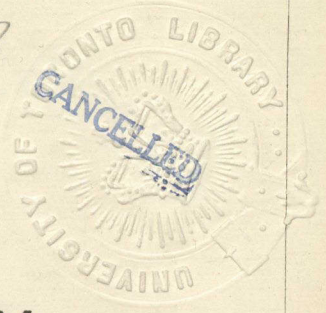


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**CANADIAN
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JOURNAL**

VOL. VII.



1911

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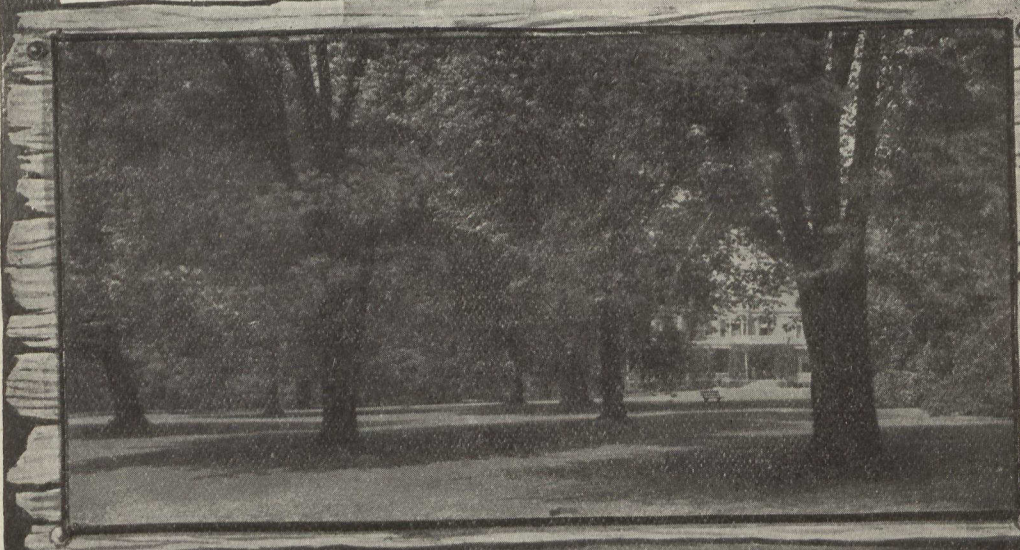
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OTTAWA, JAN.-FEB., 1911

No. 1

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Canadian Forestry Convention

Great Success Attends the Meeting at Quebec, Jan. 18 to 20, 1911

The deep interest taken by the Right Honorable Sir Wilfrid Laurier in the question of the preservation and perpetuation of the forests of the Dominion has been again shown by the very successful convention

held in Quebec City on January 18, 19 and 20 last.

The convention was intended particularly for the French-speaking people, and a large proportion of the addresses and papers were in that

language. Prominent Canadian lumbermen and foresters, representatives of Dominion and provincial governments, railway officials, delegates from the United States Forest Service and the forestry interests of several states, and scientists whose work touched on forest problems presented their views on various forestry questions, while representative clergymen, Catholic and Protestant alike, expressed their good wishes for the success of the work.

Over four hundred persons signed the register of attendance, and fully one thousand persons were present at one session and another of the convention. The interest shown in the different papers and addresses was very marked.

Perhaps the outstanding feature of the many important phases of the convention was the evidence given of the awakened interest in forestry among Canadians of all classes. Though the discussions did not show that the representatives of the different interests — farmers, lumbermen, railway officials, navigators, administrators and others — were agreed upon what should be done, yet there was a general agreement upon the fact that the time had arrived when Canadians could no longer sit in a state of calm complaisance while their forests, with all they represented, were disappearing with woeful rapidity.

Worthy of special note, too, was the abundant hospitality of the men and women of the Ancient Capital, as shown especially in the splendid banquet given by the Premier and Legislative Council and the pleasant afternoon provided for the visitors by the Local Committee at Montmorency Falls after the labors of the convention had concluded.

The Opening Session.

The first session of the convention opened in the Legislative Council chamber, Parliament Buildings, at 10 a.m. on Wednesday, Jan. 18.

In the absence of the Honorary

President of the Association, Sir Wilfrid Laurier, the president, Hon. W. C. Edwards, who occupied the chair, called on His Excellency the Governor-General to open the convention.

Earl Grey, speaking in French, addressed the convention as follows:—

Mr. President, Ladies and Gentlemen,—

Five years ago, at the request of the Prime Minister, Sir Wilfrid Laurier, I had the honor to open, in Ottawa, the first meeting of a convention assembled there for the purpose of studying the means of preserving what remained of our forests, so that they might be utilized for the requirements of the whole world.

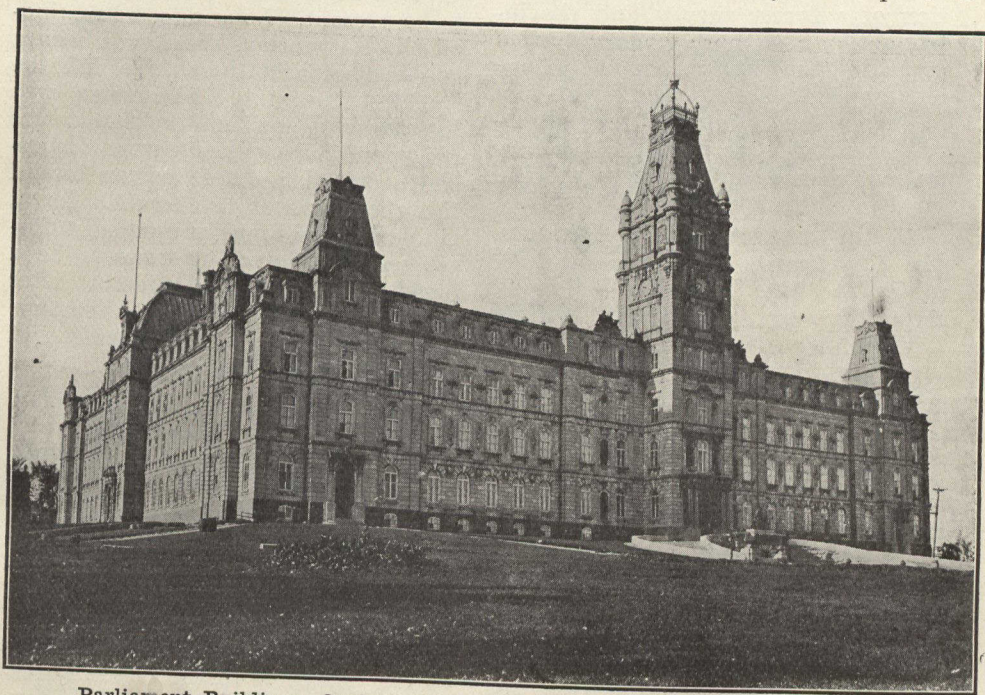
A year later I was present at another similar convention in Vancouver. From that date the attention of the Canadian people has, in an ever increasing degree, concentrated itself on this question, which is of such high importance for the whole country. Forest fires have caused incalculable losses, which might have been prevented by more active vigilance.

But the interest taken to-day in the conservation of the resources of the country is at once enhanced and justified by the fact that those who have been, so to say, the apostles of the movement already find their zeal and energy rewarded and their efforts crowned with success. I am happy to see a number of them present on this occasion. They have understood that not only the welfare of a great industry but the wealth of our soil itself depends on our forests. No efforts have been spared by them to secure adherents to their cause, by pointing out to them alike the magnitude of the dangers which menace this rich inheritance of ours and the means for its preservation.

I have already stated that I have been present at meetings of this association in Ottawa and Vancouver,

and I am happy to be in Quebec today, so that I may increase my knowledge of the steps which should be taken to have the forests of the mother-province of the Confederation become a source of increasing revenue to the Government and of prosperity to the whole country. I trust that your labors will have the result of convincing those who, from childhood, have looked upon the forest as the bitter enemy of agriculture that they must regard it

present at so large a gathering, composed of representatives of every part of this immense Dominion. I extend a special welcome to Mr. J. G. Peters, of the Forest Service of the United States. His Government, with its customary generosity, has been kind enough to place Mr. Peters' services at our disposal, so that he may assist us with his advice in our efforts to exorcise the destroying element which has wrought such havoc in this country in the past. I



Parliament Buildings, Quebec, where the Sessions of the Forestry Convention were held.

hereafter as its friend and ally.

Upon the conservation of our forests depend alike the regular flow of our navigable rivers and the fertility of our fields, and, consequently, the health and happiness of the nation.

Let us hope that from this convention, organized, as I have just stated, by Sir Wilfrid Laurier, will spring an influence which will realize the aspirations of us all.

It is a great pleasure to me to be

am glad to take this opportunity of expressing my deep gratitude to the Government of the United States.

Gentlemen, I now declare this meeting open.

An official welcome was then extended to the delegates by Sir Lomer Gouin, Premier of the province of Quebec. After a few words of formal welcome, he thanked the convention for having selected Quebec as their meeting place, especially appropriate as the starting place of

colonization and the home of the storied 'coureurs du bois'. Most of all the provinces were the forests of importance to Quebec, not only for their effect on the waters, the fish and game they shelter, but for their beauty itself. Many of the steps advocated by Sir Wilfrid Laurier in 1906 had been adopted in Quebec, such as the establishment of forest reserves, the founding of a school of forestry, the improvement of the fire protective system, the inauguration of a forest survey and the introduction of a more modern system of selling the timber in place of the old leasing system. The great aim of legislation should be the accomplishment of some work for the permanent welfare of the nation and the good of posterity.

At the request of the chairman, Mr. Chouinard, Clerk of the City of Quebec, then read the following letter of regret from Sir Wilfrid Laurier:—

Dear Mr. Edwards,—

I am compelled, much against my will, to give up taking part in the Forestry Convention which opens to-morrow in Quebec. My parliamentary duties will not permit me to be away from Ottawa at the present moment. I would ask you to kindly convey to the members of the convention the expression of my deep and sincere regret. There is certainly no more important question for us, at this period of our national development, than that of the conservation of our forestry resources. I trust the Forestry Association will become a permanent institution and even if its first meetings produced no other result, a great progress would have been achieved.

Believe me, dear Mr. Edwards,

Yours very sincerely,

WILFRID LAURIER.

The Hon. W. C. Edwards,
Senator,

President Canadian Forestry
Association, Quebec.

The official welcome of the city of Quebec was then extended to the convention by the mayor, Mr. N. Drouin. He cordially welcomed the delegates as the city's guests and assured the Governor-General of their ardent loyalty to the British Crown.

His Grace Mgr. L. N. Begin, Archbishop of Quebec, was represented by Most Rev. P. E. Roy, coadjutor bishop. Mgr. Roy expressed the regret of Mgr. Begin at being unable to be present. Long ago, he reminded the convention, there had been a conflict between the settler and the forest, but of late the farmer was beginning to see that the forest was his friend. The clergy were disposed to do all in their power to aid the guardians of the forest. Laval University had lately opened a forest school, continuing thus to be a benefactor to the people. After paying a tribute to Mgr. Lafamme, Mgr. Roy assured the convention of the support of the clergy.

Right Rev. Dr. Hunter Dunn, Anglican Bishop of Quebec, also spoke briefly, expressing his good wishes for the success of the convention.

Mr. Jos. M. Tellier, leader of the Opposition in the Quebec Legislature, then spoke, expressing his good wishes to the convention and his sympathy with its work and welcomed the delegates to the city. Forestry was one question on which government and opposition were in cordial harmony. He suggested the separation of the forest work and that of colonization.

Short speeches were also made by the following:—Hon. A. L. Sifton, Premier of Alberta; Hon. Sydney Fisher, Dominion Minister of Agriculture; Dr. W. Peterson, Principal of McGill University; Dr. H. M. Tory, President of the University of Alberta; Prof. J. M. Briscoe, of the University of Maine; Mr. J. G. Peters, of the Forest Service of the United States; Dr. J. T. Rothrock,

of the State of Pennsylvania; Dr. C. C. Jones, Chancellor of the University of New Brunswick; Very Rev. Abbe Gosselin, of Laval University; Hon. W. C. H. Grimmer, Surveyor-General of New Brunswick; Mr. Aubrey White, Deputy Minister of Lands and Forests for Ontario; Dr. Howard Murray, of Dalhousie University, Halifax, N.S.; Mr. A. S. Goodeve, M.P., of Rossland, B.C.; Dr. B. E. Fernow, Dean of the Faculty of Forestry of the University of Toronto; Mr. G. Y. Chown, Registrar of Queen's University, Kingston; Dr. W. J. Rutherford, Dean of the College of Agriculture of the University of Saskatchewan; Very Rev. Canon C. P. Choquette, representing the Bishop of Ste. Hyacinthe; Dr. E. H. Hall, Secretary of the Society for the Preservation of the Adirondacks; Mr. G. Willrich, U. S. Consul at Quebec; Mr. Harry I. Crowe, of Newfoundland; Mr. G. A. Vandry, President of the Quebec Chamber of Commerce; Mr. Jos. Picard, President of the Quebec branch of the Manufacturers Association, and Mr. R. H. Campbell, Dominion Superintendent of Forestry.

The convention then adjourned.

Wednesday Afternoon.

The convention resumed its session at two o'clock p.m., with Senator Edwards in the chair.

The first address of the afternoon was given by Hon. Clifford Sifton, Chairman of the Commission of Conservation, his subject being 'Forestry Problems and Forest Fires.' In introducing the subject, Mr. Sifton referred to the pioneers in the forestry movement and the difficulties they encountered, and to the opposition that met his own efforts, when Minister of the Interior, in establishing the Forestry Branch of that department. Mr. Sifton directed attention to the fact that the railways were the chief offenders in the starting of forest fires. During the past season the railways in Quebec had caused 75 fires out of a total of 171, in On-

tario 404 out of 432, and on Dominion lands in the West 184 out of 1,227 fires. In British Columbia the total number of fires was 1,184, and of these the railways were known to have set out 272. He advocated making the penalties provided for the railways starting fires more severe, and bespoke the support of the convention for the Conservation Commission's work to this end.

Dr. E. H. Hall, secretary of the Society for the Protection of the Adirondacks, spoke of New York conditions. Finding that the railways were the chief offenders in the matter of starting fires in their forests, they had obliged them to use oil for fuel in their locomotives and to clean up their rights of way. These measures, together with the establishment of watch-towers, had almost freed the Adirondacks from forest fires.

FOREST ADMINISTRATION.

The topic of Forest Administration was introduced by Hon. Jules Allard, Minister of Lands and Forests of Quebec. He gave much statistical and historical information with regard to the forests of the province and their administration. He took occasion to emphasize the fact that in Quebec province the only timberlands privately owned were those included in the seignories and those patented by settlers. The present administration and regulation of the forested areas were also dealt with. Land classification, forestry education, fire protection and hydrographic exploration were also touched on by Mr. Allard.

Mr. R. H. Campbell, Dominion Superintendent of Forestry, then read his paper on 'Forest Administration.' He laid down, as the first essential for a forest policy, the necessity of setting aside definite areas to be permanently kept in forest. The second factor in forest policy was the establishment of a permanent, adequate and well-qualified force of men with theoretic-

cal and practical knowledge of forestry and administrative ability. The third factor was a sufficient and efficient patrol of the forests. He emphasized the need of protecting the young timber and concluded by summarizing the growth of the forestry work on Dominion lands since the first Dominion Forestry Convention in 1906.

Mr. Aubrey White, Deputy Minister of Lands and Forests for Ontario, representing Hon. Frank Cochrane, Minister of Lands, Forests and Mines for Ontario, spoke of Ontario's progress in forestry matters. He told how no township in New Ontario of which only fifty per cent. or less was suitable for agriculture was opened for settlement. The government had also decided on the policy of selling timber limits, not for the sole purpose of providing revenue for the province, but according to the needs of the time. Mr. White also told of the steps taken for the enlargement of Algonquin Park and referred to the measures taken for the improvement of the fire patrol scheme, and to the experiments in burning debris.

Hon. W. C. H. Grimmer spoke briefly on forest administration in New Brunswick, touching the questions of squattin^g on timberland, fires started by railways, the fire warden system, returns from cutting, etc.

The following gentlemen were appointed on the Committee on Resolutions: Hon. W. C. H. Grimmer, Hon. A. Bergevin, Hon. A. Sifton, Messrs. Aubrey White, H. M. Price, W. B. Snowball, G. Y. Chown, Alex. MacLaurin, J. F. MacKay, E. G. Joly de Lotbiniere and N. S. Dunlop and Lt.-Col. J. B. Miller.

The convention then adjourned.

Wednesday Evening.

On Wednesday evening the Premier and Legislative Council entertained at a banquet at the Chateau Frontenac, at which about 150 guests were present.

The Premier of the province, Sir Lomer Gouin, occupied the chair and acted as toastmaster. The toast to 'The King' was proposed by the chairman and honored in the customary way. Other toasts on the list were the following:—'Canada and Her Natural Resources,' proposed by Hon. C. R. Devlin and responded to by Hon. Clifford Sifton and Dr. H. Béland, M.P.; 'The Forestry Association,' introduced by Hon. L. A. Taschereau and Mr. J. M. Tellier, M. P.P., and replied to by Hon. Sydney Fisher, Hon. W. C. H. Grimmer, Mr. G. Y. Chown, Mr. Ferd. Van Bruyssel and others; 'Our Guests,' proposed by Hon. A. Bergevin, responded to by Dr. J. W. Robertson, Dr. Fernow, Dr. Rothrock, Mr. J. G. Peters, Hon. Clifford Robinson; and 'The Press,' which Hon. Mr. Allard proposed, Messrs. MacKay, of the Toronto Globe, and d'Hellencourt, of Le Soleil (Quebec), replying. Mr. Wm. Power, of Quebec, at the conclusion of the set toast list, proposed the health of the chairman, which was drunk with great enthusiasm.

The decorations of the banquetting hall were especially noteworthy. Small spruce and balsam trees had been so disposed as to form a veritable forest, in which figures of its animal inhabitants were placed in a very natural manner. At one end of the hall was a trapper's cabin. Altogether the decorations formed a most appropriate and inspiring setting for the sentiments of the guests and the object of the gathering. Needless to say, the cuisine was beyond criticism.

Thursday Morning.

The third session of the convention was opened at 10.30 on Thursday morning, with the president in the chair.

Letters of regret at inability to be present were read by the secretary from the following:—His Honor the Lieut.-Governor, Sir Louis Jetté, Administrator of the Province; Hon. Frank Oliver, Hon. Frank Cochrane,

Hon. A. K. Maclean, Hon. F. L. Hazard, R. L. Borden, M.P., D. McNicoll (vice-president of the C.P.R.), Wm. Little, Dr. Falconer (University of Toronto), Rev. Dr. Gordon (Queen's University), E. E. Ring (Forest Commissioner of Maine), and R. B. Bennett, of Calgary.

The first speaker was Hon. Sydney Fisher, who gave his address in French. He appealed to the Quebec government to undertake the work of reforestation in the province, there being large areas of land of little value except for forest growth. In addition to providing a supply of timber the water-powers would be safeguarded. He referred to damage to the forest arising from railway construction and to the care taken to safeguard this point in the building of the Transcontinental.

Mr. J. G. Peters, representing Mr. H. S. Graves, Forester of the United States, spoke with reference to the fire protection system on the U. S. National Forests. In speaking of the fires of the past summer (1910) he gave the following figures: Amount of loss, \$25,000,000; territory burned over, 4,000,000 acres; amount of timber lost, 8,000,000,000 feet; cost of fire-fighting, \$1,000,000. He spoke of the fire itself and the abnormally dry seasons that preceded it and in large part were accountable for its spread to such gigantic proportions. The administration was now trying to sell off as fast as possible the fire-damaged timber as the only way of utilizing it. As the requisites for a proper system of forest protection he gave the following: (1) A system of roads and trails; (2) Fire lines; (3) Lookout stations; (4) Telephone lines; (5) Rangers' cabins; (6) A full equipment of tools; (7) In some places, an equipment of pack trains; (8) An adequate force of patrolmen. He took up the features of the state forest laws in Louisiana, Maine, New York, Pennsylvania and New Jersey, and criticized the systems (or lack of system) of forest fire

protection in other states. He also discussed the work of the private co-operative systems in the north-western states.

Hon. Achille Bergevin was the next speaker. He advocated the substitution of electric power for that of steam and suggested the building of a great national highway from coast to coast which would open up vast stores of water-power. As president of the Quebec Fish and Game Protective Association he gave special attention to the forests as game preserves.

Mr. W. C. J. Hall, Superintendent of the Forest Protection Branch of the Quebec Forest Service, read an able and important paper on Forest Protection. He detailed the measures necessary to secure adequate protection for the forests, including the creation of reserves on non-agricultural lands, the establishment of efficient patrols and lookout stations and proper supervision of railways, settlers, campers and others.

Mr. J. M. Briscoe, of the University of Maine, representing Hon. E. E. Ring, Forest Commissioner for the state, followed. After voicing the regret of Hon. Mr. Ring at being unable to be present at the meeting, he described minutely Maine's system of forest taxation, the methods of fire protection by lookout stations and patrol and the system of reports required of the patrolmen. He also gave statistics regarding forest fires for 1909 and 1910, and noted new legislation passed tending to better fire protection and co-operative measures arranged with the state of New Hampshire.

The meeting then adjourned.

Thursday Afternoon.

The first paper of the afternoon session was read by Hon. E. H. Bronson, of Ottawa, and was entitled 'Shall Canadians Conserve or Destroy Their Forests?' Mr. Bronson advocated the giving by the various governments to lumbermen of a

permanent tenure of their limits, and emphasized the importance of the classification of lands, so as to reduce illegitimate settlement, and the introduction of oil-burning locomotives to lessen the risk of fire from railways. Nature, he believed, if given the chance, would reproduce the forests satisfactorily.

Mr. N. S. Dunlop, Claims Agent for the C.P.R., represented Mr. D. McNicoll, vice-president of the railway. He pointed out the interest the railways had in preserving the forests and detailed the steps the

which they were in no way responsible.

Mr. E. G. Joly de Lotbiniere followed with a paper bearing especially on the disposal of logging debris, the method he particularly favored being that of lopping the branches and leaving the debris on the forest floor.

The next paper was given by Mr. G. C. Piché, Chief Forestry Engineer of the Dept. of Lands and Forests, Quebec. He spoke of the extent, composition and value of the private forests of the province and those



Kent House, where the Delegates were Entertained by the Local Committee.

railways were taking to prevent fires. Present regulations (which he outlined) went probably as far as legislation could reasonably go. Holders of property alongside railway rights of way were often to blame for fires starting, through leaving debris near the tracks. Many others—the lumbermen themselves, farmers burning brush, prospectors, campers and others—were to blame for many forest fires. His company spent thousands of dollars every year in putting out fires for

under license, following this by a short historical sketch of the Department of Lands and Forests from its establishment in 1852, and the various changes in organization up to the formation of the Forest Service and the reorganization of the department last year. The paper went on to describe the work of the department in the classification of land, supervision of cutting, etc., and treated also of the need of better silvicultural methods, of the protection of the forests from fire.

tree diseases, insect attack, wood preservation and testing, municipal forests and other topics.

In the absence of Mr. A. C. Flumerfelt, of Vancouver, B.C., who was detained by a snowslide in the mountains, Mr. A. S. Goodève, M. P. for Rossland (a fellow-member of the B. C. Royal Commission on Timber and Forestry) gave a short paper on the forests and other natural resources of the province and outlined necessary steps to be taken for the protection and preservation of the provincial timberlands.

The paper of Mr. J. B. Whitman (Provincial Forest Ranger for Nova Scotia) was taken as read. It treated of the protection of the forests from fire under the subdivisions of (1) preventing fires, (2) extinguishing them, (3) investigating the causes, and (4) punishing the guilty persons.

Thursday Evening.

Thursday evening's session opened at eight o'clock. In the absence of the president, Mr. G. Y. Chown, vice-president, occupied the chair.

The first paper of the evening was given by Dr. C. C. Jones, Chancellor of the University of New Brunswick, on 'Forestry Education.' He urged making forestry education more intensive rather than more extensive, developing present schemes rather than creating new ones. Forestry literature should be distributed among farmers and the owners of small woodlots and the subject of forestry should be introduced into the public schools and taught through the medium of an elementary text-book of forestry.

Mr. Avila Bedard, of the School of Forestry of Laval University, read an account of 'The Progress of Forestry Education in the Province of Quebec.' The school at Quebec, Mr. Bedard claimed, was the first one planned in Canada, though the University of Toronto had been the first to carry out the plan of a forestry school. Mr. Bedard outlined

the plan of instruction in the Laval school and gave interesting particulars of its present status. The government of the province was assisting the school in every possible way. Large lumber companies were also engaging forestry experts to manage their timberlands.

The chief feature of the evening's programme was the address by Dr. C. Gordon Hewitt, Dominion Entomologist, on 'Insect Enemies of the Forest.' Dr. Hewitt devoted by far the greater portion of his time to the spruce budworm and the larch sawfly, insects which have done and are doing so much to devastate Canada's forests. He outlined the life-history of each of the insects, and referred at length to the outbreak of the larch sawfly in England and the work done in developing destructive parasites to keep it in check. Similar work now in progress with reference to the spruce budworm was also described. The lecture was very well illustrated by stereopticon views.

Friday Morning.

At Friday morning's session the first paper was read by Mr. E. J. Zavitz, Forester to the Ontario Department of Agriculture, his subject being 'Waste Land Planting.' He referred particularly to the work being done in Norfolk county, Ontario, still largely in the experimental stage. From the nursery here forest planting material is forwarded, free of charge, to planters throughout the province. Mr. Zavitz contrasted Southwestern Ontario, with nine per cent. of its area in forest, with Prussia, where the forests cover twenty-five per cent. of the total area.

Mr. Arthur Amos then read a paper dealing with the water-powers of Quebec province. He gave some very surprising figures in regard to these. One river alone, the Manicouagan, had a million available horsepower. He also referred at length to the work of building dams at the

foot of Lakes Timiskaming and Kipewewa with the object of regulating and keeping uniform the flow of water in the Ottawa river.

Mr. R. W. Brock, Director of the Geological Survey of Canada, then gave an address on 'Forestry and Mining.' A comparatively small amount of timber, he said, was used in Canada for mining; the metal mines, with an output of three million tons, use one and a half million feet, and the coal mines, with an output of eleven million tons, require about twelve and a half million feet. The estimated reserve of coal—172 billion tons—would require, perhaps, 172 billion feet of timber. Wood was also required in mining for fuel and the forests would also aid in the supply of waterpower which the mines needed.

Mr. Von Aueberg's paper, presented by Dr. Tory, was taken as read. It gave a short description of the forests of Alberta, and outlined a plan of administration and exploitation. Absolutely essential points, the writer considered, were the organization of a sufficient force of trained men, permanently em-

ployed, and the selling of forest products at a profit.

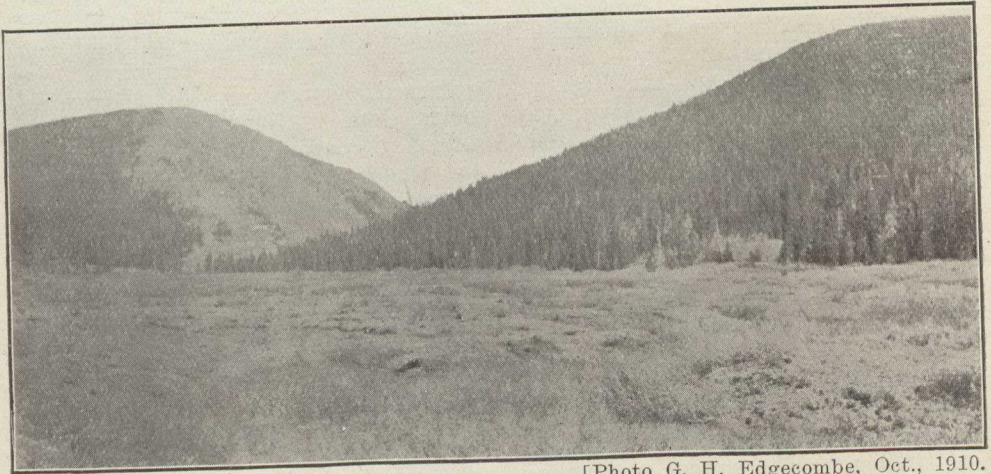
After some interesting remarks by Mr. G. Willrich, U. S. Consul at Quebec, on the pulpwood supply of the province, the report of the Committee on Resolutions was presented by the chairman, Hon. W. C. H. Grimmer, and, after some discussion, adopted. It will be found elsewhere in this issue.

The chairman then declared the meeting adjourned.

Friday Afternoon.

On Friday afternoon the local committee tendered the visitors a reception at the Kent House, Montmorency Falls. Leaving the city at 2.30, a merry crowd proceeded by the Quebec Railway Light and Power Co.'s cars to the Falls.

On arrival at the Kent House the guests were graciously welcomed by Madame E. G. Joly de Lotbiniere, assisted by Mesdames McLimont and Panet and other ladies. Varied amusements were provided for the guests, including dancing in the ballroom and coasting on the slides outside. Dainty refreshments were also served.



[Photo G. H. Edgecombe, Oct., 1910.]

Spruce on the Livingstone River.

Note the bare south exposure on the mountain on the left, while the north exposure, facing it, is covered with a heavy growth of lodgepole pine and spruce, of pole size. In the foreground is open grazing land, covered with bunch-grass, wild pea and annual herbs and grasses. Altitude of grazing land about 4,400 feet above sea-level.

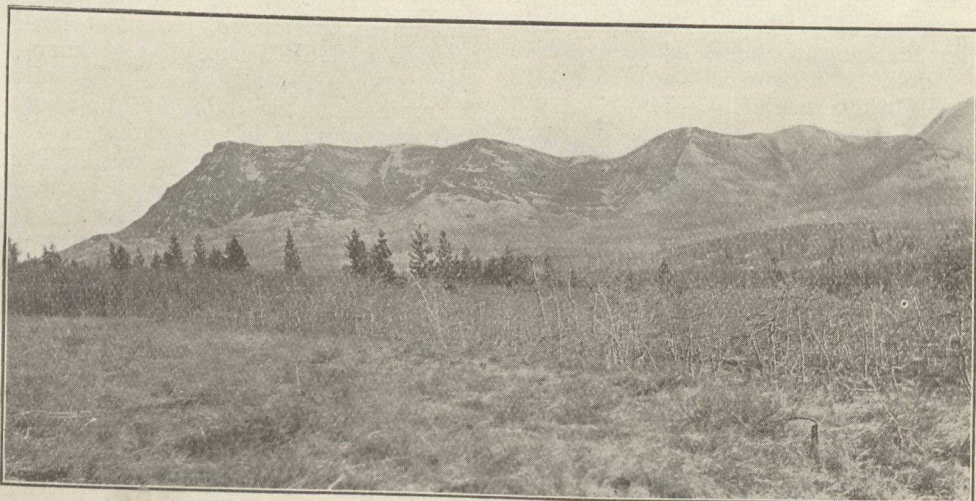
Determining the Boundaries.

Work of Dominion Forest Service on East Slope of Rockies.

By G. H. Edgecombe, B.Sc., B.S.F.

During the past summer two parties were employed by the Dominion government in determining the eastern boundary of the Rocky Mountain forest reserve. One party worked north from the Sarcee Reserve (Township XXII, Range IV, west of the fifth Dominion meridian) to the 11th base line, the other south to the International Boundary.

The type of tree growth of the Eastern Slope is spruce-pine-poplar, most likely determined by the soil moisture—the spruce on the fresh to moist loams, the pine (jack or lodgepole) on dry sandy soils, chiefly on north exposures, the poplar coming in under all conditions, but chiefly on south exposures. From the Highwood river south, Douglas fir occurred in groves and scattered on



[Photo G. H. Edgecombe, Sept., 1910.

East side of Victoria Peak, showing scattered tree growth towards timber line. Altitude about 5,600 feet above sea-level.

The work of the southern party partook of the nature of a reconnaissance survey, but was in reality a determination of woodland and non-agricultural land from the agricultural and also the true grazing land.

Beside the growth type, the topography and the nature of the soil, the community (e.g., along the Crow's Nest Railway) was a considerable factor in the determination.

south exposures. Willow was found on the lower slopes. Larch (*larix occidentalis*) was of scrubby growth, maintaining soil cover on the rocky upper heights, as, for instance, on Table Mountain, at 6,000 ft. altitude and upwards.

Along the reserve boundary the topography varies from moderate slopes (eight to twenty degrees) in the north to the steep (twenty to forty-five degrees) and often bare

rocky exposures characteristic in the south towards the International boundary. The altitude is 4,300 feet and upward.

The nature of the soil varied from sandy loam in the valleys to the thin stony soils with rocky exposures of the higher slopes. Repeated fires have in many cases led to the erosion of the rocky hillsides, leaving solid, bare rock-beds of sandstone or dolomite.

The community along the line, although not large nor gregarious, except along the railway, was often found in the most unexpected places, where under the present system of survey a quarter section may offer only twenty to forty acres of ploughable land, the land being held for grazing only. It may be added that in the neighborhood of the reserve a quarter section is insufficient to maintain a settler.

If one has visited the Eastern slope, he must feel impressed by the many evidences of devastation by fires. Of the one hundred and thirty to one hundred and forty miles run due south along the boundary, mature virgin timber was encountered only in a small tract of some twelve consecutive square miles, the dry standing sticks, windfalls and rocky

exposures or barrens telling the tale. Even this summer, by incendiarism and by the carelessness of fishermen, prospectors and surveyors, the fire was allowed to run over many townships, and to bring these back to their former condition will require — even if one takes the most optimistic view — for the pine, sixty years to produce eight-inch props and ninety years or more for twelve-inch timber.

The provision of the future supply of lumber, posts, etc., for the prairie provinces and of mine props and timber for the rich and yet unopened and even unknown coal mines of the mountains must be a primary consideration in the management of this reserve. The effect on the water-flow of the streams, and so on irrigation, is most important and the furnishing of hunting grounds for the sportsmen and of recreation grounds for holiday and rest seekers is no small part of their value. It should be the effort of everyone connected, in however remote a way, with the reserve to hand it down to the coming generations not only unimpaired but even improved. If this is to be done an indispensable necessity is a most thorough and intensive fire protective system for the region.

The Annual Business Meeting.

The twelfth annual business meeting of the Canadian Forestry Association was held on February 7th, at eleven o'clock, in the Council Chamber of the City Hall, Ottawa.

The chair was occupied by the president of the association, Hon. W. C. Edwards, and among those present were Messrs. Hiram Robinson, R. H. Campbell, Denis Murphy, G. H. Edgecombe, J. R. Dickson, H. Cheney, D. E. Clark, E. M. Wilkinson, R. Patching and R. Martin, Ottawa; H. M. Price, Quebec, P.Q.;

Alex. MacLaurin, Montreal, P.Q.; Lt.-Col. J. W. Harkom, Melbourne, P.Q.; F. R. Haney, C.P.R., Montreal, P.Q.; John Hendry, Hugh Matier, Vancouver, B.C.

The report of the directors, given in full elsewhere in this issue, was received and adopted. The Treasurer's report was also received and approved.

Communications were read from Messrs. J. B. Miller, Toronto; N. S. Dunlop, Montreal; Thos. Southworth, Toronto; Wm. Little, Mont-

real; Wm. Pearce, Calgary; F. C. Whitman, Annapolis Royal, N.S.; A. Bedard, Quebec, P.Q.; F. Hawkins, Ottawa; H. E. Channell, of Sherbrooke, P.Q., and the secretary of the Canadian Society of Forest Engineers.

The report of the Committee on Fire Laws, summarized in another column, was read and ordered to be received and laid on the table.

It was decided to increase the number of directors to thirty, and the following were added to the Board of Directors: Mgr. O. E. Mathieu, Dean of the Faculty of Arts of Laval University, (vice the late Mgr. Lafamme); Messrs. Wm. Pearce, Calgary, Alta.; Wm. Power, Quebec, P.Q.; J. Hendry, Vancouver, B.C.; D. Murphy, Ottawa, Ont.; C. Jackson Booth, Ottawa, Ont.; Wm. Price, Quebec, P.Q.; Lt.-Col. J. W. Harkom, Melbourne, P.Q.; C. E. E. Ussher, Montreal, P.Q.

Votes of thanks were passed to those of the provincial governments and of the banks who had assisted in the work of the association.

The matter of the place for the

next meeting was discussed, Winnipeg being the place generally favored, but the matter was finally left in the hands of the executive.

The auditors and the editorial committee were re-appointed.

On the order for election of officers being called, it was moved by H. Robinson, seconded by A. MacLaurin, that the vice-president, Geo. Y. Chown, Registrar and Treasurer of Queen's University, Kingston, Ont., be elected president for 1911, and the motion was unanimously carried. On motion of D. Murphy, seconded by H. Robinson, Mr. J. Hendry was elected vice-president for the year.

The other officers were re-elected.

The meeting then adjourned.

At a meeting of the directors held immediately at the conclusion of the meeting of the association, the territorial vice-presidents were re-appointed for the year, with the exception of Alberta, where Hon. Arthur L. Sifton, Premier of the province, replaces Mr. Wm. Pearce, who is elected to the board of directors.

TREASURER'S REPORT.

M. Robinson, Treasurer, in Account with the Canadian Forestry Association.

<i>Receipts.</i>		<i>Expenditure.</i>	
1910—Balance from 1909....	\$2,561 10	1910—Salaries	\$1,900 00
Membership fees	2,254 50	Typewriting and other clerical work	94 09
Copies of Forestry Journal	7 50	Travelling expenses of Secretary	400 00
Advertising in Forestry Journal	31 00	Printing Forestry Journal	870 22
Grant from Quebec Govt.	200 00	Misc. printing, supplies, etc.	405 03
Grant from Ontario Govt.	300 00	Reporting annual meeting	62 80
Subscription from Trader's Bank	50 00	Printing annual report	301 42
Balance due from R. L. Campbell	11 55	Translating	75 00
Lantern slides	1 85	Quebec Convention ...	200 00
Interest	80 85	Lantern expenses	147 96
		Commission on cheques	8 16
		Balance	1,033 67
	\$5,498 35		\$5,498 35

Ottawa, Ont.,
Feb. 6, 1911.

Audited and found correct.
(Sgd.) FRANK HAWKINS,
H. CLENDINNEN,
Auditors.

Directors' Report for 1910.

Progress of Forestry and the Forestry Association.

The Board of Directors beg to submit the following report of business done during the past year:—

According to Section VI. of the Constitution, the following Territorial Vice-Presidents were appointed:

Ontario—Hon. Frank Cochrane.
Quebec—Hon. Jules Allard.
New Brunswick—Hon. W. C. H. Grimmer.
Nova Scotia—Hon. A. K. Maclean.
Prince Edward Island—A. B. Warburton, M.P.
Manitoba—Hon. R. P. Roblin.
British Columbia—Hon. H. Bostock.
Yukon—Commissioner Henderson.
Saskatchewan—His Honor A. E. Forget.
Alberta—Wm. Pearce.
McKenzie—F. D. Wilson.
Keewatin—His Honour, Sir Daniel H. McMillan.
Ungava—His Grace, Mgr. Bruchesi, Archbishop of Montreal.

Conventions.—The great event of the year has been the Dominion Forestry Convention, convoked by the Right Hon. Sir Wilfrid Laurier, which met in the City of Quebec, Jan. 18-20. At the request of the Premier the Association arranged the details of the organization of this meeting, which through the kindness of the Government of Quebec was held in the Legislative Council Chamber of the Parliament Buildings. The meeting was opened by His Excellency the Governor General; the President, Hon. W. C. Edwards, occupied the chair during the three days' session, Sir Wilfrid Laurier, who hoped to preside, at least during the opening day, being prevented at the last moment by important state business from taking part. The meeting being held immediately after and in conjunction with the annual meeting of the Commission of Conservation had the advantage of the presence of the members of that body, nearly all of whom, including Hon. Clifford Sifton (Chairman) and Hon. Sydney Fisher, took part in the programme of the Convention. There was a large attendance from all parts of Canada, especially from the Province of Quebec, and from Newfoundland and the United States. Sir Lomer Gouin, Premier; and Hon. Jules Allard, Minister of Lands & Mines, took a personal interest in the meeting.

The local committee also contributed very much to the success of the gathering. Over four hundred persons signed the record of attendance.

Progress in Canada.—Your Directors are pleased to be able to report that the work which the Association and similar bodies have been doing for some years is beginning to show results in increased interest in all parts of Canada. They feel that the efforts of the members of the Association are being at last rewarded and that attention is now being turned to the matter of conserving the forests. The work of the Forestry Branch of the Department of the Interior, under the direction of Mr. R. H. Campbell, Dominion Superintendent of Forestry, is steadily progressing. The fire patrol force is being systematically increased. During the past summer the Branch had two parties in the field locating the boundaries of the Rocky Mountains Forest Reserve; two other parties made exploratory trips along the proposed route of the Hudson Bay Railway in order to ascertain the quantity of timber available; other parties were at work classifying lands in British Columbia.

A new bill to extend the Dominion forest reserves is now before Parliament.

In Quebec the year has been made specially memorable by the establishment of a school of forestry affiliated with Laval University, which commenced its sessions in September last with an attendance of ten pupils. The forestry work of the Department of Lands and Forests is also making steady and substantial progress.

Ontario is also taking forward steps in regard to her forests. Most noteworthy of these is the inauguration of experiments in connection with the burning of brush at the time of cutting. Also worthy of notice is the policy of treating Algonquin Park as a "fur farm," restricting the increase of the beaver each year and making a revenue from the sale of the skins of captured animals,—a policy similar to that adopted in the German forests. Steps have also been taken looking toward the extension of the park and to the extinguishment of certain old cutting rights therein. Progress has also been made in the planting of waste sand lands of the province.

In British Columbia the force of fire rangers has been increased with good effect. The Royal Commission on Timber and Forestry appointed by the Government of British Columbia has completed its work and published its report. Papers explanatory of the work of the Commission were given at the Quebec Convention by Messrs. A. S. Goodeve, M.P., and A. C. Flumerfelt, and will appear in the report of that convention.

The field work of the Nova Scotia forest survey has been completed and the report on the survey is now in preparation.

Publications. — At the last annual meeting resolutions were passed instructing the Secretary to secure all possible information regarding the publication of the Canadian Forestry Journal monthly or bi-monthly, and especially what increased revenue might be had from advertising. A number of advertising agencies were approached, but none of them would undertake the work of securing advertising for the Journal. Upon the advice of experienced advertising men it was decided that the Secretary should himself endeavor to get more advertising. This had only just begun when the pressure of work for the Quebec Convention caused it to be put aside, but some new advertising has been secured and the prospects seem to be good for development. As the contract for publishing the Journal had expired, tenders were called for from a number of printers in Toronto, Ottawa and Quebec, and after careful consideration the contract was awarded to the Ottawa Printing Company. This new contract and the new form of the Journal render it easier to bring out the Journal more frequently, but it is felt that for 1911 the issues should not be more frequent than one in two months, which will enable the possibility of monthly publication to be more readily estimated.

Arrangements for issuing bulletins are now more complete and it is hoped to develop this side during 1911.

Of the annual report of 1910, 3,500 copies in English and 3,000 copies in French have been issued.

Branch Associations. — The Secretary consulted several organizations but cannot as yet report any plan for branch provincial associations. The American Forestry Association has been unable to solve this question, and in the United States many states have forestry associations meeting independently of the federal association. It is hoped that some way may be found to prevent this overlapping in Canada.

Work of the Officers. — As soon as the last annual meeting was over the Secre-

tary returned to Western Ontario and delivered a number of lectures on forestry. He visited the camp of the Faculty of Forestry of Toronto University, at Nine Mile Lake, Muskoka, and noted the methods of work there in training students for conducting woods operations. He secured a number of photographs for use in his lectures. In midsummer he visited the United States and consulted with officers of the American Forestry Association and the United States Forest Service at Washington and the Secretary of the Pennsylvania Forestry Association in Philadelphia. He then spent two weeks at Milford, Pennsylvania, where the students of the Yale Forest School carry on their woods work. Upon returning to Canada he moved to Ottawa as it was felt he could better carry on the work of the Association from this point. He has been here granted office room in the Forestry Branch, and is thus in close touch with the Assistant Secretary and Treasurer. This saves a large amount of correspondence and makes the work more efficient.

The Assistant Secretary has been chiefly occupied with the publication side of the work. This is now on a better basis both as regards the magazine and the bulletins than ever before. Mr. Jacombe was also of great help to the Secretary at the Quebec Convention, and assisted him in the details of the office work which was heavier this year than in the past.

The Treasurer, Miss Robinson, has rendered the same efficient, painstaking service as in past years. Her methodical arrangements and her careful scrutiny of the accounts ensure, along with the other safeguards, that the funds of the Association are carefully kept, and are expended only under proper authority.

Membership and Funds. — The total receipts for the year including a balance of \$2,561.10 from 1909 were \$5,498.35, of which \$2,254.50 was from members' fees. The expenditures were \$4,464.68, leaving a balance of \$1,033.67. While this seems somewhat large it must be remembered that with the enlarged scope of the work larger expenditures will be required. The details of this income and expenditure will be found in the Treasurer's statement. The Dominion Government has continued its grant of \$2,000 and there have also been received \$300 from the Government of Ontario, and from Quebec \$200. It is expected that for 1911 these will be received and also \$100 each from New Brunswick and British Columbia. As in the past leading banks of Canada have aided the Association by making their branch managers and other officials mem-

Report of Resolutions Committee.

Adopted at the Canadian Forestry Convention at Quebec,
January 18th to 20th, 1911.

Hon. W. C. H. Grimmer, Chairman of the Committee on Resolutions, reported as follows:—

The Committee on Resolutions having considered the several matters submitted to them, beg leave to submit the following resolutions for the consideration of the Convention:

1. *Resolved*, that this Convention desires to place on record its appreciation of the interest shown by His Excellency Earl Grey in the work of the Canadian Forestry Association, and of his attendance at its meetings.

2. *Resolved*, that this Convention desires to place on record the deep sense of gratitude it is under to the Right Honourable Sir Wilfrid Laurier for his action in calling this meeting, and for the widespread interest he has aroused throughout Canada by his general invitation to all representative bodies and citizens to take part therein.

3. *Resolved*, that this Convention desires to express its regret at the illness which prevented His Honour the Lieut.-Governor from assisting at this meeting and expresses the hope that he may soon be restored to health.

4. *Resolved*, that this Convention desires to record the great loss sustained by Canada and the Province of Quebec in particular, by the death of one of its most esteemed and valued members, Monsignor Laflamme, who, through his devotion and untiring efforts to promote the objects and aims of the Canadian Forestry Association, earned the gratitude and admiration of all those having the welfare of the Dominion at heart.

5. *Whereas*, it is a matter of notoriety that the loss of a large proportion of our forest wealth is due to the fires set by locomotives passing through our wooded areas, and whereas the Dominion "Railway Act," R.S.C., Cap. 37, Section 298, provides as follows:—

"Whenever damage is caused to crops, lands, fences, plantations, or buildings and their contents, by a fire, started by a railway locomotive, the company making use of such locomotive, whether guilty of negligence or not, shall be liable for such damage and may be sued for the recovery of the amount of such damage in any court of

competent jurisdiction; Provided, that if it be shown that the company has used modern and efficient appliances and has not otherwise been guilty of any negligence, the total amount of compensation recoverable in respect of any one or more claims for damage from a fire or fires started by the same locomotive and upon the same occasion, shall not exceed five thousand dollars.

"(2) The compensation, in case the total amount recovered therefore is less than the claims established shall be apportioned amongst the parties who suffered the loss as the court or judge may determine."

Therefore Resolved, that with the sole idea and motive of compelling the Railway Companies to exercise great care in the operation of their lines through wooded areas, it is advisable in the interest of our public forests, and other wooded areas, that the said section 298 be amended so as to leave the Railways responsible for all damages that may occur through fires set by their locomotives.

6. *Resolved*, that this Convention wishes to place on record its heartfelt satisfaction at the great advance in the appreciation of forest preservation throughout the Dominion, and recommends that in all forest lands controlled either by the Dominion or by the Provinces there should be a more systematic development of forest protection by educated forest inspectors, fire rangers, fire lines, fire roads, telephone lines, etc., etc., and that as the value of the forests has increased there should be more adequate amounts spent for protection.

7. *Resolved*, that this Convention approves of the legislation introduced by the Dominion Government for the setting aside of a forest reserve on the eastern slope of the Rocky Mountains for the purpose of protecting the forests and the water supply, and would strongly recommend a sufficient appropriation by Parliament for its proper supervision and development.

8. *Resolved*, that it is expedient in the public interest that the Provincial Governments should consider the question of controlling fires set out for the clearing of lands adjoining forests, and should promote such legislation as will prevent the same spreading into the neighboring for-

ests, thus also protecting the settlers and their property.

9. *Resolved*, that this Convention approves of the action of the Governments of Ontario, Quebec and British Columbia in requiring that timber cut on Crown lands be manufactured in Canada, and would be pleased to see the other Provinces follow their example.

10. *Whereas*, the forests of Canada are a great national asset, and, whereas the welfare of our agriculture, health and climatic conditions, as well as the national prosperity of the country depend upon the proper and scientific care of the forest areas.

Therefore Resolved, that this Convention commends the action of the Province of Quebec in employing technically trained Foresters in its service, and recommends to the other Provinces of Canada the importance of this policy.

11. *Resolved*, that in the opinion of this Convention the establishment of fish hatcheries in the Province of Quebec is important, and that the teaching of pisciculture should be a part of the curriculum of the Forest School of Quebec.

12. *Whereas*, roads and highways are great factors in the development and protection of our forests and means of improving transportation all through the country.

Therefore Resolved, that this Convention thinks it highly desirable that a national highway should be built from the Atlantic to the Pacific, also recommends to the Provincial Governments the increasing of their subsidies for the building of new

roads and the improving of existing highways, and expresses the opinion that the counties and municipalities of the Dominion should encourage more efficiently the improvement of roads within their limits.

13. *Resolved*, that this Convention desires to place on record its appreciation of the kindness of the Premier, Sir Lomer Gouin, and the members of the Government and Legislature of Quebec, especially Hon. Jules Allard, Minister of Lands and Forests, for the many kindnesses and hospitality shown the members at this meeting.

14. *Resolved*, that the thanks of this Convention be extended to Hon. A. Turgeon, President, and to the members of the Legislative Council of Quebec, for their kindness in placing their magnificent Chamber at the disposal of the Convention for its sessions.

15. *Resolved*, that this meeting desires to express its appreciation of the heartiness and unanimity with which His Worship the Mayor and the citizens of the City of Quebec have welcomed the members of this Convention and have assisted in rendering their visit one of pleasure as well as profit.

16. *Whereas*, in a country of great distances like Canada the success of such a Convention as this depends to a large extent upon the Press and the Railways.

Therefore Resolved, that this Convention desires to place on record its appreciation of the kindness of these two agencies in aiding its efforts.

A NEW FOREST FIRE BULLETIN.

'Of all the civilized nations in the northern hemisphere, Canada is doing the least to treat the public timber-lands as a permanent asset.'

This is the conclusion reached by Mr. H. R. MacMillan, of the Dominion Forest Service, after a study of the present status of forestry in Canada, particularly in regard to the forest fire problem. This study is published by the Forestry Branch of the Department of the Interior as their Bulletin No. 9 ('Forest Fires in Canada').

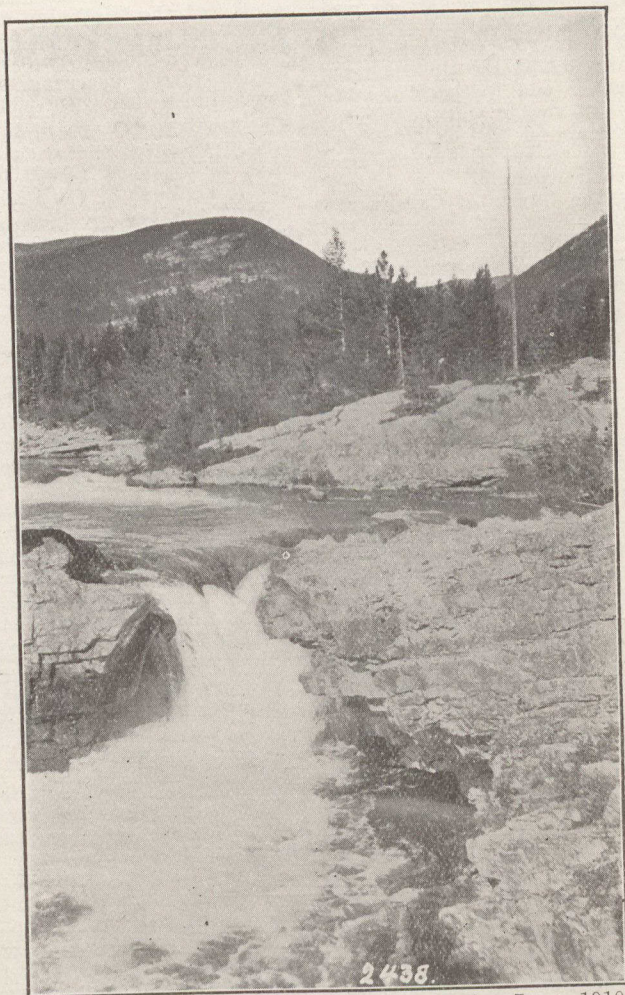
During 1909 the loss through forest fires throughout Canada amounted to \$210,400, and 1909 was by no means a bad year for fires. The expense of fire fighting and fire protection amounted to \$330,000.

There can be little doubt that this total of fire loss is much too small. In the first place, the value of the timber destroyed is arbitrarily placed at \$1 per thousand feet, board measure, while the actual value of the trees as they stand

in the forest would average much higher than this. No account is taken of the damage done to young growth, which, while not now actually saleable, will in the course of a few years have considerable value. 'An enormous amount of cordwood,' to quote the words of the writer, 'destroyed, in districts where it now has a value, and in other districts where it will soon be needed, has neither been estimated nor valued.' Many fires have undoubtedly occurred in districts remote from present settlement, and have destroyed large quantities of timber which ultimately would command a ready market.

Extracts are given from many works dealing with exploration in Canada to show how widespread and disastrous have been the fires in former years — even before exploration was attempted, in many cases.

Treating the subject more generally in the first part of the bulletin, Mr. MacMillan arrives at the conclusion that seven



[Photo G. H. Edgecombe, June, 1910.]

Falls on Elbow River.

It is from this fall that the City of Calgary proposes to develop power. Note the limestone formation; once burned over, it will remain bare for an indefinite period.

times as much timber has been destroyed by fire in Canada as has ever been cut by lumbermen. This view is sustained by many lumbermen, some of whose estimates exceed even this.

The treatment of land cut or lumbered over and destined to remain permanently in forest is one of the big problems of forestry on this continent. This is also discussed, and plans are outlined for the cutting of the timber so as to reduce as much as possible the danger from fire.

Of all kinds of land, cut-over timberland, with chips, tree-tops and other debris scattered around, presents the greatest danger from fire—a fact that is emphasized by many fires which occurred even during the past summer in British Columbia and western Ontario.

Any who care to look further into this subject may obtain copies of the bulletin mentioned above, free of charge, on application to R. H. Campbell, Superintendent of Forestry, Ottawa.

Forest Fire Legislation

A Synopsis of the Report of the Committee of the Association

At the annual business meeting of the Canadian Forestry Association held in March, 1910, a committee consisting of Dr. B. E. Fernow and Messrs. W. C. J. Hall, Thos. Southworth, Dr. Judson F. Clark, G. C. Piché, F. Davison and Ellwood Wilson was appointed to investigate the laws of the Dominion and the various provinces concerning the protection of the forests from fire, and to point out defects in these and suggest remedies. The report of this committee was presented to the Canadian Forestry Convention in Quebec in January last, and also to the annual business meeting of the Canadian Forestry Association, and will be published in full in the report of the Convention. Consequently only a synopsis of the report is given here. This synopsis is as follows:—

A brief analysis of the different laws existing in each province shows great variety of method.

It is pointed out that, while the objects and main features or principles might be made more alike, the methods of application must vary with different conditions. The forest fire law of Nova Scotia is declared the best and most efficient, designed for a well-settled country, but would be only partially applicable in other provinces.

The essentials of proper fire legislation are discussed in detail, and it is pointed out that proper organization of a protective service is more essential than legislation, that the legislation should not be specific but allow wide latitude in making rules and devising methods to the head of the fire service, who with all his assistants, inspectors and fire wardens — a permanent organization — should be made responsible for the safety of the districts in which the country should be subdivided.

The construction of watch towers equipped with necessary apparatus, and

the building of trails and telephone lines, while not inexpensive, are essential to complete success, and a supreme effort should be made, even if expensive, to stop the evil. The prompt discovery of fires and the prevention of their getting beyond control would be thereby attained.

A main need is to change the attitude of the people at large. Hence an educational campaign by the fire service organization should go on at the same time with their exercise of police functions.

The burning of brush and 'downing' of tops by lumbermen, not under a general prescription, but by rule in each case, is advocated.

The responsibility and methods of fire prevention by railroads are discussed at length upon the basis of an exhaustive report by the New York State Public Service Commission.

The possibility of oil-burning locomotives is hinted at. The making of broad fire safety strips is condemned, and instead a forest-covered strip, to exclude sun and wind, cleaned of easily inflammable material, is recommended. A regular bicycle fire patrol to follow each train is suggested, and it is pointed out that since the danger of fires spreading is confined to the hours of 9 a.m. to 5 p.m. the expense could probably be kept quite low. The inefficiency of spark-arresters and ashpans is explained.

The work of forest protection associations in the Western States is discussed, and the effectiveness of such associations shown.

The report concludes with the statement of belief that the people are ready for a supreme effort to get rid of the fire evil which threatens to wipe out a large portion of the natural resources of the Dominion, not only in timber, but in soil, thousands of square miles of which are now burned into barrens.

One of the latest uses of cement as a substitute for wood is in shipbuilding. A scow constructed of reinforced concrete was successfully launched at Port Dalhousie, Ont., on Nov. 9 last. It is designed for general use in maintenance work on the Welland canal.

Hon. Frank Cochrane, Minister of Lands, Forests and Mines for Ontario, recently announced that during the coming winter experiments in burning slash would be conducted on certain timber limits in Rainy River district.

L'histoire de l'administration des forêts dans la Province de Québec.

(Partie du travail de M. G. C. Piché lu à la Convention Forestière Canadienne de Québec.)

Maintenant que j'ai exposé sommairement les conditions actuelles de nos domaines boisés, il importe de discuter notre administration forestière et de parler du service forestier.

En 1852 fut créé le Département des Terres et Forêts pour s'occuper de l'administration des terres et forêts des deux Canadas, car la province de Québec et celle d'Ontario étaient alors réunies et devaient rester ainsi jusqu'en 1867. En même temps on organisa diverses agences sur différents points du pays pour s'occuper des ventes locales de lots et de la surveillance des coupes. Avant cette date, les transactions se faisaient par les bureaux d'Ottawa et de Québec. En 1867, notre province reprit le contrôle de ses forêts et le nouveau département des Terres et Forêts s'occupait de faire valoir nos ressources. Si l'on en juge par un arrêté en conseil, en date de 1869, les conditions d'alors étaient bien pitoyables, cent fois ce dont on se plaint aujourd'hui. Cet ordre en conseil confiait à M. de Salaberry le soin de s'occuper, de protéger les forêts contre les maraudeurs, d'arrêter le pillage qui se commettait sur une grande échelle en certaines localités, l'empiètement de certains exploitants sur le domaine de la Couronne avoisinant leurs limites, et enfin de protéger la forêt contre les ravages de l'incendie qui détruit dix fois plus que ne peut le faire la hache de l'exploitant ou du défricheur. Cet agent-forestier, bien que recevant \$1,400.00 par an et ses frais de déplacement, ne semble pas avoir fait grand bruit, et ses attributions bien que vastes auraient plutôt un caractère administratif, car les rapports annuels du département sont muets sur ses agissements et les maux dont on se plaignait avant sa nomination, continuèrent de sévir et de s'accroître. En 1873, on lui nomma cependant un assistant, M. Louis Gosselin, avec le titre de garde-forestier, au salaire de \$1,200.00, mais ses exploits ne sont pas non plus parvenus jusqu'à nous. Ces deux officiers ne figurent plus sur la liste des employés du département des Forêts après 1874.

Jusqu'à 1873, date de la création du premier corps de gardes-forestiers, la surveillance forestière aurait été faite par les agents locaux. On s'en rapportait

donc exclusivement aux rapports que transmettaient les licenciés en conformité avec la loi de 1849 qui les obligeait à produire à l'expiration de leurs licences, au 30 avril, un état assermenté de leurs opérations forestières. Ils transmettent ces rapports également de nos jours, mais à la date du 30 juin seulement. Cependant, était donné qu'il se faisait alors beaucoup de bois carré, les rapports étaient justifiés en partie par les mesurages du bois carré par le bureau des mesures de Québec créé en 1842 et qui subsiste encore de nos jours; pour les autres bois on n'avait aucun contrôle et c'est là un des vices de l'ancienne administration forestière. Ce n'est qu'en 1888 que fut organisé le bureau des examinateurs de mesureurs de bois de la province de Québec.

Donc, en 1873, on créa un corps de gardes-forestiers, qui furent employés à la surveillance forestière, sous la direction des agents et du département. Le rapport annuel du ministère indique qu'il y avait, en 1873, 28 gardes-forestiers et que ce service avait coûté \$3,013.27. L'année suivante, 40 gardes-forestiers sont employés ce qui porte le coût de la surveillance à \$9,501.20. On peut se rendre compte des vols de bois qui se commettaient alors, car le chiffre des pénalités recueillies par le département en 1872-73 n'était que de \$3,186, mais l'année suivante les gardes-forestiers percevaient \$32,906. C'était un magnifique résultat pour un début, et l'on aurait dû développer ce système de surveillance, créer une direction; mais non, les gardes se trouvent distribués deux ou trois, par agence, travaillant sans direction efficace, d'une façon intermittente, de sorte que ces braves gens perdaient toute ambition dans une carrière aussi ingrate.

Dix ans après, en 1883, le personnel employé comprend 46 personnes et coûte \$13,598.00. L'année suivante, 1884, les gardes-forestiers sont employés à faire quelques inspections de lots, pour en déterminer la valeur agricole. C'est le commencement du fameux travail de classification des sols; jusque là la vente des lots s'était faite d'après les rapports des arpenteurs et de quelques employés spéciaux, comme M. Bureau.

Ce n'est qu'en 1889, que l'on donne des chefs autorisés à ces gardes-forestiers. Ces chefs reçurent le titre de surintendants des gardes-forestiers. On en nomma sept et je tiens à vous les nommer avec leurs territoires respectifs. M. Charleson, qui s'occupait des agences de l'Ottawa; M. Reynar avait le contrôle des opérations dans l'agence St-Charles et sur le Saint-Maurice; M. Nagle travaillait dans les districts de St-François et Arthabaska; M. Pozer avait la surveillance des agences de la Chaudière, de Montmagny et de Granville; tandis que le Dr Crépault s'occupait des comtés de Rimouski, Bonaventure et Gaspé. MM. Latour et Audet se partageaient la surveillance forestière dans le lac St-Jean et le Saguenay.

Le personnel fut augmenté et porté à 78 gardes-forestiers. J'ai eu occasion de lire les instructions, les rapports de quelques-uns de ces officiers et j'étais surpris de voir combien ils réalisaient l'importance de leurs fonctions. Le service coûta bien cher naturellement: \$50,172 en 1890, mais les statistiques du département indiquent d'autre part un accroissement de revenu considérable; ainsi, en 1887, on avait perçu \$447,200 de droits de coupe, en 1888, \$707,257, en 1889, \$626,653, etc. Ces chiffres sont éloquentes et démontrent que les rapports d'opérations fournis alors au département n'étaient peut-être pas toujours des plus complets.

En 1892, M. Charleson fut destitué et les autres chefs perdirent leur emploi de surintendant. Les gardes-forestiers travaillèrent, comme avant, sous la direction des agents.

En 1897, M. J. C. Langelier fut nommé surintendant des gardes-forestiers, position qu'il occupa jusqu'à sa mort, survenue au mois de mai dernier. Il tenta de réorganiser le service, mais comme les gardes-forestiers étaient dans un grand nombre de cas incompetents, que leur position était précaire par le fait qu'on ne pouvait les employer qu'une partie de l'année, il ne peut réaliser beaucoup de réformes. Durant le même temps, le bois de pulpe ayant pris une valeur considérable, les spéculateurs commencèrent à affluer, à donner beaucoup de besogne aux préposés du gouvernement.

En 1905, le premier ministre actuel jugea qu'il était nécessaire de réformer le service de surveillance, en recrutant un personnel plus instruit, plus compétent, et que l'on pourrait employer à l'année. Deux élèves furent envoyés à l'École forestière de Yale, pour y prendre leurs degrés d'ingénieur forestier. A leur retour en 1907, chacun d'eux fut chargé d'organiser la surveillance dans un petit district. Les résultats ayant été jugés bons, ils furent autorisés à s'adjoindre quelques élèves assistants et leur champ d'action

fut agrandi, si bien que l'an dernier, l'honorable M. Allard divisait la province en quatre districts, en donnant un à chacun des deux ingénieurs forestiers, un troisième à feu M. Langelier et le dernier étant administré par le département avec le concours des agents. En même temps, le gouvernement décidait de créer une école forestière qui ouvrirait ses portes au mois de septembre 1910. On y donne des cours à onze élèves.

Par suite du décès de M. Langelier, l'honorable M. Allard jugea le moment opportun de réorganiser le service forestier sur une nouvelle base. L'ingénieur forestier en chef de la province fut nommé chef de ce nouveau corps; sous ses ordres furent placés tous les gardes-forestiers de l'ancien régime afin de pouvoir conserver ceux qui étaient bons et les élèves forestiers furent engagés pour assister dans les travaux. Comme le chef du service forestier est en même temps directeur de l'École forestière, cela lui permet de bien connaître les élèves et de faire le choix de ceux qui devront travailler plus tard pour le gouvernement.

Le service forestier est chargé de tous les travaux d'exploration du territoire non arpenté de la province, de la classification des sols, de la surveillance des opérations forestières qui se font sur les terres de la Couronne, du reboisement et des autres travaux et études techniques du département au sujet des forêts.

Le personnel actuel comprend l'ingénieur forestier en chef et son assistant, trois ingénieurs civils, 20 élèves forestiers, 40 gardes-forestiers et six mesureurs-experts.

Ce service coûtera peut-être cher, mais nous avons la conviction que les résultats atteints justifieront amplement les déboursés faits par le gouvernement en même temps que celui-ci peut se glorifier d'être entré dans la véritable voie.

Quant aux détails sur le mécanisme de la gestion, je renverrai mes auditeurs au rapport annuel que vient de publier le département des Terres et Forêts.

Nous avons au sein du département une autre section qui s'occupe exclusivement de la protection des forêts contre le feu, dont M. W. J. C. Hall est le chef. Le service forestier s'occupe de toutes les autres questions extérieures du département, son chef relève du surintendant des Bois et Forêts.

Prof. D. P. Penhallow, professor of botany at McGill University, died on Oct. 26th last on board the steamer Lake Manitoba. Prof. Penhallow was much interested in forestry and was a speaker at the 1906 Forestry Convention.

Survey Methods and Costs.

Expert Forester Writes of the Work on Large Quebec Limits.

'What is a forest survey going to cost?' is the first question that confronts the advocate of this, the initial step in forest management.

Much depends on the character of the survey, of course. In a former issue of the *Canadian Forestry Journal* (December, 1909) was given a description of the Nova Scotia forest survey, or reconnaissance, concluded this fall, together with the estimated cost, this being less than twenty-five cents per square mile.

In the September, 1909, issue of the *Forestry Quarterly*, Mr. Ellwood Wilson in an article entitled 'Survey Methods and Costs for a Large Area,' writes of survey work of a different character, done for a large pulping concern. The methods of the two surveys are radically different, a fact which must be borne in mind in noting the difference in cost, etc.

Costs of the Survey.

The cost of the first surveys was \$20.00 per square mile, but this was subsequently cut almost in half, i.e., to \$10.28, and still further experience is likely to bring the cost below this latter figure.

The cost per square mile varied greatly, the lowest cost on any limit being \$6.75 and the highest \$18.14. In the latter cases the limits were further away from the base of supplies and the portaging was much heavier. In the cheaper surveys two plane tables were used where usually but one was employed.

The average cost per square mile was \$10.279. The average cost for the party per day was \$18.12. The cost of food per man per day was 17.5 cents.

Preliminary Conditions.

The territory to be surveyed had been, for purposes of sale, roughly surveyed by the provincial authorities into berths. These were laid out along the principal rivers, and measured ten miles along the rivers by five miles in depth. In some cases limits are laid out behind these again, where the width of the land between the rivers permitted.

The difficulties of the mapping were increased by the fact of there being no satisfactory maps to serve as a base for the making of the more exact one. The territory was practically unsurveyed, there had been no triangulation work done, and so there were no points located to which the work could be 'tied,' and what surveys had been made were inaccurate.

Organization of the Party.

The question of a large vs. a small force was decided in favor of the latter as offering the following advantages: (1) the first cost of equipment would be less; (2) the expense would be spread over a longer time, and (3) the men would be better trained for the work.

The party consisted of eight or nine men, being composed usually of the chief, assistant chief, two rodmen, the cook and three laborers. Sometimes the party is enlarged to nine or ten.

What the Maps Show.

The amount of information to be placed on the maps was decided by the purpose for which the maps were required. No attempt was made to mark elevations, as the company lets out all its cutting to jobbers who do their own road-making, in which work the elevations are chiefly required.

Boundaries, lakes, rivers and streams are accurately located. 'The areas in the different types of timber, burns, etc., were considered throughout the work as of paramount importance. . . . Our maps show all rivers, streams and creeks, all lakes, ponds, swamps and muskegs, limit, county and exploration lines, summer and winter roads, logging roads, trails, portages, camps and dams, boundaries of burnt areas, windfalls, lumbered areas, timbered areas, black spruce swamps, jack pine in pure stand, etc. Careful notes of types, reproduction, logging condition, logging waste, etc., are made.'

Field Work.

The work of the parties included also re-blazing the limit lines, the setting up of new corner posts and other monuments, the running of lines that had been destroyed or never run and the thorough clearing-out of all lines and blazing of all trees within ten feet of the line.

In the field work a traverse board with telescopic alidade was used. For the chief traverses the distances were ascertained with the stadia rod and for the minor traverses pacing was used for the distances. The party averaged 2.43 square miles per day. The best day's work (distance in lineal miles) was twelve miles in one day in March on a river traverse, when the ice had formed a crust on the snow after a thaw.

Making the Map.

The scale adopted was that of 4,000 feet (three-quarters of a mile) to an inch. One limit (50 square miles) was placed on each sheet, and from these a map of the whole, on a smaller scale, is to be built up. The conventional signs adopted by the Dominion Forest Service were used.

On the completion of the base map the same party will go over the territory in detail to estimate the timber.

The Question of Supplies.

The transportation of supplies accounted

for much of the expense. The nearest base of supplies was usually distant from 25 to 70 miles from operations. Supplies had to be driven in by sleighs or wagons where there were roads, and after that by dog-sled or canoe.

Provisions are hauled to the ground in winter, as far as possible. For each section to be mapped a central camp is located. The party works from this until it becomes too far to walk from the camp to their work; then a temporary camp is established, to which provisions are brought from the main camp.

Commission on Conservation.

Brief Report of Second Annual Meeting at Quebec, Jan. 17, 1911.

The Commission of Conservation held its second annual meeting in Quebec city on Jan. 17 in the Legislative Council Chamber.

Hon. Clifford Sifton, chairman of the commission, presided, and at the morning session gave a review of the work done by the commission during the year. He made reference to the opposition made by the commission to the Long Sault dam project and to the attempt made to incorporate the International Canal and Transportation Company, whose object was to construct a canal from Lake Superior to the headwaters of the Saskatchewan river.

In regard to waterpowers the report of the hydro-electric engineer of the commission was almost ready for publication. A bill had also been submitted to the Dominion government regulating the granting of waterpowers by the Dominion authorities.

The appointments of officers and work of the Committees on Public Health and on Lands were also noted.

The Committee on Forests had recommended the setting aside of the Eastern Slope of the Rocky Mountains as a forest reserve, a measure which had subsequently been put into effect by order-in-council and was also included in a bill already before Parliament. The committee also recommended the passing of a bill penalizing the railway companies for allowing fires to spread beyond their rights of way and had made an investigation of the forest fires of the season of 1910.

Information regarding mines was being collated and much information had been prepared regarding the fish and game and fur-bearing animals of the Dominion.

Dr. J. W. Robertson, C.M.G., reviewed at considerable length the work done by the Committee on Lands during the year. He also dealt with methods of farming, condition of home life on the farms,

weeds and the question of wood-lots.

At the afternoon session Mr. F. D. Monk, M.P., introduced the question of the control to be exercised by the government over waterpowers, and explained the provisions of his bill before Parliament. Considerable discussion took place relative to the bill. Among other things the difficulty of applying the same conditions all over the Dominion was pointed out.

A committee was finally appointed to bring in a resolution on the matter, which later reported recommending that grants of waterpower be made to extend over a limited period only, and this after a full study of their value, etc.; that a value be set on the privilege at the time of alienation and that the rental be revised periodically, and that the rates charged to the public be under the control of the Railway Commission, even where the grant had passed from the original grantee to another.

Hon. W. C. H. Grimmer discussed various legal difficulties in the administration of the fish and game.

Dr. B. E. Fernow gave an account of the system of forest protection in vogue in Sweden.

At the evening session, which was a public one, Mr. C. C. James, Deputy Minister of Agriculture for Ontario, spoke on 'What Ontario is Doing for the Improvement of Agriculture.' His address referred particularly to the work of the Ontario Agricultural College, especially with regard to its extension work.

Dr. C. A. Hodgetts, Medical Adviser to the Commission, then gave an address, illustrated by stereopticon views, on 'Unsanitary Housing.' He laid stress on the fact that slum conditions were becoming all too prevalent in some Canadian cities.

After the report of the committee noted above had been given, the meeting adjourned.

Protecting Limits by Telephone Lines.

Private initiative and enterprise frequently anticipates government action in many lines of endeavour, and in the line of forest protection a well-known lumberman of Quebec, Mr. William Power, ex-M.P. (recently elected a director of the Canadian Forestry Association) is showing the way to all the Canadian governments in installing telephones throughout one of his limits, mainly with the idea of assisting in the protection of the forest from fire.

The limit in question is owned by the River Ouelle Pulp and Lumber Company, and is situated along the line of the National Transcontinental railway in Kamouraska county, Quebec, near the International boundary. The work of installation has been carried out under the personal supervision of the manager, Mr. W. Gerard Power, son of Mr. Wm. Power.

Fifty-two miles of telephone have been strung, forming a circular chain of communication through the heart of the tract. Telephones have been installed for the use of the fire-rangers at five different points along this line, and portable telephones, capable of being adjusted to the line at any point, will be supplied to the rangers and carried with them in the woods, provided suitable instruments can be procured. If not, ordinary wall telephones are to be installed every two miles along the line of the National Transcontinental, where it passes through the limits.

The application of the telephone to this use is not entirely new on the limits of the River Ouelle Company. Over two years ago a line was built ten miles from Ste. Perpetua village east, connecting with the Kamouraska Telephone Company's line. This first trial of the system proved such a success that during the summer of 1910 it was extended and a line built from the company's office in St. Pacome, crossing the River Ouelle into the sixth range of the parish of St. Onesime, and thence following the Ste. Anne colonization road to the National Transcontinental, a distance of about seventeen miles. Thence it follows the railway right of way to Lake Ste. Anne, where two guardians are kept during the summer season. From this point the line continues west for nine miles to Ste. Perpetua, joining here the original installation. Another branch runs from the Ste. Anne road east to Powerville, where the company has their mill, following the railway right of way.

The advantage of the arrangement is obvious, and its adoption has come into vogue quite extensively of late years in the United States. A ranger, using the telephone to notify headquarters of a fire, can in a short time have assistance sent him, in this way having frequently the opportunity to confine to a comparatively small area a fire which threatened to develop to serious proportions.

ONTARIO'S WORK IN 1910.

Mr. E. J. Zavitz, in his report read before the annual meeting of the Ontario Experimental Union in January, gave some interesting particulars regarding the work of tree distribution and planting done by the Department of Agriculture of that province. During 1910 200,000 trees were sent out to private planters throughout the province, and an equal number was used by the Department in its planting at the Norfolk County Forest Station. The planting material sent out consisted largely of Scotch pine, white ash, white elm, sugar maple, soft maple, catalpa and black locust. A number of planters also received walnuts, butternuts and hickory nuts for use in planting in woodlots or plantations.

The total number of trees sent out dur-

ing the last five years in connection with the scheme of free distribution amounts to nearly two million. Plantations have been started in about forty counties. Most of the planting has been done in the southwestern part of the province. From eighty to ninety-five per cent. of the trees are living.

About sixty collections of forest tree seedlings have been sent out to schools under the direction of the schools section of the Experimental Union.

For the coming season the department has on hand for distribution trees of the following species: white pine, Scotch pine, white cedar, black walnut, butternut, hickory, sweet chestnut, red oak, maple, white ash, elm and black locust. At present there are in the forest nursery about 800,000 forest plants in nursery lines and about 1,500,000 seedlings in seedbeds.

UNIVERSITY OF TORONTO NOTES.

The Faculty of Forestry has grown apace until at the beginning of the academic year 1910-11 just a round fifty students were registered; this total was diminished during the term by the withdrawal of two who followed the calls of practical life.

The registration started rather slowly, many of the students employed on summer work finding it difficult to give up their employment when the session began.

This summer employment of its students is perhaps the most interesting fact about the Faculty. Of the thirty-nine students who had been registered the preceding year, at least thirty-one found occupation in their own field, and, since five of the remaining eight dropped out of the course, actually only three for various reasons were unemployed. The Forestry Branch of the federal government employed the largest number, namely, twelve, who were engaged in forest surveys in the West.

The next best employer was the Canadian Pacific Ry. Co., which had several parties out (ten Torontonians being employed) investigating various problems. Three men were temporarily and one man continuously employed by lumber companies in estimating timber and mapping timber limits, the three continuing in other forest work; while the Nova Scotia forest reconnaissance occupied, in addition to Dr. Howe and Mr. White, members of the staff, the services of three students.

Two men sought experience in the tree nurseries of the Pennsylvania Railroad Company; a few only were employed in fire ranging.

Another feature of interest is that this Faculty has attracted the attention of our neighbors, three of the new students coming from the States.

City and Province naturally furnish the principal contingent of the student body, namely twenty-one and fifteen respectively. New Brunswick and Nova Scotia furnish three and two respectively, and far-away Alberta and British Columbia each one.

A novel course has been inaugurated, namely, that on 'Business Law,' conducted in seminary style by Mr. John D. Falconbridge, lecturer at the Law School, — a course designed to produce clear legal thinking and such knowledge of the principles and elements of law as any educated man should really possess, but especially those that are likely to transact business.

The six-year course, designed to give a broader education in addition to the professional course, attracts only a few; yet there are four men brave enough to submit to the longer term of education.

Over 4,000,000 cords of pulpwood were used in the United States during 1909.

DEATH OF PROF. W. R. FISHER.

It was with much regret that members of the Canadian Forestry Association learned of the death of Mr. Wm. R. Fisher, M.A., Assistant Professor of Forestry at Oxford University, which took place on Nov. 13th last, at the age of sixty-four. A native of Sydney, N.S.W., Mr. Fisher was educated at St. John's College, Cambridge, taking his degree of B.A. with mathematical honors in 1867. From 1869 to 1889 he served in the Indian Forest Service, attaining the rank of Conservator of Forests. He was editor of the *Indian Forester* from 1881 to 1889, was president of the Royal English Arboricultural Society in 1904, and served on several parliamentary committees on forestry. He was a member of the staff of the Royal Indian Engineering College at Cooper's Hill for several years, and, when the staff of the School of Forestry was transferred to Oxford, became Assistant Professor of Forestry there. He is well known for his numerous writings on forestry subjects, especially as assisting Prof. Schlich in his 'Manual of Forestry.'

THE STATES AND THE NATIONAL FORESTS.

Of the entire revenue received from the National Forests of the United States twenty-five per cent. goes to the state in which the particular reserve is situated, to be spent for school and road purposes. The several states thus received, for the fiscal year ending June 30, 1910, the sum of \$506,200, an increase of \$67,500, or a little over fifteen per cent., over the amount received for the preceding year. The payments are designed as an offset to the loss of income sustained by the state through the withdrawal of the forest land from entry under the public land laws.

THE FARMER'S PLANTATION.

The above is the title of a bulletin written by Mr. A. Mitchell, of the Forest Nursery Station, Indian Head, Sask., and lately issued by the Forestry Branch as its Bulletin No. 10. It applies particularly to conditions on the prairies. Among the questions taken up are the planning of the plantation, preparation for planting and the actual operation of planting and the care of plantations after planting. Under the latter head the matter of pruning and thinning have full attention. The bulletin is illustrated with thirteen half-tone engravings. Copies of it may be obtained by addressing R. H. Campbell, Superintendent of Forestry, Ottawa.

Constitution and By-Laws of the Canadian Forestry Association.

(Published in accordance with a resolution passed at the Annual Meeting of the Association, March, 1910.)

I. NAME.

The name of the Association shall be:
The Canadian Forestry Association.

II. OBJECT.

Its objects shall be:—

(1) To advocate and encourage judicious methods in dealing with our forests and woodlands.

(2) To awaken public interest to the sad results attending the wholesale destruction of forests (as shown by the experience of older countries) in the deterioration of the climate, diminution of fertility, drying up of rivers and streams, etc., etc.

(3) To consider and recommend the exploration, as far as practicable, of our public domain and its division into agricultural, timber and mineral lands, with a view of directing immigration and the pursuits of our pioneers into channels best suited to advance their interests and the public welfare. With this accomplished, a portion of the unappropriated lands of the country could be permanently reserved for the growth of timber.

(4) To encourage afforestation wherever advisable, and to promote forest tree-planting, especially in the treeless areas of our north-western prairies, upon farm lands where the proportion of woodland is too low, and upon highways and in the parks of our villages, towns and cities.

(5) To collect and disseminate, for the benefit of the public, reports and information bearing on the forestry problem in general, and especially with respect both to the wooded and prairie districts of Canada, and to teach the rising generation the value of the forest with a view of enlisting their efforts in its preservation.

(6) To secure such forestry legislation from time to time from the federal and provincial governments as the general interests demand, and the particular needs of the people seem to require.

III. MEMBERSHIP.

Its membership shall include all who pay an annual fee of \$1.00 or a life membership fee of \$10.00.

IV. OFFICERS.

The officers shall comprise an honorary President, a President, a Vice-President, a Secretary, an Assistant Secretary, a

Treasurer, the editor of the official organ of the Association and twenty-one directors, and from (and including) the Association year 1909-10 the ex-presidents of the Association shall be members of the Board of Directors.

V. ELECTIONS.

These officers shall be elected by ballot at the annual meeting of the Association, and shall serve one year, or until their successors are elected. Vacancies occurring during the year may be filled by the Executive Committee.

VI. EXECUTIVE COMMITTEE.

(1) The officers shall comprise an honorary President, a President, a Vice-President, a Secretary, an Assistant Secretary, a Treasurer, the editor of the official organ of the Association and thirty directors.

(2) In addition to the above all past presidents of the Association, from (and including) the Association year 1909-1910, shall be *ex-officio* members of the Board of Directors.

VII. ANNUAL MEETING.

The annual meeting of the Association shall be held during the month of February in the City of Ottawa, upon such a date as shall be decided by the Executive Committee of the Association, a notice of one month of which shall be given to each member by the Secretary.

VIII. SPECIAL MEETINGS.

Special meetings shall be held at such times and places as the Executive may decide, a sufficient notice of which shall be sent to each member by the Secretary.

IX. AMENDMENTS.

Amendments to the Constitution can be adopted only by a two-thirds vote of the qualified members present at the annual meeting of the Association, and a notice of such intended amendment shall be given with the notice calling the meeting.

BY-LAWS.

President.

The President shall preside at all meetings of the Association.

Vice-President.

In the absence of the President a Vice-President shall preside at all meetings of the Association; and in the absence of all of them a President pro tempore shall be elected by the meeting.

Secretary and Assistant Secretary.

The Secretary shall keep a record of the proceedings of the Association and of the Executive Committee and shall be custodian of all documents, books and collections ordered to be preserved.

He shall conduct the correspondence of the Association and shall keep a list of members with their residences and shall notify members of the time and place of meeting of the Association, and in his absence his duties shall be discharged by the Assistant Secretary.

Treasurer.

The Treasurer shall have the custody of all moneys received, and shall deposit or invest the same in such manner as the Executive Committee shall direct, and shall not expend money except under

direction or approval of the Executive Committee. The financial year of the Association shall close on December 31st of each year.

Order of Business.

At the regular meeting of the Association the order of business shall be that proposed by the Executive Committee and announced by the Presiding Officer. In the absence of such prepared order of business, the following shall be observed:—

- (1) Calling to order.
- (2) Reading of minutes.
- (3) Reading and referring or disposing of letters, accounts, etc.
- (4) Reports of Committees.
- (5) Inquiries and notices of motion.
- (6) President's address.
- (7) Papers, addresses and discussion by members and others invited by the meeting.
- (8) Nomination and election of officers.
- (9) Unfinished and miscellaneous business.
- (10) Adjournment.



O. A. C Students working on Ontario Government plantations, Norfolk Co.

The Ontario Agricultural College GUELPH, Canada

Offers an excellent preparatory course for students intending to graduate in Forestry. In addition to the various subjects taught, many of which are prescribed by the Faculty of Forestry at Toronto University, students have the privilege each year of securing five months' field instruction and practical experience in the annual operations on the Government Nursery located in Norfolk County, Ont.

The tuition fee to residents of the province of Ontario is \$20.00 per year during the First and Second years. During the Third and Fourth years, \$50.00 per year.

Board may be secured in the Boys' Residence at \$3.50 per week. For complete information address,

**G. C. CREELMAN, B.S.A., LL.D.,
President.**

DIRECTORS' REPORT FOR 1910.

(Continued from Page 15.)

bers. The list now includes the Bank of Montreal, Canadian Bank of Commerce, Merchants Bank, Molsons Bank, Bank of British North America, Imperial Bank, Bank of New Brunswick, Royal Bank, The Quebec Bank, and Bank of Hamilton, while the Traders Bank makes a grant of fifty dollars.

Since the last annual meeting the membership list has been carefully revised, 504 names struck off because of death or non-payment of fees; 736 names added, leaving the total at 2,703, gain of 232 for the year. These 2,703 members were distributed as follows: Nova Scotia, 95; Prince Edward Island, 9; New Brunswick, 234; Quebec, 543; Ontario, 1,095; Manitoba, 127; Saskatchewan, 120; Alberta, 121; British Columbia, 215; Yukon Territory, 3; Newfoundland, 2; United States, 96; British and Foreign, 43.

Conclusion. — With the membership larger than ever before and with the different parts of its organization working harmoniously, it is hoped that the year 1911 will be one of the best in the records of the Association.

All of which is respectfully submitted.

LOST LIVES IN AUGUST FOREST FIRES.

The total number of those who lost their lives in the forest fires in the western United States during the latter part of August is seventy-seven; these are the Forest Service figures. They were, for the most part, temporary employees of the Forest Service engaged for the express purpose of fighting the fires.

The Guelph (Ont.) Water Commissioners will continue this year the work of afforestation of the catchment basin of the system, begun last year. About 150,000 trees will probably be planted this year. Of the trees put in last spring over 75 per cent. (a good proportion) are living.

TREES FOR THE LAWN

Weeping birch, mulberry, ash, willow and elms. All kinds of shrubs, fruit and ornamental trees, hedge plants, roses, vines, evergreens, from 10c up.

CHAS. BAKER,

London Nursery, Ridout Street.

Phone 2222.

London, Ont., Can.

WOOD-LOT MANAGEMENT.

When properly located and cared for the wood-lot should prove a most productive and increasingly profitable portion of a Canadian farm. Unfortunately the condition of the average wood-lot is becoming less satisfactory from year to year. The two causes which contribute most largely to this decadence are the common practice of selecting from time to time the better trees for removal, leaving the poorer for the basis of future crops, and the all but universal practice of opening woodlands for grazing of stock. Some idea of the economic importance of better methods of management for farm woodlands may be gathered from the fact that in Ontario alone there are some seven million acres of wood-lots, besides several million acres of waste lands which should be re-forested. The Dominion Government through its Forestry Branch and the Ontario Government through its Department of Agriculture are already doing excellent work in disseminating a knowledge of better methods of wood-lot management and in providing planting material at reasonable cost for those wishing to improve or extend their woodlands.—*Dr. Judson F. Clark.*

CANADIAN FORESTRY ASSOCIATION.

Patron, His Excellency the Governor General.

Honorary Pres., Sir Wilfrid Laurier.

President, Geo. Y. Chown, B.A.

Vice-President, John Hendry.

Secretary, Jas. Lawler, Canadian Building, Slater St., Ottawa.

Asst. Secretary, F. W. H. Jacombe.

Treasurer, Miss Marion Robinson.

Directors: Wm. Little, Hiram Robinson, Aubrey White, E. G. Joly de Lotbiniere, E. Stewart, H. M. Price, W. B. Snowball, Thomas Southworth, Hon. W. C. Edwards, Hon. Sydney Fisher, R. H. Campbell, J. B. Miller, W. A. Charlton, Gordon C. Edwards, Dr. B. E. Fernow, Ellwood Wilson, R. L. Borden, M. P., F. C. Whitman, G. C. Piché, Alex. MacLaurin, Carl Riordon, Mgr. O. E. Mathieu A. P. Stevenson Wm. Pearce, Wm. Power, C. E. E. Usher, Denis Murphy, C. Jackson Booth, Wm. Price, M. P., and J. W. Harkom.

Provincial Vice-Presidents :

Ontario—Hon. Frank Cochrane, Toronto.

Quebec—Hon. Jules Allard, Quebec.

New Brunswick—Hon. W. C. H. Grimmer, Fredericton.

Nova Scotia—Hon. A. K. Maclean, Halifax.

Prince Edward Island—A. B. Warburton, M.P., Charlottetown.

Manitoba—Hon. R. P. Roblin, Winnipeg.

Saskatchewan—Hon. A. E. Forget, Regina.

Alberta—Hon. A. L. Sifton, Edmonton.

British Columbia—Hon. H. Bostock, Monte Creek.

Mackenzie—F. D. Wilson, Fort Vermilion, Alta.

Yukon—Alex. Henderson, Commissioner, Dawson.

Keewatin—His Honour Sir Daniel H. McMillan, Winnipeg.

Ungava—His Grace Mgr. Bruchesi, Archbishop of Montreal.