

cessary to reduce this area to something like 30,000 acres per man. To properly cover the province there should be 2,300 fire wardens per season, and this stage must be reached. The number might seem large, the chief forester said, but in Ontario there were over 1,000 wardens in service during the season.

Speaking after Mr. Benedict's paper, Mr. Maurice Quinn, of Saginaw, Mich., U.S.A., referred to the lack of fire protection in the Alberni district, where he said in the case of a recent fire on Cameron Lake mountain there was no one present to send word of the danger and no one appeared to be interested. He spoke of an urgent necessity for the education of the people in the vicinity in regard to the danger of forest fires. He asserted the work should be the combined care of lumbermen, farmers and railways. On Alberni Canal the speaker instanced the special difficulties met with. Alberni Canal, he said, was fifty five miles in length with high mountains on the shore line. Men found it impossible to climb the mountains, and to obtain assistance boats are necessary. In the event of a fire occurring at Great Central lake, he said, ten million feet of lumber would be destroyed before a fire-fighting force could be assembled to cope with it, and prevent its spread. The only remedy, said the speaker, was the expenditure of money in the provision of conveniences for transmission of information and the maintenance of an efficient fire-fighting force. His plea for efficiency in fire-fighting forces was supported by the other speakers.

RAILWAY FIRE SITUATION.

Mr. Clyde Leavitt, chief fire inspector for the Board of Railway Commissioners and Forester of the Commission of Conservation, read a paper on 'The Railway Fire Situation in Canada.' In part he said:

'While many fires have been attributed to the railways, for which they were not, as a matter of fact, responsible, the loss from this source has nevertheless been far more than the country could afford. Forest fires are practically preventable, but to accomplish this it is necessary to spend money for preventive measures.'

'The Board of Railway Commissioners for Canada has had the matter of forest fires under consideration for several years and has issued regulations from time to time. The latest order of the board on this subject was issued May 22, 1912, and provides for the use of spark arresters, the non-use of lignite coal, the establishment and maintenance of fire-guards, the regulation of the burning of inflammable material along rights of way, the organization of special patrols by the railway companies and other measures by such

companies necessary to the discovery and extinguishing of fires along rights of way. The two latter are the most important new features of the new order, since most of the other provisions were previously in effect.

'For the administration of these provisions of the order and the inspection of the work of the railway companies under it, a co-operative plan has been developed with the forest branch of the department of lands of British Columbia, and with the forestry and parks branches, Dominion department of the interior. Certain officials of these departments have been appointed officers of the board with authority to deal direct with the railway companies and to vary the requirements up or down, as local conditions at any time or place may require or permit. In this way a perfectly elastic system is provided, so that efficient protection is assured at a minimum cost to the railway companies and with a minimum of red tape and loss of time.

'Patrols under this plan are now in effect at the cost of the railway companies on the Canadian Pacific, Canadian Northern, Grand Trunk Pacific and Great Northern railway lines in the forested sections of British Columbia, Alberta, Saskatchewan and Manitoba. The plan is working very satisfactorily so far. It is expected that a similar system of railway patrols will be established under the new order in the eastern provinces next spring. The railways are directly interested in preventing forest fires to a greater extent than any other single interest in the country.

'The patrols specified by the chief fire inspector have in every case been fully discussed in advance at conferences with railway officials, so there is no reasonable ground for a charge that arbitrary action has been taken.

'The gradual extension of the use of electricity and oil as railway motive power may be expected to materially decrease forest fire danger.

'In order to be thoroughly consistent and to secure the full benefit of the plan outlined for the prevention of railway fires, steps should now be taken by the Dominion and Provincial governments for the disposal of inflammable material resulting from the construction of wagon roads, and also for the disposal, either by burning or by lopping and scattering, of all brush resulting from logging operations. Old debris along railway lines should be removed as rapidly as possible. Only in this way can efficient fire protection be secured at a reasonable cost.

'The administration of the new fire regulations should give Canada the best system for the prevention of railway fires on the continent.'