

overshot or breast wheel ; or better with a turbine, to give the continuous motion sought for. Tide motion, it is evident might thus be utilized successfully, more especially in such inlets or estuaries as the Bay of Fundy, where the rise of the tide attains to forty and even sixty feet, and, in some such estuaries, in other parts of the world, where the tidal amplitudes are very great.

The mechanical action of the tide above alluded to may be secured in two ways, viz.: either by a float or pontoon rising and falling with the tide; and by means of a connecting rod, as between the crank and piston of a steam engine, through or without the intermediary of a working or oscillating beam, procure a rotary motion capable of being multiplied by gearing into a speed practicable for some purposes.

Or by a more direct method of tidal action resorted to in a good many cases already, which consists in enclosing as large an area for the storage of tide water, as can be had by damming a ravine or the mouth of an estuary or river so as to permit the rising tide to overflow the dam in a way to fill the enclosure. Upon the tide receding, the volume of water impounded (especially when supplemented as it may be by the flow of the river itself, or even if there be no other delivery of water into the enclosure) will suffice to keep a turbine or other wheel going during the whole interval between two successive tides, with, of course, increasing energy as the tide falls, and again decreasing power as it rises.

As early as 1847, the writer advocated the damming of the St. Charles estuary, across from the city of Quebec to the Beauport side, a distance of quite a mile at the site proposed. This would have kept up the water within the dike to high tide level all the year round.

His object then was not with the idea of any water power to be derived therefrom or utilized; but to afford water up the St. Charles for ship building purposes and for the dockage of vessels which, on opening the lock gates at high tide, or rather when the outer water reached the level of the inner, would allow of vessels passing in and out, or both ways; or by lockage, when the outer water fell either short of the inner or was at a higher level; a scheme which may still be carried out.

Now it is conceivable how, in this case, the falling tide might be rendered useful and, so to say, operative, though in an indirect or negative manner, by having along the dike, on its outer side and running its full length or less, a line of shafting laid