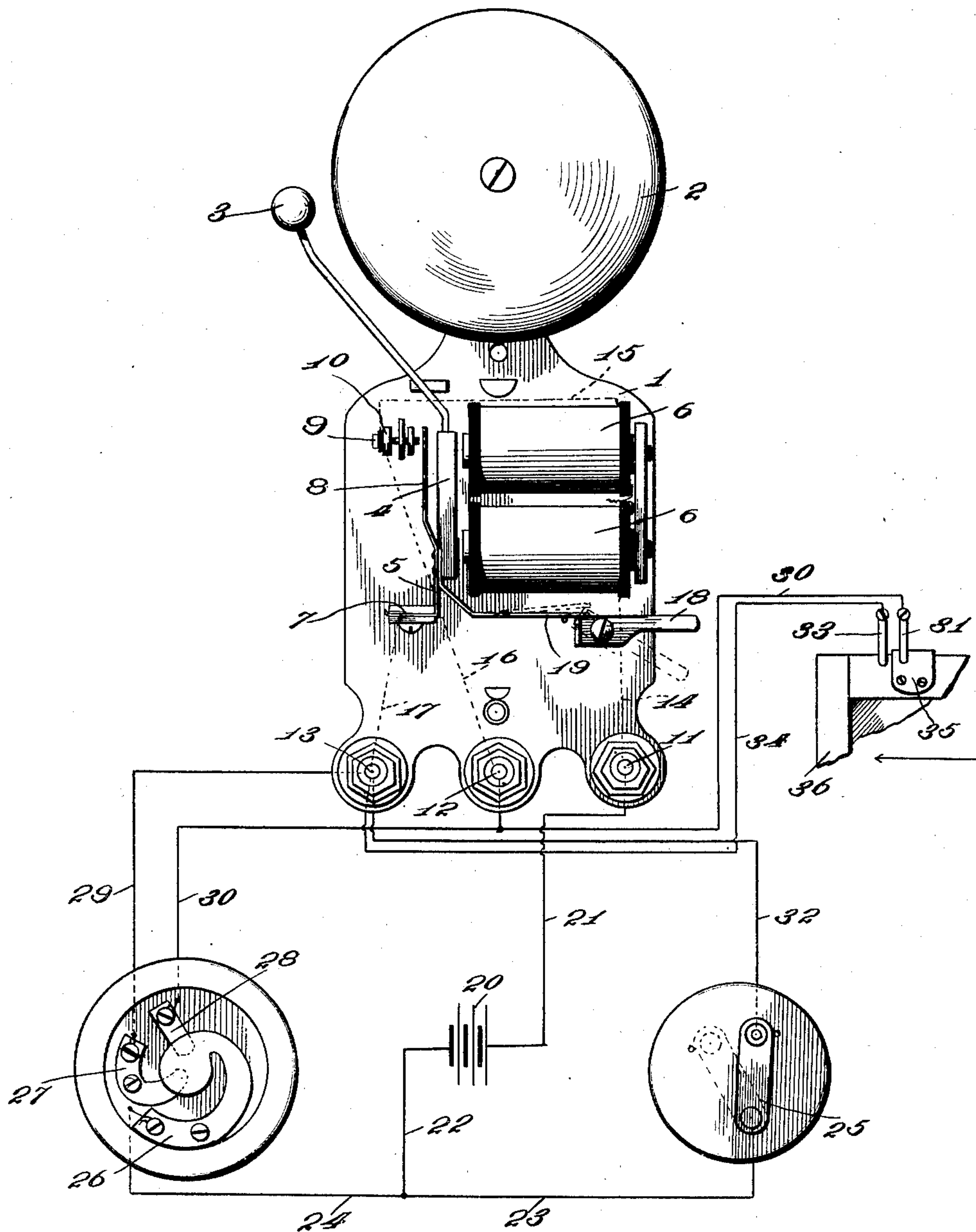


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H. BLAKENEY & R. A. BAKER.
ALARM ATTACHMENT FOR ELECTRIC BELLS.
APPLICATION FILED JUNE 30, 1902.

NO MODEL.



Witnesses

L. Gussford Handy

Edgar M. Kitchen

Inventors

Henry Blakney and

R. A. Baker

By

Marion Fenwick Sawano

Attorneys

UNITED STATES PATENT OFFICE.

HENRY BLAKENEY AND RILEY ANDREW BAKER, OF DALLAS, TEXAS.

ALARM ATTACHMENT FOR ELECTRIC BELLS.

SPECIFICATION forming part of Letters Patent No. 737,900, dated September 1, 1903.

Application filed June 30, 1902. Serial No. 113,806. (No model.)

To all whom it may concern:

Be it known that we, HENRY BLAKENEY and RILEY ANDREW BAKER, citizens of the United States, residing at Dallas, in the county of Dal-
 5 las, State of Texas, have invented an Alarm Attachment for Electric Bells, of which the following is a specification.

This invention relates to an electric-alarm apparatus, and particularly to a combined
 10 burglar-alarm and door-bell.

The object in view is the provision of means for facilitating the change of an ordinary door-bell into a continuously-ringing alarm apparatus, while leaving the mechanism free
 15 to be changed back into its former operative condition as a door-bell. This object is attained by the provision, in combination with the elements of an ordinary door-bell, of means for throwing the contact-making spring into
 20 and out of contact with the contact screw or stud, means for closing the circuit through the magnets of such bell independent of said contact-screw, and momentarily-closing means for said independent circuit.

It further consists in certain other novel constructions, combinations, and arrange-
 25 ments of parts, as will be hereinafter fully described and claimed.

In the accompanying drawing the figure
 30 represents a top plan view of a sounding apparatus and circuit-closing devices therefor, the parts being shown in full lines in position for operating as a burglar-alarm and in dot-
 35 ted lines in position for operation as a door-bell.

Referring to the drawing by numerals, 1 indicates a suitable base carrying a gong or other sounding device 2, designed to be struck
 40 by an ordinary striking apparatus 3, carried by an armature 4, supported by a spring 5 within the magnetic field of the pole-pieces of suitable electromagnets 6 6. The spring 5 is supported by a stud 7, carried by the base 1,
 45 and a contact-arm 8 projects laterally from and is then bent to extend parallel to the armature 4, as is common in the structure of an ordinary door-bell for contacting with the circuit-closing screw or stud 9, carried by a
 50 post 10.

Carried by the base 1 are binding-posts 11, 12, and 13, the post 11 being connected by

suitable wiring 14 with the winding of the magnets 6, a wire 15 leading from the opposite end of said winding to and electrically
 55 connected with the screw or contact-stud 9 and a wire 16 connecting the binding-post 12 with said screw. A wire 17 connects the binding-post 13 with the spring 5.

A lever 18 is pivoted to the base 1 and is designed to engage an arm 19, fixed to and ex-
 60 tending laterally from the armature 4, the movements of the lever in one direction being designed to move said armature in the direction of the screw 9, while movement of said
 65 lever in the opposite direction is adapted to permit said armature to move under the pressure of spring 5 toward the magnets 6.

A suitable battery 20 is connected by wiring 21 with binding-post 11, and the opposite pole
 70 of said battery is connected by a wire 22, divided into branches 23 and 24, contacting with a switch 25 and an ordinary button-switch 26. Beneath the switch 26 and designed to con-
 75 tact with the same when operated are positioned contact-studs 27 and 28, the stud 27 being connected by suitable wiring 29 with the binding-post 13 and the stud 28 is con-
 80 nected by wiring 30 with the binding-post 12 and also with a momentary-contact brush 31. The switch 25 is of the ordinary type and is designed to close contact between the branch
 85 wire 23 and suitable wiring 32 in electrical contact with binding-post 13. A second momentary-contact brush 33 is spaced a comparatively short distance from the brush 31
 90 and is connected by suitable wiring 34 with the binding-post 13 for purposes herein-after mentioned, the said brushes extending into the path of movement of a contact-plate
 95 35, carried by a window 36. Of course it is to be seen that the plate 35 may be positioned upon a door or at any point of entrance in such manner that a person entering must first cause contact of said plate with the two
 100 brushes 31 and 33 before entering.

In operation when it is desired to employ the present improved structure as a burglar-
 alarm the lever 18 is positioned as indicated in full lines in the drawing, with the contact-
 arm 8 out of contact with the stud 9 and the
 switch 25 closed. Now should the element 36
 be moved for closing contact between brushes

33 momentarily the following circuit would be closed: Starting with the battery 20, the current would flow through wire 21, binding-post 11, wire 14, the windings of the magnets 6, wire 15, wire 16, binding-post 12, wire 30, through brush 31, plate 35, brush 33, wire 34, binding-post 13, wire 32, through switch 25, branch wire 23, and wire 22 to the battery. The current flowing through the winding 6 will cause the armature 4 to move toward the pole-piece of said magnets, and as the contact made by plate 35 is designed only to be momentary the further movement of the element 36 breaking such contact will leave the armature 4 free to return to its normal position, the momentum acquired in its return causing the arm 8 to move past its normal-at-rest position in contact with the stud 9, whereupon a circuit is closed through wire 21, binding-post 11, wire 14, the windings of magnets 6, wire 15, stud 9, arm 8, spring 5, wire 17, post 13, wire 32, switch 25, branch wire 23, and wire 22 to the battery. The actuation of the armature 4 will thus be continued until the circuit just described is permanently broken by the throwing of switch 25, whereby a continuous alarm is effected by the initial movement of the armature 4 through the momentary contact accomplished by the movement of the plate 35.

The positioning of the plate 35, brushes 31 and 33, and wiring therefor is designed to prevent entrance of unauthorized persons; but provision is made for the giving of a continual signal for indicating the presence of a person at the door, which is accomplished through the stud 28 and connections therefor. Assuming that the parts are in the position indicated in full lines in the drawing, a person pressing the button for closing the contact between the switch 26 and stud 28 will permit the current to flow from the battery 20 through wire 21, stud 11, wire 14, windings of the magnets 6, wires 15 and 16, binding-post 12, wire 30, stud 28, switch 26, branch wire 24, and wire 22 to the battery, whereupon the initial vibration of the armature is produced and the continued operation of the same is accomplished in the manner above described.

When it becomes desirable to transform the device into an ordinary door-bell, the lever 18 is swung upon its pivot for forcing the contact-arm 8 into touch with the stud 9 and the switch 25 is thrown open. Now when the switch 26 is brought into contact with stud 27 the current will flow from battery 20 through wire 21; post 11, wire 14, the windings of armature 6, wire 15, stud 9, arm 8, spring 5, wire 7, binding-post 13, wire 29, stud 27, switch 26, branch wire 24, and wire 22 to the battery. The other circuits hereinbefore described depending upon the switch 25 for their closure are not affected when said switch is thrown open, and the bell by the simple movement of the lever 18 and the switch 25 is reduced in its operation to that of an ordinary door-bell.

It will thus be seen that by the employment of a carefully-balanced armature adapted to swing between an electromagnet and a contact-stud a normally open circuit may be employed for giving a continuous signal when the magnet is momentarily energized.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a device of the class described, the combination with an electromagnet, of an armature therefor, a contact-stud spaced therefrom, a normally open circuit designed to be closed through said stud and armature, means for momentarily energizing said magnet, and means for throwing said armature into contact with said stud after its release from the momentarily-energized magnet.

2. In a device of the class described, the combination with an electromagnet, of a spring, an armature carried by said spring within the magnetic field of said magnet, a contact-stud, contact means carried by the armature, means for throwing said contact means into contact with said stud and a circuit closed through the winding of said magnet by contact of said contact means and stud.

3. In a device of the class described, the combination with an electromagnet, of an armature movably supported within the field of said magnet, a contact-stud, a contact means carried by said magnet, means for moving the magnet for causing contact between said stud and contact means, a circuit closed through the windings of said magnet by contact between said stud and contact means and a switch controlling said circuit.

4. In a device of the class described, the combination with an electromagnet, of an armature therefor, circuit-closing means carried by said armature, a circuit including the winding of said magnet designed to be closed by said circuit-closing means, a circuit including the winding of said magnet independent of said circuit-closing means and means for momentarily closing said independent circuit.

5. In a device of the class described, the combination with a magnet, of an armature therefor, contact means controlled by said armature, and a circuit including the winding of said magnet and closed by said contact means, a switch for breaking the said circuit, a switch for closing the same, a spring normally retaining said armature in position for breaking said circuit, means for momentarily closing the circuit and means for throwing said armature for permanently closing the same.

6. In a device of the class described, the combination with a magnet, of an armature therefor, a contact-stud, a contact-arm carried by said armature, and normally retained out of contact with said stud, a circuit including the winding of said armature, said stud and contact-arm, a lever for throwing said

armature for causing normal contact between said contact arm and stud, a switch for closing said circuit, an independent circuit for said magnet and means for momentarily closing the same.

7. In a device of the class described, the combination with an electromagnet and a contact-stud spaced therefrom, of an armature balanced between said stud and magnet, a normally open circuit designed to be closed through the winding of said magnet and through said stud and armature, and means for overbalancing said armature.

8. In a device of the class described, the combination with an electromagnet and a stud

spaced therefrom, of an armature balanced between said stud and magnet, a normally open circuit designed to be closed through the winding of said magnet and said stud and armature, and means for momentarily energizing said magnet for overbalancing said armature.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

HENRY BLAKENEY.

RILEY ANDREW BAKER.

Witnesses:

T. B. KENDRICK,

J. O. MAHONEY.