

XI.—*Wireless Time Signals from the St. John Observatory of the Canadian Meteorological Service.*

By D. L. HUTCHINSON.

(Communicated by R. F. Stupart, and read May 27, 1908).

In April, 1905, the writer suggested that the Marconi Wireless Station, then being equipped at Camperdown, near Halifax, N.S., be made use of to extend the time signal, which is sent daily to all Western Union Offices in the Maritime Provinces from the Observatory at St. John, to ships at sea within the zone of that Station. This recommendation was approved of by the Director of the Canadian Meteorological Service, R. F. Stupart, F.R.S.C.

After some unavoidable delay the apparatus was installed at the Marconi Station, Camperdown, N.S., and the following "Notice to Mariners" was issued by the Department of Marine and Fisheries in May, 1907: "The Meteorological Service of the Dominion of Canada is now sending time signals from the Observatory at St. John by telegraph to the Marconi Wireless Station at Camperdown, where special apparatus has been installed to automatically transmit the signal to ships at sea within the zone of that station.

"Time signals will be sent each week day morning as follows: Beginning at 9h. 58m., a.m., Atlantic time, dots are made each second up to and including 9h. 58m. 57s., then a pause of two seconds, followed by a dot at 9h. 59m., then a pause of two seconds follows, The clock then makes dots each second up to and including 9h. 59m. 50s., a pause is then made, followed by a dot at 10h. a.m., Atlantic or Standard time of the 60th meridian west longitude, equivalent to 2h. p.m. Greenwich mean time."

The electric transmission of time signals over a continuous wire is practically instantaneous, and the problem of repeating from the land line to wireless without the intervention of a human relay was solved by the construction of a simple apparatus at the Observatory, St. John, consisting of an automatic key which is thrown in circuit with the land line immediately before the time signal is received and out of circuit when the signal ceases. The wireless key is operated automatically by direct Western Union wire from the transmitting clock at St. John, with no more delay than would be caused by going through a repeater on the ordinary telegraph line. Thus to Canada belongs the honour of the first, and, so far as is known, the only daily wireless time signal of the world.

The following letter from the Commander of R. M. S. Empress of Ireland shows the practicability and usefulness of this service:

“ Canadian Pacific Railway Company,  
Atlantic Steamship Lines,  
R. M. S. EMPRESS OF IRELAND,  
25th April, 1908.

D. L. HUTCHINSON,  
Director, St. John Observatory.

Dear Sir,

I am pleased to be able to report to you that, on the 23rd inst., while on a voyage from Liverpool to St. John, N.B., via Halifax, I was able to pick up the wireless time signal at a distance of 160 miles south-east of Halifax.

The signal was very distinct, and the method of sending the time is a very practical one for checking a ship's chronometers.

Yours faithfully,

J. V. FORSTER, Commander,

per H. L. WAIT, Navigating Officer.”

Future developments in wireless telegraphy may eventually so overcome local disturbances that, by the Hertzian waves, time signals may be transmitted to ships at sea in all parts of the world and disasters, through miscalculation of longitude, be impossible.