

The Arched Truss, (Whipple's Patent).

This Truss, (see P's. 66, *et seq.*), has not been put in comparison with the four preceding plans, for the reason that there are such conditions affecting its Economy and Usefulness, outside of the amount of action of load upon Constituent Material—conditions not affecting trusses with paralel chords in like manner and degree, that much less can be predicated as to its relative merits, upon the criterion of such amount of action, as compared with the latter, than in relation to the latter, as compared with one-another. Hence, while the results of analysis, as given in reference to Figs. 7, A, & 8, shew considerably more action upon material in case of Fig. 8, Experience, thus far, has proved that the Arch Truss has advantages of a practical nature, which have enabled it to cempete successfully, as to economy and convenience of construction, with all other plans of iron trusses, during a quarter of a century, which has been fruitful in efforts at improvement in Iron Bridge Building. In fact, it is hazzarding little to say, that for the class of bridges it was originally designed and recommended for, & with trifling modifications from the original pattern, it is now the most popular plan of Iron truss in use; as well as in the most extensive use.

The peculiar advantages of this truss are, simplicity & facility of construction, ability to support itself laterally, and absence of long thrust pieces sustaining slight compression.