the vertical bolt as seen at a. The vertical bolts have two
nuts at the lower end, (one above and the other below the
chain and diagonal,) and at the upper end, a countersink,
or a common bolt head, with a key or nut below the arch
piece and the diagonal; the diagonal being a 5\,\text{or} \, \frac{3}{4}\text{ inch}
rod with an eye at each end, and bent so as to suffer the
vertical to pass square through.

In case a nut be used under the upper end of the diag-
ornal, the vertical must be enlarged by upsetting or other-
wise, where the thread is cut, so that the nut may slip up
from the bottom, or the head at the top must be replaced
by a nut.

The arch piece has a T formed cross section, with such
enlargements where the bolts &c. pass through, as to pos-
sess the same strength as at other parts.

The verticals of the main trusses may be of round bolt
iron, with a wrought iron brace as shewn on the right
hand side of the figure, or formed of two flat bars of wrought
iron, (as seen edgewise on the left hand of the figure,) with a thin cast iron plate edgewise between, forming an
H formed cross section, the two sides wrought, and the
cross, cast iron, broad in the middle and tapering to the ends,
the whole secured together by rivets or bolts passing
through the wrought bars, and either through the cast
iron mid-rib, (transverse holes and extra thickness at the
holes, being cast in it for that purpose,) or on one side
and the other alternately. The lower end of the vertical
should terminate in a round part and screw to pass through
the cross bearer, and enter the chain pin as before stated,
and the upper end, forked and punched to connect with
the arch cylinders of the longitudinal trusses.

When the vertical is formed in this way it will have
more stiffness, and the supporting brace need not connect
so near the top, but may be of wrought or cast iron, con-
necting with the vertical 3 to 4 feet or more from the bot-
tom, and with the arch piece of the cross bearer, near the
angle where the rail is placed. The brace may be cast
in the same piece with the arch.