

pumping power, by which means an ample domestic supply is secured, with a low working velocity, and a full fire supply when working at a perfectly safe speed.

PUMPING MAIN.

The size of the pumping main, which will be 14 inches in diameter, is governed by the estimated daily supply required, as well as the demand for fires.

The Machinery and distribution being of the most reliable description, the only contingency would be a failure of the water power, or an accident to the machinery or to pumping main. The water power question has been fully discussed, and the only thing which gives importance to the other considerations is the absence of any provision for storage, common wherever possible to all works except those of the Holly system. This system has been but a few years in use, and, with one or two exceptions in small towns, where the consumption has not reached any considerable amount, and where the absence of the water for a few hours, except during a fire, might not be felt. The chance of accident to the main would be very remote, with a reservoir system limiting the pressure,—and should be equally guarded against by proper safety valves; but such an accident may result from neglect or mismanagement: and although I do not think the chances are such as to warrant any considerable outlay to provide against them, it is necessary that it should be understood, that for the sake of economy, a risk, however slight, is assumed. An extra expenditure of about \$12,500 would provide a double pumping main, and this would duplicate the system throughout. But a much smaller sum would provide sufficient storage to meet any probable stoppage of the supply.

The objection to a duplicate main is, that, to be thoroughly efficient, it would require a double set of branch pipes and stop-cocks, so that a reservoir would be by far the cheaper provision. The larger pipes of the distribution through streets parallel to the route of the pumping main may, with proper arrangement of valves, be used as a duplicate in emergencies—so far as they can be made a substitute for any damaged or unwatered portion of the main.