iments. The folly of such a mode of procedure is plainly shown by the frequent failures of such structures. Manufacturers and builders are being brought face to face with the fact that in order to be able to place any degree of confidence in the materials employed, they must be subjected to such tests as shall determine their strength in the particular places which they must occupy, and under the peculiar conditions which must exist in the completed structure. The importance of the above is most forcibly demonstrated by the fact that the grand medal of honor offered by the Massachusetts Charitable Mechanic Association "for the invention most conducive to human welfare" was this year awarded to Mr. A. H. Emery for his testing machine at the Watertown Arsenal.

WILLIAM BARTON ROGERS, the second son of four in a family noted for its scientific acquirements, was born in the city of Philadelphia, in the month of December, in the year 1805. His early education was under the immediate charge of his father, but was continued later, though largely under the same guidance, at William and Mary College.

At the early age of 21, we find him delivering at the Maryland Institute, Baltimore, his first lectures on science, and one year later he succeeded his father as professor of natural philosophy and chemistry, at William and Mary College. About eight years later, in the year 1835, he accepted the appointment to the chair of natural philosophy in the University of Virginia, and it is here also that he first began instructing in mineralogy and geology.

During the years between 1835 and 1842 he was at the head of a geological organization, which made a survey of the State of Virginia, and published annual reports upon the same, together with much valuable material which had been carefully collected. This period of his life was a very busy and attractive one, much of his time being given to original work in the field of geology, and largely also in the science of chemistry and physics.

Prof. Rogers, while a member of the Association of American Geologists, was elected a number of times its chairman, and took an active interest in all its proceedings, contributing many valuable memoirs to its transactions. He presided at the meeting which expanded this last-mentioned society into the "American Association for the Advancement of Science."

In 1853, Prof. Rogers removed to Boston, where he at once identified himself with the prominent and still growing educational interests of the city.

In connection with a committee of gentlemen, no less interested than himself in the establishment in Boston of a school which should place the teachings of science upon a more practical plane than had hitherto been attempted, he drew up a scheme entitled "Object and Plan of an Institute of Technology," and embraced therein also a school of industrial science, a museum of arts, and a society of arts.

To the accomplishment of this purpose Prof. Rogers bent every energy, and at length a charter from the State was granted, providing the land upon which the Institute buildings now stand. Subsequently, the plans prepared by Prof. Rogers were almost completely carried out; and he, more perhaps than any other one man, brought about that admirable system of teaching which so characterizes the Institute, and which finds its place in the laboratories.

Prof. Rogers's connection with the Institute has been a most prominent one. Connected with it in its very conception, he occupied the chair as president for many years, and at the start was at the head of the department of physics and geology.

As a speaker and lecturer Prof. Rogers stands almost unmatched. Earnest in manner, profound in wisdom, clear and concise in thought, his lectures and addresses interest and even arouse an audience to such an enthusiasm as only our most eloquent orators succeed in doing. To his high and extraordinary scientific attainments is added a personality which, by its integrity, its earnestness, its simplicity, its