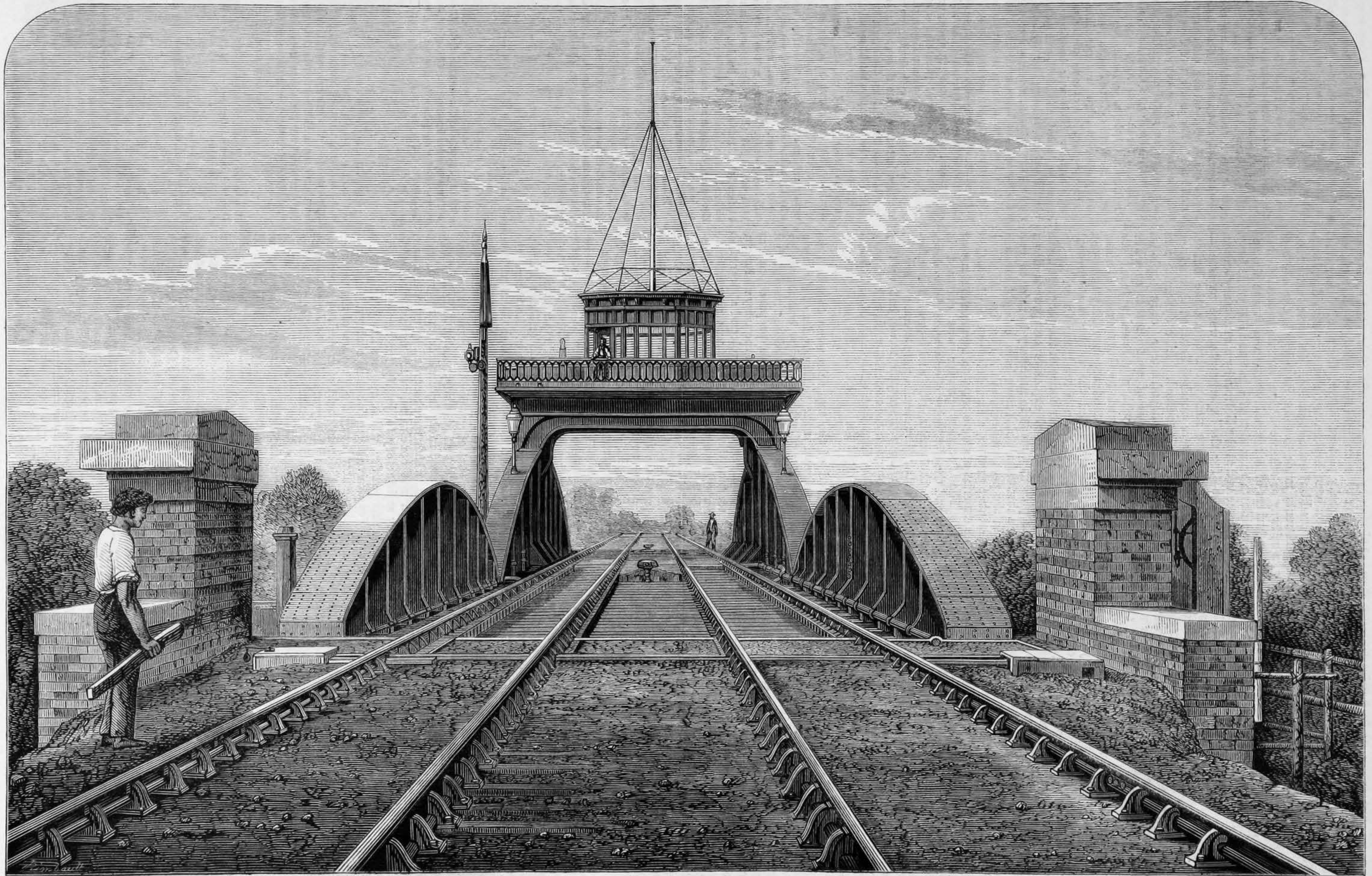


SWING BRIDGE OVER THE RIVER OUSE; NORTH-EASTERN RAILWAY.

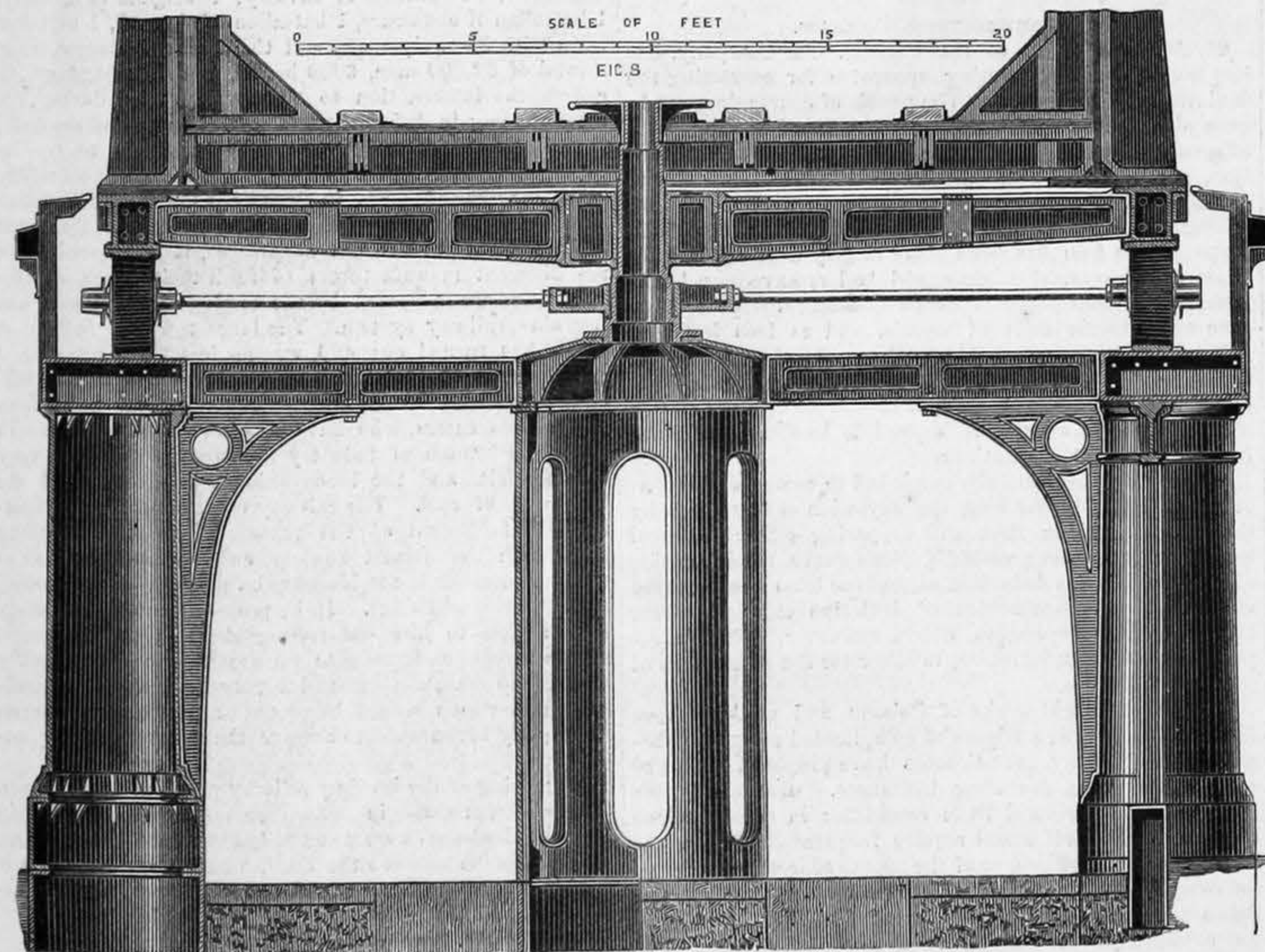
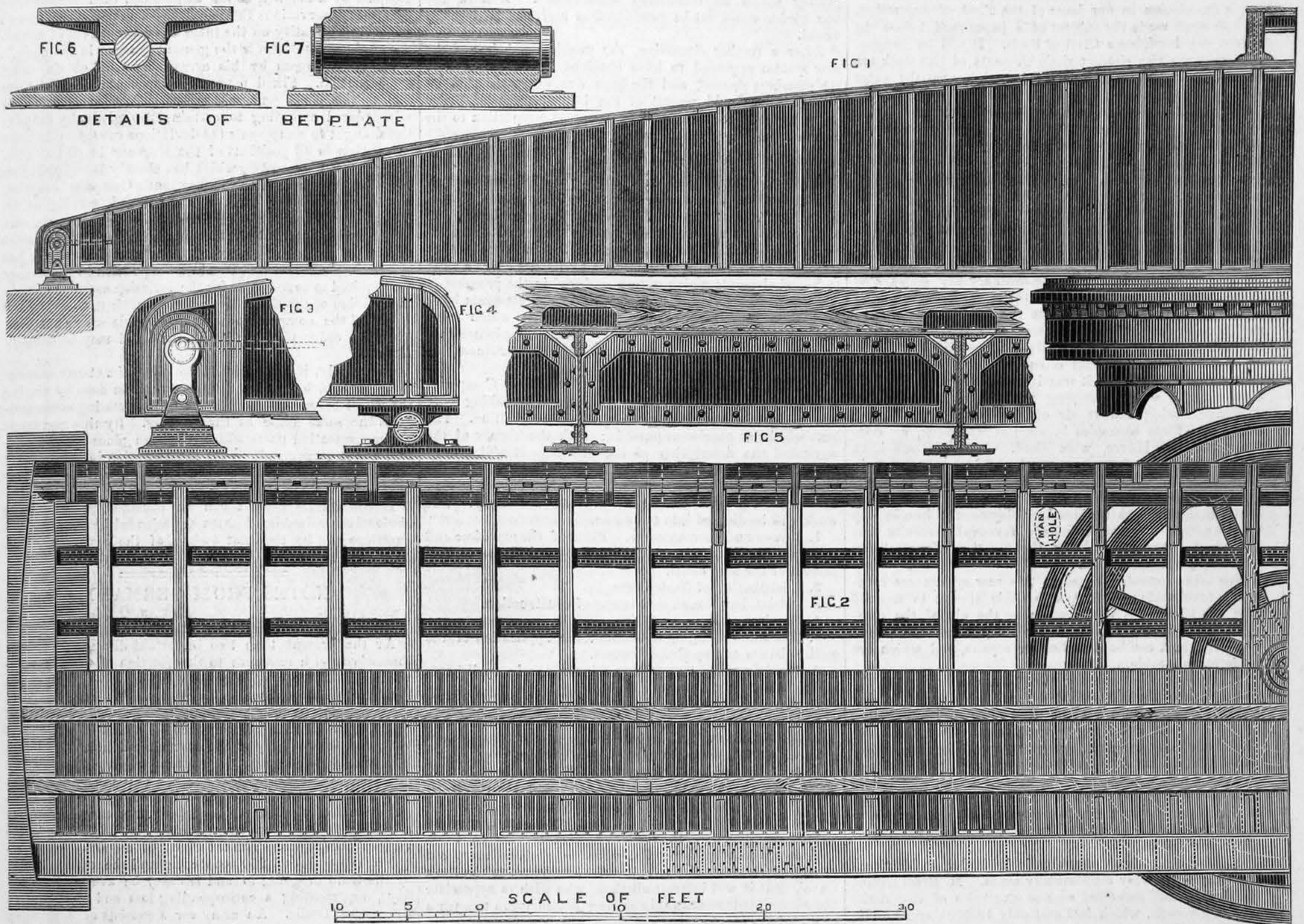
MR. T. E. HARRISON, ENGINEER; MESSRS. PEASE, HUTCHINSON, AND CO., DARLINGTON, CONTRACTORS.

(For Description, see opposite Page.)



SWING BRIDGE OVER THE RIVER OUSE; NORTH-EASTERN RAILWAY.

MR. T. E. HARRISON, ENGINEER; MESSRS. PEASE, HUTCHINSON, AND CO., DARLINGTON, CONTRACTORS.



We give this week a two-page illustration together, with other views on the present and opposite pages, of a fine swing bridge, recently completed, and which carries what is now the main line of the North-Eastern Railway, over the River Ouse, at a distance of about three miles from York, a point where the river is navigable for small craft. The bridge consists of three openings, namely, one fixed

span of 107 ft. over all, and a double swing span of 176 ft. over all, leaving a clear opening for vessels of about 62 ft. The swing portion of the bridge is supported on a pier of cast iron situated on the north bank of the river, this pier being composed of one central column 7 ft. in diameter, containing the hydraulic accumulator, and eight supporting columns each 4 ft. in diameter carrying the roller frame and

path. The weight of cast iron in the pier, exclusive of the foundation cylinders, is about 280 tons. A section of this pier is shown by Fig. 8 on the present page. The swing portion is formed of two main girders 176 ft. in length, and 14 ft. in depth between flanges over the swivel pier, where they are connected together at the top by cross girders, carrying a platform, from which is regulated the working of the bridge. The flooring is composed of 23 transoms 26 ft. long and 1 ft. 8 in. in depth, which, over the pier are covered by $\frac{3}{8}$ in. plating, the rest of the floor being formed of bars 8 in. by $\frac{5}{16}$ in. with openings of 1 in. The girders and flooring of the fixed span are of the same form as those of the swing portion. The total weight of wrought iron in both swing and fixed spans collectively is 401 tons. The swing portion is moved by means of hydraulic machinery giving motion to a pinion geared into a circular rack. The superstructure of the bridge was constructed and erected to the designs of Mr. J. E. Harrison, of Westminster, by Messrs. Pease, Hutchinson, and Company, of the Skerne Iron Works, Darlington; the hydraulic machinery being supplied by Sir William Armstrong and Co., Newcastle-on-Tyne. At the works of Messrs. Pease, Hutchinson, and Company, to whose London representative, Mr. W. G. Fossick, of 6, Laurence Pountney Hill, we are indebted for the particulars of the Ouse bridge, were also made the remainder of the wrought-iron bridge work on this line of railway, viz. —The River Aire Bridge, one span of 134 ft. and one span of 91 ft.; the Goole Canal Bridge, one span of 135 ft.; the Selby Canal Bridge, one span of 114 ft., and seven other smaller bridges.

BRADFORD SEWAGE WORKS.—At the meeting of the Bradford Town Council yesterday afternoon a tender from Mr. Archibald Neill, of that town, for the execution of the several works required for the defecation of the sewage of the borough, was accepted. It was stated that the amount of the tender was 12,700*l.*, and that there was an addition of 500*l.* for stationary engines and cranes, making a total of 13,200*l.* This was more than 3000*l.* in excess of the sum which it had been stated by those representing the Test Engineering and Sewage Filtration Company, who have entered into an agreement with the Council to defecate the sewage, would be required for the execution of the works, though, as was said, the statement was perhaps the result of a guess, and not of actual estimate.

SWING BRIDGE OVER THE RIVER OUSE, NEAR YORK; NORTH-EASTERN RAILWAY.

MR. T. E. HARRISON, ENGINEER; MESSRS. PEASE, HUTCHINSON, AND CO., DARLINGTON, CONTRACTORS.

(For Description, see Page 265.)

