

## Fire Fighting in Rocky Mountains Forest Reserve

The Rocky Mountains Forest Reserve lies just north of the international line in the Province of Alberta and embraces an area of about 18,750 sq. miles of timber land, in which lie the sources of most of the streams flowing through Alberta and Saskatchewan. Since the reserve was established in 1910, there has been an organized effort to check the forest waste by fire, which is said to have been out of all proportion to that suffered by other forest areas in the West. Early explorers found heavy timber over hundreds of miles of country on the east slope of the mountains, which is now practically denuded, and it has been found (states Mr. W. N. Millar, district inspector of forest reserves) that at least 90 per cent. of the forests in this section are not one hundred years old, while probably 75 per cent. are not over fifty years old. In other words, evidence points to a surprisingly heavy and widespread destruction of the forests within the last fifty years, during which time travel in these mountains has been a factor of importance.

In providing for fire protection the Rocky Mountains Forest Reserve has been divided into five sections, each of which is under the control of a forest supervisor. These divisions run from 1,000,000 to 3,000,000 acres in area, and are laid out on topographical lines, so that they can be administered practically independent of each other. Each supervisor further subdivides the district under his charge into ranger districts, which average roughly about 200,000 acres each. The ranger districts are also bounded by mountain ranges or other topographical lines, and the ranger in charge of each is made responsible for all work within the district. Besides fire protection duties he is charged with the administration of timber, the construction of trails and bridges, and other supervisory work. It is thus possible to provide year-round employment, which is said to secure a better type of ranger and keep men in the service who are familiar with the districts and the work involved.

The success of the fire-prevention work, Mr. Millar points out, has been largely due to developing the lookout system and perfecting arrangements for despatching help in emergencies. The patrol system would be wholly inadequate under the conditions in the reserve, but the plan of locating fires by triangulation from lookout peaks and by communicating by wireless or telephone has made it possible to secure adequate protection. Mr. Millar states, at a cost of from 1 to 2 cents per acre.

## Coal Reserves of the World

The chief topic of discussion at the Twelfth Session of the International Geological Congress, held in Toronto this summer, was the Coal Resources of the World. As a basis for the discussion, a monograph on this subject, edited by Wm. McInnes, D. B. Dowling and W. W. Leach, was prepared by the

Geological Survey of Canada. Assistance was also given by Geological Surveys and Mining Geologists of different countries. The reports obtained dealt with a large variety of coals, but in the following tables they are grouped in only three divisions, anthracite, bituminous, and the less-altered coals:—

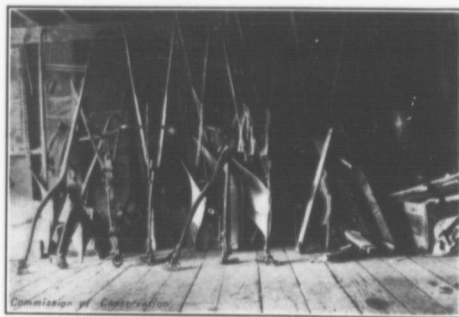
### Estimate of the Coal Reserves of the World

In million tons.

	CLASS A	CLASSES B & C	CLASS D	TOTALS
	Anthracite Coals, including some Dry Coals	Bituminous Coals	Sub-bituminous Coals, Brown-coals and Lignites	
Oceania . . . . .	659	133,481	36,270	170,410
Asia . . . . .	407,637	760,098	111,851	1,279,586
Africa . . . . .	11,662	45,123	1,054	57,839
America . . . . .	22,542	2,271,080	2,811,906	5,105,528
Europe . . . . .	54,346	693,162	36,682	784,190
	496,846	3,902,944	2,997,763	7,397,553

The report states, "In considering the amount of the reserve relative to the duration of the supply it should be borne in mind that in this estimate no deduction is made for coal not at present

mineable nor for loss of coal in mining. A large part of the coal included in the estimate will be very difficult to mine and generally the loss in mining will be great." —W. J. D.



(Cut No. 23)

Implements cost money. Put them under cover—NOW.

## Farm Machinery—Its Care and Abuse

While it is true that many farms are not equipped as they should be with proper machinery, it is also true that hundreds of dollars are lost in unnecessary outlay, and thousands in unnecessary depreciation.

During the Agricultural Survey work conducted by the Lands Committee in 1913, some interesting facts in this connection were revealed. A farmer near Moosomin, Sask., who after twelve years, was giving up farming, held an auction sale. His binder brought \$80 and his other machinery sold proportionately high. If had all been well housed each year and the

necessary repairing and painting had been done. On a neighbouring farm a binder which had been used for only three years, but left out of doors and neglected during that time, went to the scrap heap and a new one was purchased. Conditions similar to the latter obtain over the whole of Canada, but more frequently in Western Canada. An implement house costs money, but if the depreciation on housed and well-cared-for machinery is only one-third or less of that on machinery left out of doors, it is good business to put a roof over the implements.—F. C. N.

## New Brunswick Forest Survey

The provincial parliament of New Brunswick, at its session last winter, provided for a survey, examination and classification of the Crown Land areas of the Province. The report, as provided in the Act, is to cover the following points: the character and quality of the timber; the quantity of timber and the reproductive capabilities of the various areas, estimating as accurately as may be the annual growth of the timber upon each area or tract; the accessibility of the timber in each section; the cost of logging the different areas; the cost of stream-driving to the point of manufacture; and the location of the lands deemed suitable for agricultural purposes. Owing to financial considerations, it was not considered practicable to create a separate organization and provide for the collection at first hand of this very important information on an intensive scale.

The existing staff of cruisers and sealers has therefore been charged with the duty of collecting and compiling, under the supervision of Mr. W. H. Berry, Superintendent of Sealers, all available information along the above lines. The provincial government feels that, in this way, at least the great bulk of the above information can be collected to an extent sufficient for present needs, and consistent with financial considerations.

It is, however, obvious that the required study of reproduction and rate of growth must be handled in an entirely different way, since information of this kind can be secured only as a result of close and detailed study by men who have been especially trained for this class of work. It is expected that the necessity for securing this class of information, as well as for supplementing the estimates made by the staff of cruisers and sealers, will result in the establishment of a Forestry Branch in the Crown Lands Department, with a technically trained forester in charge. This action is not only logical but will prove necessary, since the Crown Lands of the province return an annual revenue of over half a million dollars to the provincial treasury, and the absolute necessity of providing adequately for the perpetuation of this important resource can not long be avoided. The Crown Lands comprise an area of over ten thousand square miles, or approximately one-third the total area of the province.—C. L.

Unquestionably it will take more labour to produce fifty bushels of wheat from an acre than to produce ten bushels from the same acre—but will it take more labour to produce fifty bushels from one acre than from five?—Abraham Lincoln.