The main arches, or top members, are to be of "Phœnix" columns of wrought iron, 30 inches in external diameter, put together in straight pieces, each one panel in length, except where the openings for rail and roadways occur. At these they will be at least two panels in length, and the adjoining joints in the contiguous columns will be likewise additionally strengthened.

The lower members, or counter arches, are made of plates and angles, riveted together so as to form channel beams. The web members are 10 inch channel bars, attached to the upper and lower arches by pin connections. These form between the piers two semi-arches or "lunettes," the thrusts of which are mainly carried to the foundation by the braced continuation or arched strut already mentioned.

The piers, which are composed of Phœnix columns, and braced both transversely and diagonally, are designed to take only such strains as may come upon them from unequal loading of the arches and a portion of the strain from wind pressure. These strains are alternately compressive and tensile, and the piers are therefore designed to resist compression as well as tension, and to be anchored to their foundations.

The floor system consists of iron cross-floor beams two feet deep, made of plates and angle irons, and of longitudinal stringers fifteen inches deep. The cross-floor beams are suspended from the arch by flat bars of varying length latticed together, the longest suspender being at the centre, and eighty feet long. The floor is divided by four ribs or arches into three roadways of equal width, the central one being occupied by the railroad and the outer ones by the roadways and sidewalks. This is a convenient arrangement for a single track road, but if a second track is to be hereafter added, provision must be made for it now by building the outer arch strong enough to carry the increased load hereafter to be thrown upon it. The cost of this is estimated by the designers at $151,000. The total width of the structure is fifty-seven feet from out to out, thus affording good opportunity for lateral bracing.

As was to be expected from the known experience and ability of this firm, the plans are very thoroughly and carefully worked out in all their details; the strain sheets, calculations and computations, so far as submitted, are found to be correct,