

to which inquiries were sent. Putting it in another way, of the eighteen cities in Massachusetts one was doing its sewer work wholly by contract, while seventeen were doing similar work wholly by day labor.

Replies to the inquiries relating to waterworks extensions were received from fifty-eight cities, and of this number 33 per cent. were found to be doing the work wholly by contract. Outside of New England 48 per cent. of the cities have adopted the contract system, while in Massachusetts, of the fifteen cities making reply to the inquiries, all were found to be doing the work by day labor. The results of the inquiries relating to water pipe extensions are very similar to those relating to sewer construction, and both show very clearly that the day labor system is very widely adopted in Massachusetts, and much more prevalent in that State and in New England than throughout the remainder of the country.

#### Comparative Costs of Day Labor and Contract Sewer Work in Various Cities.

A comparison was made of the cost of building sewers in cities where work was known to be done by day labor with that in other cities where similar work is done by contract. These comparisons were confined to New England cities, and very largely to cities in Massachusetts.

To make this investigation less difficult and reduce the element of uncertainty as much as possible, the inquiry was confined to small pipe sewers from 8 to 12 inches in diameter. Since most sewers of this class built in Boston have been constructed under contracts (largely "gift" or non-competitive contracts), the number available for comparison was smaller than was desired. As the difficulty in selecting work done under comparable conditions was fully realized, and as such selection could only be made by engineers familiar with local conditions, an assistant was sent from place to place to interview the local engineers, who always very kindly, and at times at considerable inconvenience to themselves, carefully considered the conditions surrounding a large number of pieces of work, and advised which should be selected for use in this comparison. The number of sewers selected in each city was small, but included all which could be classed as being built under conditions enabling fair comparison within the last few years. While it is realized that this study may be criticized as being based upon fragmentary and possibly insufficient data, it is presented as comprising the best data which could be obtained after a long and earnest effort to get at the truth. Unfortunately, in no city except Boston was this class of work found to be done both by day labor and by contract, so that comparisons between the two methods in the same city were impossible, with the single exception noted.

(To be Continued).

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