

LAKE CURRENTS.

BY L. J. CLARK.

(Read 7th March, 1891.)

With the opinion that there are any regular, constant, well-defined lake currents, I feel inclined to disagree. The theory that the waters of the Niagara River make direct across the lake and strike the north shore about the neighborhood of Scarborough Heights, and are then deflected to the east or west, forming currents, is, I think, a highly delusive one; or, as Mr. Sandford Fleming characterizes it, "a theory wild and incapable of defence, though some there are bold enough to venture it." Crossing the lake one day last summer, when nearing the mouth of the Niagara river, I asked the captain how far out he felt the influences of the current? He replied, "about two or three miles." I asked him what velocity he supposed it had? He said from three to four miles per hour, and that when a strong east wind was blowing it would be turned to the west, and *vice versa*; and that it deposited its detritus a short distance from shore; thus showing that its current is practically checked when it strikes the great body of water in the lake.

I believe that the uniform tendency of the water is towards its outlet at the east end of the lake, and that the only other currents that exist owe their origin to such causes as stated by the captain above referred to, namely, the winds. That there are currents produced by this agency no one will, I think, deny. But it is to the currents in our immediate neighborhood, and along our own water front that I shall call your attention to-night.

The question becomes of primary importance when considered in connection with any method of sewage disposal, which looks to diverting the sewage, crude or partially purified, into the lake. An investigation, then, of the Lake currents bears the same relation to sewage disposal that *testing the waters of Lake Simcoe does to the gravitation scheme*, or the newer method of supply by artesian wells; first find the *flowing region*.

A somewhat remarkable statement was made by a prominent sanitarian, within the last twelve months, to the effect that the proposal to discharge the crude sewage into the lake would be fraught with the greatest danger to our water supply, as it was proved that any impurity