

No. 662,803.

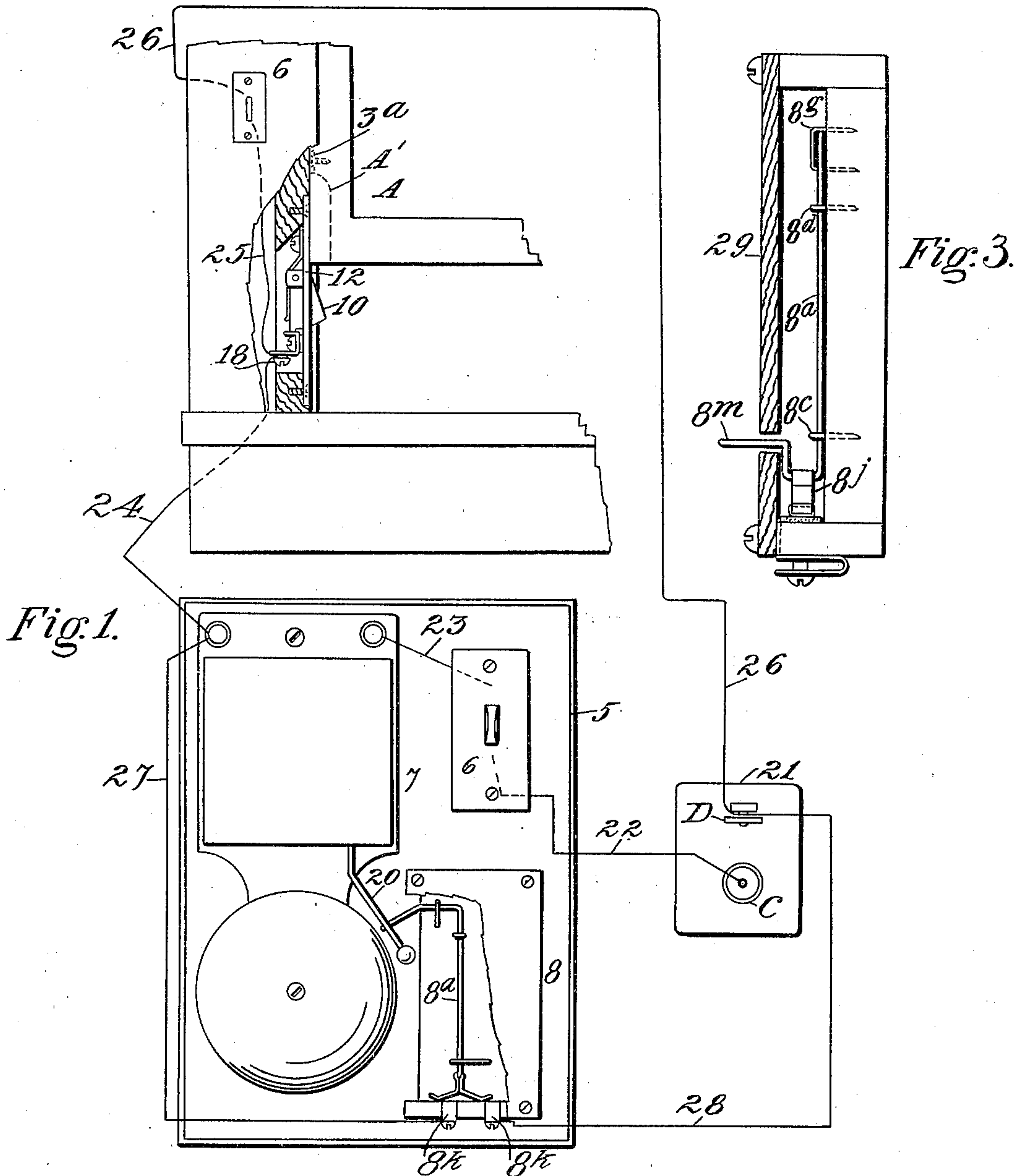
Patented Nov 27, 1900.

J. L. MURPHY.
BURGLAR ALARM.

(Application filed Feb. 4, 1899.)

(No Model.)

2 Sheets—Sheet 1.



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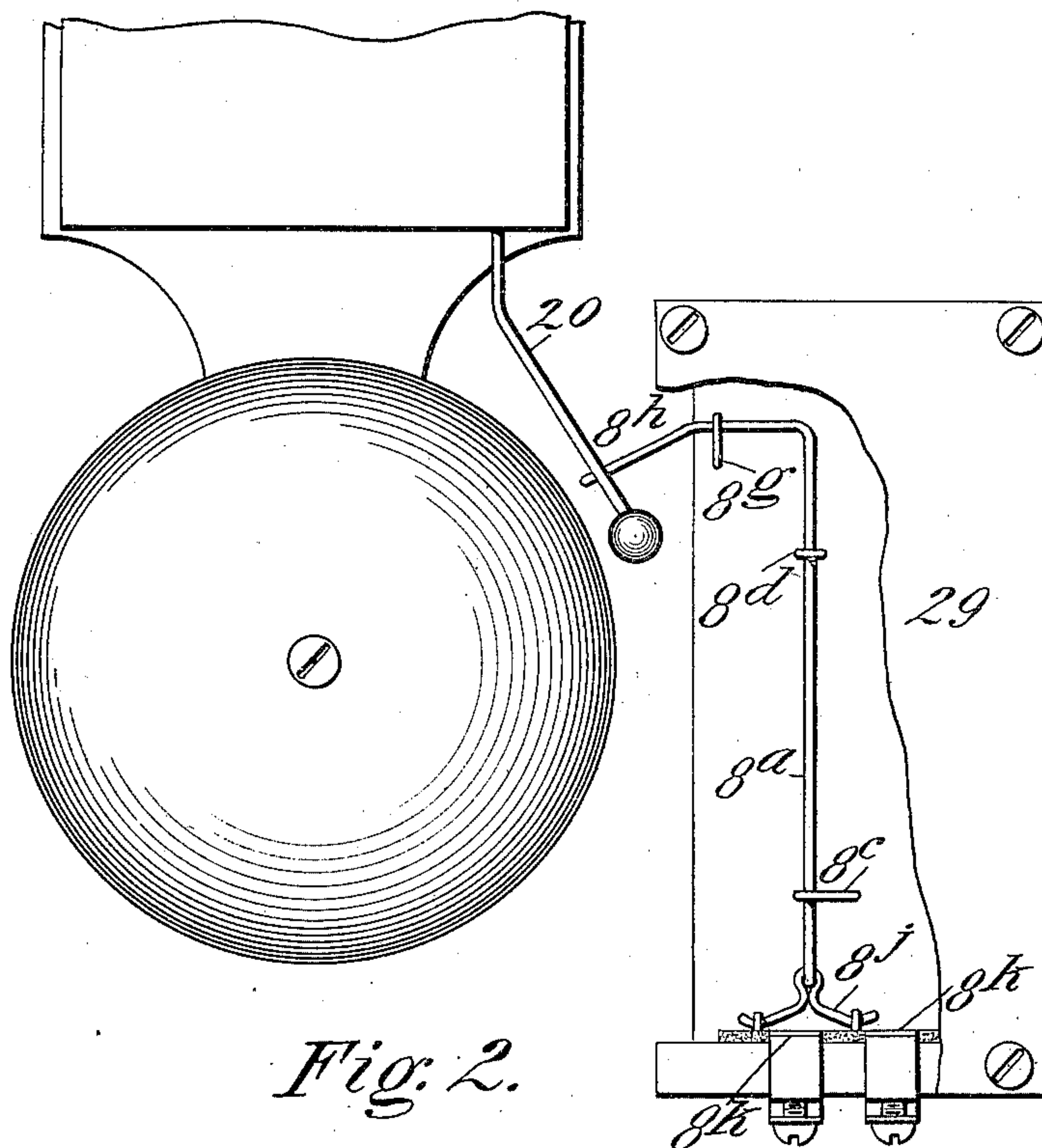
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UNITED STATES PATENT OFFICE.

JUNIUS L. MURPHY, OF DENVER, COLORADO.

BURGLAR-ALARM.

SPECIFICATION forming part of Letters Patent No. 662,803, dated November 27, 1900.

Application filed February 4, 1899. Serial No. 704,516. (No model.)

To all whom it may concern:

Be it known that I, JUNIUS L. MURPHY, a citizen of the United States of America, residing at Denver, in the county of Arapahoe and State of Colorado, have invented certain new and useful Improvements in Burglar-Alarms; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to burglar-alarms, my object being to provide a device of this class which shall be simple in construction, economical in cost, reliable, durable, and efficient in use; and to these ends the invention consists of the features hereinafter described and claimed, all of which will be fully understood by reference to the accompanying drawings, in which is illustrated an embodiment thereof.

In the drawings, Figure 1 illustrates my improved burglar-alarm shown in connection with a window, the electrical appliances being shown and the circuit illustrated. Figs. 2 and 3 are front and side views, respectively, of the short-circuit switch, the parts being shown on a larger scale.

Similar reference characters indicating corresponding parts in the views, let the numeral 5 designate a stationary board, upon which is mounted the bell 7, the cut-out 6, and the short-circuiting device 8. Another cut-out 6 is located in proximity to the window A and still another in proximity to the door B. The frame of the window where the sash slides is provided near its bottom with a dog 10, pivotally mounted on a plate 12, which is provided with ears 13 for the purpose. A pin 15 is passed through coinciding apertures formed in the ears and the dog. The dog is adapted to move freely in a slot formed in the plate. It is engaged by a spring 16, which is attached to the plate 12 and normally holds the dog in the path of the sash 9 as it moves downwardly. This dog is provided with a lip 10^a, which when in the normal position bridges the space between two contacts 17 and 17^a, mounted on

the plate. The contacts are insulated from the plate 12 and from each other. They are provided with binding-screws 18 for the attachment of the electrical conductors. These contacts are located in the circuit with the bell 6 or other suitable alarm mechanism. When the window is down, the side rail of the sash engages the dog 10 and presses it inwardly against the spring 16, disengaging the lip 10^a from the contacts and opening the circuit. As soon, however, as the window is raised even a short distance the pressure on the dog is removed and the latter is forced downwardly by its spring, bringing the lip 10^a into engagement with the contacts and closing the circuit. The bell or annunciator will then sound the alarm. When the door is closed, the dog 10 is pressed inwardly, breaking the circuit, while as soon as the door is opened the dog moves outwardly, closing the circuit. It is evident that as many doors and windows may be equipped with this circuit-closer as desired. As soon as any door or window is opened the alarm will be sounded if the apparatus is set or arranged for action. The circuit-closer of any door or window may be cut out of the circuit in which the alarm mechanism is located by the device 6, which should be located in suitable proximity to each door or window.

It must be understood that each circuit-closing device and each cut-out for controlling the same is located in an independent circuit. Hence its connection with the alarm mechanism may be broken at will by means of the cut-out device.

The object of the short-circuit switch (shown in detail in Figs. 2 and 3) is to short-circuit the current automatically the instant the bell-hammer begins to vibrate, thus closing the circuit in which the bell is located and making it impossible for the burglar to stop the sounding of the alarm, even by closing the window or door. This mechanism consists of an arm 8^a, connected with a suitable stationary support by means of suitable fastening devices, as staples 8^c, 8^d, and 8^e. These staples are of such size and are so arranged as to allow the arm a slight oscillation. The upper portion 8^b of this arm is bent to occupy a position in the path of the bell-hammer. The lower extremity of the arm is composed

of conducting material, forked, as shown at 8^j, and arranged to bridge the space between two contacts 8^k, located in the same circuit with the bell and insulated from each other.

5 This arm 8^a is normally in the position shown in Figs. 1 and 2, in which the arms of the fork 8^j do not engage both contacts. As soon, however, as the bell begins to ring the action of the hammer-arm 20 on the upper bent portion of the arm 8^a shifts the lower extremity of the arm sufficiently to cause the fork 8^j to engage both contacts 8^k, thus bridging the space between them and closing the circuit.

10 It is evident that the arm 8^a must be arranged to move very easily. Otherwise the vibration of the hammer-arm would not have sufficient power to accomplish the desired result. Hence as the contact between the circuit-closing parts must be very light I attach
15 a piece of platinum wire to each arm of the fork 8^j and also to each contact 8^k, since platinum will not corrode. It is necessary that the contact be established by means of non-corrosive conducting material, since slight
20 corrosion would defeat the function of the short-circuiting device owing to the lightness of the contact. To prevent the insertion of an instrument under the window for the purpose of holding the contact 10 inwardly sufficiently to prevent the closing of the circuit,
25 I form a groove A' in the extreme lower end of the side rail of sufficient depth to allow the dog to spring out and close the circuit the instant the window is raised.

35 The circuit will now be described by reference principally to Fig. 1. From one pole C of the battery 21 or other electrical source leads a conductor 22 to one contact of the cut-out 6, while from the other contact of the cut-out a wire 23 leads to the bell 7. A wire
40 24 leads from the bell to one contact 17 of the circuit-closing device, while a wire 25 leads from the other contact 18^a to one contact of another cut-out 6. From the other contact of this cut-out leads a wire 26 to the other pole D of the battery or other electrical source. A wire 27 leads from the bell to one contact 8^k of the short-circuiting device,
45 while a wire 28 leads from the other contact 8^k to the battery. The short-circuiting arm 8^a is provided with a projection 8^m, extending through a slot in the casing 29, inclosing the short-circuiting mechanism. By means of this projection the arm 8^a is normally shifted
50 to break the circuit between the contacts 8^k.

Assuming now that the two cut-outs shown in Fig. 1 are closed and the window is raised, as shown, the circuit may be traced as fol-

lows: The current passes from the pole C of the battery by way of the conductor 26 to the cut-out located near the bell, thence through
60 the cut-out and by way of a conductor 23 to the bell, thence by way of the conductor 24 to one contact 17, thence through the dog 10 to the other contact 17^a, thence by way of a wire 25 to the cut-out located near the window, and thence by way of a conductor 26 to the pole D of the battery. As soon as the bell-hammer 20 begins to vibrate it acts on the arm 8^a and closes the circuit between the
65 contacts 8^k. The current then passes from the pole C of the battery through the conductor 22, the cut-out 6, the wire 23, the bell 7, the conductor 27, one contact 5^k, the fork 8^j, the other contact 5^k, and the wire 28 to the pole
70 D of the battery, thus completing the circuit independently of the circuit-closing device adapted to be operated by the window or door, as the case may be. Hence the bell will continue to ring even though the window or door
75 is closed and the circuit broken at this point.

The window or door where it engages the dog 10 is provided with a metal button 3^a, which may be countersunk in the door to cause it to release the dog more or less quickly, as desired, when the door begins to open. This button is attached to the door or window by means of a screw or other suitable fastening device.
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Having thus described my invention, what I claim is—
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The combination with a circuit, alarm mechanism located therein and provided with a vibrating arm, and a circuit-closing device adapted to be operated by the window or door, of means for closing the circuit automatically
95 independently of the said circuit-closer, said means comprising two contacts located in the circuit, and an arm fulcrumed intermediate its extremities, one of which is forked while the other projects into the path of the vibrating arm of the alarm device, the forked extremity being located adjacent said contacts and normally disengaged therefrom, the arrangement being such that when the vibrating arm acts on the circuit-closing device, the
100 latter is actuated causing the forked extremity to bridge the space between the two contacts thus closing the circuit independently of the circuit-closer actuated by the door or window.
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In testimony whereof I affix my signature in presence of two witnesses.
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Witnesses:

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