Franklin Institute.

[*Proceedings of the stated meeting held Wednesday, May 17, 1899.*]

HALL OF THE FRANKLIN INSTITUTE,
PHILADELPHIA, May 17, 1899.

MR. JOHN BIRKINBINE, President, in the chair.

Present, 102 members and visitors.

Additions to membership since last monthly report, 43.

The President gave a brief outline of the plans being made by the Board for the appropriate celebration of the seventy-fifth anniversary of the Institute. These comprise a series of special anniversary meetings by the several Sections, to follow each other on successive evenings; the celebration to be concluded by a special meeting of the Institute, at which addresses will be delivered by distinguished invited guests and members of the Institute. It is proposed that the ceremonies above-outlined should occupy one entire week during the month of October, and that they should take place in one of the buildings of the Exposition to be held in the autumn.

The Secretary, at the suggestion of the President, gave a brief account of the joint meeting of the Chemical and Mining and Metallurgical Sections and the Lehigh Valley Branch of the American Chemical Society at Bethlehem, Pa., which took place on Tuesday, May 16th. (For an account of this meeting see the proceedings of the Sections.)

Mr. N. Monroe Hopkins, Washington, D. C., described and illustrated "The Pneumatic System for Preventing the Bursting of Water Pipes by Freezing." This method, invented by the speaker, consists, in brief, in introducing along the line of pipe to be protected, at intervals of say every 10 feet, where the pipe is exposed to the danger of freezing, a series of small globular air-chambers, to provide sufficient space for the increased volume of the water in solidifying. To insure the continuous maintenance of the air in these chambers, an automatically operating inspirator is introduced in the main service pipe, which, whenever a faucet is opened, causes the introduction of a small quantity of air, which finds its way to the chambers, thus insuring that they shall always be kept supplied.

The subject was discussed by Messrs. J. C. Trautwine and Spencer Fullerton and Mr. Hopkins.

The invention was referred to the Committee on Science and the Arts for investigation and report.

Mr. Wm. McDevitt, Inspector of the Philadelphia Board of Fire Underwriters, gave an account of his investigation of the recent explosion, which occurred at the chemical works of Frank H. Fleer & Co., No. 2343-45 Callowhill Street, this city. The investigation disclosed that the cause of the explosion was the priming of the contents of a large tank containing some 70 gallons of benzole used as a solvent in the final operation of manufacturing artificial vanillin.

The subject was discussed by Dr. Goldschmidt, Mr. Fullerton and others.

Several views by Mr. W. N. Jennings, showing the progress being made on the Exposition buildings, were shown, and described by the President. Mr. Jennings also exhibited a remarkable lightning photograph taken by him.

Adjourned.

WM. H. WAHL, *Secretary*.

COMMITTEE ON SCIENCE AND THE ARTS.

[*Abstract of proceedings of the stated meeting held Wednesday, May 3, 1899.*]

PROF. EDGAR MARBURG in the chair.

The following reports were considered :

Plastic Rail-bond for Electric Railways.—Thomas A. Edison and Harold P. Brown, New York.

Acid-blast Method and Apparatus for Etching Metal Plates.—Louis Edward Levy, Philadelphia.

Improvement in Internally-fired Water-tube Boilers.—Robert D. Kinney, Philadelphia.

The foregoing reports were passed on first reading and laid over under the rules for final consideration at the next stated meeting.

The following reports were passed finally :

Chimneys for Incandescent Lamps.—Ernest M. White, Philadelphia. A protest against the Committee's report was filed by applicant. Considered by the Sub-Committee. The Sub-Committee decided to reaffirm its report, and recommended that the protest be dismissed. Approved.

Improvement in Pipe-joints.—Clinton A. Higbee, Philadelphia.

ABSTRACT.—The Higbee pipe-joint consists of a taper thread, the section of same being of the truncated V variety, but the ridge of the throat is truncated to a greater extent than the base, so that a space will be left on the ridge of both the male and the female thread when the joint is made. It is claimed that a flow of metal will take place when the thread is forced up, which will have the effect of filling the remaining space, producing a better joint than it is possible to obtain with the standard V-threaded pipe-joint.

The invention is the subject of letters-patent of the United States to Clinton A. Higbee, No. 597,000, January 11, 1898, to which reference is made for additional details.

The Sub-Committee charged with the investigation of the merits of this invention decided to institute comparative tests of this joint with the standard joint without the use of any paste, such as plumbers use for closing the minute leaks due to imperfections of the joint. As the result of three separate tests of this nature, the conclusion is reached : (1) That neither the Higbee joint nor the standard joint is likely to give satisfaction without the use of some paste ; and (2) that there is no material difference between the Higbee and the standard pipe-joint. [*Sub-Committee*.—Hugo Bilgram, Chairman ; L. L. Cheney, J. Logan Fitts.]

Contribution to the Physics of Thermo-Chemistry.—Gustave Westman, Jersey City, N. J.

The Sub-Committee finds that while the thesis is intelligible, it is improb-