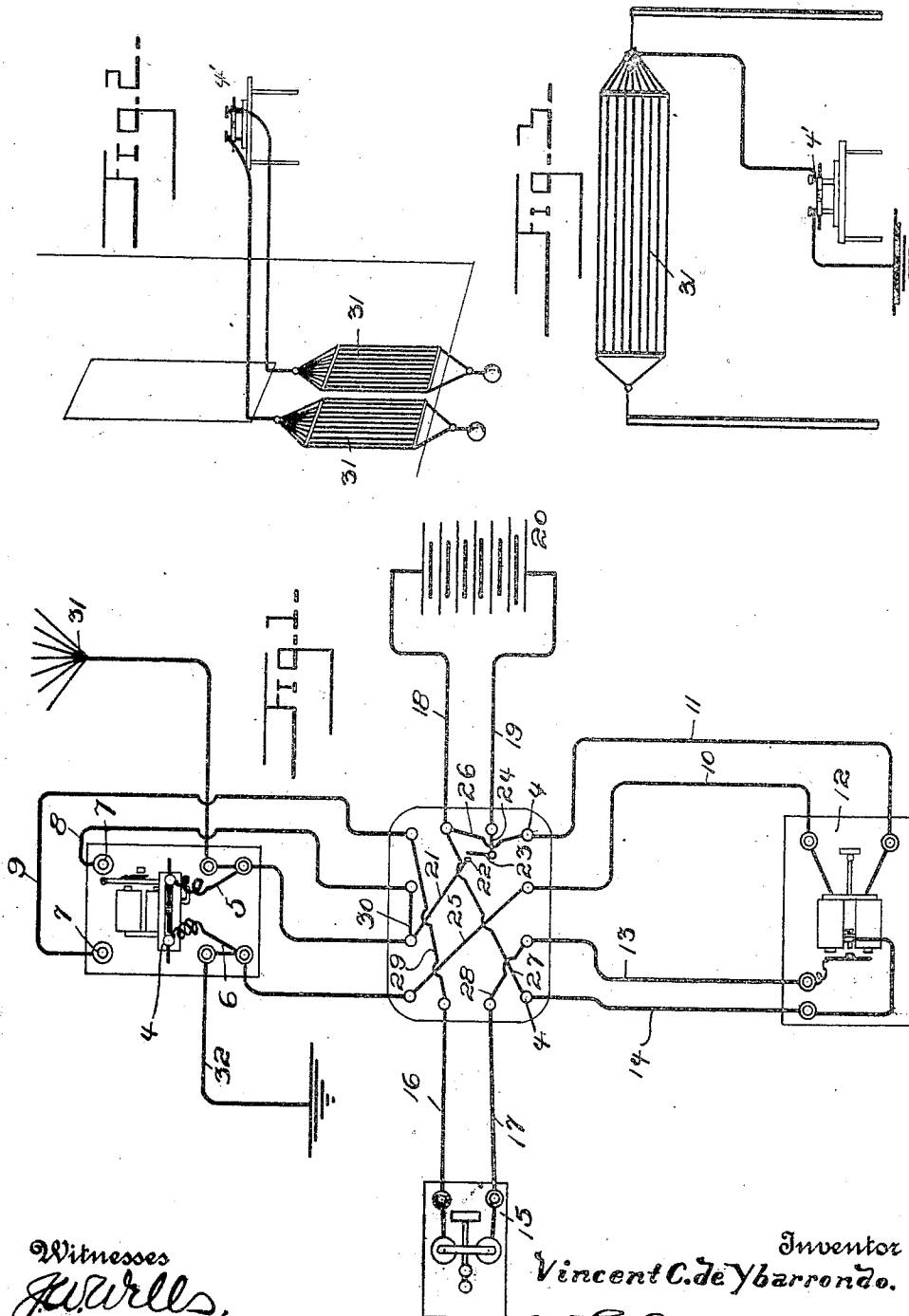


V. C. DE YBARRONDO.
WIRELESS TELEGRAPH SYSTEM.
APPLICATION FILED JAN. 2, 1909.

935,721.

Patented Oct. 5, 1909.

2 SHEETS—SHEET 1.



Witnesses
J. W. Wells.
E. L. Mueller.

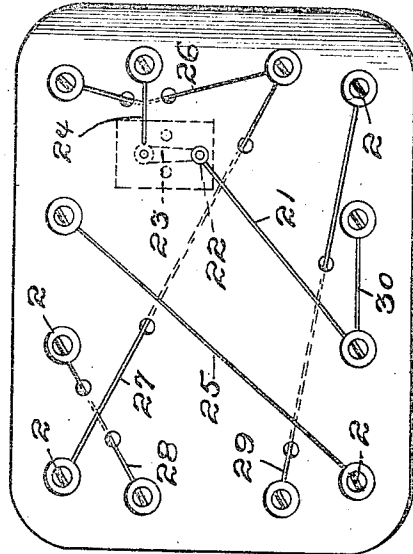
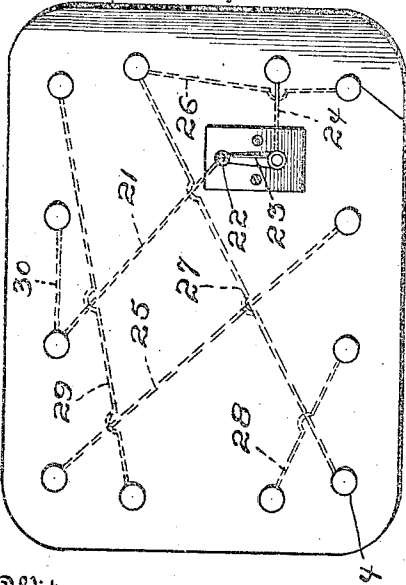
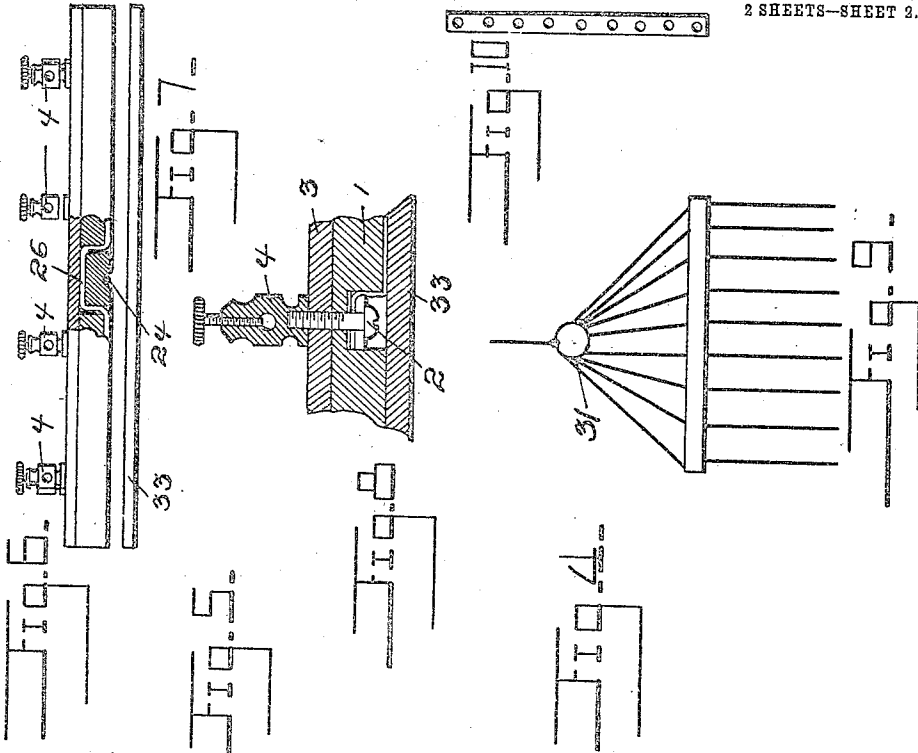
Inventor
Vincent C. de Ybarrodo.
By E. E. Vrooman,
his Attorney

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UNITED STATES PATENT OFFICE.

VINCENT C. DE YBARRONDO, OF LOS ANGELES, CALIFORNIA.

WIRELESS-TELEGRAPH SYSTEM.

935,721.

Specification of Letters Patent.

Patented Oct. 5, 1909.

Application filed January 2, 1909. Serial No. 470,307.

To all whom it may concern:

Be it known that I, VINCENT C. DE YBARRONDO, citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented certain new and useful Improvements in Wireless-Telegraph Systems, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to improvements in wireless telegraph systems, and more particularly to the portable type.

It has for one of its objects the provision of a central switch board equipped with suitable wiring in position to be readily connected with the aerial and sounding apparatus.

Another object is to provide a switch whereby the entire system may be cut out when desired.

A further object is to provide a novel form of wiring for the switch board.

A still further object is to construct the system whereby two aerials may be used to dispense with grounding the system.

With these, and other objects, in view, the preferred embodiment of my invention resides in that construction and arrangement of parts hereinafter described, illustrated in the accompanying drawings, and embraced within the scope of the appended claims.

In said drawings:—Figure 1 is a plan view of the system. Fig. 2 is a detail view of two aerials connected to the coherer when the ground is dispensed with. Fig. 3 is a similar view with one aerial and the system grounded. Fig. 4 is a bottom plan view of the switch board. Fig. 5 is a top plan view of the same. Fig. 6 is a side elevation of the switch board. Fig. 7 is a similar view of the batten for the wiring. Fig. 8 is a fragmentary vertical section of the switch board. Fig. 9 is a side elevation of one end of the aerial, and Fig. 10 is a front elevation of one of the aerial wire stays.

Similar numerals of reference are employed to designate corresponding parts throughout.

In carrying out the invention I provide what will subsequently be termed a central switch board. This member is provided with suitable wiring which may be readily connected with the aerial through the coherer, and is further equipped with connections for the local circuit consisting of a desired number of batteries, a relay, sounder

and decoherer, and is still further provided with a switch, connecting one pole of the battery with a similar pole of the coherer, and by means of which the system may at any time be rendered inactive.

The switch board consists of a middle section (1), see Fig. 1, preferably of wood or other suitable insulating material, having a plurality of vertical openings, and is provided on its opposite faces with a number of grooves which terminate in the said openings, the disposition of the grooves being such that by a system of crossing a comparative net work is formed on the opposite faces of the board. The major portions of the openings are arranged parallel with the sides at d ends of the middle section, and in each of these openings is fitted a machine screw (2), the threaded shank of which extends upwardly through the opening and the top section (3). The latter is preferably of the same material as the middle section and of a size to cover the upper face of the latter, as shown in Figs. 1, 5 and 8. To the threaded terminal of each screw projecting beyond the upper section (3) a binding post (4) is secured. By referring now to Fig. 1 it will be seen that the opposite terminals of the coherer (4) are connected through the wiring (5) and (6) to two of the binding posts (4) on one side of the board, and to the other two binding posts on the same side of the board the decoherer (7) is connected by the wires (8) and (9). On the opposite side of the board similar connection is established with the binding posts, the wires (10) and (11) being connected to the coil end of a relay (12), the armature end of which is connected to the other two binding posts on the same side of the board by the wires (13) and (14). Two binding posts are at one end of the board, which are connected to the poles of a sounder (15) by the wires (16) and (17). While at the opposite end the board is provided with a pair of binding posts which are connected by the wires (18) and (19) to the opposite poles of a battery (20), connection between the positive wires leading from the battery is established by a wire (21) the terminals of which are secured to the positive binding and contact post (22) of a switch lever (23), the pivotal point of which is connected to the positive wire of the battery by a wire (24). The wire (21) runs in a diagonally disposed groove on the lower face of the middle sec-

tion. The opposite terminal of the coherer is connected to the corresponding post of the wire leading to the coil end of the relay by the wire (25), disposed in a diagonal groove
5 on the lower face of the middle section substantially parallel with the wire (21).

Connection is established with the opposite pole of the battery and the other binding post of the wire leading on the coil side
10 of the relay by the wire (26), which crosses the positive connection (24) between the binding post and pivotal end of the lever (23), in the following manner. Suitable openings are formed in the central section
15 on either side of the groove in which the wire (24) is disposed, so that by inserting one end of the wire through one of these openings and then leading the same over the upper face of the central section and
20 thence downwardly through the opposite opening, the cross is effectively made without the wires touching. A terminal on the opposite side of the relay is connected in the usual manner to the negative post of battery wire (18) by a wire 27 which crosses
25 the connections (21) and (25) between the coherer and coil side of the relay and battery in the manner described for the connection 26.

30 Connection is established with the sounder wires (16) and (17), the other terminal on the armature side of the relay, and the decoherer by the wires (28) and (29) which cross the connections 21 and 25 similar to
35 the connection 26. The circuit is completed by the connection 30 between the positive terminals of the coherer and decoherer. Thus it will be seen when the switch (23) is closed, and a wave enters on the aerial (31),
40 a portion of which passes into the earth by the ground wire (32), the coherer will be excited in the usual manner causing the local circuit to close and the armature of the relay to be attracted, which transmits the
45 current to the sounder and decoherer. When the latter vibrates, the filings of the coherer separate in the usual manner and the circuit is opened. It can be seen by the use of two aeri-
50 als the ground wire (32) may be dispensed with, and it is to be further observed that any form of sounder or producer, such as a register, may be substituted for the sounder (15).

With this device the problem of portable
55 wireless outfits will be greatly simplified, since it can be readily seen that the connections for the various elements are always in position. A batten (33), similar to the top section (3) is designed to be secured over

the lower face of the middle section (1) 60 whereby greater protection is given the wiring of the switch board.

Having thus described my invention what I claim as new is:—

1. In a portable wireless telegraph system, 65 a central switch board formed of superimposed sections one of the same being provided with oppositely extending oblique grooves on its opposite faces forming seats for the wires, and vertical openings adja- 70 cent said grooves whereby the wires on one face of the section may cross each other without contact by passing through the openings to the opposite face and thence 75 to the first named face substantially as described.

2. In a portable wireless telegraph system, a central switch board formed of sections one of the same having grooves on its opposite faces forming permanent seats for con- 80 nections adapted to close, and open and close the circuit between the coherer and local receiving circuit, and a switch on said board to open and close the circuit of said connections. 85

3. In a wireless telegraph system, a central switch board, consisting of a middle section having grooves on its opposite faces forming seats for the wires, a batten covering the grooves on one face of said board, 90 and a section provided with binding posts and a switch on the opposite face of said board.

4. In a wireless telegraph system, a central switch board comprising a middle sec- 95 tion having grooves on its opposite faces and vertical openings whereby a wire disposed in one of said grooves may cross the wire in the adjacent groove by passing through the said vertical openings, a top and bottom cov- 100 ering for said middle section and a switch on said top adapted to open and close the circuit of said board.

5. In a portable wireless telegraph system, a coherer, a relay, a sounder, a local battery, 105 and a central switch board formed of sections one of the same being provided with grooves on its opposite face forming seats for the connections to open and close the circuit to said coherer, relay, sounder and local 110 battery.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

VINCENT C. DE YBARRONDO.

Witnesses:

C. M. STEPHENS,
THOS. DE YBARRONDO.