

(No Model.)

L. B. MILLER.
ELECTRICAL CIRCUIT CLOSER.

No. 554,074.

Patented Feb. 4, 1896.

Fig.1.

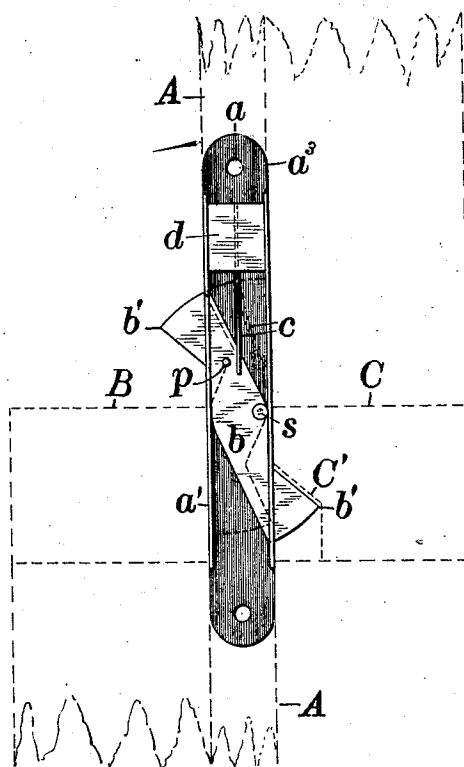


Fig.2.

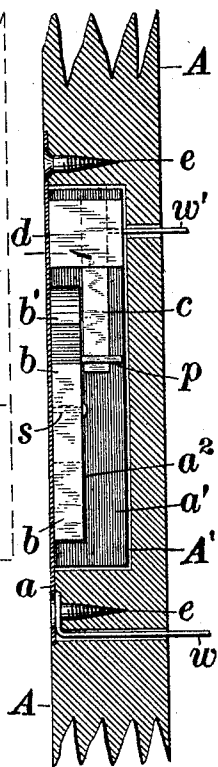
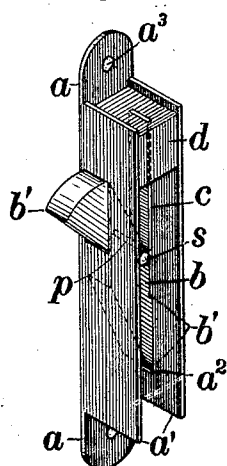


Fig.3.



Attest:

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UNITED STATES PATENT OFFICE.

LEBBEUS B. MILLER, OF ELIZABETH, NEW JERSEY.

ELECTRICAL CIRCUIT-CLOSER.

SPECIFICATION forming part of Letters Patent No. 554,074, dated February 4, 1896.

Application filed August 3, 1895. Serial No. 558,061. (No model.)

To all whom it may concern:

Be it known that I, LEBBEUS B. MILLER, a citizen of the United States, residing at Elizabeth, in the county of Union and State of New Jersey, have invented a new and useful Improvement in Electrical Circuit-Closers, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

10 This invention relates to an improvement in electrical switching devices for interrupting the electrical relation between two relatively-insulated contact-points forming terminals of an electrical circuit, either by establishing connection between two normally-independent terminal points of a circuit or by opening a normally-closed circuit through such relatively-insulated contact-points; and
15 the object of the improvement is to obviate the necessity of a spring for retaining the switch-lever or contact-piece of a burglar-alarm circuit-closer for attachment to window-frames in its normal position, whereby the durability of the device, which is rendered
20 uncertain by the spring employed in such devices now in common use, is greatly increased by being made practically independent of injury by wear.

30 The invention consists in the special construction for a burglar-alarm circuit-closer herein shown and described, and set forth in the annexed claim.

The invention will be understood by reference to the annexed drawings, in which—

35 Figure 1 is an elevation of the inner side of a device of the class described; Fig. 2, a side elevation of the same applied to the parting-strip of a window-frame with the latter and the front or face plate in section at the center,
40 and Fig. 3 is a perspective view of the device.

The face-plate *a* is formed with side flanges *a'*, constituting in conjunction therewith a casing for the support and inclosure of the operative members of the device. A straight
45 switch-lever or contact-piece *b*, notched upon opposite edges intermediate to the ends to form heads *b'* at the opposite extremities, is pivoted intermediate to such heads and close to one edge upon the supporting pin or stud *s*
50 projected from the face-plate *a* at the corresponding edge of the casing, whereby the lever

is caused to drop by its own weight normally into a position transverse to the casing with its heads *b'* projected through holes *a²* in the side flanges *a'* therefor, the adjacent shoulders 55 formed by the said notches in the lever resting against the inner sides of the said flanges. A projecting pin *p* is provided upon the inner face of the lever, the shifting of which latter causes its metallic contact with an insulated 60 contact-point formed of a strip of spring-brass *c*, projected into its path from a block *d* of cork or other insulating material fixed between the side flanges of the casing adjacent to the head *b'* of the lever and suitably connected with a wire *w'*, forming one of the 65 terminals of an electrical circuit of which the wire *w* constitutes the other terminal, which latter is in direct electrical contact with the face-plate *a*, and thus in continuous connection with the contact-lever *b* by means of the face-plate and pivotal pin *s*. 70

The parting-strip *A* is shown formed with a notch or recess *A'* for the body of the casing, which is secured therein by screws *e* inserted 75 in holes *a³* near the ends of the face-plate *a*.

In Fig. 1 portions of the parting-strip *A*, the lower window-sash, *B*, and the upper sash, *C*, are indicated in dotted lines, the top rail of the lower sash being shown slightly below 80 the adjacent inclined edge of the upper head of the switch-lever, and the lower portion of the upper sash being formed with a groove or recess *C'*, of which the inclined upper end is shown slightly above the similarly-inclined 85 adjacent edge of the opposite head of the lever. It will be evident that the engagement of one head of the switch-lever by the movement of either sash from its normal closed position, as thus illustrated, will effect the 90 positive shifting of the lever to throw its contact-pin *p* into electrical connection with the brass strip *c*, as indicated in dotted lines in Fig. 1, and that the release of the lever from engagement with such shifted sash by the re- 95 turn of the latter to its normal position will permit the switch-lever to gravitate to its normal transverse position in the casing, as shown in full lines in the said figure.

It will be observed that while the lateral 100 notches in the switch-lever are preferable in order to provide stop-shoulders upon such

member for engagement with the inner faces of the side flanges a' , while permitting the required projection of the heads b' , they may be omitted without altering the effectiveness of the device, in which case the contact-pin p would serve the same purpose, the apertures a^2 being properly extended to permit the necessary throw of the lever in its then substantially rectangular shape.

From the above description it will be seen that the contact-piece is pivoted upon one side of its center of gravity and its fall to a condition of equilibrium upon its suspending pin or stud is checked by a suitable stop against which it is thus caused to press positively to create a fixed normal position therefor, such stop being afforded by the side flanges a' of the face-plate.

While I have shown herein a strip of spring-brass as constituting a yielding insulated contact-point capable of compensating for variations in the movement or throw of the contact-piece, it is evident that by so arranging the insulated contact-point that the movable contact-piece will rest against and in electrical connection with the same when disengaged and forming the window-sashes with grooves, as C' in Fig. 1, with shoulders at the adjacent ends for engagement with the shifting portions of the contact-piece only when in their normal closed positions, such insulated contact-points may be made rigid, as the

extent of throw of the contact-piece would then be wholly immaterial.

Having thus set forth the nature of the invention, what I claim herein, and desire to secure by Letters Patent, is—

An electrical circuit-closer comprising a casing of equal width with and adapted for attachment to the parting-strip of a window-frame, the said casing being formed of a plate with side flanges along the edges of one of its faces having in each an aperture between the middle and one of its ends and disposed upon opposite sides of the middle of the casing, a flat switch-lever secured movably within the said casing at one edge by a pivotal pin projected from the corresponding edge of the said plate intermediate to the apertures in its side flanges and notched upon opposite edges intermediate to the middle and each end to form heads projected normally through the said apertures without the casing, and an insulated contact-point fixed to the said casing in the path of the said switch-lever, as and for the purpose set forth.

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

LEBBEUS B. MILLER.

Witnesses:

S. B. BURRITT,
EDWARD BRYCE.