

by day labor and by contract, it is found that the labor cost was \$3.50 and \$1.32 per linear foot, respectively. It, therefore, appears that had the rate of wages been uniform in all cities the labor cost of the work done by contract would have been 35 per cent. less than the labor cost of that done by day labor, not including Boston in this comparison. Comparing the work done by both methods in the city of Boston, it appears that had the work done by day labor been done by advertised contract the reduction in the cost of labor would have amounted to over 62 per cent.

Comparative Cost of Sewers Built by Day Labor and by Contract in Boston.

The costs of eight pairs of sewers, so selected as to be as nearly comparable with each other as possible, have been compiled in Table 5. In each pair one sewer was built by day labor and one by contract. The pairs were selected by engineers employed by the city, who had direct personal knowledge of the conditions under which the work was done. After reducing the costs to equal terms as to size, depth and wages, it appears that in the case most favorable to day labor the cost of the sewer built by direct labor was nearly double that of the one built by contract, while in the case of the pair most favorable to the contract system the one built by day labor cost nearly four times as much as the one built by contract.

The Relative Cost of Cleaning Catch Basins by Day Labor and by Contract.

A study was made of the cost of cleaning catch basins by day labor and by contract. This study included the cost of cleaning nearly 9,000 catch basins at a total expense of over \$54,000. The cost of doing this work by day labor averaged \$6.39 per catch basin, or \$2.47 per cubic yard of refuse removed from the basins, while that done by contract cost \$4.15 per basin, or \$1.46 per cubic yard.

Relative Cost of Manufacturing Valves by the Boston Water Department Shops and Purchasing the Same by Contract.

For many years the Boston Water Department has maintained a Shop for repairs and the manufacture of a portion of the gate valves, hydrants and smaller fittings required for construction purposes. The business of the shop amounted in 1907 to \$44,000. A comparison of the cost of manufacturing valves with the cost of the same if purchased by contract showed an increased cost under the day labor system varying from 6 to 60 per cent., as follows:—

| | Per cent. |
|---------------------|-----------|
| 3-inch valves | 36 |
| 4 " " | 60 |
| 6 " " | 53½ |
| 8 " " | 32½ |
| 10 " " | 47 |
| 12 " " | 24½ |
| 16 " " | 10 |
| 13 " " | 12 |
| 24 " " | 6 |

Under stress of these investigations and simply by the automatic stimulus of them, the cost of labor upon these gates was reduced about 35 per cent.

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