

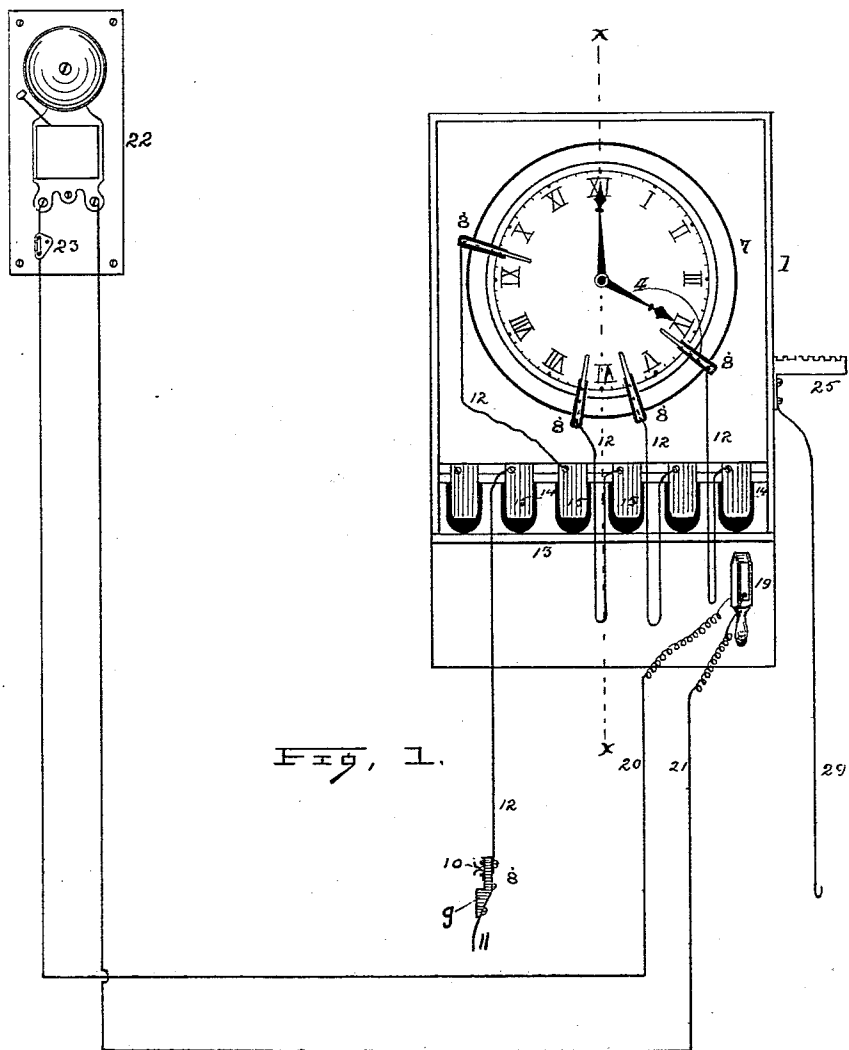
(No Model.)

2 Sheets—Sheet 1.

F. C. JORDAN.
ELECTRIC CALL BELL.

No. 560,096.

Patented May 12, 1896.



Witnesses.
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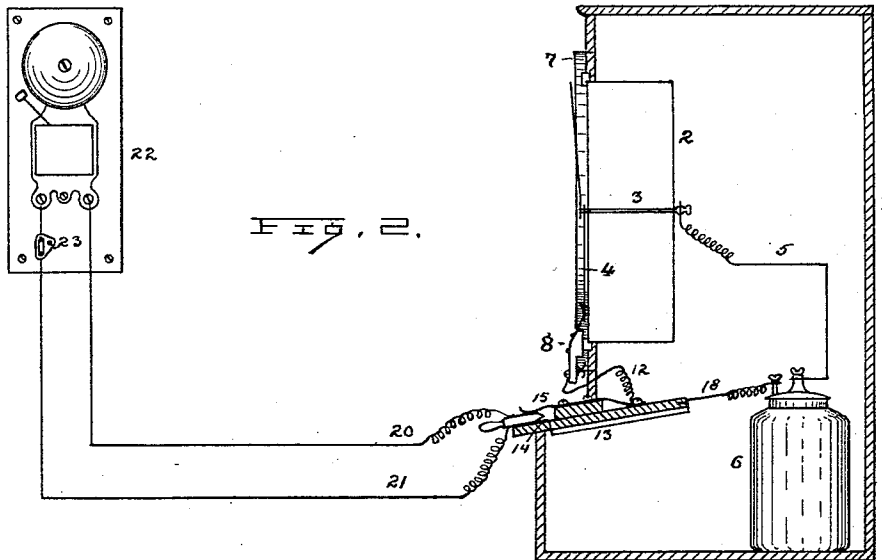


FIG. 2.

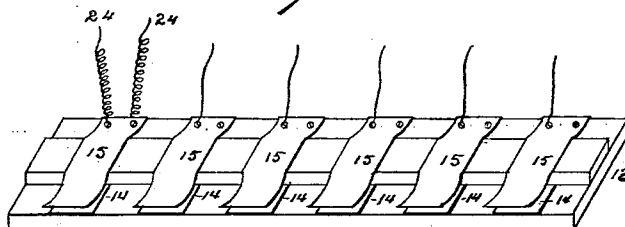


FIG. 3.

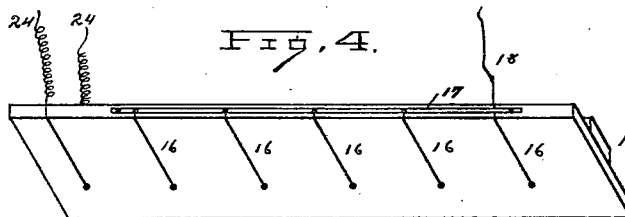


FIG. 4.

FIG. 5.

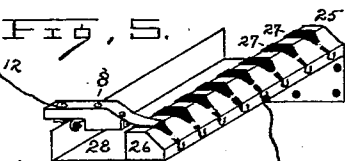
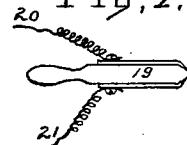


FIG. 6.

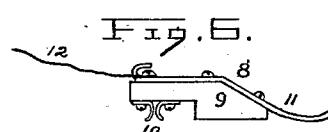


FIG. 7.

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UNITED STATES PATENT OFFICE.

FRANK C. JORDAN, OF WADSWORTH, OHIO.

ELECTRIC CALL-BELL.

SPECIFICATION forming part of Letters Patent No. 560,096, dated May 12, 1896.

Application filed March 20, 1896. Serial No. 584,095. (No model.)

To all whom it may concern:

Be it known that I, FRANK C. JORDAN, a citizen of the United States, residing at Wadsworth, in the county of Medina and State of Ohio, have invented a certain new and useful Improvement in Electric Call-Bells, of which the following is a specification.

My invention has relation to improvements in electric alarms and call-bells, and has especial relation to that class wherein the alarm is given, when desired, by a clock previously arranged for a determined time.

The general object of my invention is to provide devices of the class named whereby different or successive alarms may be given at determinate periods at different places or in different apartments, and a further object is to persistently give the alarm until it shall be stopped by the person for whom it is intended, and a final object is to adapt it to subserve the purpose of a burglar-alarm.

To the aforesaid objects my invention consists in the peculiar and novel construction, arrangement, and combination of parts hereinafter described, and then specifically pointed out in the claims, reference being had to the accompanying drawings, forming a part of this specification.

In the accompanying drawings, in which similar reference-numerals indicate like parts in the different views, Figure 1 is a front elevation of my invention with the front of the clock-case removed; Fig. 2, a vertical central section of the same at the line *x x* of Fig. 1; Figs. 3 and 4, upper and under views, respectively, in perspective and enlarged of the switchboard hereinafter described; Fig. 5, a perspective view of the multiple switch; Fig. 6, a similar view of a single contact-finger, and Fig. 7 an elevation of a single switch-plug.

Referring to the drawings, 1 is the clock-case, and 2 the clock-train, the internal shafts and wheels being omitted, except the shaft 3 of the hour-hand 4, which extends through the train and connects by a wire 5 with one pole or element of the battery 6. Concentric with and surrounding but detached from the clock is an insulated annular rim of metal 7, which preferably extends beyond the plane of the clock-dial.

8 is a contact-finger, of which there may be a number, consisting of a block 9, of insulating

material, as hard rubber, having on its under side spring-jaws 10 to grasp the rim 7 and on its upper side a strip of metal 11, that extends beyond the block 9 and is so constructed that when the spring-jaws 10 are pressed on and inclose the rim 7 this strip will lie in the path of the hour-hand 4 and will lightly touch and make electrical connection therewith until the hour-hand shall have passed, as illustrated in Fig. 2.

The metal strip 11 has a connecting-wire 12, having its free end provided with a hook or equivalent device for connecting it with one of the spring-plates of the switchboard 13. This switchboard consists of a plate of insulating material provided with a number of fixed plates 14, above and opposite which are a like number of spring-plates 15, normally out of contact with them.

The plates 14, with the exception of one at the end, are, by wires 16 beneath the slab, connected with a strip of metal 17 on the back edge of the slab, and this plate is in electrical connection, by means of the wire 18, with the opposite pole of the battery 6.

The plugs for this switch each consists of a non-conducting wedge 19 with a suitable handle faced on each side with metal, the opposite sides being connected by wires 20 21 with the opposite posts of an alarm-bell 22.

The number of bells and plugs will of course correspond with the number of rooms or places to be called, and each bell is provided with a switch 23, by which the person to be called can cut it out when awakened.

In operation the moment the hour-hand touches one of the fingers 8 the circuit is closed through the wire 5, shaft 3, hour-hand 4, finger 8, wire 12, plate 15, one side of plug 19, and wire 20 to the bell, and thence by the wire 21, opposite side of the plug 19, plate 14, wires 16 and 18 to the opposite pole of the battery, and the alarm will thus be persistently given until the bell-switch 23 is opened, as hereinbefore stated. The wires 24 run to the doors and windows, and thus, by putting a plug 19 between the plates 14 15, with which they are connected, the bell operates as a door-bell, when desired, or a burglar-alarm when any door is opened or window raised. Attached to the side of the clock-case or at any other convenient place is a multiple switch

25, (shown in enlarged perspective in Fig. 5,) by which a number of rooms may be simultaneously called by the connection of one contact-finger. This switch consists of a block 26 of non-conducting material, on which are mounted a number of metallic plates 27, separated by spaces sufficiently narrow, so that one may be covered by the spring 11 of one of the contact-fingers, thus connecting adjacent plates with each other and with said finger, the whole being supported by a metallic plate 28, having an upturned edge to be grasped by the spring-jaws of said fingers.

When it is desired to call two rooms simultaneously, I insert the contact-finger attached to the upper member 15 of the switchboard, situated to the right hand in the view shown in Fig. 1, at the desired hour. That will ring, of course, the alarm-bell connected to that member of the switchboard, as has been heretofore described, the current being through bell 22, wire 21, upper plate of plug 19, plate 15, wire 12, contact-finger 8, hour-hand 4, shaft 3, wire 5, battery 6, wire 18 to lower plate 14, wire 20 to bell. Now in order to ring this bell and the adjacent one I connect the plate 11 of contact-finger 8 with the similar plate of the next contact-finger, which may for convenience be laid upon the switchboard 25. Now the circuit for the second alarm-bell, just described, is from bell 23, wire 21, upper plate of plug 19, plate 15, wire 12 to contact-finger plate, wire 29 to contact-plate 11 of first circuit, hour-hand 4, shaft 3, wire 5, battery 6, wire 18, plate 14, wire 20 to bell. If a third room is to be called simultaneously with Nos. 1 and 2, no additional wires similar to 29 are used; but the contact-plate of second room is placed on the switchboard 25, as noted above, it being in that instance only for convenience; but in this case the switchboard is in the circuit, so as it will cover one space and connect two plates 27; also the contact-plate for the third room (the one I am describing) is placed next to it to connect one of the plates 27 partially covered by the contact-finger of room 2. The wire 29 remains, connecting contact-fingers of rooms 1 and 2. Now the circuit of the bell for room 3 is bell 23, wire 21, plug 19, switch-plate 15 of room 3, wire 12, contact-finger of room 3, plate 27 to contact-finger of room 2, wire 29 to contact-finger of room 1, hour-hand 4, shaft 3, wire 5, battery 6, wire 18, plate 14, wire 21 to bell, and so on, connecting into this circuit as many rooms as desired. I show the wire 29 as simply hung on the side of the clock-case, to be used when desired.

I claim as my invention—

1. In an electric calling apparatus, the com-

bination with a clock and a battery having one pole in connection with the hour-hand and its shaft, of a switch having one contact-plate in connection with the other pole of said battery, and an electric bell, and a plug having opposite contact-plates connected with the posts of said bell, and adapted to be inserted between the plates of said switch, and a detachable finger connected with the opposite plate of said switch and arranged to make electrical connection with the hour-hand of the clock at determinate times substantially as shown and for the purpose specified.

2. In an electrical calling apparatus, the combination with a clock and a battery having one pole in connection with its hour-hand and shaft, of a switch having a series of pairs of contact-plates, one plate of each pair in connection with the other pole of said battery, a like number of electric bells, and a like number of plugs having opposite contact-plates connected with respective posts of said bells, and adapted to be inserted between the plates of said switch, and a like number of detachable fingers connected respectively with the opposite plates of said switch, and arranged to make electrical connection with the hour-hand of said clock at different times, substantially as shown and described.

3. The combination with the battery and electric bell and the clock having its hour-hand in connection with one pole of the battery, of the annular rim to sustain detachable contact-fingers, and detachable contact-fingers adapted to rest on said rim and make connection with said hour-hand and the opposite pole of said battery, substantially as shown and described.

4. The combination with the clock, and the battery, said clock having its hour-hand connected with one pole of said battery; the switchboard having one set of plates in connection with said battery, and the other set in connection with detachable fingers adapted to connect with said hour-hand; and plugs connected with separate bells, and adapted to be inserted in said switches, of the multiple switch, 25, adapted to have its plates connected by conducting-fingers, and simultaneously actuate a determinate number of bells, all constructed and arranged substantially as shown and described.

In testimony that I claim the above I hereunto set my hand.

FRANK C. JORDAN.

In presence of—

C. E. HUMPHREY,
W. F. FOUSE.