PRINTING TELEGRAPH GIVES RADIO PRIVACY

Wireless Engineers Demonstrate a System Resulting From Long Experiments.

INSTRUMENT SENSES TONES

This Is to Eliminate Static While Jumbled Receivers Deceive Tappers.

CHICAGO, Nov. 9 (Associated Press).—Privacy in radio communication by means of a standard land-line printing telegraph machine, was demonstrated today by Chicago experts before the convention of the Association of Railway Electrical Engineers.

The first public demonstration of the system, which radio engineers predict will open a new era in wireless communication, was made as a result of a series of experiments extending over virtually a year. The designers of the new equipment claim for it important possibilities in the direction of extended use of the ether waves for private communication, commercial telegraph and press reporting.

Before 300 engineers today a message from a standard broadcasting station five miles from the convention room was typed in the meeting hall on an ordinary "stock ticker" device at the rate of about thirty words a minute. Because of purposely jumbled connections in the sending and receiving machines, which, however, were co-ordinated as between the two stations, signals which were rendered in the convention hall as a clearly intelligible, neatly typed dispatch were simultaneously recorded on other sets as a conglomeration of meaningless letters, figures and punctuation marks, devoid of linear spacing.

The key device of the new system is a small instrument weighing less than twenty pounds, known as the Dunmore relay, the invention of Francis W. Dunmore, a staff engineer of the Bureau of Standards. This instrument transmutes the radio impulses into a specially devised land-line telegraph code, which, in turn, is recorded by the printer or ticker. In addition to the selectivity function as regards wave lengths, the relay also responds to definite tones, so that interference by sending stations with corresponding wave lengths is reduced virtually to zero. The extremely close tuning afforded by the tonal resonance works also for the elimination of static interference, according to the demonstrators.

The signals received in the standard radio set are passed to the relay, and thence transmitted to the printing telegraph machine. The primary sending and the receiving equipment are identical to that used in printer telegraph overland wires, the difference between the two being that the signals of one are transmitted by ether waves and those of the wire system are sent over physical connections between the two stations.

Report Reliability Proved.

"We have demonstrated the reliability of the radio printing telegraphy by tests between ground stations and maneuvering aircraft, and between moving ships, but today's exhibition marks the first demonstration of the system which insures privacy," said L. R. Schmitt, expert of the Morkrum Company.

"Typewritten news by radio is one of the many important things the Dunmore system makes possible," he said.

Privacy is obtained by merely placing the wires of the sending keyboard in improper relationships with the broadcasting pulsator. Then, by arranging the same order of pulsations at the desired receiving station, private communication is possible. Elsewhere, even to stations tuned into the proper wave length, the pulsations register an uncanny XYZ series. The unco-ordinated signals give the code expert a problem which several have not been able to solve.

The broadcasting may be made available to many co-ordinated receiving stations simultaneously or held for a single station.

The first long distance experimental test of the Dunmore-Morkrum system in news transmission was made in February between Chicago and Milwaukee. The Morkrum Company, co-operating with The Associated Press and The Milwaukee Journal, tested the system first by sending The Associated Press dispatches into The Journal offices in typewritten form. The results were satisfactory to the radio experts and the news men, but because of several minor problems suggested by the trial the engineers requested additional time for perfecting the system for commercial installation.

"It is hoped that distribution of news by wireless will solve the problems of the papers in the smaller towns," said a statement made public today by Sterling Morton, President of the Morkrum Company.

Application to the Federal Government for the radio-typing wave length and its assignment to a certain "band" under the Department of Commerce regulations will be the next step in the development of the news system, Mr. Morton said. Today's demonstration was on the 1,300 meter wave length.

PHOTOGRAPHERS INJURED.

Flashlight Explodes Prematurely as They Snap Aquitania Passengers.

While the passengers were pouring out from the Cunard pier at the foot of West Thirteenth Street from the Aquitania last night shortly after 6 o'clock, two news photographers, Max Fried and Oscar Goldberg, were badly injured through the premature explosion of a flashlight. The men were trying to get a picture of Edith Day and Pat Somerset, her husband, leaving the pier.

Goldberg, who was pouring the powder, had his eyes severely burned and may lose his sight, while Fried had his left thumb nearly torn off and both his hands badly lacerated.

The explosion took place just at the foot of the stairvase leading from the upper deck of the pier as Somerset was coming down, followed by his wife. The flash lit up the entrance and the noise caused a great deal of excitement for a minute or two until the police had ascertained what had happened and sent in a call for an ambulance to St. Vincent's Hospital.