

near the links, either inside or outside, as may be deemed most appropriate, with a thin nut above & a common nut below the block; also, a washer above the upper nut, for the beam to rest upon, instead of resting upon the middle of the block, as in the case of single uprights. The double uprights are designed to aid in steadying the arch.

A good effect in the same direction is produced by connecting the upper ends of those uprights, across from truss to truss, in case of long bridges.

For this purpose, the upright may extend a little above the arch, when necessary to give head-way, and a light cast or wrought iron strut introduced, to counteract the tendency of the arches to vibrate, arising from the spring of the beams. As the two trusses naturally tend to vibrate in opposition to each other, it is suggested whether simple ties of 3 quarter inch iron, would not so break the regularity of the vibrations, as to prevent their increase to an objectionable extent? The rigid strut, however, would be more effective, being capable of acting in both directions; and if thrown into the form of a graceful arch would be ornamental withal.

### Note 22, To Art. LIV. Page 69,

Twenty five years ago, when the writer's attention was first directed to the subject of Iron Truss-Bridges, it was not thought advisable to attempt more than the construction of Iron Trusses, to be used in connection with wooden Beams, Joist, &c;