CHAPTER V.

STRESSES IN TRUSSES.

THE length of span having been decided by considerations of both necessity and economy (*vide* Chapter XV.), and the width of roadway by the requirements of travel, there remain to be determined, before making out the diagram of stresses, only the style of intersection, panel length, and depth of trusses. These matters are fully treated in Chapter XV. Meanwhile, the style of intersection may be settled by remembering that the single is more expensive than the double, and that the inferior limits of the latter for the different classes of bridges and different clear roadways are given in the table on p. 8. The most economic panel lengths and depths of truss for locations where long timber is expensive, and, in fact, for nearly all locations, are to be taken from Table IV. For locations where long timber is very cheap, there can be made a little saving in the iron-work by using Table V. instead of Table IV.

As is customary in figuring stresses, uniformly distributed loads are to be considered as concentrated at the panel points; and the half-panel load at each end of the truss is not supposed to produce any stress in any member of the truss.

The first step in making a diagram of stresses is to fill out one of the following tables of data:—

SINGLE INTERSECTION.	DOUBLE INTERSECTION. Even Number of Panels.	DOUBLE INTERSECTION. Odd Number of Panels.
$n =$	$n =$	$n =$
$l =$	$l =$	$l =$
$d =$	$d =$	$d =$
diag. =	short diag. =	short diag. =
sec θ =	long diag. =	long diag. =