cable without too much attenuation of the thickness of material, a point upon which no certain rules can be given.

Flat plates, when connected by riveting at the edges, may be of a width of 30 to 40 times the thickness perhaps, without liability to "buckle" under reasonable compression. When riveted along the centre, a width of 12 to 20 times the thickness, will be in better proportion.

**Upper Chord.**

CXXVIII. A good upper chord may be made in rectangular, or box form, of flat plates and angle iron; or, for small bridges, of channel iron, with flanges either inward or outward, upon the two vertical sides, with flat plates upon upper and under sides; the upper riveted, and the lower one either riveted, or put on with screws, tapped into the lower flanges of the channel bars.

The upper plate, when flanges turn inward, may project half an inch, or an inch, and the lower one, come even with the sides. The channel bars should meet at the nodes, or connecting points, and a splice plate covering the joint may project below the chord far enough to form a connection with diagonals by riveting. (Fig. 44).

Diagonals acting by tension only, may be plain flat bars of width from 8 to 10 times the thickness. Those acting by thrust principally, may be of T iron with short diagonal bars riveted to the mid rib, (c Fig. 44), giving a width corresponding with that of the upper chord, or with the space between tension diagonals, so that the latter may be riveted to the cross-plate of the T iron at the crossings, to give lateral support to