Oct. 27, 1925. 1,558,535

P. B. DELANY

SECRET WIRELESS

Filed Feb. 1, 1922

Fig. 1.

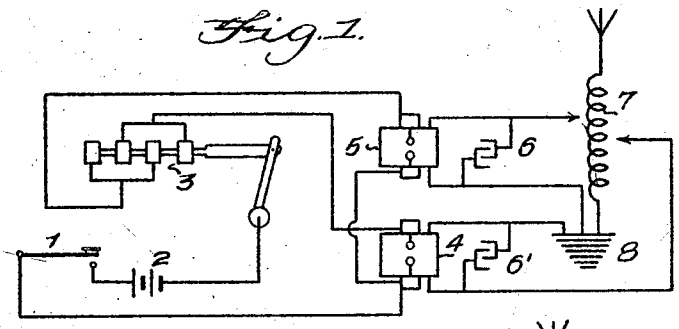


Fig. 2.

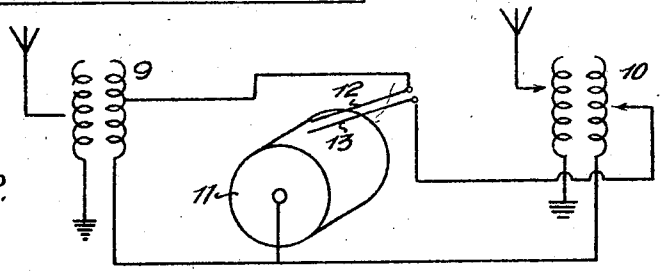


Fig. 3.

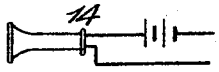


Fig. 5

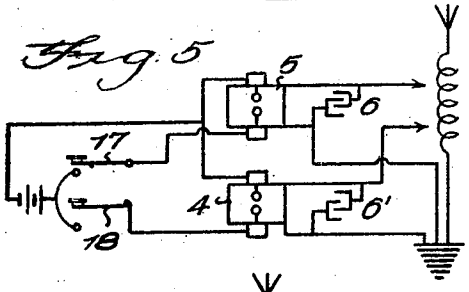


Fig. 4.

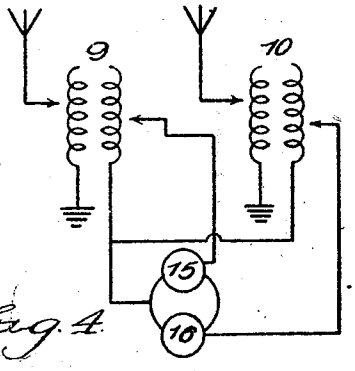
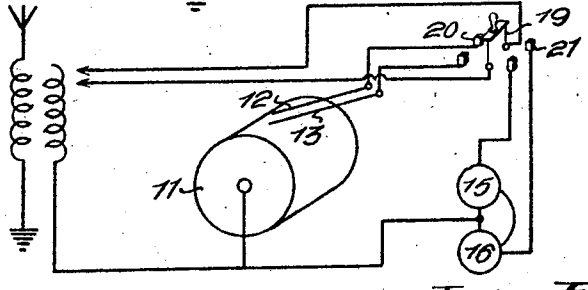


Fig. 6.



Inventor
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by his Attorneys
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Patented Oct. 27, 1925. 1,558,535

UNITED STATES PATENT OFFICE.

PATRICK B. DELANY, OF SOUTH ORANGE, NEW JERSEY, ASSIGNOR, BY MESNE ASSIGNMENTS, TO INTERNATIONAL TELEPOST COMPANY, INC., A CORPORATION OF DELAWARE.

SECRET WIRELESS.

Application filed February 1, 1922. Serial No. 533,246.

To all whom it may concern:

Be it known that I, PATRICK B. DELANY, a citizen of the United States, and a resident of South Orange, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Secret Wireless, of which the following is a full, clear, and exact description.

My invention has for its object the protection of radio communications from publicity or intelligible interception by other stations than the one for whom the communication is intended and is designed to prevent "tapping" by any of the numerous amateur and commercial stations now in existence.

The system is based upon the use of different wave lengths or characteristics for dots and dashes or their component parts, and in the case of wireless telephony the disintegration of syllables, words or other sounds for transmission by waves of different lengths or characters. Under such circumstances the fragments of telegraphic characters or of vocal or instrumental sounds cannot be intelligibly heard or recorded by a single receiver on any one tuning, since at least two wave lengths would have to be discovered and used jointly in connection with two receivers.

For receiving messages thus transmitted two recorders may be used marking side by side on a single tape, or in the case of telephonic reception, two separate head receivers one for each ear and each tuned to one length of wave.

Other objects of my invention will be apparent from the following description and the appended claims.

In the drawings, which are mainly diagrammatic:

Figure 1 is a conventional representation of a telegraphic sending station, and Figure 2 a similar view of the receiving station therefor employing two recording fingers.

Figure 3 indicates a telephone transmitter which is to be substituted for the telegraph key in Figure 1, and Figure 4 shows the receiving station corresponding therewith.

Figure 5 illustrates a slightly different form of apparatus in which two sending keys may be used, and Figure 6 shows the form of receiver which may be used either for visual or auditory reception of the messages.

In the form of transmitting apparatus disclosed in Figure 1 a telegraph key 1 and battery 2 are connected through a rotary switch 3 alternately to means for sending waves of two different lengths, said means comprising spark gaps 4 and 5, condensers 6 and 6′, and aerial 7 grounded at 8. The rotary switch is shown as having four segments and as it rotates the signals sent by the key 1 are sent alternately as a whole or in part over one or the other of the intermittently generated waves. The exact character of the sending apparatus or of the rotary switch is immaterial, and likewise any system of wave generation damped, undamped or modified. It is only necessary that the operation of the key shall cause the emission of waves of one character or of another according to the position of the switch or other regulating means at or during the operation thereof.

The receiving station conventionally illustrated in Figure 2 must have means 9 and 10 respectively, or equivalent means of selectivity for receiving the waves of the different characters or lengths employed in transmission, and they are connected to recording fingers 12 and 13 resting on the usual tape carried by a drum 11, a chemical recorder being preferred.

The portions of the message sent out on one wave length will be received by the receiving means 9 and recorded through the finger 12, while the portions sent out by the other wave length will be received by the receiving means 10 and recorded by the finger 13. These records are side by side and can be easily read.

If it is desired to transmit sound such as speech or music, a telephone transmitter 14 is substituted for the key 1 of Figure 1, and the operation at the sending station is the same as in the first case. The receiving station as shown in Figure 4 has two telephone receivers 15 and 16 carried by one headpiece and substituted for the recording fingers of the first form. Since a portion of the signals will be received through one ear and the remainder through the other, and always in the same order in which they were sent, it is obvious that the message will be readily understood.

This form of receiver may also be used instead of the recorder shown in Figure 2 for the reception of telegraphic messages.

A still further arrangement is illustrated in Figures 5 and 6. Here two keys 17 and 18 are employed, one for dots and the other for dashes and the rotary switch is omitted. The receiving station shown in Figure 6 may include the recorder of Figure 2 and the telephone receiver of Fig. 4, a switch 19 being employed to close circuits through contacts 20 or 21 according to whether visual or auditory reception of the messages is desired.

It is obvious that many modifications may be made within the scope of my invention, and the illustrations are merely diagrammatic. Other forms of switch may be used instead of the rotary one conventionally illustrated. Any general type of apparatus, wave generators or modifiers may be employed so long as they conform to the description given and accord with the appended claims.

I claim as my invention:

1. A secret radio system, comprising in combination at the transmitter means for radiating waves of differing frequencies having fragmentary and mutilated portions of the signals to be transmitted superimposed on either one or another of said differing frequencies, at the receiver a plurality of circuits arranged to respond to said differing frequencies, means for producing a visible and audible record of each of said fragmentary and mutilated portions of the transmitted signals on each of said differing frequencies, said visible record means comprising a recorder with separate means operable side by side, and each operative by fragmentary and mutilated portions of said signals on different frequencies whereby said signals may be visibly and audibly combined for securing an intelligible record at the receiver.

2. A system for receiving radio signals in which fragmentary and mutilated portions of the signals are transmitted secretly on a plurality of different frequencies, comprising in combination a plurality of receiving circuits each responsive to one of the signaling frequencies, a visible recorder connected with said circuits, said visible recorder comprising a tape and a plurality of signal recording means corresponding in number to the number of transmitted frequencies, each operable side by side adjacent said tape and each operative by fragmentary and mutilated portions of said signals on different frequencies whereby said signals may be combined and visibly reproduced on said recorder for securing an intelligent record of the transmitted signals.

3. A system for receiving radio signals in which fragmentary and mutilated portions of the signals are transmitted secretly on a plurality of different frequencies, comprising in combination a plurality of receiving circuits each responsive to one of the signaling frequencies, a record receiving device connected with said circuits, said device comprising a plurality of receiving means corresponding in number to the number of transmitted frequencies each operative by fragmentary and mutilated portions of said signals on different frequencies whereby said signals may be combined to secure an intelligent record of the transmitted signals.

In testimony, whereof I have hereunto subscribed my name.

PATRICK B. DELANY.