(No Model.) 2 Sheets—Sheet 1.

D. A. PALMER.

CIRCUIT CLOSER FOR BURGLAR ALARMS.

No. 455,005. Patented June 30, 1891.

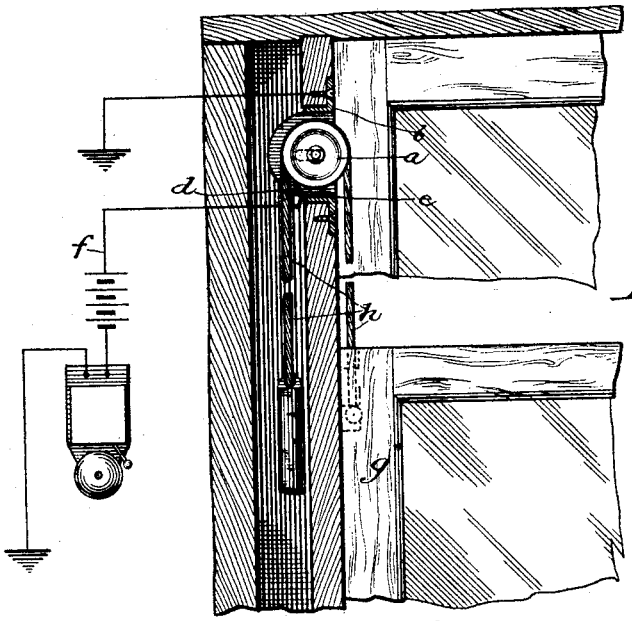

Fig. 1.

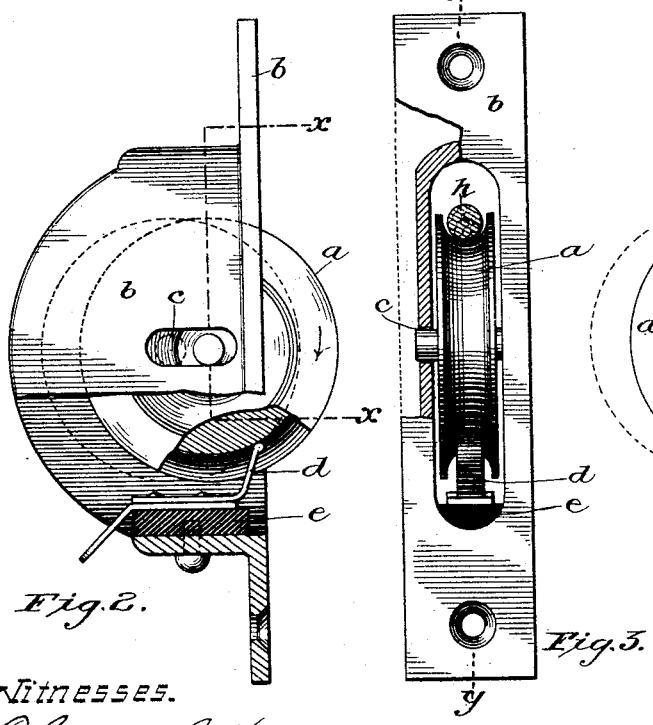

Fig. 2. Fig. 3.

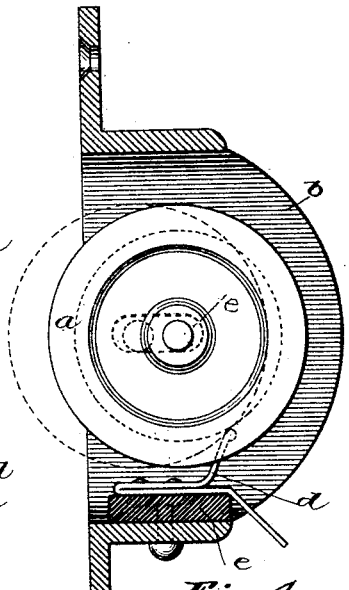

Fig. 4.

Witnesses.
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F. A. Boynton.

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(No Model.) 2 Sheets—Sheet 2.

D. A. PALMER.

CIRCUIT CLOSER FOR BURGLAR ALARMS.

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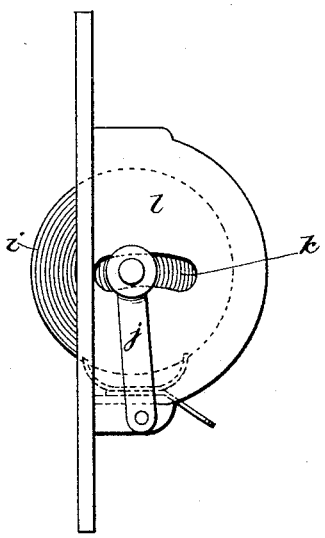

Fig. 5.

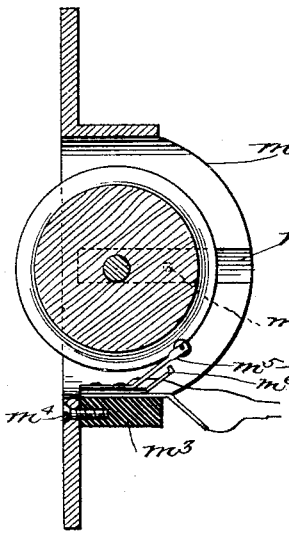

Fig. 6.

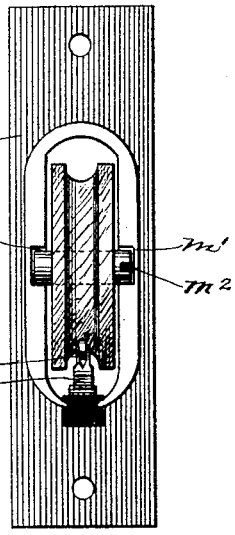

Fig. 7.

Witnesses.
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UNITED STATES PATENT OFFICE.

DON A. PALMER, OF CHICAGO, ILLINOIS.

CIRCUIT-CLOSER FOR BURGLAR-ALARMS.

SPECIFICATION forming part of Letters Patent No. 455,005, dated June 30, 1891.

Application filed May 26, 1890. Serial No. 353,200. (No model.)

To all whom it may concern:

Be it known that I, DON A. PALMER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Circuit-Closers, (Case 2,) of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to burglar-alarm apparatus; and its object is to provide a cheap, convenient, and reliable circuit-closer adapted to be operated to make or break a contact by the movement of the sash-cord over the sash-pulley.

My invention consists in a slotted sash-pulley frame provided with suitable insulated contact-points with which the pulley, moving in the slots, is adapted to engage when rotated by the movement of the sash-cord over the same.

My invention will be more readily understood by reference to the accompanying drawings, in which—

Figure 1 illustrates a circuit-closer embodying my invention placed in the frame of a window. Fig. 2 is a side elevation, partly in section, of a circuit-closer embodying my invention. Fig. 3 is a front view of the same on line $x\,x$ of Fig. 2. Fig. 4 is a sectional elevation on line $y\,y$ of Fig. 3. Fig. 5 shows a modification of my device. Fig. 6 is a sectional elevation of my circuit-closer as used in connection with a wooden pulley. Fig. 7 is a front view thereof.

Like parts are indicated by similar letters of reference throughout the different figures.

In Figs. 1, 2, 3, and 4 the pulley a is provided in the slotted casting b, and is adapted to move backward and forward in the slot c therein. The contact-spring d is secured to the casting b, but is insulated therefrom by the block e, as shown. The terminals of the alarm-circuit f, containing the battery and bell, are connected with the frame or casting b and to the contact-spring d, respectively. Now when the sash g is raised the sash-cord h is drawn over the pulley, thereby revolving the pulley on its shaft and rolling the same back into the other end of the slot c, thereby bringing the pulley a into engagement and contact with the spring d, thus closing the alarm-circuit to sound the said bell.

In Fig. 1 the arrangement is such that contact will be made when the sash is raised, while in Figs. 2 and 4 contact will be made only on lowering the sash.

Fig. 5 shows a modification of my circuit-closer, in which the pulley i swings on the yoke j and in the curved slot k, provided in the side of the casting l. Two contact-points are provided, so that the movement of the cord either up or down over the pulley will close contact.

In Figs. 6 and 7 I have shown the arrangement of the circuit-closer when used in connection with a wooden pulley and also a peculiar form of insulating-block, and means for securing the same to the casting of the pulley.

The casting m is provided with the grooves m', in which the hub of the pulley rolls. The pulley is prevented from coming out of the grooves by the stop-pin m^2, (indicated in dotted lines.) The lower part of the casting is cut away, as shown, and adapted to receive the grooved insulating-block m^3. This block is secured in place by the screw m^4, inserted through the front of the casting m. A spring m^5 is provided on the block m^3 and is adapted to close down upon the spring m^6, insulated therefrom, when the pulley is forced over against the spring m^5. A small pulley is provided in the end of the spring m^5, in order that the friction and wear on the pulley may be as slight as possible.

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

1. The combination, in a circuit-closer, of the frame-casting provided with slots, a cord-pulley adapted to revolve upon a suitable shaft in said slots as in bearings, and an insulated spring-contact secured upon said casting, whereby contact will be made or broken when the said pulley is revolved by the sash-cord moving over the same.

2. The combination of the casting b, the slots c therein, with the cord-pulley a, adapted to revolve in said slots c and to move backward and forward therein, the insulating-

block, and the spring-contact secured thereon, the whole adapted to be placed in a window-frame and to take the place of the ordinary sash-pulley, substantially as shown and described.

3. In a circuit-closer, the combination of the frame *l*, provided with the openings or slots *k*, with the cord-pulley *i* suspended thereon upon the yoke *j*, pivoted upon the said frame *l*, and the spring-contacts, as shown.

In witness whereof I hereunto subscribe my name this 3rd day of May, A. D. 1890.

DON A. PALMER.

Witnesses:
J. W. COYLE,
S. A. BUCHANAN.