

carrying over a specified quantity of timber are withdrawn from disposal until examined by the Forest Branch. During the past few years 29,744 square miles have been set aside permanently for forest purposes. Provincial parks extend over 9,994 square miles. The present practice is to sell cutting rights for a stated period by public competition but licences to cut, which are renewable annually, have been granted for a large proportion of the accessible timber. Crown dues are adjusted periodically on the basis of prevailing industrial conditions. About 7,386 square miles of timber-land are privately owned.

Subsection 2.—Forest Fire Protection

The Dominion Government administers the forests of the National Parks, Forest Experiment Stations and the Northwest Territories and Yukon (see p. 233) and is, therefore, responsible for fire protection measures therein. Each of the Provincial Governments, except that of Prince Edward Island, maintains a fire protection organization co-operating with owners and licensees for the protection of all timbered areas, the cost being distributed or covered by special taxes on timber-lands. In each province, with the exception just mentioned, provincial legislation regulates the use of fire for clearing and other legitimate purposes, and provides for close seasons during dangerous periods. An interesting development in this connection in the Province of Quebec is the organization of a number of co-operative protective associations among lessees of timber-limits. These associations have their own staffs, which co-operate with those of the Board of Railway Commissioners and the Provincial Government. The latter contributes money grants and also pays for the protection of vacant Crown lands lying within the area of the associations' activities.

In the matter of forest fire protection along railway lines, the provincial services are assisted by the Dominion Railway Act administered by the Board of Railway Commissioners. This Act gives to that body wide powers relating to fire protection along railway lines under its jurisdiction. Certain officers of the various forest authorities are appointed *ex officio* officers of the Board of Railway Commissioners. These officers co-operate with the railway fire-ranging staffs employed by the various railway companies, the compulsory control of all lines coming under the jurisdiction of the Board being one of the requirements of the Dominion Railway Act.

In certain districts in Canada aircraft are used to good effect for the detection and suppression of forest fires. Where lakes are numerous, flying boats can be used for detection, and for the transportation of fire fighters and their equipment to fires in remote areas. Specially constructed aircraft equipped with wireless are employed on forest fire-protection operations; these enable the observer to report the location of a fire as soon as it has been detected. As a general rule, aircraft are used in the more remote districts, while lookout towers, connected by telephone lines or equipped with wireless, are established in the more settled and more travelled forest areas. Nevertheless, a large ground staff with its equipment stored at strategic points will always be necessary for the fighting of large fires and for the maintenance in the forest of fire lanes, fireguards and systems of communication and transportation.

Portable gasoline pumps, which weigh from 45 to a little over 100 pounds each, are important equipment. These pumps can be carried to a fire by canoe, motor-boat, automobile, aircraft, pack-saddle or back-pack and can deliver efficient water pressure as far as seven thousand feet from a water supply and, when used in relays, to a much greater distance. Small hand-pumps supplied by 5-gallon portable containers are also used effectively in many cases.