THE

ISOMETRICAL TRUSS.

We propose in the following pages to give a brief description of the peculiarities of a combination in bridge construction, to which the name of The Isometrical Truss has been applied; and to the proper understanding of the same, it will be necessary to look somewhat in detail into the general theory of strains in girders having horizontal flanges.

The writer approaches a subject, which in its entirety involves so much to interest the engineer, with caution, and, it is to be hoped, a due proportion of modesty. The object to be attained is simply truth; and if in this attempt, a just and searching criticism shall have demonstrated the fallacy of the views expressed, some good will at least have been done in exposing the errors of a few for the benefit of all.

The general laws regulating the action of strains in a beam supported at both ends and loaded throughout its length, have been thoroughly investigated by some of the most eminent physicists of the day. And it may not be premature to assume that the conclusions arrived at are briefly as follows:

All beams uniformly loaded and supported at both ends, are subjected to horizontal and vertical strains. The horizontal strain is a maximum at the central cross section, and decreases toward each point of support in proportion