

handle, but fifty-sixes, buckets of water, coal scuttles, sand-bags and small boys, may all come in play on occasion.

*Gas holders*, such as are represented in Figs. 5 and 6, may be next mentioned. As fixtures in a laboratory (*i. e.*, only to be moved about the room in which they are used) these are very convenient. They are absolutely tight, so that a supply may be kept on hand for any time, without loss or deterioration, while in the best gas bags a month's storage seriously impairs even oxygen.

No handling of heavy weights is required, as that producing pressure may be left on permanently, and if removed, is relatively small. The pressure during use is absolutely constant, and the whole apparatus practically indestructible. The pattern here shown, is that furnished by Mr. Ritchie, of Boston, who is so widely known by reason of his great improvements in the Induction Coil.

Fig. 5 shows an elevation of a pair of these gas holders mounted on a movable platform which runs on castors, and may thus be easily transferred from one part of a room to another. Fig. 6 shows a section of one holder with the attachment of a blow-pipe.

(To be continued.)

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## Franklin Institute.

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Proceedings of the Stated Monthly Meeting, March 20th, 1867.

THE meeting was called to order with the President, Mr. J. Vaughan Merrick, in the chair.

The minutes of the last Stated and Special Meetings were read and approved.

The Actuary submitted the minutes of the Board of Managers, and reported that, at their stated meeting, held March 13th inst., donations to the Library were received from the Royal Astronomical Society, the Royal Geographical Society, the Statistical Society, and the Society of Arts, London, England; L'Academie des Sciences, Paris, and la Société Industrielle, Mulhouse, France; the Smithsonian Institution and Chas. Colné, Esq., Washington, D. C.; S. S. Garrigues, Esq., Lansing, and the Board of Water Commissioners, Detroit, Michigan; Managers of the State Lunatic Asylum, Utica, New York; Trustees of the Gas Works and Messrs. Wm. I. Mullen, Frederick Fraley, George Erety and Samuel V. Merrick, Philadelphia.

The various Standing Committees reported their minutes.

The Special Committee on Experiments in Steam Expansion reported progress.

The Special Committee on General Totten's letter, relating to the appointment of a Government Bureau of Mechanical Examination and Experiment, reported as follows:

The Committee appointed to consider the scheme for the establishment of a "Permanent Examining Board for the Army," as proposed in a letter from General Totten, respectfully

#### REPORT

That they consider that the establishment of such a Board would be beneficial to the interests of the government and the public, but that in the proposed form it would be too expensive, as it involves the time and services of the most useful and accomplished officers, and of a large number of assistants, while there might frequently be times at which there would be no business for the Board to do.

It is also suggested that the National Academy of Sciences, which numbers among its members several officers of the army and navy eminent for their scientific attainments, was established for the expressed purpose, among others, of examining into matters referred to it by any department of the government, and this it is constantly doing by its Committees. Provision is made for the addition of persons not members of the Academy to these Committees, and in this way the services of any officer may be secured. By the law, no compensation can be paid to the members of the Academy; but this does not extend to the added members of the Committees, and any amount of money may be furnished by the government for the expenses of experiment.

For the more elaborate investigation of any invention that has been favorably reported on, a special Board of officers may be convened at any of the arsenals or navy yards, at most of which great facilities exist for experimenting on a large scale.

There has been for some time in existence in the navy department a "Permanent Board or Commission," composed of not more than five members, scientific officers or civilians who happen to be residing in Washington, to whom inventions are referred, and through whose hands an immense number have passed.

A Board of the same kind, composed of officers of *both* services, together with civilians, might be readily established at a mere nominal

cost. It must be borne in mind, that the large proportion of inventions brought forward are entirely worthless, and can be disposed of very quickly, while important ones can be referred to special Boards or Committees.

The Committee, therefore, offer the following resolution :

*Resolved*, That while in the opinion of the Institute, it is desirable that there should be some way by which inventions, touching either the military or naval services, could be promptly examined and disposed of, the plan proposed by General Totten, of establishing a permanent Board, is too elaborate and expensive, and that it would be better to refer such inventions, first, to the National Academy of Sciences, or to a small permanent Board such as described in the latter part of the report, and then, if necessary, to a special commission of officers and others, ordered for the purpose of more thorough investigation.

Respectfully submitted,

FAIRMAN ROGERS,	}	Committee.
WM. J. HORSTMANN,		
HENRY G. MORRIS,		
J. S. WHITNEY,		
J. VAUGHAN MERRICK,		

The Special Committee to prepare a memorial to Congress with reference to the establishment of a Uniform Code of Danger Signals reported progress.

The Special Committee appointed to attend the obsequies of Prof. Bache reported that they had fulfilled the duties required of them, and were discharged.

The Committee on an ordinance to provide for the inspection of steam-engines and boilers reported their minutes.

The paper announced for the evening on Ground Batteries, by Mr. A. G. Ballantyne, was then read, and various remarks were made upon the same by Professor Robert E. Rogers, Mr. Coleman Sellers and others.

(The abstract of this paper, and of the accompanying remarks, will be published in the next number of this *Journal*.)

Various communications were then made by different members on various subjects, an abstract of which will be found under the appropriate heads in the editorial department.

The meeting was then, on motion, adjourned.

HENRY MORTON, *Secretary*.