STRAINS IN TRUSSES.

In the following discussion of this subject no attempt will be made to go beyond the ordinary forms in constant use, since to do so would be foreign to the object of the writer, as explained in the preface. So many excellent treatises have been written on this subject, that any student desirous of going beyond these elementary pages has a large field to choose from. Probably the best general work on the subject is that of Mr. S. H. Shreve (published by D. Van Nostrand, New-York), inasmuch as the method of analysis therein adopted refers all forms of trussing to the principle of the lever, no special analysis being employed for each case as it arises. The development of a subject from one simple root or principle permits of an intellectual grasp of that subject impossible to attain by the discussion of its separate topics in an independent manner, even if independent analysis were more readily performed. It is not one of the least of the beauties of the method of the lever that, its elementary principles being once mastered, it can be immediately applied to any system of trussing without reference to formulæ, and is therefore an immense relief to the memory. It is believed that in the previous discussion of the strength of beams, the principle of the lever has been so thoroughly kept in view that its application to truss forms will be readily appreciated. Before so applying it, however, it is necessary to explain some elementary ideas of the composition and resolution of forces.