HAILSTORM AT OLD POINT COMFORT LIGHT STATION

A violent electrical storm, accompanied by hail, swept across Old Point Comfort, Va., on the afternoon of May 11. The keeper of the light station reported picking up hailstones as large as ordinary hens' eggs, one of the largest measuring more than 2½ inches in diameter. While severe, the storm was of short duration and the only damage done at the station was the breaking of two windowpanes.

SEVERE DUST STORM AT OREGON AND WASHINGTON STATIONS

A severe wind and dust storm struck the States of Oregon and Washington the latter part of April. The storm continued for about three days, during which a high easterly wind approaching 50-mile velocity carried a continuous dense cloud of dust, originating in eastern Oregon and Washington, over the entire intervening area and into the Pacific. Vessels arriving in Portland, Oreg., during that period reported dense clouds of dust, practically as thick as fog, 60 miles at sea off the coast of Oregon.

The keeper of Umpqua River Light Station, Oreg., reported that the storm struck his station on April 22, uprooting trees and completely hiding the sun. No damage was done at the station, but the dust settled so thickly on the illuminating apparatus that it was necessary to clean both the wheels and the chariot track before the lens would operate properly. Conditions at other light stations on the Oregon coast were similar to those at Umpqua River.

RESCUE OF THE CAPTAIN OF A STRANDED BARGE

George H. Tooker, keeper; Ernest F. Witty, first assistant keeper; and Emanuel Weber, second assistant keeper, Race Rock Light Station, N. Y., have been commended by the Department of Commerce for their rescue of the captain of the barge *Victorious*, which broke adrift from a tug and was carried ashore during a heavy gale. The keepers rescued Captain Hazell by climbing out on the sea-swept rocks and carrying a line to him, all being in imminent danger of being washed away. The rescue was accomplished under hazardous conditions and without injury.

TENTH ANNIVERSARY OF BEGINNING OF RADIOBEACON SYSTEM

May 1 marked the tenth anniversary of the establishment of the first successful radiobeacons, which were the three stations in the immediate approaches to New York.

A chart has just been published of this system as it now exists on the Atlantic and Gulf coasts of the United States, showing the progress that has been made in 10 years in these radio aids to navigation.

FAMOUS "WAVING GIRL" TO ABANDON LONG VIGIL

Miss Florence Martus, widely known to seafaring men and to those who travel in ships, as Savannah's "waving girl," has given her last salute to vessels entering and leaving the port of Savannah.

Miss Martus, central figure of a romance woven about lonely Elba Island, on which she has lived for nearly half a century, plans to move to Savannah, as her brother, George W. Martus, keeper of the light, has just retired. He has tended the lights along the Savannah River since 1887.

NEW PUBLICATIONS

The following publications have just been issued:

Light List, Great Lakes, United States and Canada, 1931.

Local Light List, California and Oregon, 1931.

Local Light List, Washington to Alaska, 1931.

Radiobeacon System, Atlantic and Gulf Coasts (chart).

SAVING OF LIFE AND PROPERTY

The following persons in the Lighthouse Service have been officially commended for meritorious services rendered in the saving of life and property or rendering assistance:

George H. Tooker, keeper; Ernest F. Witty, first assistant keeper; and Emanuel Weber, second assistant keeper, Race Rock Light Station, N. Y. rescued the captain of a stranded barge. This rescue is described in a separate item on another page.

Arthur L. Payne, keeper, Bakers Island Light Station, Mass., rescued two men who were left stranded on the Dry Breakers when their boat drifted away, on April 10. On April 20 he assisted in putting out a grass fire which had gotten out of control at a near-by cottage.

Ernest A. Sampson, assistant keeper, Bakers Island Light Station, Mass., assisted the keeper in both instances noted above.

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LIGHTHOUSE SERVICE BULLETIN

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GERMAN LIGHTHOUSE SERVICE TEST LABORATORY

A description of the German Lighthouse Service Laboratory and Testing Station, located in Friedrichshafen, near Berlin, are contained in a recent German technical publication. In the establishment of this laboratory Germany has taken an advanced step in lighthouse engineering, for the laboratory is devoted exclusively to investigation for this important work.

The principal lighthouse services of the world are striving continually to perfect signaling devices to protect the expanding shipping of all nations from the hazards of the seas. Work is done in a highly specialized field of scientific investigation in order that apparatus and equipment that will function with the greatest reliability under the most trying marine conditions may be developed. These nations must resort to the laboratory to devise, improve, and test apparatus and equipment, in order that it may measure up to the severe service requirements.

The German Lighthouse Laboratory is located at Frederickshaven near Berlin, and bordering on a small lake. The main building is constructed with heavy walls, and is approximately 107 by 42 feet in plan, two stories high, with a steep pitched roof and a high basement. Integral with the building at one corner is a round towerlike structure simulating a lighthouse. The adjacent corner is built up as a rectangular tower somewhat higher than the ridge of the building and surmounted by a railing. In front of the building is a high signal mast.

Also on the grounds are attendants' quarters, testing tracks, a building for the storage of gases in cylinders, and the superintendent's quarters. Some distance away and on the shore of the lake is a boathouse for housing the small boats used at the station. The whole station has been carefully planned architecturally, and the buildings harmonize with the surrounding wooded landscape.

Of special interest to lighthouse engineers is the function and equipment of the laboratory building. Tests of many kinds in the realm of physics and chemistry are conducted to develop and improve the efficiency of aids to navigation. Light from sources such as gases of kerosene, alcohol, gasoline, from acetylene, the electric arc, and the incandescent filament are studied to determine their economic aspects. The strength of mantles, burners, and filaments are determined by life tests. Photometer tests determine the candlepower and practicability of the use of various light sources, and their effect in different classes of optical apparatus. The color effects of red, green, orange, and yellow-colored glasses designed to show the greatest amount of positive color under different conditions of visibility are tested with various light sources, by the use of a spectral photometer. The optical accuracy of lenses, mirrors, and reflectors is determined for different light sources.

Means of producing various light signals or characteristics are studied. Tests are made of lens screens and shutters, as well as air motors, gas turbines, diaphragm motors, clock works, electrical contactors, gas regulators, etc.

Photometer space occupies half of the second floor. Windows are made light proof, and the interiors of all rooms and all equipment are painted a flat black. The towerlike portion of the laboratory is a test lantern used for mounting lighthouse lenses and optical apparatus to be observed and measured from a distance, and is especially designed with narrow astragals for this purpose.

Sound fog signals, such as bells, horns, sirens, and oscillators, are tested and their efficiencies compared. Air, gas, or electric current consumed is accurately measured, and the reliability of the operating mechanism ascertained. The test and operating space and workshop are on the first floor under the photometer room.

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