

machinery and mechanical power, and this importance is again increased in your case, when your power is obtained by the use of waters flowing through a comparatively long Canal, debouching from a large River which annually sends down great masses of Ice, which at some period may block up the entrance.

You have experienced the results of the cold weather upon your present works, and though a similar result in an enlarged Canal is only remotely probable, yet it cannot be said to be impossible, and taken in connection with the hazard of the failure of either of the forebays, machinery, or force mains, greatly strengthens the argument in favor of a large storing Reservoir.

With such a Reservoir you will be able to annually examine and repair your Canal and the mechanical works, and thus lessen the danger of their breakage at times when it would be difficult to repair them.

Almost every large American City, including your own, has at long intervals been visited with extensive conflagrations. On such occasions the demand for water is often more than such machinery as you will have, can supply, and this demand is frequently continued for a length of time, which would exhaust your present Reservoirs.

Under the excitement produced by such rapid and enormous destruction of property, it would be almost certain that your machinery would be forced up to its utmost capacity and thus greatly increase the hazard of its breakage, and that too, at the precise time when it would be most disastrous.

On the other hand, with a large Reservoir to draw from, the head of water in the pipes would be maintained at its maximum height, and they would deliver more water, and with greater force, than would be safe from the mechanical power.

Apprehensions have sometimes been expressed, that water stored for a long time in Reservoirs might become contaminated and unfit for culinary use.