The 10 in. pipe runs from the upper bridge 1,600 ft. along Ochterloney st. to Dundas st., where the distribution commences. This pipe is laid across Sullivan's pond. The pond was drained off for the purpose, and the pipe laid in a shallow trench in the bottom.

The main line as well as 1,500 ft. of the 10 in. pipe is jointed with wood instead of the ordinary lead joint. This has been proved to be quite as efficient a joint as lead, while the saving in cost, as will be seen later, is considerable.

The joint is made about as follows:—The staves are made of the best white pine, and are cut to the exact curve of the pipe for which they are intended. They are from 4 to 5 inches long and 3 inches wide, and about $\frac{1}{8}$ in. thicker than the space they are intended to fill. To make the joint, steel wedges are driven into the fancet under the pipe, so as to force the spigot of one pipe well up against the fancet of the other. Then the lower third of the fancet is filled with the staves, driven as tightly as a man can with a heavy hand hammer. The wedges are then taken out and driven in on top, so as to drive the pipe firmly down on the staves below, and the upper two-thirds of the staves first started in, and then driven firmly home with a hammer weighing 7 or 8 lbs. The staves are then forced apart with a small steel wedge, and pine wedges of the same material as the staves driven into the spaces. This makes a good tight joint, and in every way as lasting a one as lead; but care must be taken in putting in the small wedges, to put in enough and drive them well home, as one of them left out means a considerable leak. If a wood joint does leak it will be seen that, on account of the wood swelling, it must tend to get better instead of worse, as would be the case with lead.

One great advantage of the wood joint over lead is that it can, if necessary, be made with as much as half of the pipe under water. This saved an expensive cofferdam in one place in Dartmouth, where the pipe had to cross a loose rock embankment across a pond—a distance of about 300 ft. Had lead joints been used, the pipe would have been laid along the side of the embankment and a cofferdam built to keep out the water.

Of course, before adopting wood joints, care must be taken to see that the castings are made reasonably smooth, as any projecting piece of iron on the fancet will peel off the stave as it is driven in, and thus cause a leak. In the pipe used in Dartmouth, some of the pipes were rather rough, and considerable trouble was found in getting some of the joints tight.

The following table will give about the saving effected in Dartmouth by the adoption of the wood joints:

Diam. of Pipe.	Cost including laying.		Saving per joint	No. joints.	Total saving.
	Wood.	Lead.			
	$ c.	$ c.	$ c.		$ c.
20 in.	1 38	2 30	92	205	188 60
12 in.	90	1 45	55	870	478 50
10 in.	77	1 25	48	125	60 00
					$ 727 10

This saving, together with the saving of the cost of the cofferdam referred to above, would dig up and repair a great many joints if they should happen to leak on account of wood not making so sure a joint as lead.

DISTRIBUTION.

The distribution system is shown in dotted line on the plan (Plate II.) The 10 in. pipe runs down Ochterloney st. as far as King st., where it is reduced to an 8 in., this runs as far as Water st., then turns along Water st., as far as Stairs st. An 8 in. also branches off and runs along King st. as far as Portland st. The south end of Water st., Prince st., portions of King and Wentworth streets and Quarl and Portland streets are laid with 6 in. pipes. Boggs, Green, Dundas and part of Wentworth streets and Wilson's lane are laid with 4 in.