

## SHORTAGE OF WATER SUPPLY FOR NAVIGATION AT HEIGHT OF LAND AND REMARKABLE EXPENDIENTS FOR OVERCOMING THE DIFFICULTY.

Concerning the problem of navigation over the height of land the Government report 1908, contains the following:—

"It must be stated, however, that the early surveys of 1855 and 1857, by Messrs. Shanly and Clark, the conditions were very different from those of to-day, in regard to Lake Nipissing. Mr. Shanly, in his report dismissed the Trout Lake summit by simply stating that the water supply is inadequate, and proposed to raise Lake Nipissing about sixteen feet, and lower Trout Lake to reach this level, thus including Lake Nipissing in the summit reach. This was probably the proper solution at the time, on account of the land around the Lake being practically unoccupied. The shores of Lake Nipissing are so low that the raise of level proposed would naturally flood large tracts of land. At present such a scheme is inadmissible. The number of settlements, villages and towns, apart from the railway interests, which would be affected, are vital objections to it."

In order to provide water for locking across the summit, which Mr. Shanly stated was not available, surveys of the watershed area that could be made tributary to the summit were made by the Government engineers and their report recommends a system of dams by which the entire precipitation during the year could be saved for locking purposes. This, it is estimated, would produce a supply sufficient to lock through ten million tons per annum. Another watershed area was explored, and the report adds that it could be connected with the first one by a system of dams, canals or tunnels; or (Government report, page 210) water might be pumped from Lake Nipissing into the summit reach, thus doubling the supply for locking purposes and affording sufficient water to lock through twenty million tons per year.

Against this maximum of possible supply, must be set the fact that in 1907 over fifty-eight million tons passed through the Soo locks; and further, that the tonnage alone, which passed through Canadian Canals grew from 5,665,259 tons in 1901 to 9,371,744 tons in 1905, and to 42,990,608 tons in 1910, with an additional large increase in 1912. With regard, therefore, to the present need, as well as to the phenomenal increase of traffic which is taking place at this time, a maximum capacity of twenty million tons is totally inadequate.

The report (page 310) admits that in no large canal has the above principle of pumping water into the summit reach been resorted to for supplementing a deficiency in the water supply; but this device, for lifting one's self over the fence by one's bootstraps, ingenious though it is, by no means exhausts the fertility of these gentlemen in overcoming that difficulty. On page 153 of the Report the following statement is found:—

"No water is estimated to be drawn from the summit for power to operate the Trout Lake lock nor for the lighting of the canal from Lake Nipissing through to Trout Lake, or to operate the bridges there. A producer gas-electric plant will supply this demand."

This is in order to conserve for locking purposes, so far as possible, every drop of precipitation in the watershed area throughout the year.