(No Model.)

J. P. FREEMAN.

ELECTRIC BURGLAR ALARM AND DOOR BELL.

No. 262,393. Patented Aug. 8, 1882.

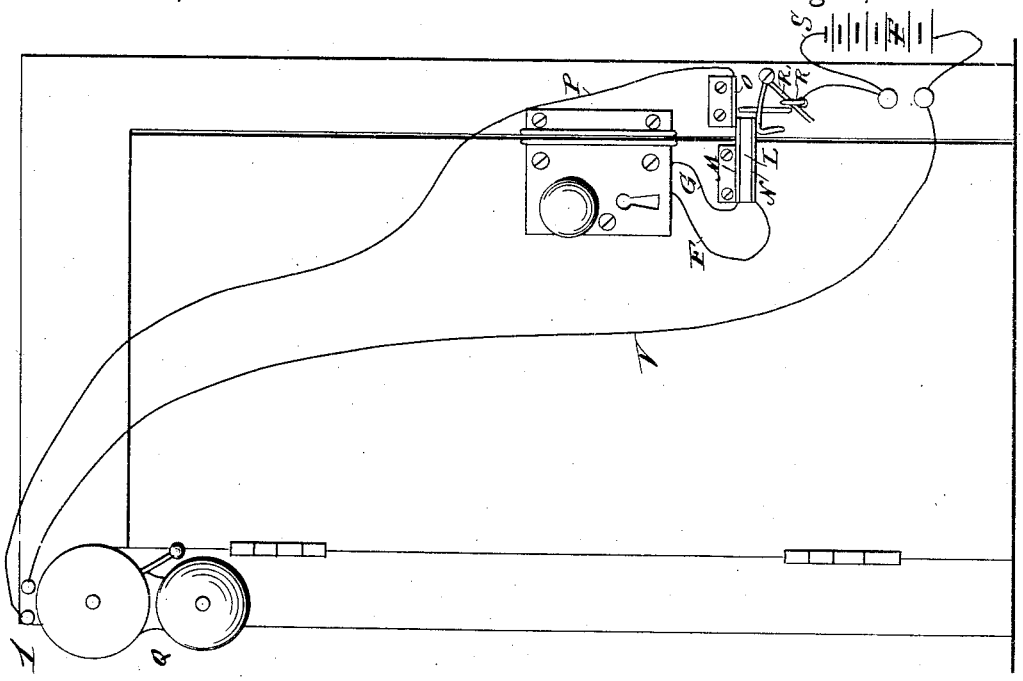

Fig. 1.

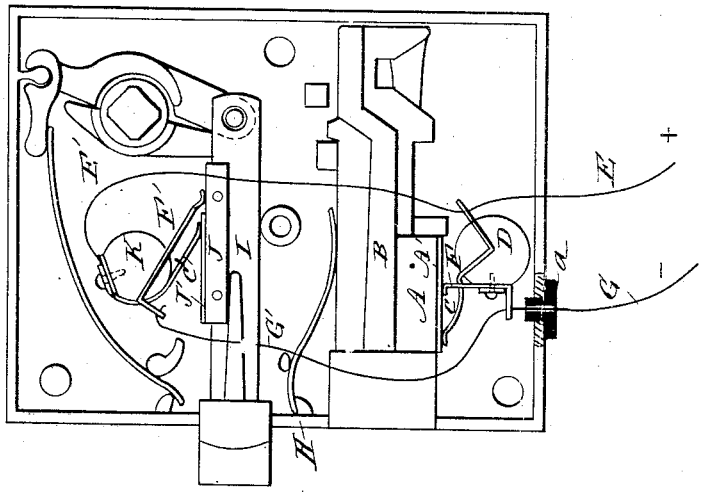

Fig. 2.

WITNESSES:

C. Neveux

C. Sedgwick

INVENTOR:

J. P. Freeman

BY Munn & Co

ATTORNEYS.

UNITED STATES PATENT OFFICE.

JAMES P. FREEMAN, OF NEW YORK, N. Y.

ELECTRIC BURGLAR-ALARM AND DOOR-BELL.

SPECIFICATION forming part of Letters Patent No. 262,393, dated August 8, 1882.

Application filed June 17, 1882. (No model.)

To all whom it may concern:

Be it known that I, JAMES P. FREEMAN, of the city, county and State of New York, have invented a new and Improved Electric Burglar-Alarm and Door-Bell, of which the following is a full, clear, and exact description.

The object of my invention is to provide a new and improved device for giving an alarm as soon as the key-bolt or locking-bolt of the lock is withdrawn from the socket, or as soon as the door is opened. This alarm can also be used as a door-bell, and is especially adapted for use in stores and offices.

The invention consists of contact-strips within the lock and resting against a strip for closing the circuit, which strip is attached to a sliding bolt in the lock, whereby when the bolt projects from the lock—that is to say, when the door is locked—the circuit will be broken, but as soon as the bolt is drawn into the lock to open the door the circuit will be closed and the alarm sounded.

The invention further consists in contact-strips projecting over the edge of the door and coming in contact with a strip, and a spring connected to the door-casing and connected with the battery of the alarm, which spring can be disengaged from this connection with the battery, whereby the entire mechanism on the door can be disengaged from the battery.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in both the figures.

Figure 1 is an elevation of a door provided with my improved burglar-alarm. Fig. 2 is an inside longitudinal view of the mechanism of a lock provided with my improved burglar-alarm.

A piece of insulating material, A—as, for instance, hard rubber—is attached to the sliding key-bolt B, and a metal strip, A′, is secured to the lower edge of the piece of rubber or other insulating material A. A metal contact strip or tongue, C, is secured in a button, D, of some insulating material, and is connected with the positive wire E, connected with the battery. A contact strip or tongue, F, also held in the insulating-button D, is connected with the negative wire G, connected with the battery. The contact-strips C and F are so arranged with relation to the bolt that when the end of the bolt projects from the lock-casing H the end of the strip C only will rest on the metal strip A′ on the lower edge of the insulating-block A, and the circuit will be broken, the upper end of the strip F being behind the end of the insulating-block A. When the bolt B is drawn into the lock-casing H, as shown in Fig. 2, both tongues or strips C and F will be in contact with the strip A′, and the circuit will be closed.

An insulating-strip, J, is secured on the upper knob-bolt, I, and on the upper edge of this strip J a metal strip, J′, is secured. A contact-tongue, C′, is attached to a button of insulating material, and is connected by a wire, E′, with the contact strip or tongue C. A contact-tongue, F′, also resting on the upper edge of the strip J′, is held in the button K of insulating material, and is connected by a wire, G′, with the tongue F. When the bolt I projects from the casing the tongue C′ rests on the metal strip J′, but the end of the tongue F′ rests on the insulating-strip J, and the contact will be broken; but when the bolt I is drawn into the lock both strips C′ and F′ will rest on the metal strip J′, and the circuit will be closed.

The wires E and G are not connected directly with the battery, but are attached to two metal strips, M and N, separated by a layer of insulating material, L, these strips projecting over the edge of the door, as shown in Fig. 1, and the upper strip, M, being adapted to come in contact with the metal strip O, attached to the door-frame and connected by a wire, P, with the gong or other suitable alarm apparatus, Q. The lower strip, N, comes in contact with the V-shaped spring R, held on the door-casing, and having its lower shank resting against a hook, R′, which is connected by a wire, S, with the battery T, which battery T is connected with the gong Q by a wire, V. The wire G passes through an insulating-collar, *a*, in the bottom of the lock-casing.

The operation is as follows: When the door is open the contact between the plates M O will be broken, and thus the circuit will be opened; but when the door is closed the plates M N and the insulator L are pressed in between the plate O and the spring R, and thus the contact will be closed between the spring

R and the strip N and between the strips M and O—that is to say, the battery is connected with the mechanism on the door or in the lock. If the door is locked, either by the key-bolt only or by the key-bolt and knob-bolt, the circuit will be open at each bolt. If the door is unlocked, either by withdrawing the key-bolt or the knob-bolt, the circuit will be closed in the manner described hereinbefore, and as soon as the circuit is closed the alarm Q will be sounded.

This device can be used as a burglar-alarm, or it can be used as a simple door-bell which gives an alarm as soon as the door is opened. If the alarm attachment is to be disconnected from the door, the lower shank of the spring R is raised out of the hook R′, and then the upper shank of the spring R will not be pressed against the strip N, and the circuit will be broken.

If the alarm apparatus is to be placed in operation, the lower shank of the spring R need only be placed in the hook R′.

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

1. In a lock, the combination, with the key-bolt B, of the insulating-block A, the metal strip A′, attached to the same, and the contact-strips C and F, connected with the opposite poles of a battery, substantially as herein shown and described, whereby the circuit will be closed and an alarm-bell sounded when the bolt is drawn into the lock—that is, when the door is unlocked—as set forth.

2. In a lock, the combination, with the key-bolt B, of the insulating-block A, the strip A′, the contact tongues or strips C and F, attached to an insulating-button, D, and the negative and positive wires G E, connected with the battery and an alarm-bell, substantially as herein shown and described, and for the purpose set forth.

3. In a lock, the combination, with a door-bolt, of two separate contact strips or tongues connected with the opposite poles of the battery and with an alarm apparatus, an insulating-block on the bolt, and a metal strip on this block, substantially as herein shown and described, and for the purpose set forth.

4. The combination, with a lock, of contact-strips in the same, of a strip for closing the circuit, attached to the bolt, of wires leading to the contact-strips projecting over the edge of the door, of contact-strips attached to the door-frame, of a battery and a gong, substantially as herein shown and described, and for the purpose set forth.

5. The combination, with a lock, of the contact strips or tongues in the same, the strip for closing the circuit on the bolt of the lock, the wires E and G, the contact-strips M N, the insulating material L, the contact plate or strip O, the V-shaped spring R, the battery T, and the alarm-bell Q, substantially as herein shown and described, and for the purpose set forth.

6. The combination, with a lock, of contact tongues or strips in the same, a bolt provided with a strip for closing the contact, the wires E G, the strips M N, the insulating material L, the strip O, the V-shaped spring R, the hook R′, the battery T, and the alarm-bell Q, substantially as herein shown and described, and for the purpose set forth.

JAMES P. FREEMAN.

Witnesses:
OSCAR F. GUNZ,
C. SEDGWICK.