C. F. BOBO.

ALARM.

APPLICATION FILED OCT. 4, 1915.

1,305,190. Patented May 27, 1919.

Fig. 1.

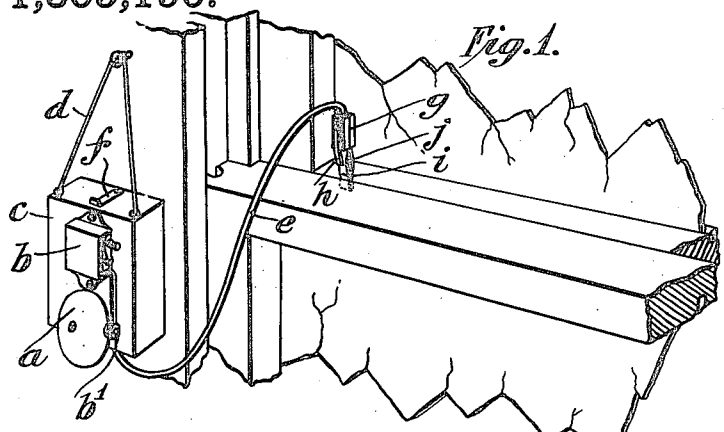


Fig. 2.

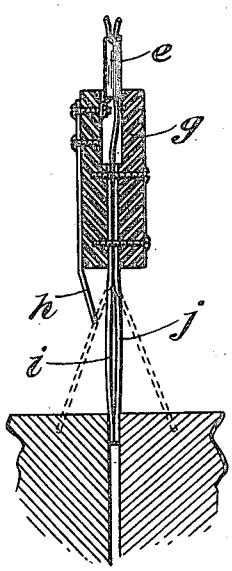


Fig. 5.

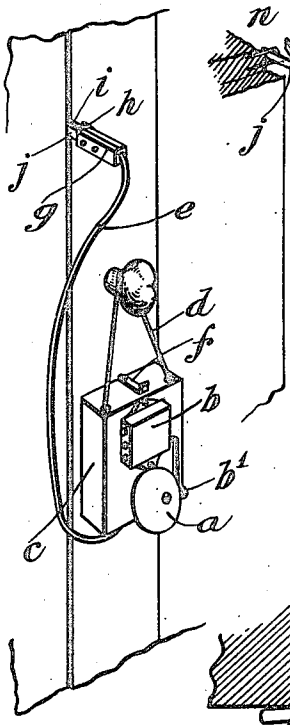


Fig. 3.

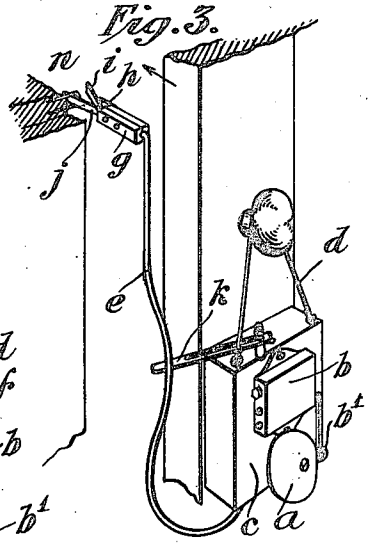


Fig. 6.

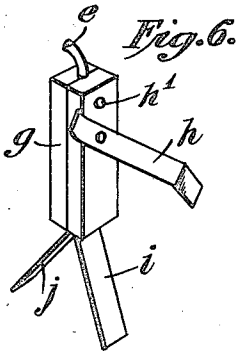


Fig. 4.

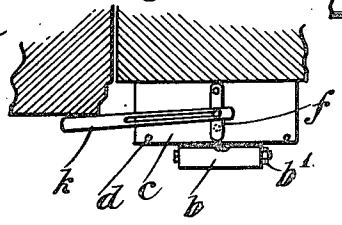
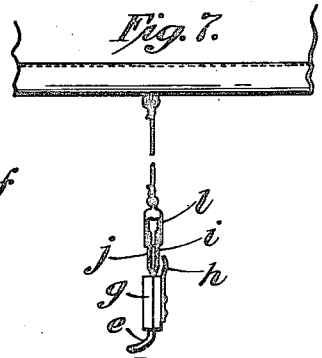


Fig. 7.



Attest:

L. D. Mitchell

Lillian R. Fox.

Inventor:

Charles F. Bobo

by Arthur L. Kent his Atty

UNITED STATES PATENT OFFICE.

CHARLES F. BOBO, OF HOLLIS, NEW YORK.

ALARM.

1,305,190. Specification of Letters Patent. Patented May 27, 1919.

Application filed October 4, 1915. Serial No. 53,931.

To all whom it may concern:

Be it known that I, CHARLES F. BOBO, a citizen of the United States, residing at Hollis, in the county of Queens and State of New York, have invented certain new and useful Improvements in Alarms, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

My invention relates to alarms, and more particularly to a type of audible alarms adapted to be actuated by relatively movable electrical contacts arranged in the electric circuit, controlling the sounding of the alarm.

There have been used heretofore, various types of electrical alarm devices adapted to be applied to doors and windows in a manner to cause movement of the door or window sash to result in the sounding of an alarm, either locally or at a central station remote from the point of attachment of the alarm device. These alarms usually included an electric circuit which when the alarm was set was either opened or closed, so that movement of the door or window would either close the circuit or open it, to give a warning signal. In these alarms of the prior art, contact members were ordinarily permanently attached to the relatively movable members of the door or window.

An alarm made in accordance with my invention is an electrically controlled, and most desirably portable, apparatus which may be readily and conveniently applied to any door or window without being permanently attached thereto, the invention being susceptible of utilization with either the normally open, or the normally closed, circuit type of alarm. To permit the rapid and convenient application of the alarm to any door or window or other movable closure for a means of entrance to a room, I provide the alarm with a circuit controlling device containing both of the electrical contacts, this device not being permanently attached to the door, window or other closure, but being so constructed as to be readily applied thereto in a manner to cause a movement of the parts to which it is applied to result in the disengagement of the device therefrom in a manner to permit said contacts to automatically operate to sound the alarm. This circuit controlling device may be so constructed to permit the device to be made inoperative when desired. When I use the normally open circuit type of alarm in connection with my invention, I also preferably provide in the electric circuit a switch mechanism so that the circuit may be open until the controlling device has been applied to a door or window.

While ordinarily an alarm made in accordance with my invention is designed to be applied to a door while the room is occupied, nevertheless, if desired, the switch above referred to may be so constructed as to permit the application of the alarm to a door in a manner to cause the closing of the door to set both the automatic circuit controlling device and said switch so as to avoid the sounding of the signal while the alarm is being applied to the door.

The circuit controlling device is so constructed that while primarily it is designed to be applied to a wondow or door, it may also be used in conjunction with a window shade or other closure for the window.

An alarm made in accordance with my invention is especially adapted for use by travelers upon the doors or windows of a room in a hotel, and it is therefore desirable that said alarm shall include the entire equipment in a light portable form, having small bulk, and that it shall be capable of application to a door or window without the use of tools of any description.

The invention consists primarily in an alarm embodying therein an audible signal device, actuating means therefor, a source of electrical supply, electrical connections leading therefrom to the actuating means for said signal, and a circuit controlling device arranged in said electrical connections comprising an automatically movable contact and a supporting member oppositely disposed to said movable contact and adapted to hold said movable contact in inoperative position when said controlling device is applied to a door, window or other closure; and in such other novel features of construction and combination of parts hereinafter set forth and described and more particularly pointed out in the claims.

Referring to the drawings:—

Figure 1 is a perspective view of a portion of a window showing an approved form of my alarm applied thereto;

Fig. 2 is a sectional view of the circuit controlling device;

Fig. 3 is a perspective view of a portion

of a door and its jamb, with my alarm applied thereto, the door being shown partly opened;

Fig. 4 is a horizontal section through the door and jamb, the door being shown closed;

Fig. 5 is a view of a modified form of the invention applied to a door;

Fig. 6 is a perspective view of the circuit controlling device with the fixed contact set to prevent the closing of the circuit to the signal device; and

Fig. 7 is a view illustrating the application of the alarm to a window shade.

In the embodiment of my invention shown in the drawings, *a* indicates an audible signal device, as a gong, having associated therewith an electric vibrator mechanism *b* having a sounder *b'* adapted to strike said gong. Said gong and sounder are mounted upon a battery casing *c* containing a source of electrical supply, as a dry cell. The casing *c* is provided with suspension means, as the cord *d* by which it may be supported adjacent a door or window.

Leading from the battery in the casing *c* are flexible electrical connections *e*, the terminals of which are in electrical connection with the contacts of a circuit controlling device adapted to be applied to a door, window or other closure. The circuit from said battery also has arranged therein a circuit opening switch *f* to prevent the sounding of the alarm when it is not set for use.

The circuit controlling device above referred to is so constructed as to act not only as a make and break mechanism, but also as a securing means by which the alarm is applied to a door, window or other closure. It comprises a small block or body *g* carrying in the form shown a fixed contact *h* so arranged as to be adapted to be operatively engaged by an automatically movable contact *i* also carried by said block. The contacts *h* and *i* are insulated from each other, preferably by forming the block *g* of dielectric material. The term "fixed" is used in connection with the contact *h* not because said contact is necessarily immovable, but because in opening or closing the circuit through movement of the contact *i*, said contact has no movement relatively to its opposed contact *i*.

Carried by the block *g* is a supporting member *j* oppositely disposed to said movable contact *i* and adapted to cause it to be held out of operative relation to the fixed contact *h* when said controlling device is applied to a door, window or other closure.

The contact *i* and supporting member *j* are preferably both made of flat spring metal so formed and tensioned as to impart thereto a normal tendency to separate, as shown in Fig. 6. Said contact *i* and member *j* extend axially of the block *g*, the contact *h* being mounted on one side of said block and so formed as to extend toward the contact *i* so as to be engaged thereby when said contact is disengaged from the door, window or other closure.

To simplify the actuating mechanism for the gong, I prefer to use a normally open circuit, that is an arrangement by which the closing of the circuit will sound the alarm. With this arrangement, when the device is not in use, the circuit may be opened by means of the switch *f*, or the fixed contact *h* may be pivoted on the block *g* and one terminal of the wiring connected with a stud contact *h'* adapted to be engaged by said contact *h* when the contact *h* is in position to be engaged by the opposed contact *i*.

While ordinarily an alarm made in accordance with my invention could be applied to a door only when the room is occupied, nevertheless, means may be provided whereby the alarm may be applied to a door and the switch *f* set upon the closing of the door. This means as shown comprises an impact arm *k* adjustably mounted upon the switch arm *f* so as to swing therewith. The arm *k* is of a length so that when the arm of the switch *f* is swung to open the circuit, the end of said arm *k* will project forwardly of the inner edge of the door to an extent to cause its engagement with the door jamb to swing the arm of the switch in a manner to close the circuit. For convenience of manufacture, the block *g* is made of two sections as shown.

In the modification shown in Fig. 5, the construction is the same as heretofore described, excepting that the arm *k* is dispensed with.

The operation of the herein described device is as follows:—

When it is desired to apply the alarm to a door, window or other closure, the movable contact *i* is closed upon the supporting member *j* and these two members are inserted in the crack between the upper and lower window sashes or between a window and the window frame or between a door and its jamb. When so inserted, the supporting member *j* will have the effect of preventing such movement of the contact *i* or block *g* as will permit the engagement of the contact *i* with the fixed contact *h*. While in the form of the invention shown both the contact *i* and support *j* are shown as being in electrical connection with one terminal of the wiring *e*, this construction is merely a matter of convenience as it is merely necessary that the contact *i* be so connected. In the event of the movement of the door or window after the controlling device has been so applied thereto, the said contact and support will become disengaged from the door or window and the block *g*

will fall forward toward the floor. Immediately upon this disengagement, however, the contact *i* will automatically spring outwardly into engagement with the contact *h*, closing the circuit and sounding the signal device *a*.

If it be desired to apply a circuit controlling device to a window shade, the window cord has attached thereto a small cap *l* adapted to engage the ends of the movable contact *i* and the supporting member *j*. Hence, in the event of the shade being raised said cap will be disengaged from said contact and said support, permitting the contact *i* to spring outwardly into engagement with the contact *h*.

The battery casing *c* may be hung upon the door knob by means of the suspension cord *d*, or it may be suspended adjacent the door or window from a nail or hook or other support by said cord.

When it is desired to set the alarm by the closing of the door, the door jamb is provided with a keeper as *n* into which the supporting member *j* is inserted so that as the door is closed the edge thereof will pass the fixed contact *h*, and through its engagement with the movable contact *i* force it away from said contact *h* to open the circuit.

The construction of the contact *i* and the supporting member *j* of spring metal as shown is preferable as simplifying the production of the device and insuring reasonable certainty of operation of the signal device when the controlling device is disengaged from the door, window or other closure.

It will be observed from the foregoing that the controlling device in its entirety is adapted to be temporarily applied to a door, window or other closure, and that an alarm signal will be sounded upon the disengagement of this device therefrom. The alarm in its entirety may be and as shown is in light, portable form with all of the essentials thereof so assembled as to require no skill in applying the alarm to the door, window or other closure.

It is not my intention to limit the invention to the precise details of construction shown in the accompanying drawings, it being apparent that such may be varied without departing from the spirit and scope of the invention.

What is claimed is:

1. Alarm apparatus embodying therein a battery casing, a source of electrical energy therein, a signal device and actuating means therefor carried by the battery casing, means for attaching the battery casing to a door or window structure, electrical connecting means for connecting the source of electrical energy to the actuating means for the signal device including a circuit controlling device and a flexible conductor to which the circuit controlling device is connected, said circuit controlling device normally closing the circuit and being adapted to be applied to the door or window structure and being formed to open the circuit when so applied and to become detached by the opening of the door or window, and a switch connected with the battery casing formed to be operated to close the circuit by the closing of the door or window.

2. Alarm apparatus embodying therein a battery casing, a source of electrical energy therein, a signal device and actuating means therefor carried by the battery casing, means for attaching the battery casing to a door or window structure, electrical connecting means for connecting the source of electrical energy to the actuating means for the signal device including a circuit controlling device and a flexible conductor to which the circuit controlling device is connected, said circuit controlling device normally closing the circuit and being adapted to be applied to the door or window structure and being formed to open the circuit when so applied and to become detached by the opening of the door or window, and a switch on the battery casing comprising a swinging arm and an impact arm carried thereby whereby said switch arm will be actuated by the engagement of the impact arm with a part of the door or window structure when the door or window is closed.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

CHARLES F. BOBO.

Witnesses:
A. L. KENT,
PAUL H. FRANKE.