FOOT BRIDGE OVER THE RIVER MOLDAU AT PRAGUE.

PLATE XLIII.

THE bridge which we illustrate in Plate XLIII. was erected in 1869 to supersede the ferry which previously formed the means of communication over the River Moldau. The bridge crosses the river between the old stone bridge and the new suspension bridge, "Franz Joseph Brücke." The concession for building it was granted in June, 1868. The company was formed at once, and the work of erecting was commenced immediately. The design was made by Mr. R. M. Ordish, and was executed by the same contractors who built the Franz Joseph Bridge, viz., Messrs. Ruston and Co., Prague. Mr. Charles Von Wesely was the resident engineer.

There is only one pier or tower, and that is in the centre of the river, so that the bridge is really formed of only two half spans, each half being in the clear 305 ft. 6 in., and the thickness of pier 18 ft. at the crown. The distance from face to face of abutments is 629 ft.; and as on neither shore was there room for the anchorage chains, &c., to extend such a distance inland as would be required if towers were used instead of abutments, it was considered advisable to have only one pier or tower in the river to avoid as much as possible intercepting the ice.

The bridge is for foot passengers only, and has a clear width of 11 ft. from end to end. Each column of the pier being built clear of this width involves the chains being wider apart, in plan, in the centre of the bridge than at the abutments; this arrangement gives the structure considerable resistance to any side motion that might be caused by the wind.

The abutments and anchorages are built of stone with concrete fillings. The pier in the centre of the river is also of stone from its base to the underside of the superstructure where the ornamental cast-iron tower commences. The tower consists of two pillars or columns connected at the top by an open cast-iron girder, and each column consists of four standards firmly connected together and bolted at their bases to the pier. The height of the bridge above the highest level of water is 6 ft. 6 in., and the height of tower from same level, 63 ft.

The chains are of steel, and formed of links in 21 ft. lengths by 4½ in. deep by 1 in. thick, having heads and eyes, and steel pins of ¾ in. diameter. The main chains have each six links in their width, and are connected (see Fig. 1) to straight chains passing direct to the base of the tower. These straight chains are applied to prevent as much as possible the rising, or moving, of the curved chains when an unequal load is passing over the bridge. The straight chains have only two links, each of the same dimensions as the links of the curved or main chains.

The main chains are supported on the tower on a saddle resting upon seven cast-iron rollers, each 3 ft. long and 4¼ in. diameter, and carefully turned; and thence the chains pass to the abutments, where they rest on other saddles, and are carried down to their anchorages.

The anchorage for each end of each main chain consists of seven steel plates resting upon two cast-iron girders or bed plates, the four bed plates being connected together by cast-iron girders.

The connections for the adjustment of the lengths of the main chains are near the tower and in the abutments, and for the straight chains at the base of the tower, and they can be adjusted by means of steel gibs and keys.

The footway or platform is formed of two main longitudinal parapet girders in one continuous length, from end to end of bridge, and it rests upon cast-iron cross girders, 21 ft. apart, which are suspended by wrought-iron suspension rods, 1½ in. diameter, to the main chains. The main or parapet girders are 1 ft. 6 in. deep, the top and bottom flanges being formed each of two pieces of pine, having a total sectional area of 72 square inches. The diagonals are also of pine 6 in. by 3 in., fitted into cast-iron shoes cast on the ends of the cast-iron verticals; these have a wrought-iron bolt 1 in. diameter passing through them, firmly connecting the bracing to the flanges. The verticals are 7 ft. apart, and at these distances there are cross timbers acting as girders to support the planks of the footway, so that there are two timber beams and one cast-iron girder in every 21 ft. to carry the planking of the footway. The planking is 4 in. thick, and on this boarding, 1½ in. thick, is laid crosswise. The footway besides being suspended to the chains is also connected to the base of the tower by means of four diagonal rods, which allow it to move vertically to a slight extent, but not horizontally.

The banks on each side of the river are very low, and the property being valuable, it was found advisable to