

Advantages of Steel.—Dr. Siemens, whose thorough competence is universally known, claims that in every case when strength and magnitude are both required the use of steel is without a rival. He asserts that even for an ordinary house steel gives more security than wood, is six to eight times as strong, and costs less. He thinks that before many years elapse we shall see steel introduced into buildings of all kinds, and that it will gradually supplant iron, in the same way that iron already tends to take the place of wood.—*L'Echo Industr.* C.

Relations between Chemical Mass and Heat of Combination.—Berthelot finds that the elements which belong to any group, when they unite with any given simple body in order to form comparable compounds, set free quantities of heat which vary inversely with the chemical mass; the stability of the compound decreases in the same ratio. The decrease sometimes extends even to the change of volume which is produced by the combination of solid elements, when they form a solid compound. We are thus enabled to investigate the mechanical significance of the various relations.—*Comptes Rendus.* C.

Book Notices.

A COURSE ON THE STRESSES IN BRIDGE AND ROOF TRUSSES, ARCHED RIBS AND SUSPENSION BRIDGES. Prepared for the Department of Civil Engineering at the Rensselaer Polytechnic Institute. By William H. Burr, C.E. 8vo. New York: John Wiley & Sons, 1880.

Any one who has been through that Institute can realize the advantage given to the student by a work of this kind, a text-book prepared by his own instructor, adapted by him to the course which he teaches, arranged according to the methods and nomenclature of that instructor and considering just those subjects which he feels to be most important for the present wants of his pupil. This was particularly the case in the writer's day, when the lecture system was so largely used, and a work of this kind, especially at a time when few, if any, books on the higher branches of engineering were published or accessible, would have been, indeed, a great boon. How far this want now obtains, and