BRIDGE OVER THE REGENT'S CANAL; REGENT'S PARK.

Plate XX.

ONE of the five taper-chain suspension bridges erected in the Regent's Park by Mr. James Dredge, in 1841, was replaced a few years since by an elegant arched structure, from the designs of Mr. John Fowler, of Westminster. The bridge, which is shown by Plate XX., is of cast iron, with a clear span of 67 ft., and a rise in the centre of 3 ft. 6 in., the arch being segmental, and struck with a radius of 103 ft. 4½ in., leaving a headway from the water level of 14 ft. Fig. 1 is a side elevation of the bridge with its pier and abutments, while Figs. 2 and 3 are a longitudinal section, half-transverse section, and half-end elevation to a larger scale, showing the brickwork and the construction of the main ribs and cross girders. The spandril, Fig. 1 (drawn to a larger scale in Fig. 4), is of an appropriate design, and illustrates what may be achieved with good taste, in filling those awkward three-cornered spaces too often rendered unsightly with vertical or diagonal bars, or with an inartistic scroll. The hand-rail, the general design of which is shown in Fig. 1, harmonises with the spandril filling as well as with the struts and rail standards, Fig. 6. The piers are of stone, each ornamented with a well-proportioned lamp, and the smaller piers which terminate the parapets are surmounted with vases. Exception may be taken to the entire absence of mouldings inside the piers, which naturally suggest the idea that one large pier has been cut in two, and the plain faces on the inside placed against the roadway. There is, however, an unavoidable difficulty in carrying projecting mouldings around piers where the width of the roadway is limited, because practically the available space for traffic is reduced to the least clear width. The height of the wing wall parapets is 3 ft. 6 in., corresponding with that of the hand-railing. The construction of the iron ribs (of which there are two) is somewhat peculiar. They are each cast in three pieces (Fig. 2), the end portions having the arched rib and horizontal top member cast in one piece, connected at the springing by a vertical rib (Fig. 5), and partially dying into each other at the other end, whilst the centre part, horizontal on the upper side and curved beneath, completes the rib, which weighs altogether 5 tons 5 cwt. Figs. 5 and 9 show the construction of the end of rib, and the cast-iron bedplates on which it rests; and a cross section of the main rib is given in Fig. 6, which is taken through the centre of the bridge, where the depth is 2 ft., increasing at the springing to 2 ft. 6 in., while the depth of the horizontal member is 1 ft. 6 in. throughout. The roadway, which is 10 ft. wide, is supported on rolled iron cross girders of the section shown in Fig. 8, placed 3 ft. 3 in. apart, and attached to the main ribs, as shown in Figs. 6 and 7. They are 6½ in. deep, and 3 in. wide on the top and bottom flanges. To these girders are bolted timbers 4 in. wide, 5 in. deep in the centre, and falling in a curve to 2½ in. on each side. Upon these curved beams the longitudinal timbering is spiked, and this is covered with a layer of asphalt ¼ in. thick, perfect drainage being insured by a wrought-iron gutter, 5 in. wide (Fig. 6), running along each side of the bridge at the foot of the hand-rails.

For lightness and general elegance of design, this bridge over the Regent's Canal may well be commended, and it may serve as a model for small works of a similar class, while the simplicity and general neatness of its details are characteristic of the work which always proceeds from Mr. John Fowler's office.