in the roadway, less breaking up of the pavement, and slightly cheaper cost of construction. Its chief disadvantage is the difficulty it introduces in connexion with points and crossings. It is also objected that if the side slot is made the same width as the rail groove it becomes a danger to narrow-tired vehicles. The difficulty in regard to points and crossings is overcome by bringing the slot into the centre of the track at junctions and turn-outs. Fig. 6 shows a section of the side slot track laid at Bournemouth. The width of the slot is 1 in., which is the least width possible. In London ¾ in. was first adopted as the width of the centre slot, but later this was increased to 1 in., so that in this particular there is not much to choose between the two systems. Fig. 7 shows a section of the London County Council track at one of the cast-iron yokes. These are spaced 3 ft. 9 in. apart, every second yoke being now continued out under the running rail which is fastened to it. There is no doubt that the extended yoke greatly increases the strength of the track. The slot beams weigh 60 lb per yard. The conductor bars are of mild steel, T-shaped. They weigh 22 lb per yard and are supported on insulators at intervals of 15 ft. Each insulator is covered over in the roadway with a cast- iron frame and movable lid. There are two conductor rails—positive and negative—so that the whole circuit is insulated from earth. The conduit or tube is formed of cement concrete. The track between the rails is paved with granite setts in order that there may be no trouble with wood blocks swelling and closing the slot.

American practice in conduit construction has become fairly well standardized (fig. 8). The con­duit is oval in shape, its major axis being vertical, and is formed of concrete. An excavation about 30 in. deep and 5 ft. wide is made, and in this are laid cast-iron yokes weighing 410 lb each, and spaced 5 ft. apart centre to centre. Every third yoke contains bearings for a hand-hole plate, and weighs about 600 lb. These yokes surround the conduit proper and are provided with extensions on each side for the attachment of the rails. In the older construction the rails were laid directly upon the iron of the yokes, steel wedges and shims being used under them for the final alinement of the rails. In the more recent construction, on the Third Avenue railroad in New York, City, a wooden stringer, 6 in. by 4¾ in. in size, is laid along from yoke to yoke on the bearing surfaces, and the rail laid upon this. The rail is held down on the yoke by means of two bolts at each bearing-point, these bolts having turned-up heads which embrace the foot of the rail. The slot rails, or Z bars forming the two jaws of the ⅝ in. slot, are bolted to the upper part of the yokes. The weights of the metal used per linear yard of construction of this type are: castiron, including both types of yokes, 500 lb; track rails, 214 lb; slot rails, 116 lb; conductor rails, 42 lb; and conduit plate, 16 lb—nearly 400 lb of rolled steel per yard. After the rails, which are of a high girder type, are fastened in place thin plates of sheet steel are bent into the oval holes in the yokes extending from yoke to yoke, and form the inner surface of the completed conduit. Around this is carefully laid a shell, 4 in. thick, of Portland cement concrete. The yokes are furnished with lugs which serve to retain, temporarily, wooden boards forming a mould in which the concrete is rammed. Sectional wooden shapes serve to hold the thin steel lining in place while the concrete is hardening. Around this concrete tube, and on each side of it, to form a basis for the street pavement, is laid a mass of coarser concrete. In each side of the special yokes is placed an insulator of porcelain, protected by a cast-iron shell and carrying a support for the conductor rail, which is of T-shaped steel, weighing 21 lb per yard. It is in 30 ft. lengths and is supported every 15 ft. by the insulators, the ends of separate rails being matched at and held by an insulator support. This rail is, of course, bonded with copper bonds. Two such con­ductor rails arc installed in the conduit 6 in. apart, the flat faces corresponding to the upper surface of the T being placed towards each other. Elaborate provisions for drainage and inspection are also provided, depending upon the situation of the tracks and nature of the street. The current is fed to the conductor rails by heavy copper conductors of from 500,000 to 1,000,000 circular mils cross- section, insulated and lead-covered, laid in ducts alongside of or between the two tracks of double-track systems. Connexion is