of the same material as the pedestals, and are covered with bronze ornamentation, as shown in Plate XLV. Above the capital rises a blocking piece of the same stone as the shaft, and dying out from the hexagonal form into a square, which is extended upwards in the case of the face columns to a pedestal, rising a little above the hand-rail of the bridge, and forming the pedestal for one of the bronze statues cast by Messrs. Elkington and Sons, of Birmingham. Four of these statues ornament the bridge, representing respectively Art, Science, Agriculture, and Commerce. Upon the abutments ranging with these columns are the pilasters, projecting 2 ft. 6 in. The smaller arch girders over the footpaths are each cast in one length; they are 3 ft. 4 in. deep in the centre, which is 18 in. higher than at the springing. The spandril is filled with the ornamental design shown in the engraving, and each girder is a counterpart of the other, there being no “facing” throughout the bridge. Five feet nine inches above the top member of the girders is the hand-rail of the balustrade, which is itself 4 ft. high, the remainder being occupied with a bold cast-iron cornice 1 ft. 9 in. deep, and projecting 2 ft. 4 in. from plinth of balustrade. In the abutments the smaller girders are built into the brickwork; they rest on their lower flanges for a width of about 16 in. on a thick cast-iron bedplate, and the six main girders of the bridge are coupled together in three groups on each abutment by three abutment girders, built into the wall and secured by means of wedges to the longitudinal girders of the bridge. These coupling pieces are built into the brickwork on their sides so that the bottom flange, which is 18 in. deep, shall abut against the back of the longitudinal girders. Transversely from pier to pier between each pair of main girders is placed an arched bracing girder, shown in the cross section on Plate XLV. These girders are filled with ornamental spandrels, and from the centre of each depends a lamp corresponding in design to the others on the viaduct.

The main girders are cast in two pieces, bolted together in the centre, the arch is curved with a radius of about 90 ft., and the clear headway from the road beneath is 20 ft. 3 in. The design of the ornamental spandril filling is seen in the general elevation, and all the other girders are of similar design. They are arranged in pairs, each pair being 15 ft. 7½ in. from centre to centre, the centres of the coupled girders themselves being 15 in., and as the width of the flanges of the girders is 8 in., there remains a clear space of 5 in. between each pair. The pairs are secured together at frequent intervals by distance pieces, and bolts 1½ in. in diameter, with nuts on the inner side, and cast-iron ornamented heads secured to the ends of the bolts, so as to make a feature on the outside of the bridge. The ends of each of these girders extend to the centre of the pier, where they meet the backs of the shorter girders which span the footway, and to which they are bolted by eight 1½ in. bolts; the structure is thus made continuous from end to end. Cast-iron caps placed above the capital of each of the inner piers serve to conceal the ends of the girders and their junctions, and also to form skewbacks to the bracing girders which extend across the bridge between the columns. The casings are 2 in. thick, and extend up to the under side of the cross girders. These latter are ordinary cast-iron beams 1 ft. 5½ in. deep and 1½ in. metal, resting at their ends upon a central flange on the longitudinal girders, to which they are secured by two 1½ in. bolts at each end. Upon the skeleton of longitudinal and transverse girders, and running in a direction parallel to the former, is laid a platform of corrugated cast-iron plates 2 in. thick, with corrugations 6 in. in depth, and 2 ft. distance from summit to summit. These plates are formed with flanges on each side, by which the plates are bolted one to the other, and secured to girders at each angle. The corrugated plates are covered with a thickness of concrete asphalt which fills up the furrows and covers the ridges to a depth of about 2 in.; on this is laid a foundation for granite pitching in the road, and for the landings of the foot pavements. The latter are each 15 ft. wide, and they are protected by a handsome highly ornamented railing, in panels 4 ft. 10 in. long, and of the design shown in the elevation on Plate XLV. With the exception of the bolts used in the bridge, there has been no wrought iron at all employed in its construction.

The second iron bridge upon the Holborn Improvement is one of insignificant dimensions, and carries the new road over the widening of Shoe-lane, from which point that thoroughfare rises to join Charterhouse-street, near its commencement at the Holborn Circus. The bridge is 30 ft. span, and is built of parallel wrought-iron girders, with cross girders, and floored with buckled plates.

On the eastern side of Farrington-street, the London, Chatham, and Dover Railway rises rapidly from the Charles-street Station of the Metropolitan Railway, to gain the rail level at Ludgate-hill. At the point where the Holborn Viaduct crosses it, there is still sufficient headway to permit of the construction of a brick arch which crosses the railway on a slight skew; but the subways, which form a feature in the Holborn Improvements, are constructed across the railway in an iron tubular girder. For a length of about 150 ft. on each end of the viaduct, at the commencement of the works at Holborn and Skinner-street, the new road is made in embankment carried between retaining walls, but from those points, falling on each side to Farrington-street, and following the old level of the roads—on the east a gradient of 1 in 20, on the west a slope of 1 in 15—