These rods being strained out by short screw struts as seen at $g.g$, give stiffness to the piece between the centre and the ends, and being wedged, or otherwise made fast to the crossing diagonal $e.f$, in the centre, are in a condition to resist a crushing force to advantage. The wrought iron rods should be sufficient to sustain whatever tension the piece may be exposed to.

Those diagonals which act slightly by thrust, but principally by tension, may be of round wrought iron rods, of sufficient size to sustain any force that may act upon them, and should be so connected as to act by either tension or thrust, without play or motion in changing from thrust to tension, and the contrary; and for this purpose the eye at the upper end should be made snug to the connecting pin by wedging, if necessary, and the lower end, passing through the chain pin, should have a nut on both sides. These pieces passing through those above described, in the centre, are secured at that point, and thus, the better enabled to stand the small thrust they are liable to.

Before constructing a bridge on this plan, it should be considered whether the track is to be at the top or bottom. Then the kind and amount of stress upon each part, due to the weight of the structure, should be ascertained, and these forces added to, or subtracted from (according as the signs are like or unlike,) the maximum effects due to the variable load, will shew the forces each part must be capable of sustaining, and the construction may be proceeded in with confidence.

These trusses may be used with either wood or iron cross bearers, and when not high enough to be connected across the top, must be supported laterally, by braces or guy rods from the cross bearers to the cylinders. When the track is on the top, the same arrangements for lateral support may be used as in the case of the truss with vertical struts.

The preceding details, it is hoped, will be found sufficient to enable the advantages and excellencies previously