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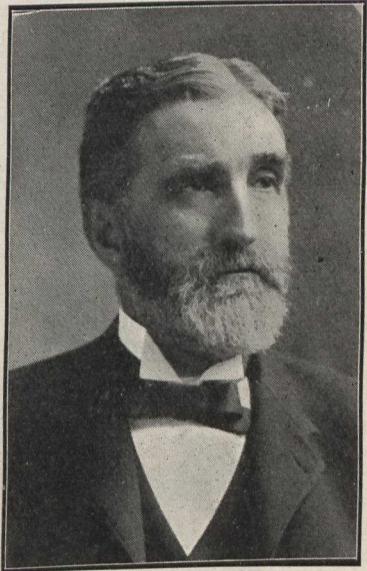
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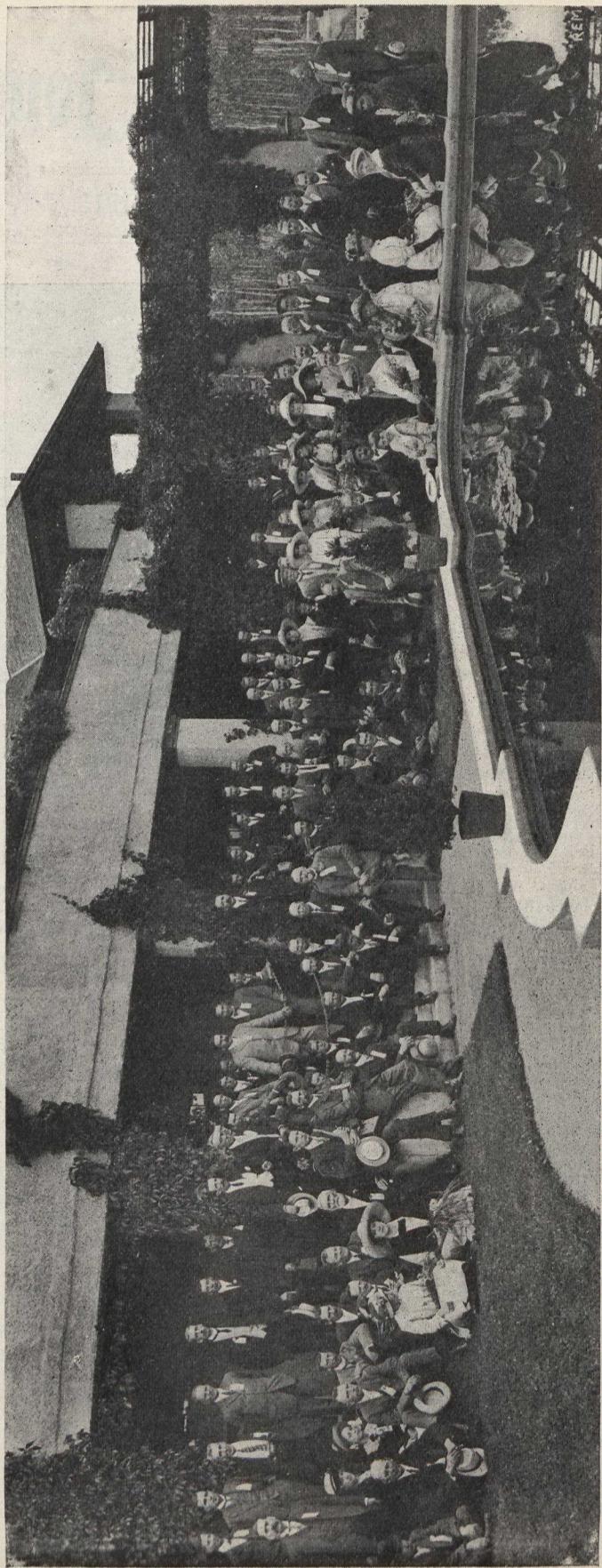
HON. W. A. CHARLTON.

President of the Canadian Forestry Association, who presided at the Winnipeg Convention, and opened the Winnipeg Industrial Exhibition.

HONORED IN WINNIPEG.

At noon on Monday, the opening day of the recent Convention, the Winnipeg Canadian Club entertained Mr. R. H. Campbell and Mr. James White, each of whom delivered a short address on the resources of Manitoba. Mr. White gave an outline of the geological formations and the water powers, and prognosticated a marvellous increase in the productivity of the province through the development of the latter. Mr. Campbell touched on the forest wealth, and predicted with firm conviction that if Manitoba would take reasonable care with her forests, there could be a revenue as great as that of the agricultural products, derived from the wood material.

On Tuesday afternoon, July 8th, the Hon. W. A. Charlton performed the ceremony of opening the Winnipeg Industrial Exhibition, one of the great annual features of the city. Mr. Charlton delivered a short address on the subject of Winnipeg's growth and the general development of the West.



Delegates to the Winnipeg Convention photographed in the Italian garden of the pavilion in Assiniboine Park, Winnipeg, where the City Council tendered a complimentary luncheon.

The Convention in Winnipeg

Meetings in the Western Metropolis Create Great Interest.

Manitoba has been famed in the past for her wonderful resources of wheat. However, if the spirit of the addresses at the fifteenth Convention of the Association held in Winnipeg on the 7, 8 and 9, of last month can be taken as a criterion it is evident that the West will also before long loom large among the sisters of confederation in the production of forest wealth as well. The Convention was a success in every way, and was particularly beneficial to the forestry movement in general, in that its first meeting in a country which was supposed to be less interested in the problem of forest conservation than any other part of the Dominion, was found to be abounding in the spirit which will go far in the future to make forestry a live issue in which all legislatures and the people as a whole can take an active interest.

The provincial and civic bodies took the keenest interest in all the proceedings, and the press of the city and province devoted columns of space both in news and editorial sections to the objects of the Association.

The meetings were held in the spacious hall of the Industrial Bureau on Main street just a few steps from the corner of Portage avenue, the greatest business street in the West. All the facilities of the Bureau were placed at the disposal of the Association and every opportunity afforded for the proper handling of arrangements.

The subjects dealt with were of the greatest importance to Central Canada, and the interest in all the meetings was unusually well sustained. As the report of the Convention is now in the hands of the printer with the object of getting it distributed to members of the Association at the earliest possible moment, detailed reference to each of the papers is reserved until the next issue of *The Journal*.

A feature of the Convention which had direct appeal and effect among thousands of citizens was the exhibit of native woods prepared by officers of the Dominion Forestry Branch and placed in the main entrance of the Industrial Bureau. Every day the Bureau was thronged with visitors, and it was noticed that the woods exhibit was undoubtedly the centre of

attraction. The remark "wouldn't have believed it" was the most common among the admirers of the collection. There were twenty different species shown, some of which were wonderfully well developed. Burr Oak 33 inches in diameter, Red Pine 19 inches, Jack Pine 19 inches, Cottonwood 42 inches, White Spruce 40 inches, were a few of the larger specimens. There were some samples also of the finished products, such as lumber, cooperage, excelsior and pulp.

The exhibit of insects parasitic upon the woods of Manitoba, in charge of Mr. J. M. Swaine, was placed in the Convention Hall and was much appreciated by all. Mr. Swaine's paper, which was distributed during the Convention, gave the delegates a clear idea of the depredations of the pests.

The opening session, on Monday evening, July 7th, was attended by a crowd which completely filled the auditorium. On the platform were Sir William Whyte (in the chair) Hon. W. A. Charlton, His Honor, Lieut. Governor D. C. Cameron, Hon. George Lawrence, Minister of Agriculture for Manitoba, His Worship Mayor Deacon, Mr. John Stovel, President of the Winnipeg Board of Trade, Mr. Wm. Grassie, Vice-President of the Industrial Bureau, Mr. R. H. Campbell Dominion Director of Forestry, Mr. James White Secretary of the Commission of Conservation and Mr. J. E. Rhodes of Chicago representing the American Forestry Association. Following a short speech of introduction by Sir William Whyte, His Honor the Lieutenant Governor opened the Convention, with words of welcome which betokened the warmest of sympathies with the efforts of the Association. His Honor dwelt upon the extension of the boundaries of the Province of Manitoba and expressed the opinion that the forest wealth of the West would rank high in the country in the future.

Hon. George Lawrence extended a warm welcome to the Association and invited all to be guests of the Government in a trip to the new Agricultural College at St. Vital on Wednesday. Mayor T. R. Deacon added the welcome of the people of Winnipeg, and wished the Association every success in its efforts. His Worship greatly deplored

the devastation through fire. "I have been on every river of importance between the Lake of the Woods and the Rocky Mountains and, frankly, I do not know where the timber is. The Mayor wished to see the ranging systems of the country, particularly of Ontario, whose resources he thought sufficient to stand considerable expenditure, materially extended. Mr. John Stovel extended the welcome of the Winnipeg Board of Trade, and Mr. Wm. Grassie bespoke for the Industrial Bureau the interest which men of the Central West felt in the progress of the forestry movement.

The Hon. W. A. Charlton, President of the Association expressed the grateful feelings of the delegates for the kindnesses shown. The wonderful developments within the country, Mr. Charlton said, meant great and permanent prosperity if we would only husband properly our natural wealth. Mr. J. E. Rhodes, the distinguished representative of the American Forestry Association, followed with greetings from across the border, and hopes of extensive co-operation between conservationists the continent over. Mr. Rhodes paid a unique tribute to Canada's possibilities in proper management of her forests. 'We look forward to your practising scientific forestry before we do,' said he, 'because of the method of holding forest lands.'

Mr. E. T. Allen, from the Western Forestry and Conservation Association followed: 'The man who stays at home from a meeting of this kind in the course of two or three years finds himself in a sort of backwater' said Mr. Allen. Mr. R. H. Campbell, Dominion Director of Forestry, spoke of the 'forest as a bank account,' 'and,' said Mr. Campbell, 'we have drawn on our capital very heavily, and we must make a heavy capital expenditure to get back to the position where we were and where we can again draw regularly an income equal to that which we previously drew.' Mr. James White spoke of the work of the Commission of Conservation in relation to the forests. He said that our wood supplies had been greatly over-estimated and that he hoped the United States would not look to Canada, as Mr. Rhodes had suggested.

A letter of regret at inability to be present was read from Hon. W. J. Roche Minister of the Interior. Dr. Roche wrote that he had intended attending, but was prevented by the accumulation of work which he found awaiting him at Ottawa upon his return from England.

On the second day the Association turned immediately to the program of papers and entertainment, which was as follows:

TUESDAY, JULY 8th.

(Morning Session.)

- 9.30—Hon. W. A. Charlton—President's Address.
 Appointment of Resolutions Committee.
 Mr. R. H. Campbell, Dominion Director of Forestry—"Manitoba a Forest Province."
 Mr. E. A. Sterling, Director, American Forestry Association—"Progress of Forestry in the United States."
 Mr. W. T. Cox, State Forester of Minnesota—"Rate of Tree Growth."
 Mr. E. J. Zavitz, Provincial Forester of Ontario—"Forestry in Ontario"
 Mr. W. P. Dutton, President Great West Lumber Co.—"Central Western Forest Conditions."
 Mr. J. M. Swaine, Entomologist for Forest Insects, Dominion Experimental Farm, Ottawa—"Insect Problems in Canadian Forests."

(Afternoon Session.)

- 2.30—Mr. George Bury, Vice-President Canadian Pacific Railway Co.—"The Railway and Forest Protection."
 Mr. Clyde Leavitt, Forester for the Canadian Commission of Conservation—"Brush Disposal in the Adirondacks."
 Mr. H. R. MacMillan, Chief Forester of British Columbia—"Forestry Progress in British Columbia."
 Mr. E. H. Finlayson, Chief Fire Inspector, Dominion Forestry Branch—"The Fire Acts of Manitoba, Saskatchewan and Alberta."

(Evening Session.)

- 8.00—Mr. J. S. Dennis, Assistant to the President, Canadian Pacific Railway, and Chief of Natural Resources Department—"Why the Railroads are Interested in Forestry."
 Mr. Vere C. Brown, Superintendent of Central Western Branches, Canadian Bank of Commerce—"Some Practical Aspects of the Forestry Movement."
 Mr. E. T. Allen, Forester of the Western Forestry and Conservation Association, Portland, Oregon—"Co-operation and Extension in Forestry."

WEDNESDAY, JULY 9th.

(Morning Session.)

- 9.30—Mr. Norman M. Ross, Chief of Tree Planting Division, Dominion Forestry Branch—"Review of the Work of the Tree Planting Division."
 Mr. S. A. Bedford, Deputy Minister of Agriculture for Manitoba—"Farm Hedges."
 Mr. F. W. Brodrick, Professor of Forestry, Manitoba Agricultural College—"Educational Aspects of Forestry."

(Entertainment.)

- 11.00 — Electric Cars leave Industrial
 (Continued on page 125.)

Forest Fire Legislation.

Final Report of Committee Published.

(At the annual meeting Dr. B. E. Fernow, on behalf of the committee, presented the following report, the printing of which was delayed until some details were completed.)

Your Committee on Forest Fire Legislation can report with gratification the developments of the past year; highly important progress in all parts of the Dominion in coping with the fire fiend having been made.

Early in the year the Federal Board of Railway Commissioners held a number of public hearings at Ottawa and Toronto, at which your Association, your Committee, the Commission of Conservation, the Government of British Columbia, as an important moving spirit, and representatives of the various Railroad Companies were heard.

At the request of the Board the Chairman of your Committee, acting at the same time as representative of the Commission of Conservation, formulated the principles upon which the Board should proceed in legislating for protection against fires arising from railroads.

The final result of these hearings was the issuance of a most comprehensive order (No. 16570) covering every phase of the subject, and especially providing a thorough organization with a Chief Fire Inspector at the head, who acts at the same time as Forester to the Commission of Conservation.

It may be said that this legislation is the most advanced for this phase of the subject on this continent, covering under one authority probably not less than 22,000 miles of track.

The organization has been vigorously put in order by the Chief Fire Inspector. The main principle of the organization is that it delegates discretionary power to the Chief Inspector, which is necessary on account of the great variety of conditions to be

met with on such a vast territory. Another feature of the organization is the co-operation with other agencies like the federal and provincial forest services or provincial governments by appointing their officials in charge of fire protection as local inspectors, also to some extent with discretionary powers, for the Railway Commission.

It is also to be noted with satisfaction that the Canadian Pacific Railway Company and the Great Northern Railway Company have installed oil-burning locomotives on portions of their lines, and are likely to extend the operation of such, thereby reducing the danger from this source of forest fires greatly.

Unfortunately, the jurisdiction of the Board of Railway Commissioners does not extend over all the railways, some of the provincially owned or chartered and the Intercolonial and Transcontinental railroads being outside of its jurisdiction. As to the latter, it would appear a most incongruous and illogical situation if these federally owned or constructed lines should continue to remain without an organization similar to that which the government now imposes upon the privately owned lines. These roads are managed by special co-ordinate commissions, and hence are beyond the influence of the Railway Commission. It is hoped that these commissions will soon adopt similar methods as are detailed in Order 16570.

The provincially chartered railways form only a small fraction of the railway system, and are subject to the provincial laws for fire protection, which in Quebec under the Public Utilities Commission's Order is almost identical with the Railway Board's Order, and in most of the other provinces this service is quite

well attended to. Nevertheless, the Chief Fire Inspector has busied himself to secure co-operation with the provincial governments for further improvement, and such co-operation has in several cases been already secured. In Quebec, for instance, this co-operation is now perfected, and all railways, except the two federal roads, are under the same rules, with the Provincial Fire Inspector at the same time an officer of the Railway Commission.

This phase of the forest fire problem — protection against railway fires—is in a good way of being permanently settled, when the two federal roads are brought under the operation of a system like that of the Railway Commission.

Brush Disposal.

In the first report of this Committee the propriety of looking into the question of brush disposal in the slashes of the loggers was intimated. Since then the Ontario Government has tentatively licensed some timber limits with the condition that he brush be disposed of.

The Committee would accentuate again that the manner of brush disposal, namely by merely lopping, or by burning, and the method of procedure must vary according to conditions in each case, and that there may be cases when neither of these precautions are of practical value, or the cost not in proportion to the benefit. Hence discretion in prescribing the condition of brush disposal is needful. It is very easy to bring condemnation and the charge of impracticability upon the proposition of brush disposal by injudicious method of application.

Lately an inspection of the result of lopping in the mixed stands of hardwood and spruce in the Adirondacks was made by authorities, including members of the federal Forestry Branch and the Forester of the Commission of Conservation, and a report of the satisfactory results and

practicability of the method is to be looked forward to.

We may anticipate briefly the information, that logging slash constitutes the most serious fire menace in existence; that brush disposal is a practicable and feasible method of minimizing fire danger, though secondary to patrol; that the methods of brush disposal to be adopted in any particular case can be determined only by careful consideration of all the surrounding conditions; and that where brush burning is practicable both financially and silviculturally, this is the most efficient means of reducing the slash menace, but that where brush burning is not practicable for any reason, the lopping of tops may be advisable. The latter is especially applicable to spruce and cedar operations in the east, but even here lopping may not always be necessary.

These precautionary measures should, of course, be supplemented by other systematic attempts to reduce fire danger and to limit fire damage. There is always room for further perfection of any organization.

The Committee also desires to call attention to the claim of the Dupont Powder Works, of the value of dynamite for trenching in fighting forest fires. The claim is that a trench six feet wide and two to two and one half feet deep may be excavated by placing cartridges of dynamite on top of the soil two feet apart at the rate of 300 feet in 15 minutes.

A very decided attempt at organizing the protective service was made by the Forestry Branch, some 300 miles of trail and 100 miles of telephone lines having been constructed. Extension of the fire ranging into the Yukon would appear a matter deserving immediate consideration.

The new forest service of British Columbia will devote itself for the present mainly to solving the forest fire problem.

When the forest fire services of the provinces which own timberlands

shall have been perfected for the protection on their own limits, there still remains the necessity for the protection of municipal and private lands.

For this the organization in part inaugurated in the Province of Nova Scotia may be taken as a starting point, namely a service based on the payment of a certain tax in proportion to the holdings, local fire-wardens paid when on duty, organized under a provincial head, and obligation of citizens to assist in extinguishing fires.

More effective, however, under other conditions, may be found the organization of local associations for protection against fire, such as the Committee referred to in its first report.

One such Association was formed last spring in Quebec, the St. Maurice Forest Protective Association, manager, three inspectors, and fifty rangers extended protection over 7,000,000 acres of limits. The cost is met by an assessment of one quarter cent per acre upon limit-holders, the Provincial Government contributing \$3,000. During the first season of

its existence, ninety-seven fires were extinguished, only one of which running in a slash assumed any considerable proportion. The construction of lookout stations, telephone lines and trails has also been begun by the Association. The Committee, one of whose members has been largely instrumental in the formation, desires to record its appreciation of this initiative, and hopes that this method of meeting the trouble will find widespread imitation as the most hopeful one.

In conclusion, the Committee ventures to suggest its continuance for the purpose of assisting in similar efforts and of recording progress from year to year in the development of this most important phase of the forestry problem.

(Signed) B. E. FERNOW, *Chairman.*
 JUDSON F. CLARK.
 F. DAVISON.
 W. C. J. HALL.
 G. C. PICHE.
 THOMAS SOUTHWORTH.
 ELLWOOD WILSON.

MUCH ACTIVITY IN QUEBEC FORESTRY DEPARTMENT.

Mr. Avila Bedard, assistant to Mr. G. C. Piché, Chief Forester, left by the Megantic for Europe, where he will study the management of forests and measures employed to combat insects in France, Belgium and Switzerland.

The engineers of the Forestry Department are at work as follows:—

Mr. George Boisvert has just returned from an exploration trip to the sources of the Kedgwick, Mistigougeche and Metis Rivers, where he found extensive forests, accessible and easy to develop.

Mr. L. D. Marquis is taking an inventory of the forestry resources in the basin of the Assametquagan River in the Metapedia Valley.

Mr. Felix Laliberte will leave shortly to go and study the general conditions and the forestry resources in the basin of the Mistassini River in the Lake St. John district.

Mr. Ernest Menard will visit the basin of the Peribonka River.

Mr. Picard will go to Abitibi to make and

review a study of the Migiskan and Bell Rivers.

Mr. Henri Roy will continue to make the classification of the lands situated north of the Quinze River.

Mr. Henri Keiffer, assisted by Mr. Picard, will classify in the townships and counties of Terrebonne and Labelle.

Mr. Barromee Guerin will work in Beauce to complete the inspection of lots and to classify vacant lots.

—*Pulp and Paper Magazine.*

NOVA SCOTIA LUMBERING.

The cut in Nova Scotia this season only amounts to 60 per cent. of the normal. Short hauling season and soft weather forced a curtailment of operations. Mr. W. G. Clarke, a leading lumberman of the province, stated recently that Nova Scotia lumbermen would have to change their methods and use logging methods not dependent on snow. The shipments have decreased and prices stiffened about \$1.00.

GOVERNMENT AND LOGGERS CO-OPERATE IN SLASH DIS- POSAL.

The Government of the Province of British Columbia is doing much to create on all sides a full confidence in the idea that the proper disposal of logging slash is essential to the permanence of the lumbering industry. Herewith is a letter sent by Chief Forester MacMillan to all loggers in the Province.

I wish to request for the Forest Branch your earnest co-operation in an effort to solve the problem of the disposal of the slash resulting from logging operations.

Owing to the great density of the timber stands on the coast and in portions of the interior of British Columbia, to the conditions surrounding the lumber industry which permit of the removal from the woods of only a very small proportion of the stand, and to the methods of logging, the amount of slash remaining after logging is excessive. Generally also the timber remaining after logging is without further value, and, since the slash effectually prevents the growth of a valuable second crop, slash must be removed first if the land is to be utilized in producing another crop of timber.

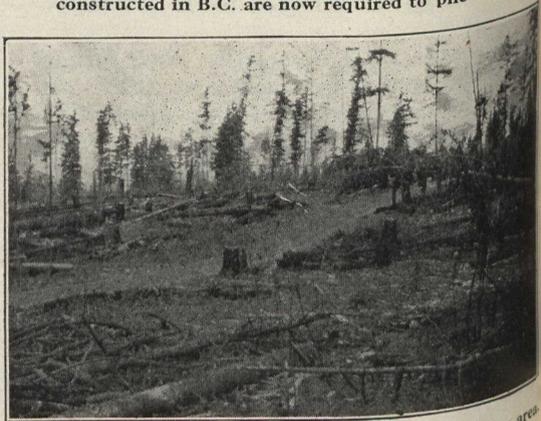
I need not point out that by far the greater portion of the land in British Columbia is, owing to its roughness and lack of soil, unsuited for agriculture, and the only possible way in which it can be made a steady source of wealth is by the growing of timber. Besides its effect in preventing the production of a second crop of timber, slash is universally recognized as the most serious of all fire hazards, and that it is only a question of time before every slash area will be set on fire. This being the case, the evident thing to do is to burn the slash at such a time and under such conditions as will, so far as humanly possible to determine, render it certain that the fire does not spread to adjoining timber.

The Forest Act of British Columbia does not make the burning of slash compulsory although in the States of Oregon and Washington, where the conditions are identical, such laws are in effect. The Forest Act does, however, empower the Minister of Lands or the Forest Board to require owners to construct a safe fire-break about any area of slash, and where necessary to protect valuable timber this provision of the Act will be enforced.

To be at all safe or effective against July or August fires, fire-breaks must consist of a strip 5 to 10 feet wide cleared to mineral earth and a strip 10 to 30 feet



Slash on logged over area piled so as to reduce fire danger. All the contractors working on the 2,000 miles of railroad being constructed in B.C. are now required to pile slash.



Showing where slash has been burned on logged over area. No danger of fire now.

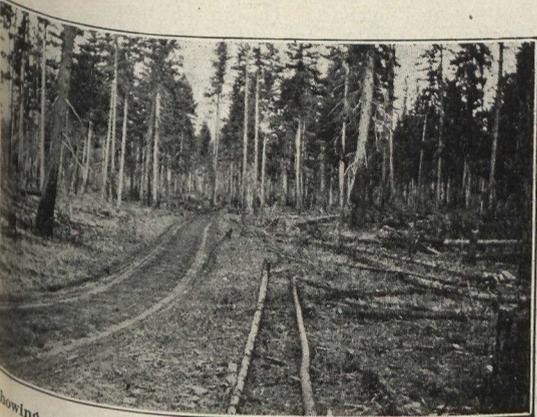
wide cleared of brush, inside which all dead snags standing within a distance of 100 feet must be felled.

As long as the slash remains, however, the danger from fire is still serious, and it is felt that it would be far better to burn the slash itself than to construct such fire-breaks, the cost of which is as much or more than that of slash burning.

A number of loggers in British Columbia have already adopted the practice of burning their slash every year either in the spring or in the fall, and I hope that you will decide to apply the plan to your operations and take up the matter immediately with your superintendent. The present spring is backward, and except in high winds slash burning may be safely carried on until the first or second week in June. During April no permit to burn is required, and after May 1st permits can be obtained from the local forest officers. While it is impossible to specify the conditions as to weather when burn-



Logging slash before burning. A most dangerous fire trap



Showing where slash has been burned on logged over area. No danger of fire now.

if on a slope. When the danger of fire spreading beyond the area to be burned is past, set fire on the windward side or at the base of the slope; also whenever possible take advantage of a breeze blowing away from green timber.

(5) Burn over the area as quickly as possible. This can be done by starting fires in a large number of places.

(6) Keep a watchman on the area burned until all fires are out. Cut down any snags which may be burning. All fires should be completely out before June 15.

Experience has shown that slash can be burned safely at the cost of 5 to 20 cents an acre, and that this expense is fully repaid by the resulting added safety of the camps, equipment and surrounding timber. The cost can be materially reduced if the policy of annual burning is definitely adopted, since by a little forethought the superintendent and foreman can arrange to have drag and skid roads serve as fire-breaks. When it is known where the boundary of an area to be burned will lay, it is also a material help to have the trees felled away from the green timber.

I would appreciate it very much if you would report what action you take, if any, with respect to burning your slash this spring, giving the area burned, the weather conditions, methods of controlling the fire, and the cost. At the end of the season this information will be collected in the form of a bulletin and mailed to all the lumbermen.

It is also desired that the owners of timber be prepared to discuss the subject thoroughly at the International Fire Protection Convention which will be held in Vancouver next December.

NEW LEASES TAKEN UP.

Premier Flemming of New Brunswick recently stated in connection with the new Forest Legislation that of the 10,000 square miles of Crown timber lands 7,000 have already been applied for under the terms and conditions of the new leases.

As our readers are aware the new laws recently passed provide for two forms of license,—a saw mill license of twenty years renewable for a further period of ten years, and a pulp and paper license of thirty years renewable for two periods of ten years each at the option of the Government.

It is expected that less than five hundred will remain out, and not elect to come in under the provisions of the new law as the law provides in this case the limits will be put up at auction in 1918 as the former leases provide.

ing can be done safely, or the methods by which the burning can be most effectively accomplished, these matters being best determined by your superintendent, the following general rules may be of assistance:—

(1) Always construct a trail or a light fire-break around the slashed area before starting fires. This will serve to confine the fire and also permit men to get around the fire quickly.

(2) Be sure and have enough men on hand when you start a fire to control the fire if it threatens to spread beyond the slash.

(3) Never start a fire in the morning unless you feel certain a strong wind will not arise. The best time to start a fire is after 4 o'clock in the afternoon on a calm day; if the weather is warm and the slash dry all the better.

(4) If the slash area is surrounded by timber start fires first on the leeward side if there is a breeze, or on the uphill side

Havoc by Forest Fires.

Damages Heavy in All Parts of the Country.

The losses from forest fires this year have already reached great proportions. During the month of June there were serious conflagrations in many parts of the country, the most serious being in the vicinity of New Liskeard. Bush fires harassed the settlers, and lumber mills were saved with great difficulty. One million feet of rough lumber were destroyed on June 16th.

The conditions of drought which prevailed all over the country in the first week in July started the flames on their work of devastation once more. In New Brunswick the month of June was an unusually dry month, as showed by the statistics prepared by the Dominion Meteorological Station at Fredericton. As against an average rainfall for the month of 3.6 inches for the last thirty-nine years, there was this year only 1.86 inches.

The worst fire was at Cedar Brook, Victoria County, where over 5,000 acres of Crown timber lands were burned over, and a lumber camp with \$3,000 worth of supplies. Another bad blaze broke out on the lands of the Inglewood Pulp and Paper Company.

Another large fire is reported this season in the province of New Brunswick. This was set in the McLaughlin limits in the upper St. John River by two unknown prospectors. They had been warned by the fire warden, but neglected the caution. Camps and camp supplies to the extent of \$4,000 and 200 square miles of spruce timber land, half of which had been logged over, were burned.

In Northern Ontario the worst losses so far recorded this year occurred following a series of small blazes throughout the whole Northland, which for the period totalled higher than for any preceding year.

The town of Biseoe, 60 miles west of Chapleau, was completely destroyed on June 13, and its 500 inhabitants rendered homeless. The mills of the Booth and Shannon Lumber Company at Thief River Falls, Minn., on the Soo line of the C.P.R., were burned out, at a loss of \$250,000.

Fires of immense proportions broke out during the latter part of June in the vicinity of Cochrane, Ont., and on the 20th of the month it appeared that the whole country would be swept. Settlers were sending their effects out of the danger zone, and many hundreds of people were almost suffocated by the acrid smoke. A rain which came as a godsend began to fall on the 31st and saved the territory which seemed doomed.

At South Porcupine the wind died down at a critical moment, which gave the fire-fighters an opportunity to do effective work. At Hearst, which is surrounded by bush and which has no water supply, the lack of wind helped in the fight to confine the flames to the bush.

Among the losses reported were a dwelling valued at \$2,000 just outside Cochrane, 500 cords of wood belonging to the Foley-O'Brien mine at South Porcupine, 100,000 logs owned by a saw mill company at Jacksonboro; a lumber mill, 30,000 feet of lumber and eight dwellings at Charlton, \$20,000 worth of property owned by the T. & N. O. Railway at Englehart. This in addition to the loss at Earlton, ten miles south of Englehart, which was practically wiped out.

According to the official reports received by Chairman Englehart of the T. & N. O. Railway, the fires extended intermittently from Sudbury to Kenora, principally in the spruce and pulpwood districts. By an almost inestimable stroke of fortune the government reserve, extending from mileage 42 to mileage 82, and embracing the great pine region, escaped notwithstanding the fire which raged all about it. Outside of the spruce forests the heaviest loss reported was practically confined to the town of Earlton. It was at this point alone that the railway directed its relief operations, and Mr. Englehart reported that everyone was cared for. South and southwest of Cochrane the fire was raging in the marsh and muskeg, and the residents of the town had to steadily fight off the flames.

All down the Ontario Government Railway line from this point to Matheson forests were on fire. The town of Matheson seemed doomed for a time, but it eventually escaped. Swastika and Kirkwood Lake were not touched, though the fire had been bad in the woods nearby.

The long jump down the line to Earlton was reported as practically fire free. Thornloe for a time was seriously threatened, but hard work saved the town. Fires raged around Heaslip, but not in the immediate vicinity of buildings. Of the spruce and the pulp wood wiped out by the fire, it is estimated that one-third belonged to the Government and two-thirds to settlers or land-holders. A large amount of the fire-swept territory belongs to militia veterans who received it in land grants.

Reports from the West show that toward the end of July a bad fire laid waste about twenty-five miles of territory between Tete Jaune Cache and Fitzhugh, Alta.

Lumber, Lath, Shingle and Square Timber Statistics for 1912.

New Bulletin of Forestry Branch, Ottawa Shows Great Decrease in Production.

The most noteworthy fact brought to light by this new bulletin on the lumber production of Canada was the 10.7 per cent. decrease in cut in 1912 as compared with that of 1911. All provinces except Saskatchewan showed a substantial falling off in production and, although only 2,558 firms operating saw mills reported in 1912 as against 2,871 in 1911, yet, as the bulletin points out, it was mostly small mills which failed to report, and the fact that most of the larger mills reported a decrease in their output, indicates that the decrease in production actually took place and was not a result of incomplete returns.

The total value of the lumber, laths, shingles and square timber produced in Canada in 1911 was \$76,540,897, the amount of each being as follows:—

Lumber	..4,389,723,000 ft. b.m.	..\$69,475,784
Shingles	.1,578,343,000 pieces...	3,175,319
Laths	... 899,016,000 pieces...	2,064,622
Sq. timber	65,906 tons.....	1,825,154

Ontario still leads the provinces in lumber production, cutting 31.6 per cent. of the total. British Columbia makes a close second, cutting 29.9 per cent. of the total, and as the percentage of production in this latter province is increasing while that of Ontario is falling off, it is likely that the position of these two provinces will be seen to be reversed when the 1913 figures are available.

For the last five years the four principal species in order of importance have been spruce, white pine, Douglas fir, and hemlock, but the production of white pine has remained about stationary during this period and is now on the decrease, whereas the production of the other three species has enormously increased, especially spruce, which now makes up a third of the total cut of lumber, in spite of the fact that it also is the principal wood used in the manufacture of pulp, making up 78.2 per cent. of the total amount of pulpwood. The huge amount of spruce now being cut for pulp-

SOFTWOODS		HARDWOODS	
SPRUCE	1,409,311	BIRCH	100,267
WHITE PINE	911,427	MAPLE	77827
DOUGLAS FIR	689,861	BASSWOOD	52,921
HEMLOCK	533,238	ELM	32,949
CEDAR	156,022	BEECH	15,417
RED PINE	142,294	ASH	12,386
ALL OTHERS	237,583	POPLAR	7,523
		ALL OTHERS	10,697

Production by species 1912 of lumber, lath, shingles and square timber with quantities in thousands of feet.

wood may account for the 11.9 per cent. decrease in the amount of spruce lumber cut in 1912.

Coniferous woods made up 92.9 per cent. of the lumber sawn in Canada in 1912, the hardwoods forming 7.1 per cent. of the cut, a somewhat greater percentage of the total than the amount cut in 1911. While it is true that the supplies of more valuable hardwoods of southern Ontario and Quebec are nearing exhaustion, yet the increase in cut of the more widely-spread birch, beech, maple and basswood should be noted because these species are common to the farmer's woodlot. Birch is Canada's most important hardwood.

The average mill prices of lumber in Canada in 1913 rose 41 cts. above that of the previous year, becoming \$15.83 per M. ft. B.M. The local variations in these prices show in some cases a much greater increase as in Ontario where there was an average increase of \$1.52 over the price of 1911 directly due to the decrease of 19.3 per cent. in the production of lumber for 1912.

In the prairie provinces the greatest extremes of increased and decreased production are to be observed. Saskatchewan was the only province in Canada to report an increase in cut, this being 16.7 per cent. greater than the cut of 1911. The average

capacity of the Saskatchewan mills is second only to those of British Columbia, being nearly seven million feet of lumber a year, 99.2 per cent. of lumber cut in these mills being spruce. Manitoba showed a decrease in production of 26.4 per cent., but this decline can be only temporary, for the exhibit of Manitoba woods at the recent Canadian Forestry Association Convention in Winnipeg showed great latent possibilities in this province as a lumber producer.

The production of shingles in Canada in 1912 was 14.1 per cent. less than that of 1911. Spruce, white pine, hemlock and jack pine are being increasingly used for the manufacture of shingles. The production of lath also showed a decrease of 1.9 per cent. from 1911, spruce making up over one-third this product.

One of the most remarkable facts brought out by the bulletin is the extraordinary increase of 89.9 per cent. in the production of square timber in 1912 over that of 1911, this being the first increase since 1877. This increase was largely due to the largely increased amounts of white pine and birch exported in this form, white pine making up 5.3 per cent. and birch 28.5 per cent. of the amount exported. 97.5 per cent. of the square timber cut was exported to the United Kingdom.—G.E.B.

International Bureau of Forestry.

Permanent Commission Decided Upon by the Forestry Congress at Paris.

Probably the most important result of the International Forestry Congress held in Paris last June was the creation of an International Forestry Commission, having for its object the furthering of forestry principles and the convoking, when necessary, of International Forestry Congresses at which legislative and administrative questions pertaining to the forest shall be brought up for discussion.

The temporary officials, consisting of a President, Vice-President, Secretary-Treasurer and Executive Committee, were chosen largely from the French foresters and legislators who were present at the Convention, while forty-two of the representatives of foreign countries, who were present at the Convention, made up the body of the Commission. The Touring Club of France, one of the most influential bodies of private citizens in Europe, offers their hotel in Paris as a temporary headquarters for the Commission.

It is likely that this Commission will take over the publication of International Forestry statistics now being occasionally is-

sued in the bulletins of the International Institute of Agriculture, which was established at Rome in 1910. This latter institute, publishing monthly statistics of the world's agricultural crops, has more than justified its existence, and the International Forestry Commission will prove justifiable for similar reasons. Moreover, it will make possible the spreading and co-ordinating of scientific forestry knowledge which is at present largely restricted to and put to most practical application in Europe.

The Commission will also facilitate the assembling of forestry congresses, international in their scope, at which questions of present concern to all foresters, may be discussed, such as the right of the Government to expropriate misused private lands when their reforestation is necessary for the protection of the watersheds of navigable streams. Such a congress might profitably be held in Canada and would be justified by the impetus they would give to forestry in Canada and by the great importance of the forest resources of this country.

THE CONVENTION IN WINNIPEG.

(Continued from page 116.)

Bureau for Civic Luncheon at Assiniboine Park, returning to Union Depot at 2 o'clock.

2.00—Special C.N.R. Train leaves Union Depot for New Agricultural College, returning will arrive at Union Depot at 5.15 p.m.

Wednesday morning's proceedings went briskly forward until eleven o'clock, when they were pleasantly interrupted by the arrival of special cars chartered by the city which conveyed all the delegates to Assiniboine Park where a magnificent luncheon was served. In the unavoidable absence of the Mayor the chair was occupied by Alderman Wallace, chairman of the Reception Committee. Short addresses were given by civic officials and replied to by representatives of the Association.

Immediately after luncheon the party betook themselves to the cars again and were conveyed to the Union Station. As guests of the Government of Manitoba they were then taken by special train to view the new Agriculture College now being constructed at St. Vital, one of the suburbs of Winnipeg. Manitoba's first Agricultural College, planned on what was thought to be a generous scale was opened seven years ago. It has been completely outgrown and as a result the Government is erecting this new institution which will cost when complete \$3,000,000. It will be opened in September. The visitors, who were personally shown over the buildings by Hon. George Lawrence, Principal W. J. Black and Mr. F. W. Brodrick, Professor of Forestry, were astonished and delighted with the provision that has been made for agricultural education in Manitoba. It had been expected that the program would be completed at the Wednesday morning session, but the desire to discuss different features was so strong that the concluding session had to be postponed to Wednesday evening. The Resolutions Committee was appointed at the first session as follows: Messrs. R. H. Campbell, (convener,) Archibald Mitchell, W. P. Dutton, H. R. MacMillan, A. P. Stevenson, F. W. Brodrick and A. L. Mattes. This committee reported on Wednesday and after considerable discussion the following resolutions were passed:—

Resolutions.

(1) Resolved, that the Executive Committee take into their consideration the advisability of appointing: (a) A central committee at Ottawa and sub-committees at important points in different sections

of Canada to formulate a national forestry policy; and (b) Advisory boards at each centre where a sub-committee is formed.

(2) Resolved, that this Convention approves the action of the Dominion Government in extending the areas included in Forest Reserves on watersheds and non-agricultural lands, and would urge on the Governments of the Dominion and the provinces the necessity for continuing the extension of such reservation until all lands of that character are included.

(3) Resolved, that before any lands bearing timber or lands contiguous to timbered areas are opened for settlement an examination of such lands should be made to determine whether they are best suited to the growth of timber or whether their opening would endanger the timber.

(4) Resolved, that this Convention would urge upon the Dominion Government the necessity for the afforestation of the sand lands throughout the prairies and the setting apart of such lands for this purpose.

(5) Resolved, that the Fire Ranging Service should be extended and made more efficient and that the rangers should be selected on the basis of their special qualifications for the work and should hold office so long as they render efficient service.

(6) Resolved, that the Canadian Forestry Association express its approval of the energetic policy which is being followed by the Dominion Commission of Conservation in investigating the important forest problems of Canada.

(7) Resolved, that the Canadian Forestry Association express its appreciation of the effective manner in which the Dominion Board of Railway Commissioners and the officers of the leading Canadian railway companies have worked together for the prevention and control of forest fires arising from operating railroad lines.

(8) Resolved, that this Convention again records its approval of the work of the Tree Planting Division of the Dominion Forestry Branch, not only in the free distribution of trees to settlers and the supervision of their growth, but also in thereby providing practical demonstrations to settlers in all parts of the country of the possibility of forest growth on the prairies.

(9) Resolved, that this Convention recommend that experiments be carried out by the Dominion and provincial governments affected to obtain data regarding the best disposal of debris resulting from lumbering operations.

(10) Resolved, that in view of the great importance to Western Canada of the wise administration and use of the

forest resources of British Columbia the Canadian Forestry Association express its strong support of the policy which has been announced by the British Columbia Government that there shall be established in connection with the University of British Columbia a Forest School designed to train young men of Western Canada for work in the Government forest services and in the different branches of the timber business.

(11) Resolved, that the Convention heartily approves of the establishment of ranger schools for the training of forest rangers for the government forest service and would urge that this question be given early consideration by the federal and provincial governments.

(12) Resolved, that in view of the immense importance of impressing the younger generations with the importance of tree growth on the prairies, this Association commends the action of the Departments of Education and Agriculture in the three prairie provinces in providing instruction in tree planting, horticulture and agriculture for the school children, first through their teachers, by means of special classes, institutes, and summer schools, and secondly direct to the scholars through special instruction provided by these departments; and, further, that, while expressing its approval of the work already done, this Association would point out the importance of such means of disseminating information, and commend it still further to their consideration.

(13) Resolved, that this Association recognizes the importance of planting shelter belts and other trees and shrubs in the school grounds of the prairie provinces, and that, to encourage this work in a practical manner, it recommends to the attention of the Departments of Education and Agriculture of the provinces, and through them of the Governments, the making of special grants for such improvements of a sufficiently substantial nature to encourage school trustees to undertake such work, and the making of such regulations as will require that school grounds shall be an area of not less than two acres, and this convention would favor an area of five acres or more, surrounding or in the vicinity of the school.

(14) Resolved, that in view of the fact that many of our prairie cities, towns, and villages are now considering the planting of parks for the rest and recreation of their citizens, this Association commends to their consideration, and also to their citizens individually who are thinking of undertaking such planting, the example of landscape work afforded by the lawn and shrubberies at

the headquarters of the Tree Planting Division at Indian Head.

(15) Resolved, that the thanks of this Convention be and are hereby tendered to His Honor the Lieutenant Governor for his kindness in opening the Convention, and to the Government of the Province of Manitoba and to the Mayor and Corporation of the City of Winnipeg for their kindness in entertaining the delegates; also to the President and Directors of the Industrial Bureau for the facilities granted in the use of their commodious hall and committee rooms, and for the assistance given by the Commissioner, Mr. Chas. F. Roland in planning the arrangements for the Convention.

(16) Resolved, that the thanks of this Convention are due and are hereby tendered to the Press of Canada, and particularly of the City of Winnipeg for the publicity given the Convention and the excellent report of its proceedings.

(17) Resolved, that the thanks of the Convention be tendered the Railways of Canada, and to the Eastern, Western and Transcontinental Passenger Association for their kindness in granting Convention rates for this meeting.

LOSS TO CONSERVATION CIRCLES.

Mr. M. J. Patton, Assistant Secretary and Editor of the Commission of Conservation since the organization of the Commission in January, 1910, has been appointed Treasurer of the Publishers Association of Canada, Limited, Toronto, and will assume his new duties early in September.

Mr. Patton is an honor graduate of Queen's University and gold medallist in political science. Besides filling the duties of Assistant Secretary he has had charge of the publicity work of the Commission. During his term of office with the Commission he was charged with the direction of several investigations of the natural resources, and his reports on the oyster fishing in the Maritime Provinces were partially responsible for an agreement as to jurisdiction being reached by the Dominion and the Provinces, with the result that oyster farming is now being extensively engaged in.

The Publishers Association of Canada is chiefly engaged in publishing works on resources and history of Canada, and Mr. Patton's knowledge acquired while with the Commission will be of value to him in his new position. Conservation work loses a careful investigator and able exponent in the departure of Mr. Patton for his new work, and his many friends, while they will regret this loss to the public service, wish Mr. Patton every success in his new field.

BILTMORE'S PROGRAM.

The Biltmore Forest School has made arrangements to have a camp in the forests of British Columbia a year hence.

One of the interesting features of the notice to prospective students embodying the above announcement is the evident emphasis laid on the development of the young forester along lines of logging and milling.

Students admitted to the Biltmore Forest School in the coming fall or in the winter 1913-14 will be placed in the woods, to work a prenticeship in logging and milling, under the auspices of a graduate of the Biltmore Forest School. They will be required to work for common wages and will be dismissed mercilessly unless they perform the work expected from them with the utmost diligence and energy. Every week, a written report is

submitted by the prentice to the director of the Biltmore Forest School, together with a certificate signed by the foreman testifying to the prentice's efficiency. Such prentices as have stood the test successfully will be assembled by the director in March, 1914, and will be taken to the school's western camp in Oregon, there to join the junior and senior students of the school who have spent the winter in the western lumbering operations. The spring, summer and fall of 1914 will be spent by the entire school in British Columbia, Washington, Oregon and California. By October 1st, 1914, the students will be allotted to various western lumber-camps, there to spend the winter 1914-15 under the auspices of the Alumni of the Biltmore Forest School. The students join the teachers in March, 1915, in the Adirondacks, to spend the spring, summer and fall in the eastern camps of the Biltmore Forest School, receiving, on October 1st, 1915, the degree of Bachelor of Forestry provided that they have stood the tests prescribed.

The students attending the Biltmore Forest School at the present time will not be allowed to participate in the tour through the German wods. The participation (restricted to fifty members) is invited of all graduates of the Biltmore Forest School, all graduates of other American Forest Schools, all national, state and municipal forest officers, all lumbermen and all owners of timberland.

There will be visited the state, communal and private forests situated in Prussia, Bavaria, Hessen and Baden, including such famous forests as the Black Forest, the Spessarts, the forest of Frankfort, of Heidelberg, of Baden, etc

The tour will occupy, from New York City and back to New York City, eight consecutive weeks, from January to March 1914. Total expense, from New York City and back to New York City, \$350 everything included.

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HUGH P. BAKER, D. Occ. Dean

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THE Biltmore Forest School is for the time being the only technical school of lumbering and forestry in America. The Biltmore Forest School has four headquarters, viz,— spring quarters in North Carolina, near Biltmore; summer quarters in the lake states, near Cadillac, Michigan; fall quarters on the Pacific side; and winter quarters in the forests of Germany. ¶ The course of instruction covers any and all branches of forestry and lumbering. The auxiliary courses are cut to order for the benefit of the students. No attempt is being made to give a thorough training in general science. The course comprises twelve months at the school, followed by an apprenticeship of six months in the woods, and leads to the degree of Bachelor of Forestry.

Write for catalog of Biltmore Forest School, addressing—

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Candidates for advanced standing may take examinations in any subject but are required in addition to present evidence of a specified amount of work done in the field or laboratory.

The school year begins in early July and is conducted at the school camp at MILFORD, Pennsylvania.

For further information address

JAMES W. TOUNEY, Director
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