

## MECHANICAL AIDS TO WOOD-USING INDUSTRIES

*With this issue of the "Illustrated Canadian Forestry Magazine" is inaugurated a department devoted to news articles descriptive of equipment and labor-saving devices designed for use of the Lumber and Pulp and Paper Industries. We hope thereby to render a service both to our supporters in the Industries mentioned and to firms and individuals who are engaged in the manufacture of machinery and products, essential to Lumber and Pulp and Paper Plants. We will welcome interesting items of this character, from those in a position to supply them. All matter is subject to editorial revision and the writer in each case should identify himself for our information—although not necessarily for publication.—EDITOR.*

### Evinrude Fire Pump Tests

**H**IGHLY satisfactory results have been obtained in exhaustive tests of the Evinrude high pressure two cylinder pumping outfit manufactured by the Evinrude Motor Company of Milwaukee and sold through Watson, Jack and Company, Ltd., Power Building, Montreal. The tests at Ottawa were held before the Standardization Committee on forest fire protection. On September 6th, the pump was placed on a barge in the Ottawa River at a point adjacent to the first lock of the Rideau Canal, and about eight feet from the surface of the water. The first test was made by laying 1,300 feet of 1½" linen fire hose up the Canal bank to the Plaza Bridge—a height of about 91 feet above the river. With a ½" nozzle it delivered 24 Imperial gallons per minute, and threw a stream almost across the Canal. The hose friction was equal to a head of 65 feet, making a total head of 156 feet. A ¾" nozzle was then put on, and the delivery at the same point was 21 imperial gallons per minute, and this stream was thrown clear across the Canal. The pressure in both these runs was 145 lbs. at the Pump. On the third run a ½" nozzle was used and the delivery was 25½ Imperial gallons with 165 lbs. pressure at the Pump. (One Imperial gallon equals 1.2 U. S. gallons).

On September 7th, the pump was placed on a raft at the same point in the Ottawa River. 1,500 feet of hose was laid along the west bank of the Rideau Canal and up to the top of Parliament Hill, Parliament Hill being 175 feet above the river. It delivered 17 Imperial gallons per minute through a 3-8" nozzle at the top of the hill, and threw the stream approximately 50 feet horizontally, and almost the same distance vertically. The pressure at the Pump ranged from 140 to 160 lbs. The hose friction in this case was equal to 75 foot head, making a total of approximately 250 feet.

On September 8th, the pump was set on the upper lock gate, Rideau Canal. A short demonstration was made to see how far the Pump would throw a stream, using ¼" and ½" nozzles. With the ¼" nozzle the point of saturation was 80 feet on the level, and with the ½" this was a little less. The water in the Canal Lock was drawn off and down to the end of the suction line, which unfortunately would only reach 12 feet down into the Canal. This suction head of 12 feet was very readily picked up by the Pump, without priming, which demonstrates the very high efficiency of the Unit.

The outfit consists of the Evinrude two cylinder, two cycle 4-5 H. P. gasoline engine with the famous Evinrude built-in-the flywheel Magneto, gravity feed carburetor, and easy starting device. This engine is direct connected to a Viking 1½" special type High Pressure Pump, both being compactly mounted on a strong aluminum base. The complete outfit weighs only 99½ lbs. and is designed specially for fighting forest fires, and general fire service in lumber yards, industrial plants, small towns, and isolated institutions. The outfit was originally designed to pump against 120 lbs. pressure, but in these demonstrat-

ions it greatly exceeded its rated capacity and the pressure gauge showed an average of 150 lbs., and at times reached the high pressure of 185 lbs. per square inch.

### Forest Products Laboratories

**R**ESearch and Technical Service in connection with wood and all articles or products manufactures therefrom is the business of the Forest Products Laboratories of Canada at Montreal.

The laboratories have adequate modern machinery and equipment for research into the mechanical, physical, chemical and other properties of woods as related to their uses—35 technologists and others are engaged in strength testing, preservative treatment, pulp and paper making and other branches of wood technology.) The laboratories have the finest reference library in Canada relating to the properties and utilization of woods; have made over 40,000 tests on the strength of Canadian woods by modern standardized methods; have investigated conditions at over 300 mills, factories and other buildings in Canada and the United States with respect to the decay of timber in such buildings; have published over 70 technical articles, bulletins, etc.; have dealt with thousands of technical inquiries, frequently involving special experimental investigations or tests; have investigated preservative treatments as applied to Canadian timbers for railway ties and other purposes; have conducted research into the chemistry and technology of Canadian woods in relation to pulp and paper making; offer information on the causes and prevention of decay of wood in buildings and on the preservative treatment of timbers; offer free technical services of various kinds to the public, such as the identification of woods, analysis of pulps, papers, etc.; offer courteous co-operation in the solution of any problem encountered in the use of wood.

### Creosoted Post Outlasts Cedar

**F**OR many years it has been thought that the only timber that would give a reasonable period of service as fence-posts was cedar. The Forest Products Laboratories of the Department of the Interior, Canada, state, however, that by employing a comparatively simple method it is possible to treat posts of certain hardwoods in such a way that they will have a life at least twice as long as cedar posts. The preservative effect of this treatment is clearly shown in fencing erected at the Dominion Forestry Branch forest nursery at Indian Head in 1917. Here posts of Russian poplar were used, both treated and untreated, and it is interesting to note that all the untreated posts erected at this time have decayed and been removed while the treated posts are all still in service and appear as sound as the day they were placed in position.