as to stiffen the bridge transversely by a king post and iron tension bars.

The floor plank is to be three and one half inches thick.

The railway and the space within the railways will be covered with a fire proof coating of some concreted substance, to prevent accidents that might otherwise happen from the sparks from locomotives.

The parapets are to be composed of four tiers of fifteen inches square timber, suitably tree-nailed together; each piece being jointed with ship laps, so as to form a continuous piece the entire length of the bridge.

Below the parapets and under the floor beams, three string timbers are to be fastened, the same as the parapets inverted. They are to be tree-nailed and jointed in a similar manner, and are to be secured to the other parts by bolts of iron of proper dimensions, which are to be put through the entire side including the cap, parapet, cross timbers and lower strings, in addition to which knees as represented in sheet N°. 4, are to be secured inside and outside the lower string timber and outside the parapet, making it like the sides of a heavy ship.

I am indebted to Mr. Ellet, of Philadelphia, for a part of the outline of this cross-section of the roadway and parapets.

The framing composing the parapet and string timbers is sufficiently strong to sustain its own weight for about five hundred and fifty feet, if considered as a beam supported only from either end.

Under the track strings, two additional longitudinal timbers for the purpose of stiffening this part of the bridge, and adding weight, are to be secured.

The roadway thus formed will be amply sufficient for any purpose for which it may be required.

The roadway is to be supported from suspending rods of