

A handsome leather bound volume enclosing these letters was inscribed as follows: *To Charles Lathrop Pack From His Forestry Friends and His Friends of Forestry.*

Among the letters sent to him were some very warm tributes from such men as President Calvin Coolidge, Secretary of Agriculture W. M. Jardine, President Hibben of Princeton, President Farrand of Cornell, Chancellor Flint of Syracuse, President Little of Michigan, Governor Gifford Pinchot, Col. Henry S. Graves, Col. Wm. B. Greeley, Mr. John Hays Hammond, Mr. Owen D. Young, Col. Theodore Roosevelt, former President, Henry S. Drinker of Lehigh University, President Garfield of Williams College, Mr. William Allen White, the heads of most of the American Forest Schools, practically every State Forester and nearly every forester of large prominence in federal, state and private organizations.

Among the letters received from abroad, were those from Director General Carrier of the French Forestry Service, Director General Stella, and Chief Inspector General Alberto Cotta of the Italian Forest Service, Lord Lovat, Lord Clinton, Col. Sutherland, Mr. R. L. Robinson and others of the British Forestry Commission, Professor R. S. Troup of Oxford, England, and many others distinguished in European forestry.

Mr. Pack received a great number of congratulatory letters and telegrams on May 7, in addition to this bound volume of letters. There were some exceedingly warm tributes to his wide variety of service to the cause of American forestry, not only in educational work but in the promulgation of research programs, in the establishment of demonstration forests, his service in advancing the work of tropical forestry, his many contributions of American tree seeds to Europe, and the several books which he has been author of or sponsored, through the American Tree Association.

Forest Fire-Weather Research

PAUL W. STICKEL

Assistant Silviculturist, Northeastern Forest Experiment Station

In the April, 1927 issue of the JOURNAL, Mr. Burrill in his article on "Weather and Fires from the Standpoint of Meteorologist" states: "Studies carried on by the Northeastern Forest Experiment Station indicate that a tenth of an inch of rain suffices to keep the moisture content of the duff above 25 per cent for a period of three to four days, and that the danger-free period is longer when the humidity is high than when it is low." This statement applies to the mixed softwood-

hardwood of the western Adirondack Mountains, which is doubtless what Mr. Burrill had in mind. It does not, however, hold true for forest conditions in the entire Northeast.

Relatively small amounts of precipitation are more effective in keeping the duff above the inflammability point where it is of the matted type produced by the admixture of hardwood leaves, than where it is composed entirely of coniferous leaves. Most strikingly is this true in the white pine type, where relatively large amounts of precipitation when immediately followed by dry, hot weather accompanied by high winds are of practically no use in keeping the duff above the danger zone. Two examples taken from the records of the forest fire-weather station in a clear cutting in the white pine type at the Harvard Forest, Petersham, Mass., will illustrate this point. On June 3rd, 1926, at 8 A. M. .14 inches of rain was recorded; yet, at 2 P. M. the same day the duff moisture had dropped to 12 per cent. On June 25th a total of 1.07 inches of rain fell. During the following night it rained again, a total of .17 inches of precipitation being recorded at 8 A. M. on the 26th. At 2 P. M. the same day, the duff contained only 8.8 per cent of moisture. Such examples are by no means uncommon especially during the late spring, summer, and early fall. Besides the low humidities, high winds, and high air and duff temperatures, there are other factors which contribute to this extremely rapid drying out of the duff. Chief among these is the porous character of the pine duff, which allows the rapid percolation of the water. Likewise, the type itself plays an important part in determining how great is the influence of various amounts of precipitation. The stations at the Harvard Forest are on gravelly soil of a climax white pine type of the poorest quality, where the surface water runoff is at the maximum.

It appears evident that with the many diverse forest types and forest regions which are found in the Northeast, no general statement as to the relationship between precipitation and freedom from forest fire danger can be made. Each principal region must be considered individually not only from the viewpoint of meteorological conditions, but likewise from the viewpoint of the role played by the character of the duff, the general soil conditions, and the natural inflammability of the particular duff in question.