

meter, at the bottom of the trenches, which were from three to four feet deep, and conformed to the level of the streets; connections were made with the city sewers, as often as possible; broken stone was filled in at the bottom round the tile, and a covering of tarred roofing felt put over the wooden casing, and the trench filled in.

EXPANSION JOINTS.

To provide for contraction and expansion in the iron pipes, caused by differences in temperature, stuffing box joints were provided, and asbestos fibre used as packing. The expansion joints formed a part of the junction-service boxes, which were placed at convenient intervals of from 100 to 200 feet along the line of mains, and were accessible from the street, being surrounded by a brick wall, and having a man-hole and cover.

The arriving main from the boilers, had a turned and nickle-plated end, which worked through the stuffing box. The departing main was securely fastened to the junction-service box, so that, one end of each section being fast and the other moveable, free play was given for contraction and expansion. A ball and socket joint attachment was always used, so as to be able to conform to variations in the levels of the streets and to prevent injury or strain from settling.

The junction service box was a heavy casting weighing several hundred pounds for the large sizes, it was bolted to brickwork, and anchored to the wooden pipe casing. The mains were never tapped for the attachment of service pipes, these connections being only made at the junction boxes, which also served to take up the water of condensation, the bottom of the box, being placed lower than the level of the pipes.

A very important improvement has recently been made by using elastic copper ends to the sections of iron mains, this allows sufficient play, and does away with all packed joints, which are now entirely discarded.

SERVICE PIPES.

The service pipe connections on the junction-service box were taken off at right angles to the main, and were provided with stop-cocks. The service pipes were protected from condensation, in the same manner as the mains.