

Bents were designed as shown in Fig. 2, and these were placed under the tracks to support them over the excavated pipe trenches. This work was carried out in the early hours of Sunday, when traffic was practically at a standstill.

The plan drawn up by the Brooklyn Department of Water Supply showed that it would be necessary to raise 21

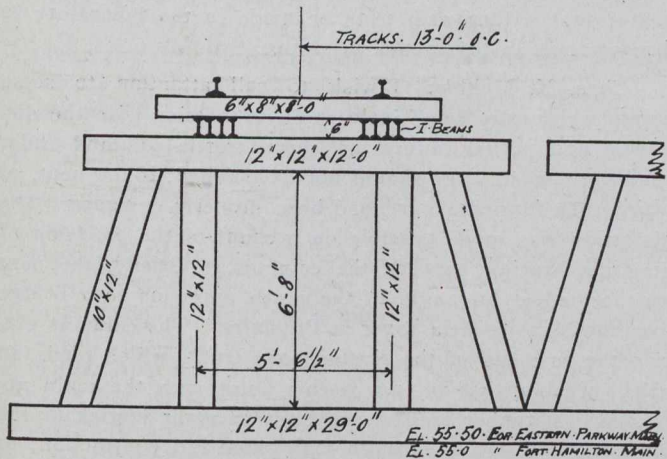


Fig. 2.—Details of Bents.

pipes in the Eastern Parkway main; 19 pipes in the Fort William main, and 17 pipes in the Atlantic Avenue main, and the heights to which the mains were to be raised above their original levels were: Eastern Parkway, 2.75 feet (2 ft. 9 in.); Fort William, 2.17 feet (2 ft. 2 in.), and Atlantic Avenue, 2.25 feet (2 ft. 3 in.). To achieve this object the Bay Ridge engineers calculated the break to be given per point from the formula given in Table I.—the formula is self-explanatory. Everything was now in readiness for the contractor, Mr. Frank J. Gallagher, of Brooklyn, to make a start and it was decided that the Eastern Parkway main would be the first to be raised, with the Fort Hamilton and Atlantic Avenue mains to follow in the order mentioned. The methods adopted by the contractor in raising the mains were similar in each case, and it will be necessary, therefore, to detail the work on one of the mains only, as typical of the others. For this purpose the Atlantic Avenue main is selected. It was much the older main of the three, having been laid about forty years ago, and it was anticipated that a great amount of trouble would be met with in raising it. Happily, however, this did not prove to be the case. The pipe joints, when bared, were found to be in excellent condition, and bear eloquent testimony to the splendid manner in which the original contractor had carried out his

work. Water main laying is the one branch of contracting that the grafting contractor should avoid. He may be able to pull off some of his old tricks in practically every other

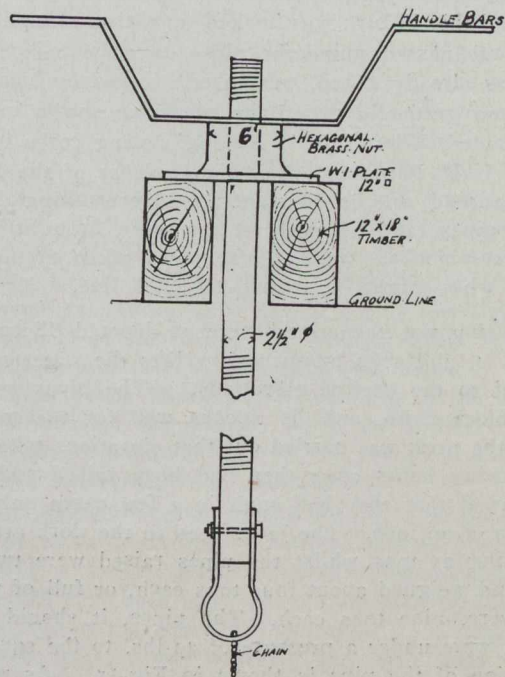


Fig. 3.

grade of contracting, but never with water pipes. Water has a little peculiarity of finding out any weaknesses at the joints.

In raising the mains twelve screw jacks were used. A sketch of this type of jack is shown in Fig. 3. This sketch, it should be stated, is from memory, as the writer has not any details of it before him, and the dimensions given are therefore only approximate. The jacks are the property of the Brooklyn Department of Water Supply, and were

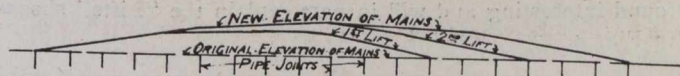


Fig. 4.

hired from the department by the contractor. It will be noticed that the jack passes through a large brass nut, this in turn rests on two balks of timber placed just sufficiently

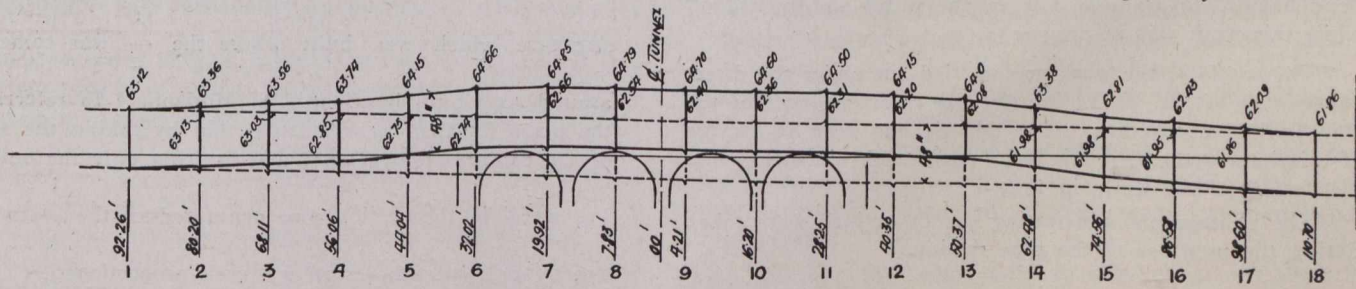


Fig. 5.

SECTION SHOWING ORIGINAL AND NEW LOCATION OF 48" WATER MAIN ATLANTIC AVENUE
ORIGINAL LOCATION SHOWN THUS
NEW

TABLE OF ELEVATIONS TAKEN DURING PIPE RAISING OPERATIONS

DATE & TIME OF RAISING ELEVATIONS	JOINTS																	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
ORIGINAL ELEVATIONS	63.12	63.13	63.03	62.85	62.75	62.74	62.66	62.54	62.40	62.36	62.31	62.20	62.08	61.98	61.98	61.95	61.86	61.86
9.50 am. M.S.P.	63.12	63.36	63.56	63.74	64.15	64.66	64.85	64.79	64.70	64.60	64.50	64.15	64.00	63.38	62.81	62.43	62.09	61.86
4 pm. June 2/12	63.14	63.35	63.53	63.72	63.98	64.30	64.55	64.72	64.71	64.70	64.52	64.14	63.78	63.29	62.89	62.49	62.07	61.88
8 am. 7/12				63.87	64.22	64.60	64.85	64.92	64.90	64.88	64.61	64.15	63.75	63.28	62.88			
8.50 am. "	63.14	63.34	63.65	63.95	64.29	64.69	64.95	65.06	64.99	64.95	64.71	64.25	63.85	63.35	62.91	62.50	62.07	61.88
11 am. "	63.14	63.34	63.63	63.90	64.23	64.62	64.88	65.01	64.88	64.89	64.62	64.16	63.75	63.27	62.88	62.48	62.07	61.88
12.15 pm. "	63.14	63.34	63.63	63.90	64.23	64.61	64.88	65.01	64.85	64.88	64.61	64.15	63.75	63.27	62.88	62.47	62.07	61.88
8.50 am. 24/12	63.12	63.32	63.60	63.86	64.19	64.57	64.84	64.97	64.92	64.83	64.56	64.10	63.70	63.21	62.83	62.43	62.04	61.86