mixed with air in the right proportion to produce perfect combustion, which is indicated by a non-luminous flame. The power developed by the explosion of acetylene completely burned in the cylinder is said to be much greater than that obtainable with water-gas. W.

ELECTRICITY IN PAPER-MAKING.

The *Electrical World* reports that the Cumberland Mills, near Portland, Me., are operated by power electrically transmitted from a waterfall four miles distant.

The generating plant consists of two 300 horse-power dynamos coupled to 48-inch Victor vertical turbine. The alternating current system is used, the pressure being raised by transformers from 1,100 volts at the generators to 8,000 volts at the mills, where it is again reduced to 400 volts for supplying the motors.

The efficiency of the plant is found to be about 76 per cent., from the brake horse-power of the turbines to that of the motors. A marked saving is said to be effected in comparison with steam-power. W.

Franklin Institute.

[*Proceedings of the stated meeting held Wednesday, April 19, 1899.*]

HALL OF THE FRANKLIN INSTITUTE,
PHILADELPHIA, April 19, 1899.

MR. JOHN BIRKINBINE, President, in the chair.

Present, 145 members and visitors.

Additions to membership since last report, 60.

The president made reference to the highly gratifying increase in the membership since the beginning of the present year, and urged the members to second the active efforts of the Committee on Membership.

Mr. A. E. Outerbridge, Jr., presented an interesting address entitled, "Notes of a Trip to the West Indies." The speaker gave an account of his observations made during a recent trip of several weeks to a number of these islands, with special reference to their industrial conditions. The subject was profusely illustrated with the aid of the stereopticon.

Mr. John Jerome Deery read a paper describing the "Improved Methods for the Purification of Sewage and Water," as exhibited by the operation of the municipal plant at Reading, Pa. The speaker described this important installation in detail, illustrating the same with lantern views. The subject was referred for investigation and report to the Committee on Science and the Arts.

Mr. John Forbes described and illustrated in operation several modifications of an improved "Apparatus for Sterilizing Water," by which it was claimed to be practicable to sterilize from 2,000 to 5,000 pounds of water by the expenditure of 1 pound of coal. The subject was likewise referred to the Committee on Science and the Arts.

Adjourned.

WM. H. WAHL, *Secretary.*