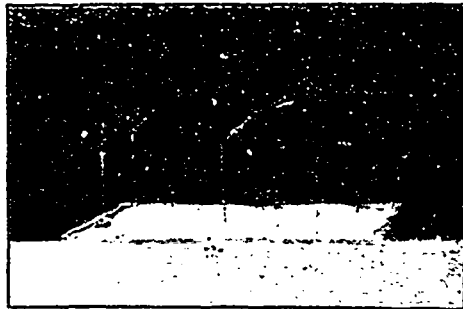
The white pine saplings represented by the accompanying illustration were grown by Mr. Marcell Hoehn, of Berlin, Ont., who exhibited two specimens at the recent forestry convention in Toronto. They were less than eleven months old and about three inches in height.

Concerning the experiment, Mr. Hoehn, who is deeply interested in the subject of forestry, writes THE CANADA LUMBERMAN as follows:

"The seed was sown on April 28th, 1903. They germinated in a couple of months, and the fact that I had pines three or four inches

high, proves that the seed does not require years to germinate as is generally supposed. These plants received no particular attention, as I simply sowed the seeds in a few of the unfrequented spots in the town park of Berlin. I simply cleared away the dead leaves, then scattered the seed broadcast and covered the seed with a light covering of the dead leaves which lay on the ground. I certainly felt interested in this, and I watched carefully the progress of the seed sown.

At the end of 40 days from the date of sowing I first noticed that the seeds were beginning to germinate. At the end of 60 days the seeds had sent up a tiny stem one-fourth inch high.



PINE TREES GROWN FROM SEED SOWN APRIL 28, 1903.

I noticed that the seed sown on hardwood soil made better progress than that sown on pine or light soil. You will please note that these plants were grown in among the trees in the park, as stated before, and in such places which were more or less shaded, and no doubt the results might have been still more favorable had the seed been sown in open ground, but my experiments led me to believe that to sow in the fall or spring of the year in soil prepared for same, and left untouched until such time as the small trees need thinning, is the proper way to grow pine trees. You need not fear that the trees will be hindered in their growth by the grass which will grow up among them, but on the contrary, it will rather facilitate their growth."

The Scott Lumber Company, of Fredericton, N.B., have completed extensive improvements to the Victoria saw mill and expect to commence work this month. They intend building a new shingle mill this spring.

H. A. Jones, representing certain capitalists, is making arrangements for the erection of a large saw mill on Burrard Inlet, Vancouver, B.C., work on which will be commenced, it is said, as soon as foreshore rights are granted.

PERSONAL.

Mr. T. C. O'Rourke, a well known lumber merchant of Chatham, Ont., died last month.

Mr. Alexander McLean, of Ottawa, has been appointed Canadian Commercial Agent in Japan. Mr. McLean was at one time joint owner of the Montreal Herald.

Mr. W. E. Spashett, foreman of the Windsor Turned Goods Company, has accepted the position of superintendent of the Crown Lumber Company, of Woodstock, Ont.

Many persons learned with regret of the recent death of Mr. Nicholas Murphy, which occurred in Montreal. Mr. Murphy was for some time manager of the Batiscan mills (Price Bros.).

Mr. J. B. McWilliams, Crown Timber Agent, Peterborough, Ont., received a scalp wound as the result of a railway accident near Sault Ste. Marie, but we are pleased to learn that he has now almost recovered.

Mr. J. G. Jardine, Canadian Trade Commissioner, who has been in Canada for some time, will leave on April 20th on his return to South Africa. He is at present in Toronto, his address being 11 Colborne street.

Mr. Alexander Gibson, sr., New Brunswick's lumber king, had the misfortune to fall down the whole length of a flight of stairs at his residence at Marysville, sustaining quite serious injuries. Though in his eighty-fifth year, Mr. Gibson has of late been in the enjoyment of excellent health, and his numerous friends will rejoice to see him around again in a short time.

The capital stock of the Blonde Lumber Company, Chatham, Ont., has been increased from \$80,000 to \$150,000.



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WOOD PULP DEPARTMENT

THE METABETCHOUAN PULP COMPANY.

The Metabetchouan Pulp Company, of Quebec, have under construction at St. Andre the preliminary work for a pulp mill. The dam, which has been completed and which is shown in the accompanying illustration, is 464 feet long and 27 feet high, and is estimated to produce 7,000 horse power. The mill, which will be built this spring, will have at the beginning nine grinders, and it is proposed to manufacture thirty tons of cardboard per day.

A branch railway thirteen miles long, connecting the mill with the Lake St. John Railway, has just been completed.

The company has the complete control of the



WORKS OF THE METABETCHOUAN PULP COMPANY.

Metabetchouan river above St. Andre, which is situated nine miles from St. John. Two other powers, each 7,000 horse power and situated respectively seven and eight miles above St. Andre, are also the property of the company.

Twelve miles from St. Andre the company has 175 square miles of timber limits extending along each side of the river, all in virgin forest and heavily wooded with gray and black spruce. In addition the company will get the benefit of at least one hundred square miles of timber limits around St. Andre, where the settlers are beginning to clear the land.

The president of the Metabetchouan Pulp Company is Mr. A. Racine, and the secretary Mr. J. E. Caron, both of Quebec.

The Methot's Mill Lumber Company has been formed at St. Agapit, Que., for the manufacture and sale of pulp wood.

PAPER FROM PINE REFUSE.

The Wood Distillates and Fibre Company, capitalized at \$500,000 and incorporated under the laws of Arizona, has been organized at Chicago to do business in Louisiana and the Southwest. It has for its object the utilization of the refuse of hundreds of saw mills throughout the State, which means a new source of revenue to the lumbermen.

For years millions of dollars worth of pine refuse has been used for fuel by the saw mills, because there was no other disposition to be made of it, and for several years efforts have been made to discover some process by which this refuse could be turned into money, along with the stumps in the field. Several processes have been brought to the fore during the last few years, but they were too expensive and the results in many cases were unsatisfactory. It is now stated upon good authority that the cost of these plants has been materially reduced, and it is possible to utilize every pound of the saw mill refuse.

Charles M. Dobson, a consulting engineer, has made a study of timber conditions the last two years, and has secured data bearing on the subject of refuse at the mills, showing that there will be ample material to work on for years to come, and that by this latest process turpentine, pine tar, wood alcohol, lime acetate and fibre can be produced from it. The fibre is to be used for the manufacture of brown wrapping paper, such as is used by grocers and butchers.

Mr. Dobson stated recently that there was no question as to the success of the enterprise, as nearly every one interested in it is a lumberman, who realizes what a plant of this kind means to the lumber interests of this section. Several of the larger saw mills in the vicinity of New Orleans have been making enquiries into the different processes for utilizing the refuse of their mills, and a plant is now in operation at Hattiesburg, Miss., with another being installed at Lumberton.

Mr. Dobson says: "We can utilize every pound of this refuse, a cord of which shows the following result under test: Turpentine, fifteen gallons, ten gallons crude; 160 pounds

acetate of lime, six gallons wood alcohol and one barrel of tar, with a gross value of \$23.25, and all this material is now going to waste here, as it has been ever since yellow pine became an established industry in the State. In addition to the above products, each cord of this refuse will net two tons of fibre for paper making. It is our purpose to make one of our plants an adjunct to every saw mill in this section."

PULP NOTES.

At the annual meeting of the Canada Paper Company, held recently in Montreal, it was stated that the pulp and paper mills at St. Francis are operating successfully and the prospects for the coming year are considered to be promising.

R. C. Ferguson is credited with the statement that all the calculated output of the Oriental Paper & Pulp Company at Swanson Bay, B. C., has been disposed of. The erection of the mill, which is estimated to cost \$1,000,000, will be commenced this spring.

The Peribonka Pulp Company recently elected the following directors: President, Hon. A. Robitaille; Vice-President, N. Bernatchez; Secretary-Treasurer, A. E. Vallerand; manager at Peribonka, T. D. Tremblay; assistant-manager at Roberval, P. A. Potvin.

Mayor Johnston, of Parry Sound, Ont., and associates have applied to the Ontario Government for the lease of a valuable water power at Canal Rapids, on the Magnetawan river, near the Georgian Bay. The proposal is to build a large pulp mill and other industries.

The Labrador Electric & Pulp Company, of which A. E. Beauvais, 71a St. James street, Montreal, is secretary-treasurer, recently invited tenders for \$50,000 six per cent. debentures, secured by first mortgage on a water power of the company at Murray Bay, Que., and on the plant generally.

The North Shore Power, Railway & Navigation Company, of which Mr. Thomas Meaney is manager, will resume operations on construction work as soon as navigation opens. Ten miles of railway have been completed and much headway has been made towards the construction of a dam, pulp mill and other buildings.

The Maritime Sulphite Fibre Company's properties at Chatham, N.B., were sold by auction on February 25th to the Bank of Montreal for the sum of \$120,000. There were two other bids, \$100,000 and \$110,000. The referee in equity accepted the bank's bid, thereby confirming its title to all the property, including the lumber rights in 262 square miles of timber limits. Negotiations for the sale of the property to American capitalists are in progress.

The Ontario Government has granted a pulp concession to the Dryden Board Mills Company, Limited, of Dryden, Ont., of which T. A. Gordon and Chas. B. Gordon are president and secretary respectively. The company agrees to expend \$100,000 in the erection of a pulp and paper mill which shall have an output of thirty tons of pulp per day and be commenced within six months of the date of ratification and completed within two years. The company receives the exclusive right to the water power of Wabigoon Falls, near Dryden, estimated to yield 2000 horse power, also the exclusive right for twenty-one years to cut pulp wood on certain timber lands on the Wabigoon river, the stumpage dues to be charged to be 40 cents per cord for spruce and 10 cents per cord for poplar and other inferior pulpwoods.

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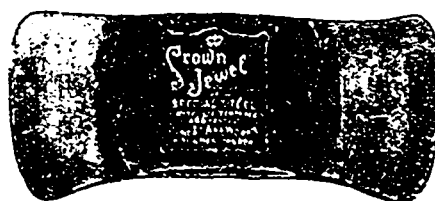
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Dundas, Ont.



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SOME OF THE OFFICERS OF THE RECENT HOO-HOO CONCATENATION IN WINNIPEG.

PRACTICAL SAW TOPICS.

Saw filers should be interested in any method or machine or tool that is well calculated to improve or facilitate saw fitting. Their service is mental and mechanical rather than physical. Hence, intelligence and skill in a filer are better recommendations than physical strength, or a disposition to hammer and file from morning till night. It is not a question of quantity but quality of work.

The quantity and quality of the lumber cut, and the steady employment of the common labor, depend largely upon fine fitting of the saws, and the filer is therefore a profitable or profitless man for his employer.

Mill men and factory operators are rapidly coming to appreciate the importance of a per-

fect filing room equipment and are usually ready to buy anything calculated to improve or facilitate the filer's work, if they have confidence in his ability and judgment. There are never too many good men in any calling, and with regard to saw filers, the good filer is the one who makes his services indispensable to his employer. Such a man can command his price.

Every saw filer should seek to become well informed, in the broadest possible manner, upon everything pertaining to his trade. The experience of no one man is universal, hence the need of constant effort to familiarize one's self with all changing conditions in saw and mill management and operation, that, as each new condition arises, one may better meet it

successfully. The competent filer or Sawyer should understand millwright work, at least to the extent that he may ascertain when faults lie in the saw, in the mill, the carriage, the track or any portion of the plant directly under his personal supervision. Defects may lie in any one of these places which, if not remedied, will render only partially effective the best efforts tending to improvement in the care of saws.

The service of a filer may be invaluable at \$3 to \$8 per day, or expensive at \$2 per day. One filer may increase the cut of well-manufactured lumber from 2,000 to 10,000 feet per day; another may not only lessen the average cut but also impair the quality of the output, a double loss.

WOODWORKERS SAY
 "The convenience to the Sawyer and the saving in lumber make the **STANDARD AUTOMATIC SAW GAUGE** an article of much merit."
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Firms contemplating installing new machinery would find it to their advantage to communicate with us before ordering elsewhere

Prompt and Courteous Attention Given to All Enquiries.

LUMBER IMPORTS HEAVY.

For the enlightenment of those who may contend that the quantity of lumber imported into Canada from the United States is insignificant, we append a statement showing the value of timber and lumber products imported during the month of December last. The figures are obtained from the unrevised monthly statements of imports and exports compiled by the Dominion Government and are no doubt approximately correct. The total quantity of ordinary lumber imported during that month exceeded 14,000,000 feet. Multiplying these figures by twelve would give a total annual importation of 168,000,000 feet. It is fair to assume that the importation during the month

of December was below that of an average month owing to climatic conditions, freight blockades and the consequent partial suspension of work in which lumber is consumed. The figures therefore may be regarded as conservative. The items follow:

Sawed or split boards, planks, deals and other lumber.....	\$133,835
Logs and round unmanufactured timber....	11,168
Timber or lumber, hewn or sawed, square or sided.....	20,408
Cherry, chestnut, gumwood, hickory and whitewood	34,523
Mahogany.....	11,166
Oak	115,561
Pitch pine.....	38,740
Spanish cedar.....	310
Sycamore.....	20
Walnut.....	3,222
White ash.....	4,926
Red cedar, satin wood, etc.....	41

Pine and spruce clapboards	\$ 60
Laths.....	1,830
Shingles.....	995
Staves.....	19,034
Fence post and railroad ties.....	20,939
Hubs for wheels, posts, last blocks, etc.	909
Hickory spokes, rough turned.....	20,375
Handle, heading, stave and shingle bolts.....	1,799
Felloes of hickory wood.....	780
Shovel handles.....	2,108
Corkwood	5,263
Total	\$448,012

The Laurie Lumber Company, Limited, Cranbrook, B.C., have sold out to the North Star Lumber Company.

P. PAYETTE & CO.

Manufacturers of Saw Mill and Engine Machinery, and all kinds of Marine Machinery.
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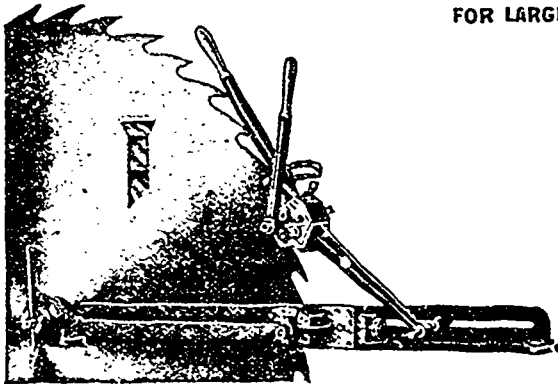
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A REMARKABLE CATALOG.

Probably the best known piece of saw mill literature ever published was William E. Hill & Company's 1901 catalog, better known as "A Trip Through a Saw Mill." This catalog was a direct departure from every other manufacturer's standard in arrangement and description, and was a noticeable improvement over all others in illustration, paper and presswork.

This, however, is an age of progress, and the catalog which caused so much favorable comment three years ago is now obsolete. In its place we have the 1904 catalog, issued by the same firm, which is as far ahead of their last one as that one was ahead of all others. It is a book of 132 pages, sumptuously bound in dark brown, printed on heaviest plate paper from new clear type, and in fact from a printer's standpoint is perfect. The cuts, of which there are 130, would not seem out of place in an edition de luxe.

A great many mill men imagine that William E. Hill & Company only build steam niggers, and these will be surprised to find that they make every kind of machinery that goes into the biggest and most up-to-date mills. They are prepared to furnish complete machinery outfits and draw up plans and specifications for any kind of mill. Among the machines illustrated are their line of band mills, circular mills, carriages, edgers, splitters, etc.

The arrangement is, generally speaking, the same as in their last catalog, and the reader takes a veritable "trip through a saw mill", starting with the haul-up, and ending at the other end of the mill. Almost every subject is treated with a completeness that makes the book a work of reference for the mill men. Ten pages are devoted to jackers and car haul-up rigs and thirteen different styles are shown, each described in detail. The section devoted to carriages, set-works, etc., is the most complete ever published, and the same is true of the parts which describe edgers, trimmers and lath

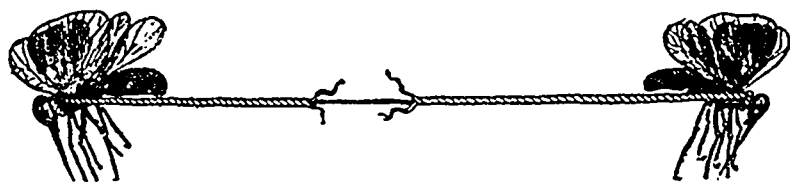
machinery. A section which will be of interest to stave, shingle, pulp or cord wood mills is the one headed, "Machinery for Cutting and Handling Logs and Wood." Here are described many styles of cut-off machines, including the famous "Hill Steam Drag Saws," also steam dogs, steam splitters, heading, bolters, etc. The last division of the catalog is devoted to power transmission, conveyor rigs and drives, etc. Here you will find all standard power transmission tables and a number of standard conveyor drives never before illustrated, each one of which is described in detail. This was never tried until now and this feature alone makes the book a most valuable one.

Taken as a whole this catalog is the finest we have ever seen and is a credit to the enterprising firm which issued it. It is worth dollars to every mill man, but will be sent free to anyone interested who will address William E. Hill & Co., 415 North Rose street, Kalamazoo, Mich., and ask for Catalog B. In writing kindly mention this paper.



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BECAUSE IT WAS MADE BY THE

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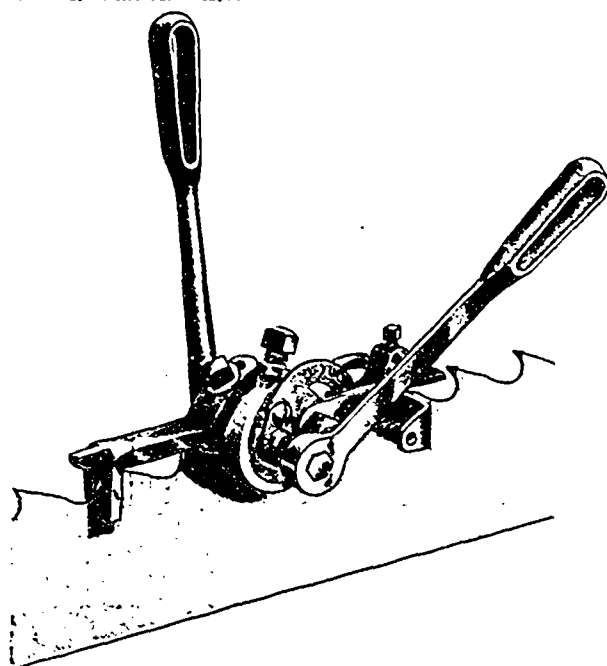
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Cut Showing Band Saw Swage.

Our Swages work equally well on Band or Circular Saws, and do perfect work without front guard or back-stop, although these are convenient and always supplied. We make NOTHING BUT SAW SWAGES, and use the finest material obtainable in manufacturing. Our Swages have many points of superiority over all other makes. A "Crowell Swage" used on your saws will enable you to make more and better lumber.

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MADAWASKA LOG DRIVING COMPANY.

A meeting of the Madawaska Log Driving Company was held at Van Buren, Me., on March 9th, for the purpose of electing directors and transacting other important business.

It was the aim of the St. John Lumber Company and the Van Buren Lumber Company to elect directors enough to control the company, which drives all the logs on the St. John river cut above Grand Falls. This influence the milling companies (whose plants are situated a few miles above Grand Falls on the American side) intended to use with the object of placing piers and booms at Van Buren to stop all the logs on their way down river and separate their own. This, of course, would have meant a severe blow to all the lumber manufacturers whose mills are situated below Grand Falls, for considering the limited season of treshet during only which the logs can be driven, a delay for sorting purposes would mean an almost certain hang up this and ensuing years. The manufacturers of the Lower St. John resolved to combat these intentions and accordingly Mr. Geo. V. Cunliffe, of Fort Kent, Me., attended the meeting armed with proxies from all these gentlemen. Each 100,000 of logs in the river above Grand Falls or cut and in the woods entitles the owner thereof to one vote. The result was that the lower country operators succeeded in electing as directors Messrs. G. V. Cunliffe, John Sweeney, Neil McLean and John Kilburn. Mr. F. Brown was the only

representative of the milling companies elected. The first four gentlemen named are contractors on a large scale for St. John City mill owners. The contract for driving the logs was awarded to Messrs. L. W. & E. W. Pond.

It was announced that the season's cut above Grand Falls amounted to 120,000,000 feet, which with the lumber hung up last season made a total of 165,000,000 feet. Of the total, 25,000,000 is for the St. John Lumber Company and 16,000,000 for the Van Buren Lumber Company. The balance will go to the Fredericton booms.

MOUNTAIN LUMBER MANUFACTURERS' ASSOCIATION.

The Mountain Lumber Manufacturers' Association held their annual meeting at Cranbrook, B.C., recently, at which the question of tariff was very fully discussed. It was decided to memorialize the Dominion Government for further protection against the unfair competition of United States mills. The demand in this respect is an exceedingly modest one, and is only necessary on account of the special conditions which exist in respect to competition in the North-West and Manitoba. The United States manufacturers have had a surplus of lumber, and sooner than sacrifice that surplus in their own territory they have dumped it into the Canadian North-West and thus saved their own market from demoralization. It is only fair to Canadian industries that

they should be protected from such competition.

TRADE NOTES.

The Albion Iron Works Company, Limited, of Victoria, B.C., has been re-incorporated, with a capital of \$500,000.

At the annual meeting of the Canadian Rubber Company held in Montreal last month, the election of directors resulted in one change, Mr. J. O. Gravel retiring and Lieut.-Col. Prevost succeeding him.

Ross & Howard, who conduct a large foundry and manufacture saw mill machinery, boilers, engines, etc., at Vancouver, B.C., contemplate a large addition to their plant. They have asked the City Council for a bonus of \$100,000.

LOOKING AFTER THE COOK

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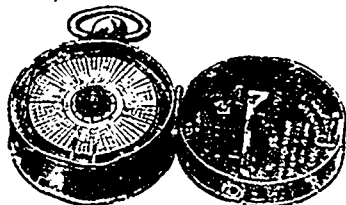
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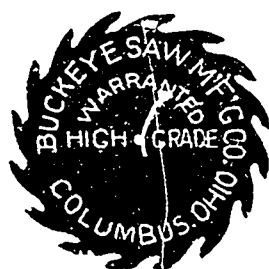
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The Champion Saw Company, of Beaver Falls, Pa., was organized in 1887 and re-organized in 1897 under the name of "Champion Saw & Gas Engine Company," with a capital stock of \$100,000. At this latter time in addition to saws, they began the manufacture of the Champion gas and gas-line engines. They have had marked success in both departments and are to-day producing saws and gas engines that have no superiors. Their saws are manufactured from the best grade of saw steel and their patent method of tempering saws gives to this steel life and toughness.

Hammering a saw to the proper tension to suit the speed and feed of the mill is very important. In this they excel, as all their saws are examined by an expert before leaving the factory. These claims for their saws are substantiated by two of the many testimonials they are receiving all the time.

Bancroft, Sons & Company, of Orange, Texas, write as follows: "We have been using your saws for years and so far are well pleased with them. They give entire satisfaction. Ship us as soon as possible two 56 in., 6 gauge straight, solid tooth saws, with 90 teeth, speed 800, feed 12 in. Make them exact duplicates of those already received."

R. R. Howell & Co., Minneapolis, Minn., in a letter dated June 9th, 1903, write: "Regarding the saws which we have been purchasing from you now for several years, will say that they have given the very best satisfaction to our customers. We use your saws

exclusively on our entire line of saw mill and wood-working machinery. During our long business career we have used all the leading makes of saw blades, but we must say candidly and sincerely that your saws have given better all round satisfaction than any of them. This is an important item for us, for thereby they assist us in selling our saw mills, for there have been cases where parties would condemn a whole outfit of saw mill machinery simply on account of defective saw blades. Nothing of this kind has happened since we have been using your saws. We are very much pleased with them and our intention is to continue the use of them. We have been buying from you heavily for several years because we are not only manufacturers of saw mill machinery, but also jobbers of all kinds of saw mill supplies. We are purchasing from you every year about 600 to 700 various kinds of saw blades."

They also manufacture the Champion chisel bit saw, one of the best inserted tooth saws on the market. The holders and bits receive all the wear, thus protecting the blade, and the bits are so fitted that they cannot fly out and cause the trouble that so many users of inserted tooth saws experience. We quote below from one of the many letters they receive, showing what their customers think of these saws: "I am pleased to say that my saw is a good one and cannot be beat. It is the best one I have run in my life and there is no better made. Signed, J. W. Baylor, Eby, W. Va."

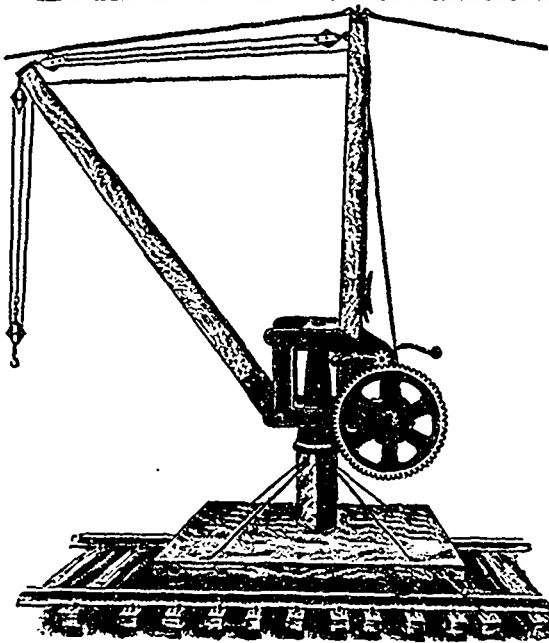
They also have special facilities for doing repair work and have recently lowered their prices on this work very materially.

The Champion Saw and Gas Engine Company manufacture the Champion gas engine, which is conceded to be one of the best gas engines on the market, being constructed on scientific principles. They are simple and for durability, efficiency and economy in use of fuel, have no superior. The power produced by the gas engine is claimed to cost less than one-fourth that of steam power. It can be used successfully for any purpose where power is needed. Hence if you are in need of anything in their line, send for their catalogs and prices. Their sizes range from 2 h.p. to 75 h.p., and are fully guaranteed.

Mr. S. Pomeroy is adding to his planing mill at Orillia, Ont., an engine room, and is installing therein a new engine and boiler. He is also putting in a new dry kiln and otherwise improving the plant.

Mr. John D. Sinclair has taken over the new double cutting band mill of the British Columbia Box & Lumber Company at Vancouver, and is now prepared to fill orders for cedar lumber and shingles on short notice. He makes a specialty of kiln dried lumber and edge-grain cedar and spruce.

Mr. G. P. Altenberg, manager of the foreign department of J. A. Fay & Egan Company, is on his way to Europe. He will first visit England a few weeks, and will then tour the continent. Letters will reach him if addressed as follows: G. P. Altenberg, No. 31 Boulevard Haussmann, Paris, France.



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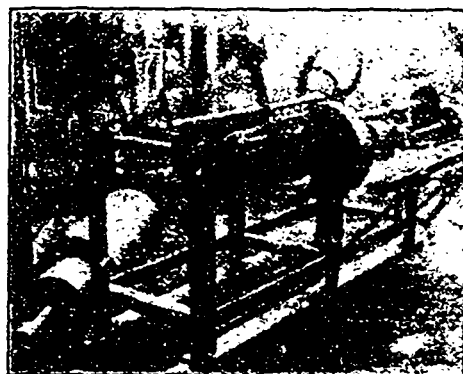
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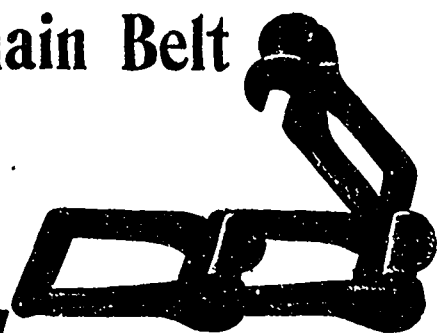
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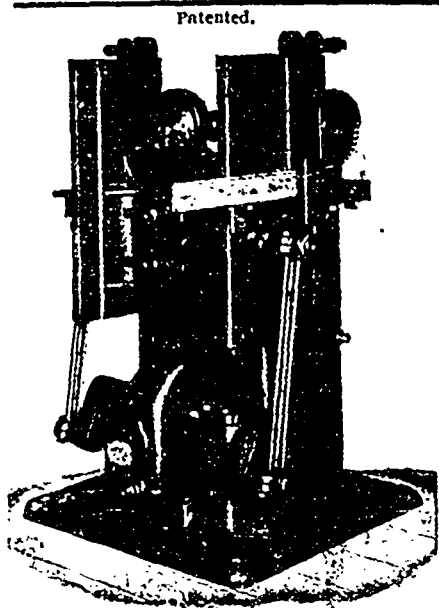
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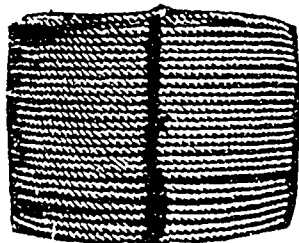
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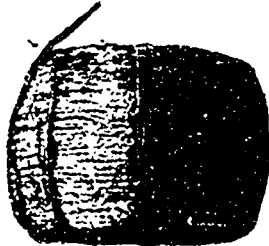
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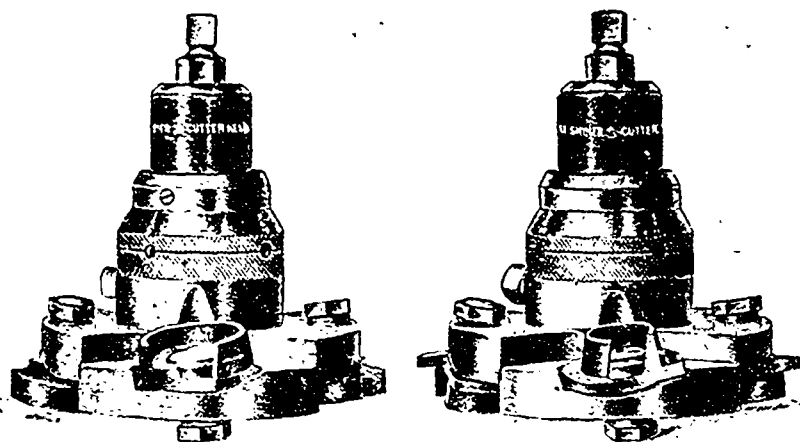


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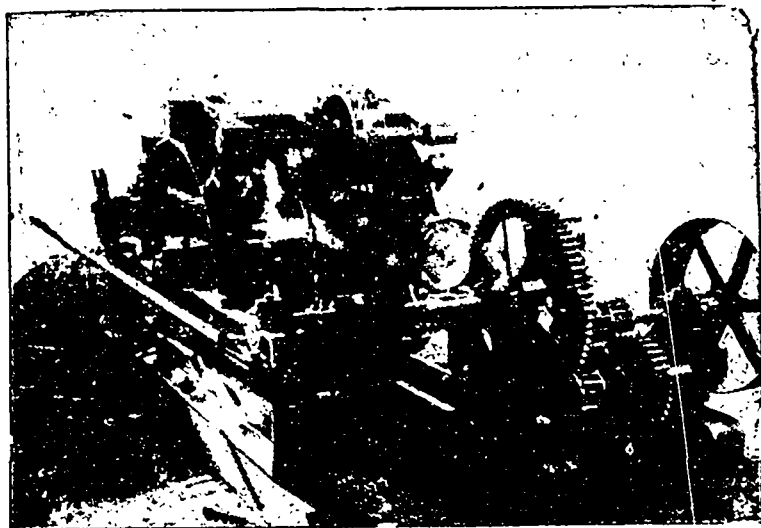
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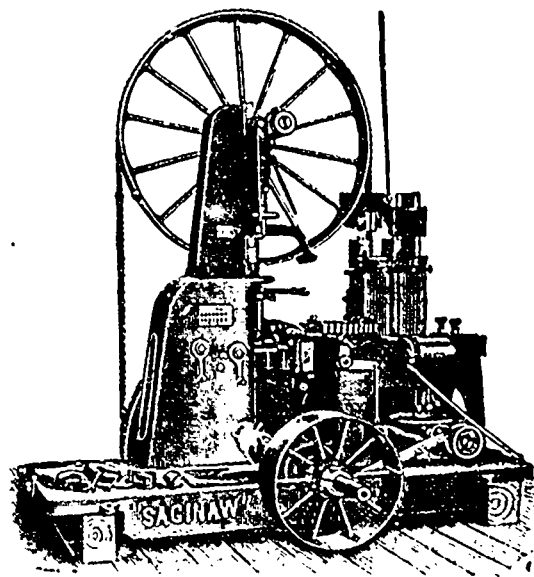
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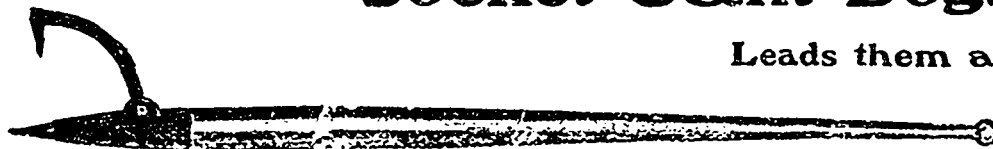
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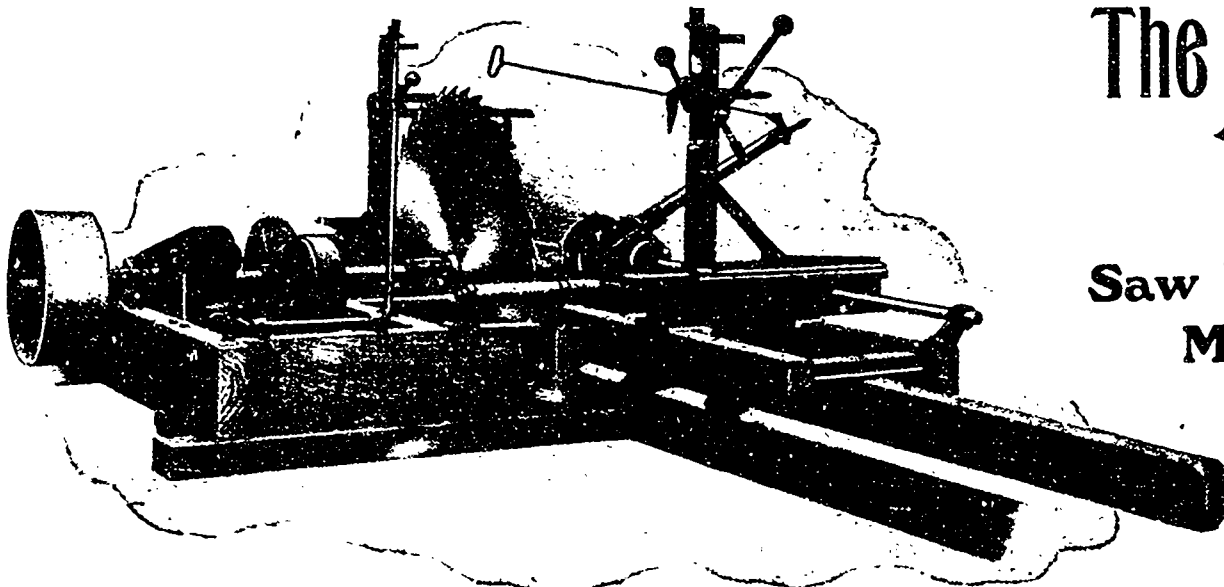
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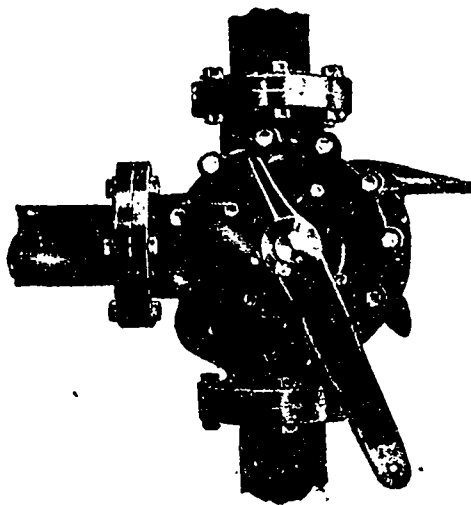
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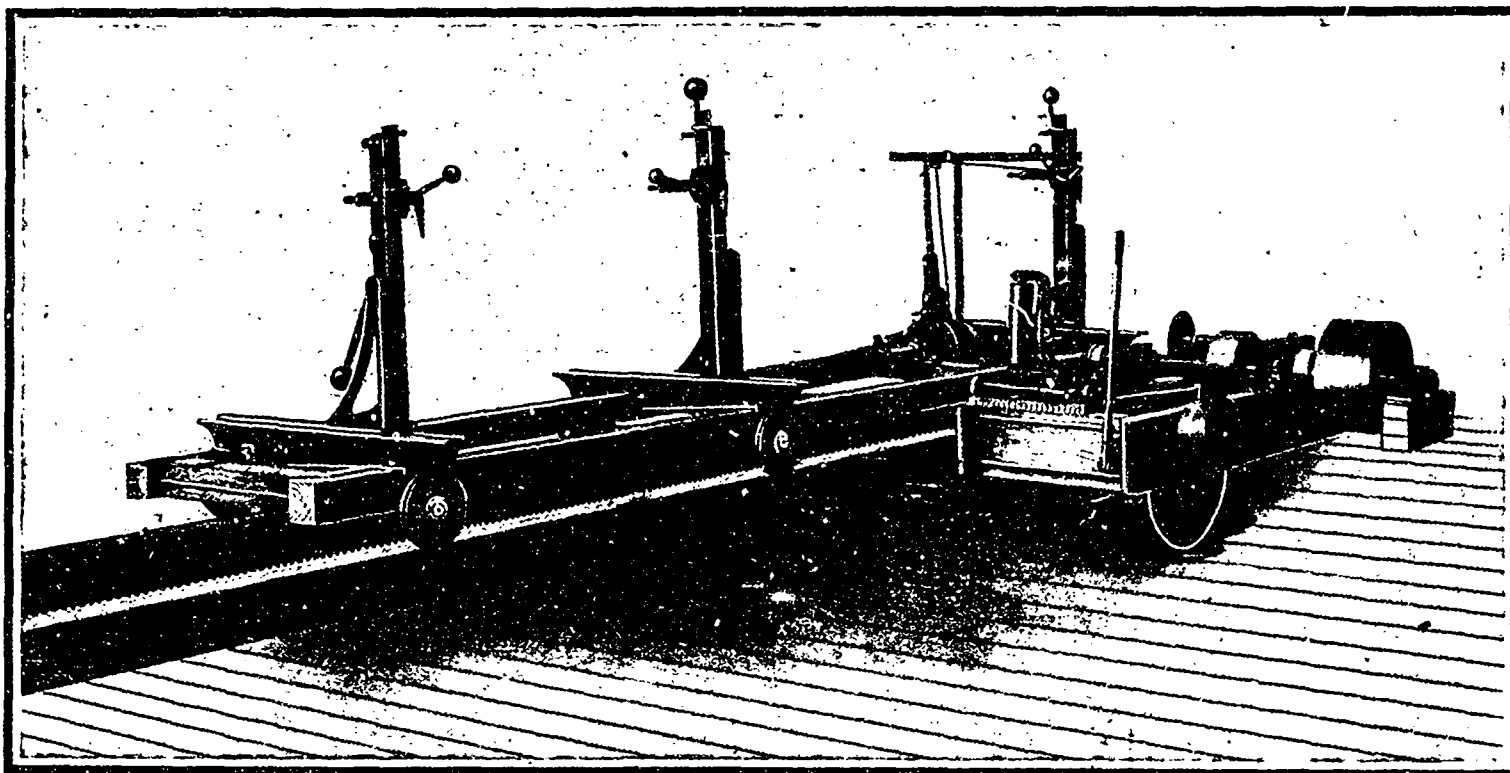
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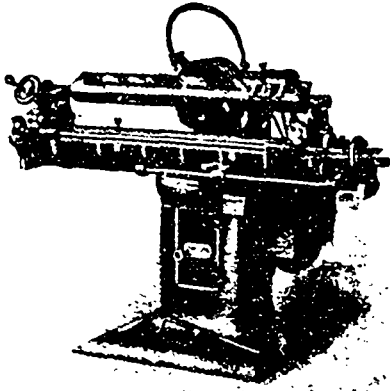
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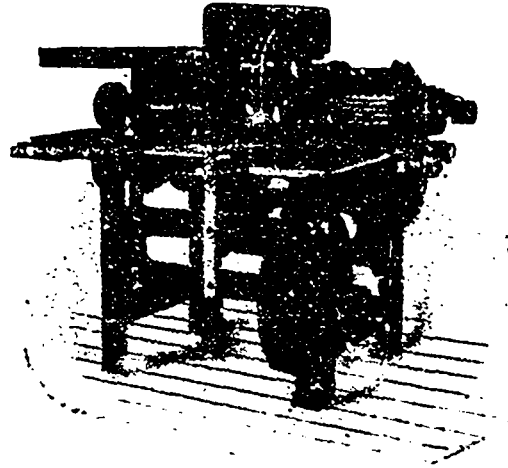
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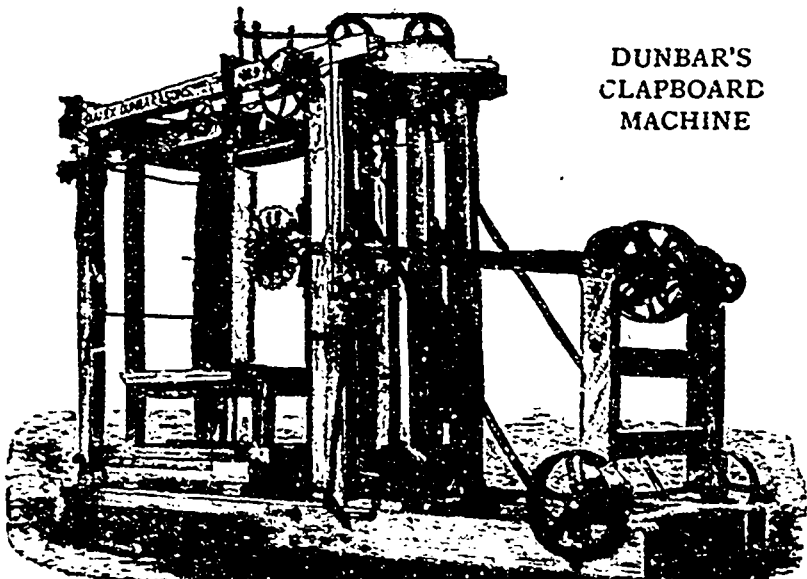
Saw Mill Machinery

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Including ROTARY SAW MILLS (3 sizes), CLAPBOARD SAWING MACHINES, CLAPBOARD PLANING AND FINISHING MACHINERY, SHINGLE MACHINES, STEAM ENGINES, Etc.

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DUNBAR'S CLAPBOARD MACHINE

Are You Looking For
 Heavy Lumber Wagons
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Write to Us.
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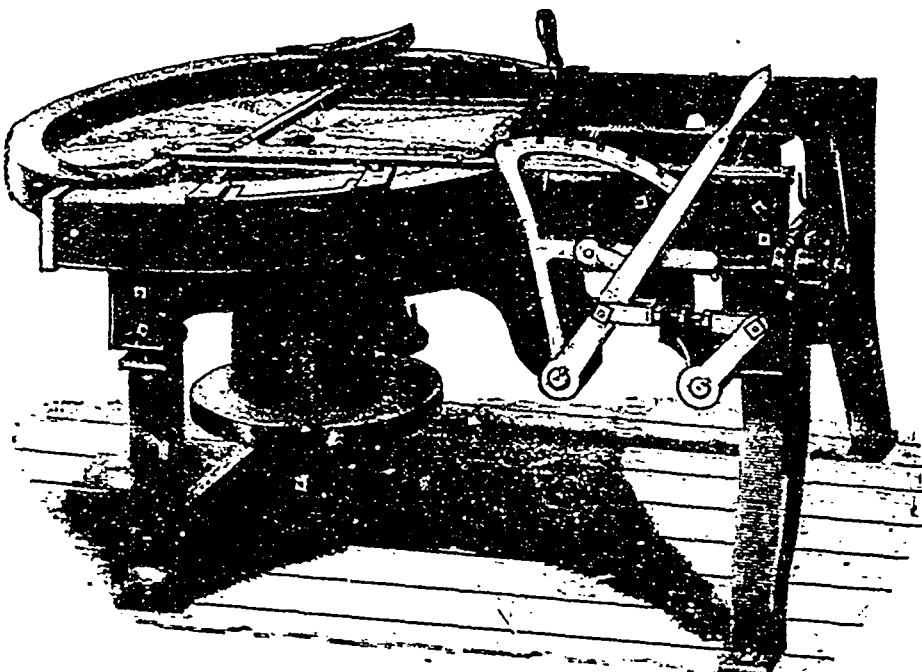
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40,000 IN USE.

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 SHINGLE MACHINERY**

Made in three sizes--Large machine takes saws up to 44" diameter and blocks up to 26" long.



Takes in the largest block—cuts the widest shingle—and cuts up closer. Has the easiest and simplest adjustment. One screw adjusts for thick or thin Shingles or Heading. One screw adjusts either butt or point of Shingle at either end of block. Drop tilt drops from half inch to three inches, with 1/2 inch variations. Easiest working carriage, and strongest and most durable machine made.

Complete outfits at reduced prices.

"DAUNTLESS" SHINGLE AND HEADING MACHINE.
 Capacity:—25,000 to 50,000 per day.

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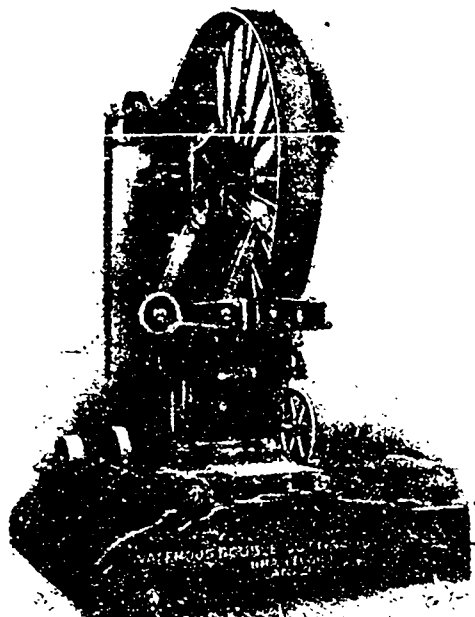
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MILLER'S PATENT BUFFER



It Makes

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Every Board Being Alike.

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Daily Cut 30% at the Expense of
One Extra Man.

Quality is not Sacrificed

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Surface is Much Improved at no ex-
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We Can Give You Their Names— Why
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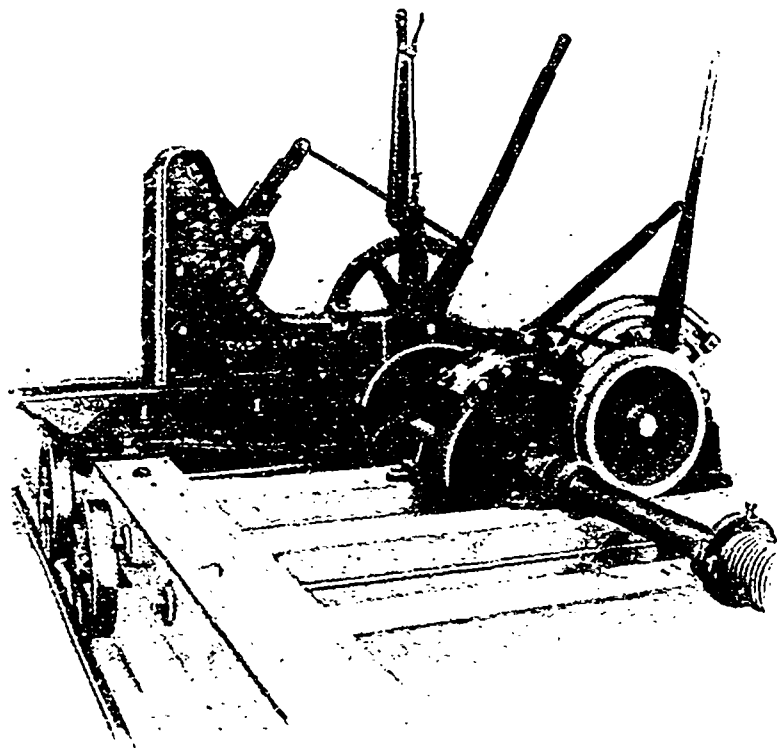
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Which Many of Them Have in Use.

It is **LIGHT, ACCURATE, SOLID**

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Will Stand the Hardest Nigger Pounding.
Frames of Oak. Bolts do not Work Loose.
The Several Sizes Open 42, 50, 60, 72 and 84 Inches.

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OUR STEAM SETTER

Another Time Saver.

It Increases Daily Cut 5 to 8%—Relieves Setter of Heavy Work—
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With Working Space 54 to 96 Inches, 4 to 8 Saws, and
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Order Early and Avoid Delay in Starting Nex Spring

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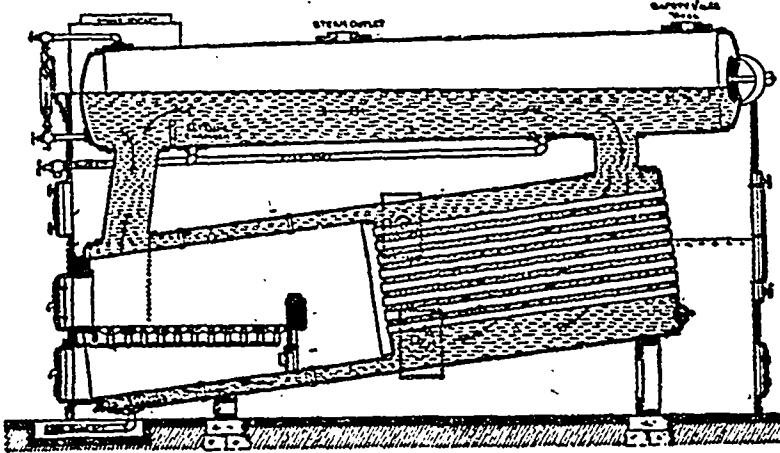
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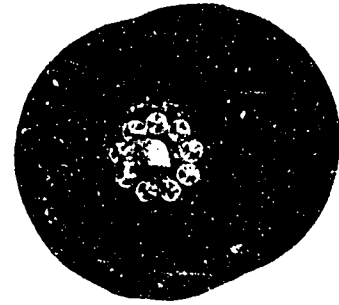
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For ordinary and general purposes 'THE KING' BABBITT METAL has no equal.

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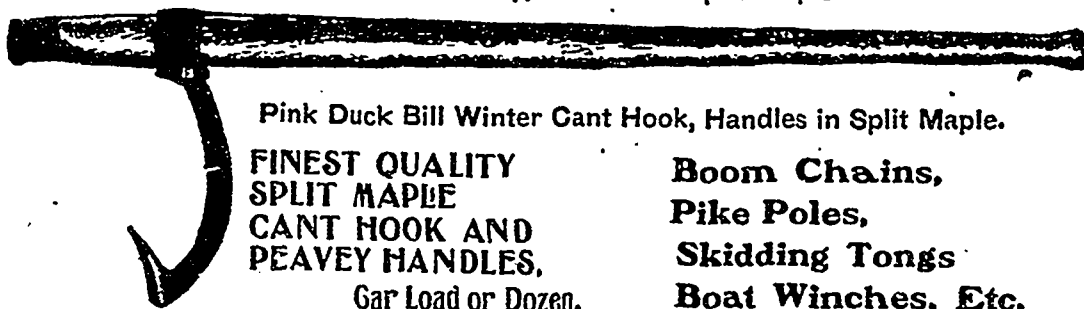


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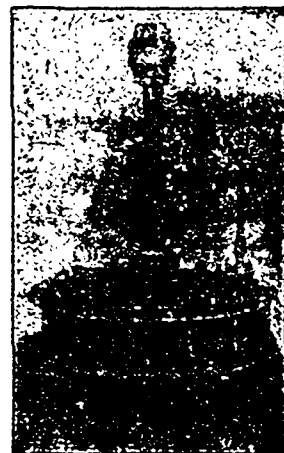
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