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PROTECTIVE BURGLARY ALARM FOR BUILDINGS, &c.

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1,238,823. Patented Sept. 4, 1917.

Fig. 1.

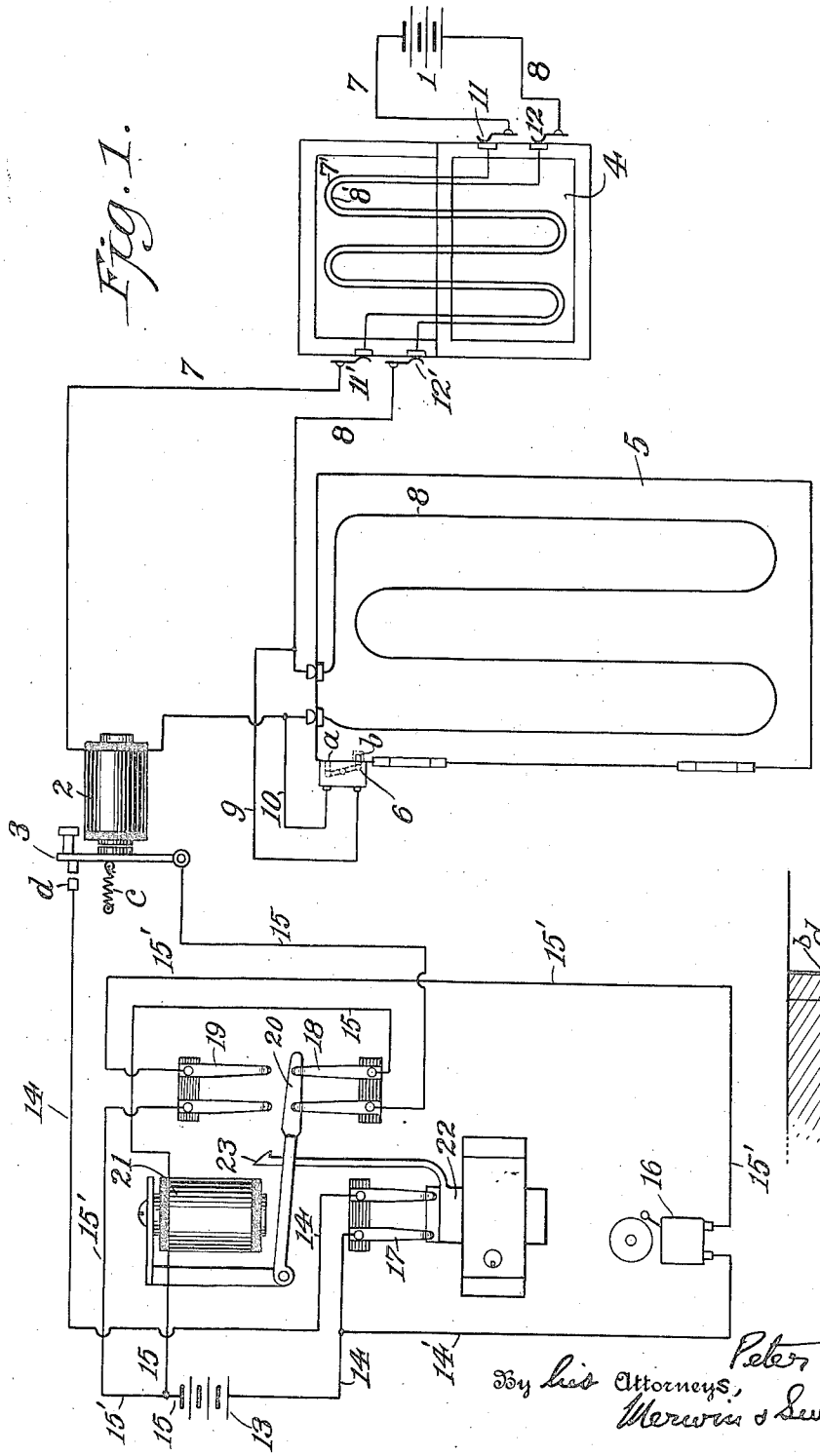
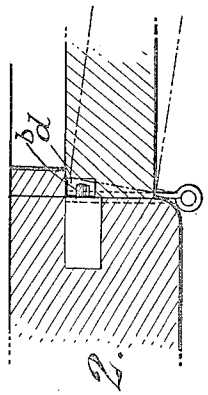


Fig. 2.



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UNITED STATES PATENT OFFICE.

PETER ROEDER, OF BROOKLYN, NEW YORK.

PROTECTIVE BURGLARY-ALARM FOR BUILDINGS, &c.

1,238,823. Specification of Letters Patent. Patented Sept. 4, 1917.

Application filed March 2, 1916. Serial No. 81,570.

To all whom it may concern:

Be it known that I, PETER ROEDER, a subject of the Emperor of Germany, residing in the borough of Brooklyn, county of Kings, and State of New York, have invented new and useful Improvements in Protective Burglary-Alarms for Buildings, &c., of which the following is a specification.

My invention relates to protective alarms intended to safeguard small stores, and especially isolated vacant residences, against burglary, and has for its objects the provisions of an economical, effective and reliable electrically operated system which is capable of serving as an effective substitute for the more expensive central station systems.

In devices of this character, it is essential that they should be unfailing in operation and also extremely simple, in order that any break or defect can be readily located and remedied. Furthermore the number of parts should be as few as possible consistent with an effective operation of the system, and it is with these objects in view that I have devised my improved construction.

The invention is fully set forth and described in the accompanying specification and drawings forming part thereof, in which

Figure 1 is a diagrammatic view of the construction as applied to a building; and

Fig. 2 is a fragmentary detail section of a door and jamb showing the arrangement of the switch therein.

The construction illustrated in the drawings consists essentially of a main circuit, a secondary relay circuit, and a bell circuit. The main circuit includes a battery 1, an electro-magnet or relay 2, having an armature 3, closure means, for example a screen 4 and a door 5, a switch 6 provided with push buttons *a* and *b*, a circuit comprised of wires 7 and 8 and a shunt comprised of wires 9 and 10 and the switch 6. As is apparent from the diagram, the wires 7 and 8, communicate by means of contact shoes, 11, 11′, 12, 12′, with corresponding wires 7′ and 8′ strung across the closure 4, for example, a window, in the form of a screen, such closure-screen being of the well known construction. The wires 7 and 8 lead from said closure-screen to the electro-magnet 2 and to another closure such as a door, as designated by the reference numeral 5, only the single wire 8 being strung across this door in the form of a screen. A shunt, as represented by the wires 9 and 10 and the switch 6 is provided whereby, when the push button *b* is depressed while the main circuit is closed, the current will flow through the shunt and thence to the electro-magnet or relay 2. When all the closures are shut and the push button *a* is depressed, as illustrated, the current will flow freely from the battery 1 through the circuit represented by the wires 7 and 8 across the closures 4 and 5 and through the coils of the electro-magnet, thereby energizing the core and attracting the armature 3. Should the door 5 be open, or should the wires 7 and 8 covering the closure 4 be short-circuited by a tool, such as a chisel or saw coming in contact therewith, the flow of the current through the electro-magnet will cease and the armature will, in response to the spring *c*, move against the contact *d* into the dotted-line position indicated. This will effect the closing of a relay circuit which is comprised of a cell or battery 13, wire 14, lock switch 17, and lock-bolt 22, a second switch 18 and an electro-magnet and return wire 15.

As is apparent, when the armature 3 of the electro-magnet 2 engages the contact *d*, the current in the relay circuit will flow through the wire 14, across the switch 17, through the contact point *d*, along the armature 3, back through the wire 15, across the switch 18, through the coils of the electro-magnet 21, and thence to the battery through the wire 15, thereby energizing the electro-magnet 21 and causing the armature contact-arm 20 to move into engagement with the spring fingers of the switch 19, whereby the bell circuit is closed.

When the bell circuit is closed, the current will flow from the one plate of the battery 13 along the wires 14 and 14′, through the bell 16, along wire 15′, across the switch 19, which latter is closed by the armature contact-arm 20 (as indicated by the dotted lines), and thence along the wires 15′ and 15 to the opposite plate of the battery. In order to cut off the alarm and prevent the same ringing, it is merely necessary for a person having the proper key to depress the lock-bolt 22 which causes the barbed finger 23 to engage the armature contact-arm 20 and moves it into engagement with the spring fingers of the switch 18. This breaks the circuit through the bell at the switch 19

and resets the relay circuit in condition for operation by the breaking of the main circuit.

In practice it is customary during the day time when the door 5 is open, for the proprietor, or other person having charge of the premises, to depress the push button *a*, so that the main circuit will be broken while the door is open and the premises occupied. At the same time the lock-bolt is depressed out of contact with the spring fingers of the switch 17, and since the armature contact-arm 20 will then be depressed into contact with the spring fingers of the switch 18, both the relay and the alarm circuits will also be dead. When, however, the building is closed for the night, the lock-bolt 22 is first projected into the position shown in the drawing so as to connect the spring fingers of the switch 17, but without moving the armature contact-arm 20 out of contact with the spring fingers of the switch 18. Then the push button *b* is depressed and thereby the push button *a* is projected beyond the jamb so that when the door is closed it will be forcibly depressed and the push button *b* will again be projected and will enter a recess formed in the door. As a consequence, the current will be switched from the shunt wires 9 and 10 through the wire 8″, and thereafter any movement of the door will break the main circuit rendering active, through the relay, the bell circuit and operating the alarm.

In many cases the alarm bell is placed on the exterior wall of the building in an obscure place, or effectively concealed by a suitable casing, although obviously the same may be placed in the watchman's room in the basement of a loft building, or in any other desirable location.

The foregoing is an extremely sensitive yet infallible and durable protective system and is of great value for isolated residences, small stores, stations, and the like.

All of the wiring of the closure means is preferably bare wire so that the same will be immediately short circuited by mere light contact between two adjacent wires due to a tool or other metal implement displacing a wire so as to force it into contact with another adjacent wire of opposite polarity.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

1. A protective burglar alarm system comprising a main circuit including closure-means provided with a screen-like conductor thereon so disposed that the movement thereof when the said circuit is closed effects a break therein, a shunt circuit in proximity to said closure means, a switch adapted to divert the current from said closure means and the screen-like conductor thereon through said shunt circuit, whereby the latter is closed while said closure-means is still open, said switch including two movable elements one only of which is adapted to be depressed automatically by movement of said closure means against the same during the closing thereof and the movement of said switch thereby effecting a diversion of the current through a screen-like conductor on said closure-means, a relay-circuit including a battery, conductors connecting the same with a second electro-magnet, and an alarm circuit, including an alarm, adapted to be closed by the movement of the armature of the electro-magnet in said relay circuit.

2. In a device of the character described, the combination comprising a main circuit including closure-means provided with a screen-like conductor thereon so disposed that the movement thereof when the circuit is closed effects a break therein, a shunt circuit in proximity to said closure-means, a push button switch including two buttons adapted to alternately project from a supporting surface, one only of said buttons being adapted when projecting from said surface to contact with said closure-means prior to the complete closing of said means, whereby said button is depressed into alinement with said surface, said switch being so arranged that when the main circuit is closed and said closure-means provided with a screen-like conductor thereon is in a closed position, the current will pass through a conductor on said closure-means provided with a screen-like conductor thereon and when said closure means is open and the switch is turned so as to effect the projection of the button previously depressed by the closure means when shut, then the current will flow through said shunt, a relay circuit adapted to be energized by the breaking of said main circuit, and an alarm circuit including an alarm adapted to be energized when said relay circuit is energized.

Signed at New York, county and State of New York, this 4th day of February, 1916.

PETER ROEDER.