

was selected as the basis for the estimation of their comparative value; and after several trials with various kinds of natural and manufactured gelatin, such as varieties of isinglass, glue, patent gelatin, &c., the finest long staple isinglass was found to be the most constant in its quality, and least liable to undergo change.

With this, therefore, the test solution was prepared, of such a strength, that each division, by measure of the ordinary alkalimeter tube, should be equivalent to the one-tenth or one-fourth of a grain of pure tannin, and thus the number of divisions used would indicate the proportion of available tannin or substance precipitable by gelatin contained in any specimen. A given weight of the sample under trial was then infused in water, or if necessary, the astringent matter extracted by boiling, and the clear liquid precipitated by the test solution, until no further deposit occurred.

It was necessary in the course of this operation, to test at intervals a portion of the solution under examination, to ascertain the progress of the trial; and this, from the nature of the precipitate, was attended at first with some little difficulty: paper filters were inadmissible, from the quantity of the solution they would absorb, and thus introduce a source of extensive error; subsidence rendered the operation very tedious. The plan I have adopted is as follows:—a piece of glass tubing, about twelve inches in length and about half an inch internal diameter, is selected, and this has a small piece of wet sponge loosely introduced into its lower extremity, and when it is wished to abstract a part of the fluid under investigation for a separate testing, this is immersed a few seconds in the partially precipitated solution; the clear liquid then filters by ascent through the sponge into the tube, and is to be decanted from its other extremity into a test glass; if, on adding a drop of the gelatin solution to this, a fresh precipitate is caused, the whole is returned to the original bulk, and the process proceeded in, and so on until the operation is perfected; this method of operating is facilitated by conducting the examination in a deep glass. After a few trials the manipulation will be found extremely easy, and in this way considerable accuracy may be arrived at.

Chem. Soc. Mem.

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## FRANKLIN INSTITUTE.

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### *Monthly Meeting, January 20, 1848.*

After reading the minutes, and the correspondence received, donations were announced from the Zoological Society, London; Thomas Clemson, Esq., Brussels; Eben N. Horsford, Cambridge, Mass.; Pennsylvania Railroad Company, Union Canal Company, S. W. Roberts, Esq., T. H. Forsyth, Esq., and John Lenthall, Esq. Foreign and domestic exchanges for the Journal, were also announced. Reports from the Treasurer and various committees were received—new members proposed—and those proposed at last meeting elected.

On the report of the Committee on Exhibitions, the following resolution was adopted:

*Resolved*, That a First Premium be awarded to Jordon L. Mott, of New York, for Cooking Range No. 1784, shown at the last exhibition—a premium not having been awarded by the Committee at that time, under the impression that it had received a premium at the previous exhibition, which was not the case.

Communications on subjects connected with science and the arts, being next in order—

*Mr. C. W. Chapman* exhibited to the meeting a machine for sharpening tools, which he calls "the Universal Instrument Sharpener," and explained the mode of its operation. By a compact and ingenious arrangement of machinery, the foot of the operator communicates, at the same time, if required, a rotary motion to a vertical and to a horizontal grinding stone, and also a vibratory motion to a hone for finishing the edge. The stones may be easily changed, and coarser or finer ones substituted; or polishing wheels, if desirable. Adjustive rests and bevel plates are so adapted and regulated by scales, as to enable the grinder to give any desirable bevel to the edge, and to maintain it throughout. Feeders for water and oil are so arranged as to supply the stones, and keep them clean. The machine may also be applied to grinding porcelain, and cutting glass, or other hard substances. The axle of the vertical stone is terminated by a socket, into which drills may be inserted. So compact is the machinery for producing all the different motions, that it occupies little more than a cubic foot of space.

*Mr. M'Comb*, of Mississippi, exhibited a machine for pressing cotton, hay, tobacco, or hemp, intended to be worked by horse power. The horse is attached to a horizontal bar, fixed in a perpendicular shaft, around which winds a strong rope, fastened to toggle joints in two upright bars, on opposite sides of the revolving shaft. As these joints are drawn, by the rope, towards the shaft, the upward extension of the jointed bars forces up the moveable bottom of the box containing the material to be operated upon, and thus communicates the required pressure. The machine appears to be well calculated for working expeditiously and effectively. The inventor states that forty bales of cotton may be pressed in a day, with the same number of hands required for ten or twelve bales, by the ordinary method.

He also showed a model of a device for raising vessels when aground, called a Steamboat Spar, operating on the toggrel joint principle, and explained the mode of its application.

*Mr. G. W. Smith* called the attention of the meeting to specimens of manufactured Gutta Percha, by Mr. Willmarth, of New York. One of these was a sheet of the pure material, thin as paper, and somewhat similar, in appearance, to the finest oiled silk. Being impervious to water, it may be applied to many useful purposes, such as lining hats, shoes, and other articles of wear, covering the stoppers of bottles, and a variety of other uses. Mr. S. referred to its electric properties, which he had found to be very remarkable. He also exhibited a pair of shoes lined with this article, the soles of which were

also thickly coated with gutta percha. They had been worn for several weeks with satisfaction, and were not found so liable to slip in wet weather, as shoes prepared from caoutchouc. The use of gutta percha, for a great variety of purposes, promises to become extensively beneficial.

The notice of the members was next directed to specimens of *Chloroform*, a chemical preparation recently brought into use as a substitute for sulphuric ether, in producing insensibility to pain during dental and surgical operations. Some discussion ensued, between Prof. Frazer and Mr. Smith, relative to the history of this article, and its identity with the preparation by Dr. Guthrie, called Chloric Ether, noticed in Silliman's Journal, January, 1832.

A sample of chloroform from Paris—another by E. Roussel, of Philadelphia—and a third by Farr, Powers & Weightman, of Philadelphia, were each administered to three different gentlemen present, who voluntarily submitted to the experiment, in order that the effect of this article might be witnessed by the members present.

On the report of the Judges, the President declared the following gentlemen duly elected Officers, Managers, and Auditors, for the ensuing year:

*President*,.....SAMUEL V. MERRICK.

*Vice Presidents*,..... THOMAS FLETCHER,  
ABRAHAM MILLER.

*Recording Secretary*,.....ISAAC B. GARRIGUES.

*Corresponding Secretary*, SOLOMON W. ROBERTS.

*Treasurer*,..... JOHN F. FRAZER.

*Managers:*

JOHN STRUTHERS,	THOMAS S. STEWART,
M. W. BALDWIN,	OWEN EVANS,
FREDERICK FRALEY,	CORNELIUS A. WALBORN,
JOHN AGNEW,	ALAN WOOD,
JOHN WIEGAND,	JOHN E. ADDICKS,
SAMUEL HUFTY,	WILLIAMS OGLE,
JOHN C. CRESSON,	ASA WHITNEY,
A. W. THOMPSON,	ISAAC S. WILLIAMS,
THOMAS U. WALTER,	EDMUND DRAPER,
JOHN H. TOWNE,	WILLIAM E. MORRIS,
EDWIN GREBLE,	WILLIAM P. CRESSON,
DAVID S. BROWN,	JAMES P. ELLIS.

*Auditors*, { S. BYERLY,  
JOSEPH CRESSON,  
ALGERNON S. ROBERTS.