W. H. SAWYER.

CIRCUIT-CLOSER FOR BURGLAR-ALARMS.

No. 187,674. Patented Feb. 20, 1877.

FIG. 1.

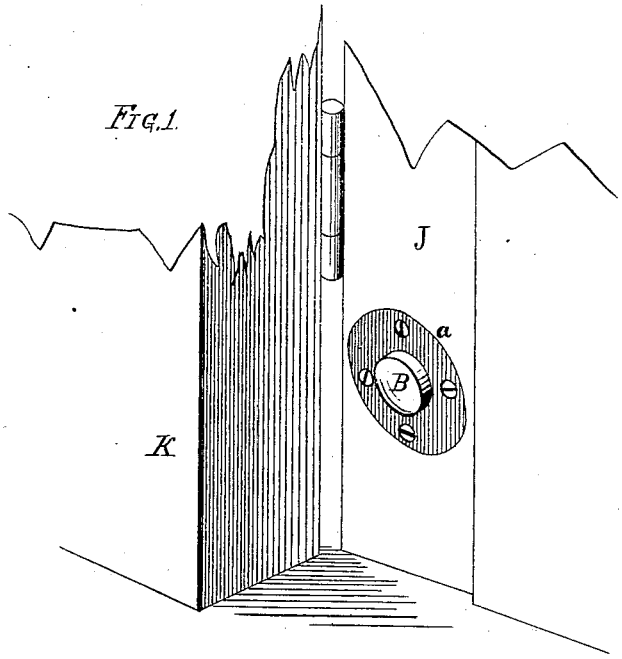


FIG. 2.

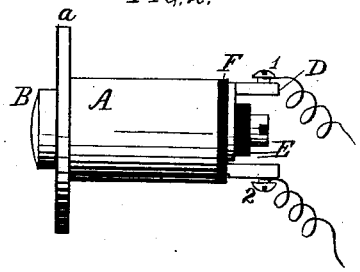


FIG. 3.

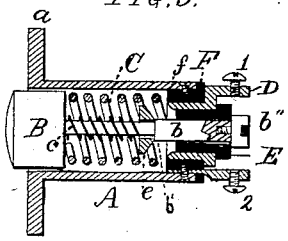
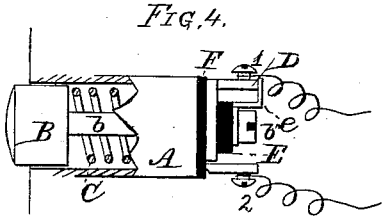


FIG. 4.



Witnesses:
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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN CIRCUIT-CLOSERS FOR BURGLAR-ALARMS.

Specification forming part of Letters Patent No. **187,674**, dated February 20, 1877; application filed January 16, 1877.

To all whom it may concern:

Be it known that I, WILLIAM H. SAWYER, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Circuit-Controllers for Burglar-Alarms; and I do hereby declare that the following is a full, clear, and exact description thereof, which 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 of reference marked thereon, which form a part of this specification, in which—

Figure 1 is a perspective view of a door and jamb with the circuit-controller in position. Fig. 2 is a side view, and Fig. 3 a longitudinal section, of a form adapted for closed circuits. Fig. 4 is a view, partially in section, of a form for open circuits.

The entire mechanism of the controller is situated within and upon the end of a cylindrical case, A, which is provided at its outer end with a flange, *a*, through which pass screws or nails for securing the case firmly in its seat in the jamb. By this construction of the case economy of labor and ease of attachment in position are secured, a slight cavity being first made by an auger-bit of the diameter of *a*, from the center of which a deeper recess is bored by a bit of the diameter of A, these two bits of different sizes being all the tools needed for the purpose. In metallic connection with the case is one binding-post, 2. In the outer end of the case A is the piston B, of a size for a short distance sufficient to about fill the interior of A. It is then reduced in size to form the shank or rod *b*, shouldered at *b'*, as shown. The inner end passes through an insulating-washer, E, and has a screw or shoulder, *b''*, which prevents the shank or rod from being withdrawn through the washer E. Within the case A a spring, C, is arranged to press the piston B outwardly, while immediately around *b* the spring C is coiled, arranged to press the collar *e*, arranged to slide upon the rod *b*, against the shoulder *b'*. Normally, these two springs keep the parts in the positions shown in Figs. 3 and 4. At the inner end of case A is located the other binding-post, 1, attached to a metallic post on a cylindrical collar, D, insulated from the case and from the rod *b* (which are metallically connected) by the insulating-collars E F.

The parts D and *e* are so arranged relatively to each other that when the piston B and rod *b* are pressed inwardly against the stress of the spring C they shall form contact, and to insure a good contact they are preferably ground and fitted as conical valves are, as clearly shown in Fig. 3. The shoulder *b'* on *b*, however, is so situated that the piston B and rod *b* must be moved by the spring C to nearly their extent of motion before the shoulder *b'* takes against and forces the collar *e* from its seat on D, so that when the piston has moved to its greatest limit the collar shall be lifted just clear, or but a little more than clear, from D, the spring C in the meantime keeping it against D. This is to compensate for accidental variance in the fit of the doors, preserving the circuit, although the piston may not be forced in to the full extent.

It is evident from the foregoing description that there is a break in the electric circuit between the posts 1 and 2, caused by the insulation of the two from each other by the insulators E F, and that if the piston B and rod *b* be pressed inwardly the parts *e* D will contact, and an unbroken circuit be formed, say 1 D *e*, case A 2.

When the controller is in position in the jamb J, as in Fig. 1, and the door K is closed, the door presses upon the piston B, and causes the circuit to be closed and remain closed until the door be opened, when the spring C would force the piston and rod back, causing the contact between D and *e* to be broken.

In Fig. 4 the contact *e* is placed at the end of rod *b*, so that the pressure of the spring shall cause D and *e* to contact, instead of breaking contact. The closure of the door in this case would cause the circuit to be broken between D and *e*, and the opening of it would allow the circuit to be made.

While I have shown my controller applied to a door, and have used the term "door," it is evident that it may be applied to windows, transoms, and other places to be guarded.

When desired, the contacts D and *e* in Fig. 4 may be beveled off to fit each other, in order to secure a bright rubbing contact.

Having thus described my invention, what

I claim, and desire to secure by Letters Patent, is—

1. A case for circuit-controllers for electric burglar-alarms, consisting of a section of a cylinder of plain unbroken exterior, and flanged at one end, and adapted to be applied as herein described, and having the circuit breaking or closing mechanism secured thereto, substantially as and for the purpose set forth.

2. The combination of a plain cylindrical flanged case, as shown, an interior piston with a head filling loosely the area of the open end of the cylinder, and projecting therefrom, a spring, and contact-points, insulated and arranged substantially as and for the purpose set forth.

3. The combination of the contacts D *e*, insulators E F, the piston, and spring, all arranged in relation to the case A, substantially as shown and described.

4. The combination, with the case, spring, and insulators, of the valve-seated contacts, substantially as shown and described.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

W. H. SAWYER.

Witnesses:
JOS. N. MONTGOMERY,
H. E. HINDMARSH.