A very excellent floor is one made with brick arches turned between the beams, and laid in cement mortar, very similar to the ordinary fireproof floor (see Fig. 23).

![Fig. 23. Beam-Bridge—Telford Pavement on Brick Arches.](image)

The arches are levelled off with concrete, and the paving, or Telford, laid on the concrete surface previously coated with asphalt. For these bridges, solid rolled beams or compound plate-girders are used, spaced from 3 to 5 feet apart, with tie-rods at intervals connecting their lower flanges. The compound beams, not being restricted in depth, and costing less per pound, will usually be found the most desirable. The temptation to use thin web-plates in such girders, from motives of economy, should be avoided, as a percentage of rust must be provided for, either on account of possible neglect, or from carelessly-laid brick-work and concrete, allowing water to trace in alongside of the inaccessible plates. Before brick arches are turned, a further precaution than those named should be used, and that is to thickly coat the girders with a tar paint of some kind. Perpetuating the life of iron-work is very often simply a matter of inexpensive, preliminary precaution, which, if once realized, would be oftener put in practice than it is.