

Vancouver's gravitation supply is only commenced. The water is brought from a mountain canon—nearly ten miles distant—through steel pipes 22 and 16 in. diameter, and carried across an arm of the sea in 60 feet water by a cast iron flexible jointed pipe. The fountain head is 430 feet above tide, the highest parts of the city being about 250 feet lower than the source of supply.

There are a number of other Canadian towns and villages which have water works. I trust we will receive a full account of them, as well as of those mentioned, through local members of this Society.

An economical and ingenious method of supplying a limited number of houses, above the distributing reservoir head has been in successful operation in Burlington, Vermont, for the last six years. An hydraulic motor is inserted in the pumping main near the Reservoir, the water surface of which is 289 feet above Lake Champlain, the source of supply. Two ten-inch rising mains connect the pumps and reservoir, passing through the city. The distributing pipes are fed from these mains, receiving from the pumps, when in motion, and from reservoir when pumps are standing, the pressure on the motor being greater on the pump side when the latter is working, and upon the reservoir side at other times. When the reservoir is full the head is between 12 and 13 feet, and the pressure a little over 5 lbs. This motor raises the water 60 feet, and delivers it through a mile of pipe into a tank having an overflow pipe into the main, so that no water is wasted. The speed of the pump worked by this motor varies from 5 or 6 strokes per minute in the night, to 22 strokes per minute in the day time. The cost of this application was under \$2000.

Mild steel is competing successfully with cast iron for mains, rivetted for the larger sizes and lap welded for 12 inch and under. The strength and security is greater, and the cost on the whole less, because of the lighter weights, longer pipes, fewer joints, and lesser cost of transportation. Cast iron, however, maintains its supremacy for all purposes of distribution on account of the facility and economy with which connections can be made with it. Its greater durability on account of its greater thickness also checks the extension of the use of steel.

I can only direct attention to the great works going on for the further supply of New York, Liverpool, Kansas City, San Francisco, etc., and to the rapid extension of water supply to the smaller towns and villages on this continent. This last is the result of the organization of large water companies, having like the bridge companies able engineers. A contract is made securing an efficient fire service for a stipulated annuity from the corporation. This secures the whole or the greater part of the interest on the outlay and the companies trust to