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PARTRIDGE ISLAND WATER SUPPLY, ST. JOHN, N. B.

FLEXIBLE BRONZE TUBING USED FOR CARRYING FRESH WATER SUPPLY FROM THE CITY MAINS TO PARTRIDGE ISLAND, ST. JOHN HARBOR—NOTES ON OLD AND NEW PIPE LINES.

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PARTRIDGE ISLAND, situated at the entrance of the harbor of St. John, N.B., has an area of about thirty acres, and is used for quarantine purposes in connection with immigration, and also for a training depot. The island is 3,500 feet from the nearest point of the mainland at high tide, and 1,490 feet from the end of Negropoint Breakwater, which partly closes the west channel. This channel has a depth of 15 feet of water at

placed on the surface of the bottom across the channel, where the bottom is very level. The joints allowed the pipe to bend twenty degrees at each connection, in the laying. While this pipe is claimed to have been found

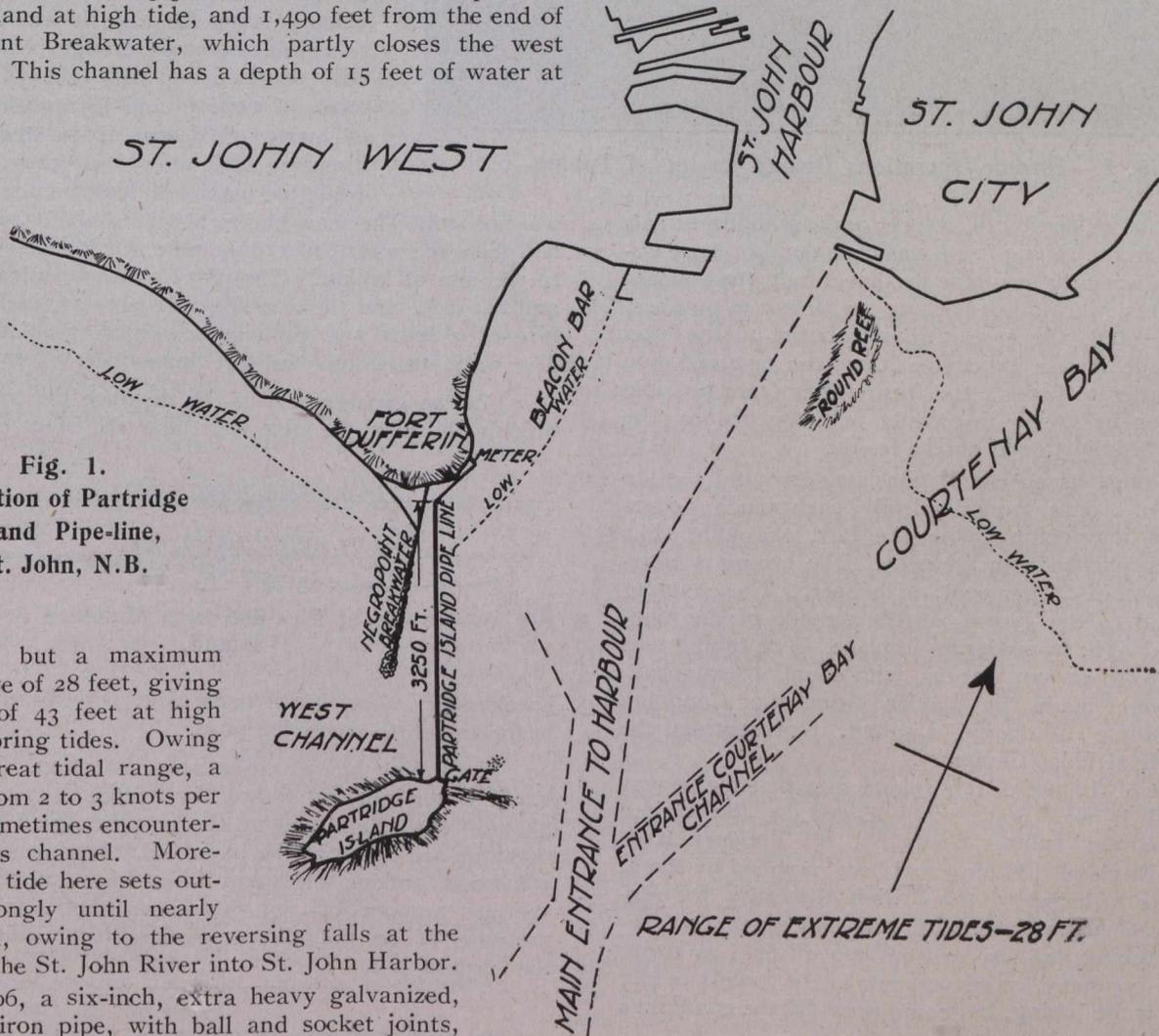


Fig. 1.
 Location of Partridge
 Island Pipe-line,
 St. John, N.B.

low tide, but a maximum tidal range of 28 feet, giving a depth of 43 feet at high tide on spring tides. Owing to this great tidal range, a flow of from 2 to 3 knots per hour is sometimes encountered in this channel. Moreover, the tide here sets outward strongly until nearly half flood, owing to the reversing falls at the outlet of the St. John River into St. John Harbor.

In 1906, a six-inch, extra heavy galvanized, wrought iron pipe, with ball and socket joints, was laid across the west channel from the mainland, connecting with the city mains, to provide Partridge Island with a fresh water supply. This pipe, in 18-foot lengths, connected up on a scow, was lowered into a dredged trench for a distance of 2,000 feet, where protected by the breakwater, but was

tight when completed, it was damaged almost immediately by the anchor of a vessel, and was probably strained in several joints. On one occasion also, in especially cold weather, within a year of its completion, the fresh water froze in the pipe submerged in the salt water, which was