

Commission of Conservation

CANADA

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CONSERVATION is published the first of each month. Its object is the dissemination of information relative to the natural resources of Canada, their development and the proper conservation of the same, together with timely articles covering town-planning and public health.

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Aeroplanes in Forest Protection

The recent announcement that \$1,000,000 will be spent by the Dominion Government in the construction of an aeroplane factory, probably at Toronto, lends special interest to the report that the proposed aeroplane station to be established by the United States Government at Duluth, Minnesota, will be made the basis of an aero forest fire patrol system. The state forester of Wisconsin has already secured excellent results from the use of an aeroplane for the patrol of a large area of forest in the northern part of the state, and it is expected that similar good results will be secured in Minnesota, from the co-operative arrangement which has been approved by the commander of the Minnesota Naval Militia. The main object of this patrol will, of course, be the prompt discovery and location of forest fires. If a fire is discovered, the telephone system which has been installed will enable the forest rangers to be notified immediately and they can promptly take all necessary steps for its extinguishment. State Forester Cox of Minnesota estimates that the installation of an air patrol would save the state at least \$45,000 annually.

In view of the great importance of Ontario as a timber-producing province, and of the enormous damage that has resulted in the past from forest fires, it is to be hoped that some co-operative arrangement may be possible, in connection with the testing of machines and training of men, whereby a thorough test may be made of the practicability of using aeroplanes for forest fire patrol, under Canadian conditions. If such use is practicable in Wisconsin and Minnesota, it should be equally efficient and economical over very large areas in Canada.—C.L.

Bird Food Shelters

Their Provision Encourages the Birds to Remain With Us

In the cold and gloomy days of winter what is more cheering than watching the birds outside, as they flutter to and fro in search of food and shelter? Their presence is a distinct pleasure to humanity and should be reciprocated.

One of the best means of attracting birds about our homes in the winter is to furnish them with food, preferably in food shelters. If

Developments in Electric Heating

The use of hydro-electric energy for heating dwellings is progressing very rapidly, and its more universal use is destined to follow very closely the "cooking by wire." This seems particularly true for our two largest provinces, Ontario and Quebec, where nature has compensated the absence of coal with a most generous supply of water powers.

The latest development in connection with this mode of heating dwellings is not a new idea but

uniform temperature, and, for comfort, less heat is required with steady heat than with intermittent heat. Considerable economy of heat is gained by covering the basement pipes, and especially the storage tank, with heat insulation at least 2 inches thick.

The comparative cost of this method of heating is fairly well established, and, while it is only economically feasible where specially low rates are offered for limited hours service, there are probably many who are willing to pay the extra cost on account of the greater convenience, sanitation and cleanliness of electric heating.

While electric heat will probably never replace the more familiar forms entirely, there is no doubt there will be a great development in localities having good water powers.—L.G.D.

Railway Forest Protection

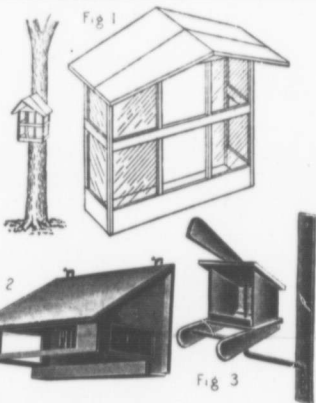
Extensive Equipment being Provided for Forest Fire Fighting

The use of mechanical equipment for the extinguishing of forest fires is steadily gaining ground, with correspondingly good results in both efficiency and economy. A recent development in this direction is the increased use by the Canadian Pacific railway of tank cars for the protection from forest fires of the territory immediately adjacent to its lines.

This company, having previously secured excellent results from the use of tank cars on its lines in Maine, has now extended this method of protection to include a portion of the Muskoka district in Ontario. Two tank cars, comprising a single unit, have recently been placed at MacTier, Ontario, for use between Pickering and Coldwater junction, a distance of 116 miles. On one of these cars is a pump and on the other a hose rack. Each car carries also a tank holding 7,000 gallons of water. The pump has a capacity of 400 gallons per minute. A total of 4,000 feet of 2½-inch hose is supplied, that fires may be reached at a considerable distance from the track, if necessary.

While the primary object of such equipment is the suppression of fires caused by the railways and for the protection of company property, great service has been rendered in controlling fires coming in from the outside.

Other Canadian lines making similar use of tank cars for fire-fighting purposes are the Grand Trunk, Timiskaming and Northern Ontario and the Canadian Government railways. It is reported that the use of one of the tank cars on the Timiskaming and Northern Ontario railway, during the great fire of July 29 and 30, was the direct means of saving the greater portion of the village of Porquus Junction from total destruction.—C.L.



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BIRD FEEDING SHELTERS

Three of many designs which may be made by amateurs for the use of birds during the winter months.

shelters cannot be provided, however, the food may be fastened to trees or scattered in sheltered places on the ground. The advantage of having shelters, aside from protecting the food from being blown away or covered with snow, is that they may be placed where the birds can be watched conveniently.

There are numerous designs of food shelters that will induce the birds to enter and that will protect the food from the weather. To overcome the natural suspicion of traps, it may be necessary to attach food to the outside of the closed-in shelters before they will enter. If the sides are made of glass, however, the food will be visible and the birds will enter to feed.

The accompanying illustrations show two designs of simple construction. In Figure 2 the food is protected in the bin by an overhanging roof. Figure 3 is made to revolve with the wind, so that the food is always protected. Figure 1 shows a more elaborate feeding box, closed in with glass, except for a panel on the back for attaching to a tree or post.

This provision of bird shelters

simply the application of the well known principle of using electric energy at times during the day when it is not required in large quantities for other purposes such as lighting, etc., in other words making it an "off peak" load, thus allowing a material reduction in the rates paid for the energy used.

To make electric heating an off-peak load, some heat storage is necessary. Electric heaters can be used with hot water, steam, hot-air, or direct heating, or with any combination of these methods.

Experiments were recently made in Seattle, Wash., to illustrate and test the possibilities of electric heating.

These experiments demonstrate that the hot-water heating system with ample storage tank presents the most advantages for use with electric heaters. This is due to the fact that the heat storage keeps a

gives an opportunity for boys in manual training classes or Boy Scouts to exercise their ingenuity, while at the same time "doing a good turn" for their feathered friends.