the boiler required cleaning, and would rather favour, than retard, the process of making steam.

The bursting of the boiler of the *Ætna*, was attributed to the supply-pipe being choked. To this then, the theory is perfectly applicable.

Your obedient servant,

ERSKINE HAZARD.

Philadelphia, April 16th, 1827.

FRANKLIN INSTITUTE.

THIRTEENTH QUARTERLY REPORT.

At a meeting of the Franklin Institute, held at their Hall, on the 19th of April, 1827, the following Report of the Board of Managers was read, and accepted.

PHILADELPHIA, APRIL 19, 1827.

In accordance with the laws of the Institution, the Board of Managers of the Franklin Institute of the State of Pennsylvania now present to the general meeting, their thirteenth Quarterly Report.

Since the period of the last quarterly report, the several courses of lectures, on Mechanics, Chemistry, and the Natural History of the Earth and of Man, have terminated, having been continued regularly throughout the season. Besides the subjects included in these regular lectures, several others have been treated, by members who have volunteered for that purpose. Mr. Jno. Finch, a gentleman distinguished for his knowledge in Geology and Mineralogy, has recently commenced a series of lectures upon those subjects, to which the members of the Institute have free admission.

At the commencement of the lecturing season, the courses were all very well attended, but as they proceeded, much inconvenience was experienced from the indecorous conduct of a considerable number of boys, whose only object in attending must have been amusement, as many of them were wholly disinclined, and others too young, to derive benefit from the lectures. Owing to this circumstance, a large proportion of the senior members declined attending, as the courses advanced. The Board have been extremely desirous of extending to the younger classes of the community, the advantages offered by the lectures delivered in the Institute; but after fairly trying the experiment, they will find themselves compelled to restrict their attendance, within much narrower bounds than heretofore.

The High School of the Institute continues with its full complement of pupils; and its discipline, and course of instruction, are in a state of progressive improvement. An examination of the scholars was held before the committee of Instruction, in the beginning of this month, which was found very satisfactory. It is intended to hold a public, and thorough, examination at the close of the session in July.

Since the last meeting of the Institute, a final settlement has been made with the contractors for the Hall. Some additions to the build-

ing are yet required; such as iron railing in the front and along the sides, which were not included in the contract; these will be completed, as soon as the state of the funds will justify it.

It has been determined to place iron pillars under the girders in the lecture, and court rooms; for although no danger is apprehended of their breaking, they have not been found to possess sufficient stiffness for rooms so large. There was a novelty in the mode of trussing these girders, respecting the efficiency of which there was, in the first instance, considerable contrariety of opinion; they were, however, after much discussion, finally adopted, but it must be confessed that the experiment has not been found a successful one. The necessary alterations will not be attended with any considerable expense or inconvenience.

The Treasurer's report, which is herewith presented, exhibits a balance in hand amounting to \$148 75.

By order of the Board of Managers.

CLEMENT C. BIDDLE, *Chairman*.

THOS. P. JONES, *Secretary*.

Report of the Committee of Inventions, of the Franklin Institute, on the plan of a Floating Dry Dock, invented by EDWARD CLARK, Civil Engineer.

The Committee of Inventions of the Franklin Institute who have had under examination the plan of a Floating Dry Dock invented by Edward Clark, civil engineer, of New-York, report—

That this dock is proposed to be constructed by forming a float of timber, which is intended to constitute the bottom of the structure, and which by its buoyancy, is to support a vessel, within the dock, with its keel above the surface of the water; to attain this end, the float is to be made in the form, of a large hollow box, formed of strong logs, firmly joined together, and calked so as to render it water tight; the capacity of the hollow part must be such that when exhausted of water, by means of pumps, it shall be sufficiently buoyant to sustain itself, with its load. The Committee annex to this report a drawing of the proposed dock, with its appurtenances, which, with the accompanying references, will be sufficiently explanatory of the design.

Whilst the Committee award to the inventor much credit for the ingenuity which he has displayed, and are convinced that it is practicable to construct a dock upon this plan, and that the piers, supports, and braces, are well calculated to give all the stability to the structure of which it is susceptible, they are of opinion that great practical difficulties would present themselves in the construction and use of this dock, as well as in others which have been projected with similar views.

The Committee do not deem it necessary to enter into calculations to estimate the dimensions of the float requisite for a large vessel, the size and weight of the materials to be employed, and the capacity of its chamber; the data for these calculations being within