

# The Canadian Engineer

*A weekly paper for engineers and engineering-contractors*

## REPAIR OF INTAKE PIPE FOR CITY OF OTTAWA

RECLAIMING 40-INCH STEEL PIPE LINE LAID A QUARTER OF A CENTURY AGO IN THE OTTAWA RIVER—DESCRIPTION OF REMOVAL, REPAIR AND RELAYING.

By **L. McLAREN HUNTER, A.M.I.C.E.,**  
City Engineer's Office, Ottawa.

At the present time, when Ottawa is in the throes of a discussion of the pure water question, a short description, with illustrations, of the reclamation of the old 40-in. steel intake pipe in the Ottawa River might prove of interest. This pipe, which has lain in the bed of the river for approximately a quarter of a century, has been disconnected, raised, towed ashore, repaired and is now being relaid.

The work was in two sections, the first of which was from the main pumping station to the shore of Nepean Bay, a distance of over 2,000 ft., and the second from that point across Nepean Bay and the Ottawa River to Lemieux Island, a distance of approximately 3,200 ft.

The first section presented comparatively few difficulties, as the pipe had been laid in an open aqueduct. This was emptied, after having been closed, by means of a coffer-dam at the one end and stop logs at the other.

The pipe was then disconnected and each length of about 45 ft. was tested. The old cast iron flanges were then cut off and the rivets and seams caulked where necessary.

After this had been done the pipes were placed in the desired alignment and riveted together by means of steel sleeves so as to form one continuous pipe from the pump-house to Nepean Bay. Two cast steel manholes were placed on this section, to give access to the pipe, if necessary.

In order to overcome the buoyancy which such pipes, when empty, have in water, a series of

arched reinforced concrete beams were placed at approximately 25 ft. centres.

At the river end of the aqueduct the old stop-log house, found to be in a dangerous condition, is being replaced.

On the river section more difficulties have been encountered. The first step was to raise the pipes, which



Fig. 1.—A Length of Pipe Ready for Relaying

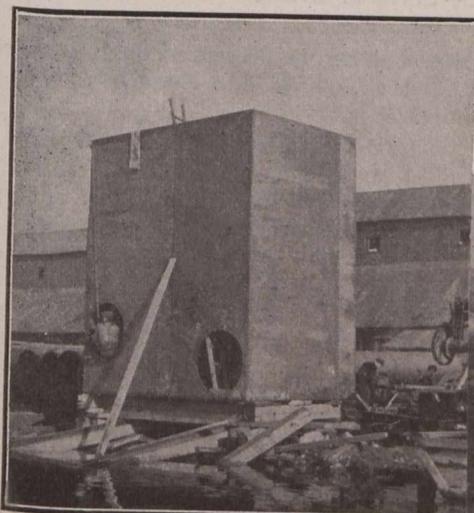


Fig. 2.  
No. 4 Tank on Shore.

Fig. 3.  
Launching 200 Ft. of Pipe.



Fig. 4.  
Pump House and Portion of Aqueduct