MODERN EXAMPLES OF ROAD AND RAILWAY BRIDGES.

Thames-street. As will be seen from the plan, the whole width of the station building at the eastern end is covered with an unbroken platform 62 ft. long and 45 ft. wide, and from this two platforms, 300 ft. long, extend westwards, with three lines of rails, one between two platforms, and one on the outside of each. At the Garlick-hill end the platform is roofed over, in the same manner as the Charing Cross, Victoria, and other stations on the line. But over the two 300 ft. platforms, as far as their intersection with Queen Victoria-street, there is erected a light iron and glass roof supported in the centre by a row of iron pillars, and of the form shown in section, H, H. Beyond this point the platforms for the remainder of their length are covered by brick arches faced with white brick turned between longitudinal girders resting on a girdler that aligns with the south side of the street, and is supported on columns.

At the end of the station are sidings connected with the three lines of railway for the purpose of affording standing room for engines, and thence they gradually converge until they fall into the ordinary two lines of rail. The length of the converging lines is about 460 ft.; they are situated under Queen Victoria-street and on property purchased from the Metropolitan Board of Works on the south side, and the space occupied by them varies in width from 25 ft. to 90 ft. It is made up of 63 ft. of brick archways, 276 ft. of brick arches supported on girders resting on columns and side walls, the remaining 121 ft. being an arch-covered way, bell-mouthed, from 25 ft. to 38 ft.

South of the platforms, at the western end of the works, for a length of 110 ft., there is a sufficient width for another line of rails, which is connected to the two main lines at the commencement of the bell-mouth, and a 12 ft. platform on the south side. This line and platform will be continued to Garlick-hill as soon as the requisite property can be obtained and the necessities of the traffic require their use. The level of rails at the eastern end is 13.75 above Ordnance datum, and it falls for the length of the platform at the rate of 1 in 300. From this point the rails fall with a gradient of 1 in 100 to the east end of the bell-mouth, whence there is a short length of level, of about 80 ft. to the point of junction at Lambeth-hill, with the existing rails, which thence fall at the rate of 1 in 100. The works are at an average depth of 30 ft. below the level of Queen Victoria-street and Garlick-hill at its northern end.

This depth is necessitated by the formation of the subways which extend on each side of Queen Victoria-street, where traversed by the railway; that on the southern side being 6 ft. 6 in. x 6 ft. 6 in., and that on the northern side being 8 ft. x 8 ft. These, as well as the vaults on each side, are carried over the railway on wrought-iron girders, which are 3 ft. 6 in. deep, supported on the side walls, and where practicable on wrought-iron columns. The side walls are 7 ft. 6 in. thick, formed with piers and panels. The girders are 12 ft. apart, and support rows of short columns, which in turn support longitudinal girders five in number, 6 ft. 6 in. apart and 1 ft. 6 in. deep, between which spring brick arches carrying the roadway between the subways. A subway, 12 ft. x 7 ft. 6 in., where it is already constructed, occupies the centre of that part of Queen Victoria-street formerly called New Earl-street, and two smaller subways are made to converge to its western end; the southern crossing the railway at the west end of the station on a succession of brick archways.

The wrought-iron columns are protected from the accidental running off of trains by the space between them up to the level of the engine buffer beams being filled with solid brickwork in cement, about 3 ft. thick, and they are further strengthened by balks of timber 14 in. x 14 in., running longitudinally along the columns to act as guides or fenders. There are four short sidings for engines, three of which are provided with a coke stage, and all of them with water-pits, while two are so placed as to communicate directly with the open air. These open portions at the coke stages materially assist in keeping the station free from smoke, steam, &c. The signal-box is located in a convenient central spot with reference to the numerous points and signals to be worked from it. About thirty-seven levers are required to command the apparatus of this department.

Ultimately the station will be widened to the extent shown in the engraving, but the foregoing description applies to the works actually executed. The works are arranged so as not to interfere in the slightest degree with the building of any of the houses along the whole length of the frontage available for that purpose in Queen Victoria-street, except over two of the coal stages.

In concluding our somewhat protracted notice of the Metropolitan Railway system, we may give a few general particulars, the detailed description of which we have already included in the foregoing account.

The whole line may be divided into four sections: the extension from Farrington-street to Little Moorfields, in Finsbury; the original Metropolitan Railway, terminating at first at the Bishop’s-road Station; the Nottingham and Brompton Extension, from Praced-street to South Kensington; and the District Railway. In connexion with this system are the widening of the original Metropolitan from Farrington-street to King’s Cross Station, where junctions are effected with the Great Northern and Midland lines, the branch to the New Smithfield Market; the Metropolitan and St. John’s Wood Railway having a junction at Baker-street with the old railway.