making a bell-mouth, which was cut away by the widening, and another has been formed by the junction of the diverted Hotel Curve and the new line. The width of the Metropolitan Railway arch was therefore reduced to 28 ft. 6 in., and the arch of the old bell-mouth was cut away on one side, and is supported on a brick abutment, which, as shown on section C D, is strengthened with five cast-iron standards, shown at a, Fig. 1, Plate XXV., and in detail in Fig. 14, Plate XXV. Figs. 5, 6, 7, and 8 are different cross sections taken on the respective lines lettered on the plan, and they show the various constructions employed, as the new work gradually leaves the old, until at Fig. 8, Plate XXVI.—a section on line, No.—the bell-mouth of the widening is completed; and the Metropolitan Railway arch is left untouched, except that one abutment is partially cut away, and the space between the two tunnels is filled in with concrete. This part of the work is strengthened by brick spandrels, which are shown in dotted lines in plan, Fig. 1, and in Figs. 3, 6, and 7, Plate XXV. Fig. 9, Plate XXVI., is a section on the widest bell-mouth on the work, spanning, as it does, the two 25 ft. tunnels and a 4 ft. 6 in. intermediate pier. It is constructed with an arch of 6 rings in thickness, springing from abutments 4 bricks thick, strengthened with counterforts placed at short intervals apart, and filled with concrete, as shown in the plan. Fig. 13, Plate XXV., is a sectional plan of the eastern curve.

The Hotel Curve, during its division, was stopped up, and another line to the Great Northern, known as the Maiden-lane Curve, which was constructed at the same time as the Metropolitan, was closed permanently, as shown in plan, Fig. 1, Plate XXV., at the point where the Hotel Curve joins the widening, as now constructed; the deviation in this case is extended only so far as is shown, terminating at the point where the new walls overlap the old. The arch in this length was constructed over the old tunnel (Fig. 11, Plate XXV.), which was entirely uncovered, and employed as a centering for the diversion, it being pulled down afterwards, and the invert extended to the side walls. The arch here is consequently so much wider than is necessary, by the thickness of the tunnel over which it was erected. The arch finishes just beyond the crossing of the Fleet Sewer, and is exchanged for girders covered way, as seen in Fig. 10, Plate XXV., which is a longitudinal section of the diversion, and which shows the point where the covered way commences. This figure also shows the junction of the original with the new tunnel.

In order to make room for the two lines running from the Midland Railway, with which one of the Great Northern branches to the Metropolitan makes a junction at the north-west end of the King's Cross Station, the platform originally constructed on the northern side has been removed, and another platform, 300 ft. long and 15 ft. wide, has been laid down, commencing at the north-east end of the station, room having been made for it by setting back the retaining walls. To the east of this platform the mixed gauge system (now abandoned) formerly commenced, communicating with the Metropolitan Railway proper by a mixed gauge crossing.

The two bridges carrying Field-street and Charlotte-street over the railway have been reconstructed; the former, views of which we give in Plate XXVII., was originally a brick arch 28 ft. 6 in. span, and has been replaced by a wrought-iron girder 81 ft. span. At the end of the new platform the covered way of the widening commences, and runs to a point a little eastward of Frederick-street, where the Fleet Sewer is carried over the line in an iron tube of a somewhat similar design to the one on Plate XXIX. A portion of this length was made in 1862, at the same time with the Metropolitan proper, the widening of the line being then under consideration. A short length of open cutting between the retaining walls is succeeded by covered way to a signal station placed nearly midway between King's Cross Station and Farrington-street.

From the eastern side of this signal station to about 60 ft. west of Ray-street, the railway runs through a driven tunnel 28 ft. 6 in. wide, semicircular in section, and 6 rings thick, the centre line gradually approaching that of the Metropolitan, and the gradient falling until at the point where the two tunnels meet there is a difference of 16.35 ft. in the respective rail levels. Fig. 1, Plate XXVII., shows the plan of the two railways, the positions of the counterforts, and the new brickwork with which the existing retaining walls and the abutments of Ray-street and Vine-street bridges have been underpinned. From the tunnel mouths, for a length of 200 ft., the Metropolitan rails run over the widening on wrought-iron girders, six of which also support columns carrying an overhanging angle of Cowcross-street. Figs. 2 to 10, Plate XXVIII., show sections at different parts of the work, the lines on which they are taken being marked on plan, Fig. 1, Plate XXVIII. On one side of the centre pier of Vine-street bridge is situated a pumping station, the centre 18 in. drain of the widening being turned into a sump, and the drainage raised to the drain of the Metropolitan proper. From this point the rails of the widening rise with a gradient of 1 in 100, till they gain the same level as those of the Metropolitan, and run into the new station at Charles-street, which has replaced the one at Farrington-street.

The Fleet Sewer crossing the branches to the Great Northern was reconstructed at two points in carrying out the works of which we have been speaking. Plate XXIX., shows how the largest crossing was effected. The sewer at the point of intersection is of the form shown