Oct. 29, 1935. P. D. ADLER 2,018,940

COMMUNICATION SYSTEM

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Fig. 1.

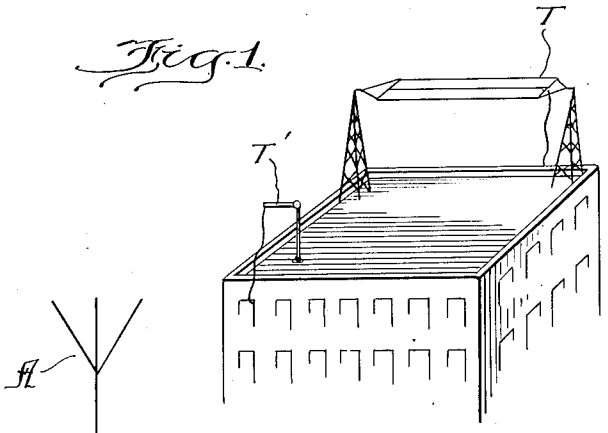
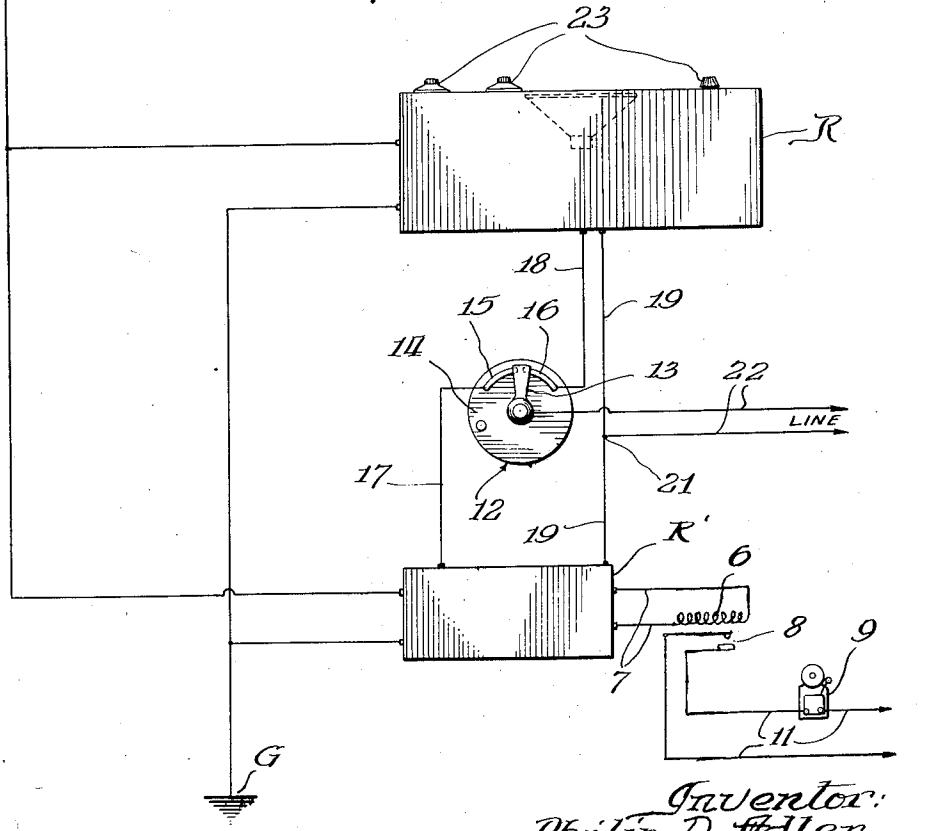


Fig. 2.



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COMMUNICATION SYSTEM

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3 Claims. (Cl. 250—2)

This invention relates in general to radio communication and has more particular reference to "news flash" apparatus for communicating news by means of conventional radio communication systems.

An object of the invention is the provision of an improved radio apparatus for the communication of events or occurrences affecting or likely to affect large numbers of people or being of national importance and/or for the communication of emergency news or directions. As an example of the latter, I might here mention directions for military forces or for other purposes.

Other objects of the invention include the provision of such radio apparatus adapted to communicate advance notice that news of such events or occurrences or some other "news flash" is about to be broadcasted, employing for such advance notice a frequency or wave-length outside of the tuning range of conventional or "long wave" receivers, whereby such advance notice will not interfere with communication by conventional or "long wave" systems; operable to transmit and to receive the "news flash" at a frequency or wave length within the tuning range of conventional or "long wave" receivers; and controllable to give and to receive such advance notice whether or not it is receiving conventional or "long wave" signals.

Other objects and advantages of my invention will appear more fully from the following description and from the accompanying drawing.

I have illustrated more or less diagrammatically a "news flash" apparatus for accomplishing the foregoing objects in the accompanying sheet of drawing, wherein

Fig. 1 is a fragmentary diagrammatic view of a radio broadcasting station having a conventional or "long wave" transmitter T and a "call signal" transmitter T' preferably less powerful than the transmitter T; and

Fig. 2 is a schematic wiring diagram of a receiving station having a conventional or "long wave" receiver R, an auxiliary "call signal" receiver R', and a suitable antenna and ground circuit for said receivers. For convenience of illustration, I have shown antenna A and ground G as serving both receivers.

The receiver R' is adapted to operate any suitable means for indicating that a "call signal" is being broadcasted and received. As such indicating means, I prefer to employ a relay having a relay coil 6 connected by leads 7 to the receiver terminals for the usual loud speaker. Relay contacts 8 are controlled by the coil 6 for controlling a bell or other indicator 9 electrically connected in series, as illustrated in Fig. 2, with the contacts 8 and with a suitable source of electrical energy (not shown) by conductors 11.

Suitable control means are provided for controlling each receiver R and R'. This control means is adapted to turn both receivers off, to turn on the receiver R' without turning on the receiver R, to turn on the receiver R and the receiver R'. Such a control means is illustrated in Fig. 2 as a switch 12 having a rotatable switch arm 13 with an "off" position 14 and having spaced contact segments 15 and 16. The width of the switch arm 13 is so related to the space between adjacent ends of the contact segments 15 and 16 that the arm 13 may bridge across the space and make electrical contact with both contact segments 15 and 16 at the same time.

The contact segment 15 is connected by a conductor 17 to one of the main supply terminals of the receiver R'. The other contact segment 16 is connected to one of the main supply terminals of the receiver R by a conductor 18. Conductors 19 connect the other supply terminal of each receiver to a common terminal or point 21.

By means of line conductors 22, one of which is connected to the switch arm 13, the other being connected to the common terminal 21, electrical energy from a suitable source (not shown) may be supplied to either or both of the receivers R and R', depending upon whether the switch arm 13 is making contact with the segment 15 or 16, or whether the switch arm 13 is in the position shown in Fig. 2 where it makes contact with the segment 15 and the segment 16. Both receivers may be turned off by moving the switch arm 13 to the "off" position 14.

The communication of important or emergency news or directions by radio is not only growing in public appeal, but is rapidly becoming more and more important. This is due to the advantages of, and the preference for, oral, as distinguished from written, reports, and the saving in time when radio is used instead of other means of communication, as well as the accuracy and color obtainable by an immediate and almost spontaneous report by radio instead of a report, usually later, by other and slower means of communication received after the significance or news value of the report has been substantially lost.

According to present practice, reports of important events, and even emergency news or directions, are broadcasted without advance notice. To obtain wide distribution for such broadcasted reports or directions, a plurality of variously located transmitters like the transmitter T, are electrically connected together to form a "chain" or a "national hookup" and the reports or directions are broadcasted from all the transmitters at once. Since, however, it has not heretofore been feasible to give advance notice of the broadcasts, only a relatively few people receive such reports or directions, because they are either receiving at the time from a transmitter not in the chain or because their receivers have been turned off and are therefore not operating. Con-

sequently, even important events and emergency news, although broadcasted by the transmitters of such a chain, are not received by a great many radio receivers and are therefore not heard by a great many people until otherwise communicated to them, frequently after the report of such events or news has no appreciable significance or news value.

By virtue of this practice of broadcasting from a plurality of variously located transmitters, radio apparatus of extremely simple design and assembly may be employed for communicating advance notice that important or emergency news or a "news flash" is about to be broadcasted. It is contemplated, for example, that each broadcasting station will include a transmitter T and a "call signal" transmitter T' for sending signals receivable by receivers R and R', respectively. The circuits employed by the transmitter T' and the receiver R' are of simple design and require only a relatively small amount of energy for sending and receiving the "call signals".

The auxiliary radio communication system comprising the "call signal" transmitter T' and the "call signal" receiver R' employs a frequency or wave length outside of the tuning range of the conventional receiver R. Preferably this auxiliary radio communication system is of the type characterized in this art as a "short wave" system, the "call signal" receiver R' being tuned to receive only such signals that have the frequency or wave lengths at which the auxiliary communication system is designed to operate.

The radio transmitter T and the radio receiver R constitute a conventional or long wave radio communication system wherein the receiver R may be adjusted by any suitable means 23 to receive signals throughout a predetermined range of frequency or wave lengths from variously located conventional or long wave transmitters, such as the transmitter T.

In operation, when it is desired to broadcast news of an important event, the transmitter T' of each broadcasting station is first operated to produce a "call signal" at the frequency or wave length at which the receiver R' is adapted to resonate. This "call signal", regardless of whether or not the receiver R is operating, will be received over the antenna A by the receiver R', causing the receiver R' to energize the relay coil 6 which in turn will operate the relay contacts 8, completing the bell or indicator circuit for operating the bell or indicator 9 in accordance with the "call signal" originally sent from the transmitter T'.

The operation of the bell or indicator 9, as just described, will indicate to the operator at the receiving station, regardless of whether or not the conventional receiver R is operating, that important news or a "news flash" is about to be broadcasted by transmitter T.

Upon receiving the "call signal" from transmitter T', the switch arm 13 may be moved into contact with the contact segment 16, if the receiver R is not already operating. The receiver R may then be tuned by manipulation of the adjustment means 23 so that the "news flash" may be received by the receiver R when broadcasted by the transmitter T. If the receiver R is already operating, then the adjustment means 23 may be, upon receipt of the "call signal" from the transmitter T', manipulated to tune the receiver R for reception from the transmitter T.

Thus, whether or not a conventioal receiver is being operated, a "call signal" may be sent from a broadcasting station and employed at a receiver to give advance notice of, for example, a "news flash" which is about to be broadcasted, and the conventional receiver may be adjusted to receive such "news flash" when it is broadcasted, whereby to obtain all of the advantages of radio communication as enumerated above.

While I have described my "call signal" communication system as being any simple "short wave" system, it will be understood that I do not intend so to limit my invention but contemplate other more or less simple types of communication systems for use in the communication of a "call signal". For example, I have found that the transmitter T' may be a simple spark gap transmitter, and the receiver R' may be a simple crystal detecting or coherer detecting receiver.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent of the United States is:

1. In a "call signal" radio communication system for giving advance notice that emergency news is about to be broadcasted, a conventional radio receiver for receiving the broadcasted emergency news, said receiver being tunable to receive various broadcasts at different conventional frequencies, a non-conventional wave receiver for receiving a "call signal" indicating that the emergency news is about to be broadcasted, a common source of power for said receivers, and a single control switch for said receivers, said switch being interposed between said receivers and said source of power and selectively energizing either or both of said receivers.

2. In a "call signal" radio communication system for giving advance notice that special news is about to be broadcasted, a conventional radio receiver for receiving the broadcasted special news, said receiver being tunable to receive various broadcasts at conventional frequencies, a short wave detecting receiver for receiving a "call signal" indicating that special news is about to be broadcasted, a bell operated by said last-named receiver, a common source of power for said receivers and a control switch for said receivers interposed between said receivers and said source of power to selectively energize either or both of said receivers.

3. A radio receiving apparatus adapted to receive conventional broadcasts and special news flash broadcasts and signals indicating the imminence of the latter type of broadcasts, associated receivers adapted to receive and make audible these types of broadcasts, said receivers being connected to antenna means, one receiver being adapted to receive call signals only, another receiver being adapted to receive both conventional broadcasts and said occasional news flash broadcasts, a switch having a stationary contact for each receiver and a movable contact means for forming an electrical connection with either of said stationary contacts separately or both simultaneously, and energizing power means connected to said receivers through said switch.

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