BRIDGES WITH PARALLEL CHORDS.

Holes should be cast in the central part of the post, for diagonals to pass obliquely through. Or, what is perhaps better, the connecting bolts may be lengthened so as to permit the insertion of an open box, or frame, between the flanges, as seen at a, Fig. 37. This intermediate piece should be so constructed as to close the ends of the hollow pieces meeting it, and prevent the water from getting inside.

The top end of the upright is forked, with concaves for the connecting pin to rest in, as described in the last section, and as seen at a, Fig. 38. The cap piece of the post may be cast separate, or in connection with the upper half of the column. Both plans have been satisfactorily used. All joints, when practicable, should be accurately fitted by turning or planing.

This plan of a cast iron upright, composed of two principal parts, with or without the centre piece, is perhaps as good as any for general use; the principal disadvantage being the difficulty of giving a sufficient diameter in the middle for stiffness, without too much reducing the thickness of metal, or increasing the amount of cross-section beyond the proper theoretical proportions.

To obviate this difficulty, the device adopted in the original model of the Trapezoidal bridge, was that of using truss-rods, or stiffening rods, to secure the post against lateral deflection, after the manner shown in Fig. 38.

In the case of using stiffening rods for the uprights, it may be recommended to form each half of the column in two pieces, somewhat in the manner above described for the whole one, without stiffeners; making the piece forming the end portion about 4th shorter.