Cancelled Truss Bridge.

LIX. For a general view of the truss, see Fig. 7, page 12.

In this plan the part a.o.i.h is composed of hollow cast iron cylinders, similar to those composing the arch in the last described truss, but not beveled at the ends, except at o,i.a, and h. The chains ah also, are formed and connected in the same manner; but the links of the chains increase towards the middle of the truss, as shewn to be necessary in reference to Fig. 7. The verticals act only by thrust in this plan, and consequently are of cast iron; may be tubular, or of a x formed cross section, larger in the middle, and tapering towards the ends; the upper end forked, as in the verticals of the cylindrical arched truss above described. The lower end may be cast with a wrought iron screw, and connect with the cross bearer, lateral braces and chain pin, precisely as in the said arched truss, in case of the cross bearers being placed in that position. The same manner of securing the trusses laterally, and preventing lateral swing may be adopted.

The diagonals are connected at both ends in the same manner as in the cylindrical arched truss, except that the main diagonals, or those which act when the bridge is loaded uniformly, and which are shewn by the dotted lines in Fig. 7, are in pairs, (with the counter diagonals between them,) and larger towards the ends, as the stress increases in those parts. The cross bearers are made in the same manner as above described for the cylindrical arched trusses.

The cancelled, tapezoidal truss, if rightly proportioned, is from 5 to 10 per cent cheaper than an arched truss of the same strength, and for rail road bridges, is generally to be preferred.

It is decidedly preferable when the track may be placed on a level with the top of the trusses, in which case, the distance between trusses need not exceed the 10th part of the length of span. Hence a considerable amount of