BRIDGES WITH PARALLEL CHORDS.

CXIX. These may be constructed with or without vertical members, and in form, either rectangular, with vertical end posts, or trapezoidal, having inclined end members, or king braces, as exhibited in Figs. 12, 13, 18 and 19.

TRAPEZOIDAL TRUSS BRIDGE, WITH TENSION DIAGONALS AND COMPRESSION VERTICALS.

For short spans, less than 70 or 80 feet long, the simple cancel, as in Fig. 12, will generally be used, with trusses too low to admit of connection between upper chords, except in case of deck bridges.

The same plan of lower chords composed of links and cast iron connecting blocks, may be used, as already described for the arch truss. The connecting blocks are shorter, and may be cast in connection with the upright, or the latter may be in a separate piece. In the latter case, the block should have a suitable seat to receive the upright, and keep it in place.

As the upper chord depends upon the stiffness of the beam and upright for lateral support to keep it in line, the upright should be firmly attached to the beam, and at right angles therewith.

There is no means of estimating exactly the transverse force which the chord may exert upon the upright. But if the ends of chord segments be properly squared and fitted, the lateral tendency will be quite small. It is recommended, that each upright have a transverse strength sufficient to withstand a force of 1,000 lbs. acting at the upper chord; that it have a web and flange form of section, with a width of web at the