L. FINCH.

Circuit-Closer for Electrical Burglar-Alarms.

No. 168,470. Patented Oct. 5, 1875.

Fig. 1.

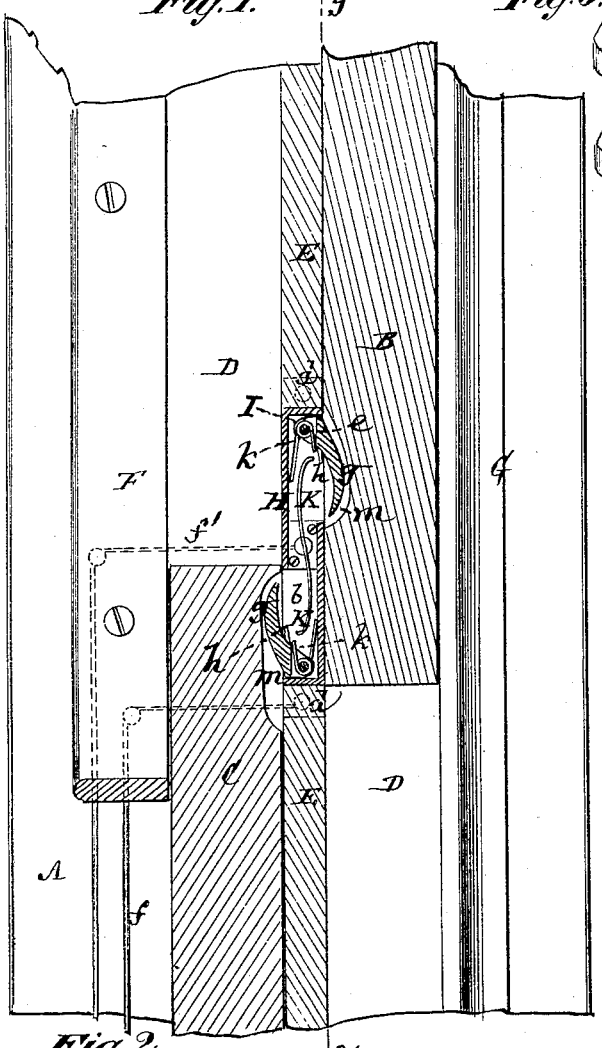


Fig. 5.

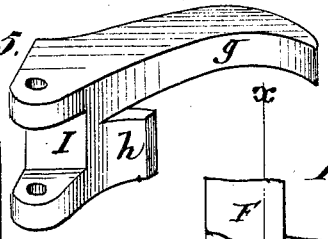


Fig. 3.

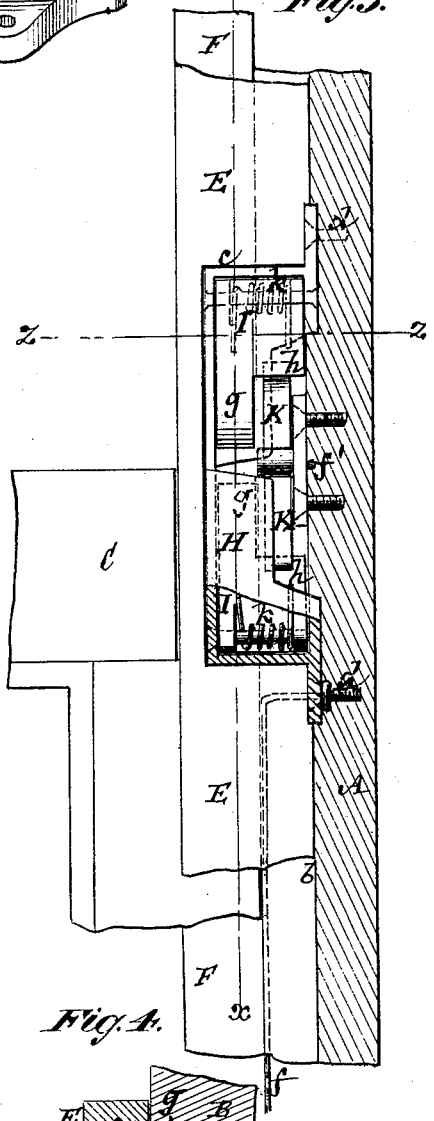


Fig. 2.

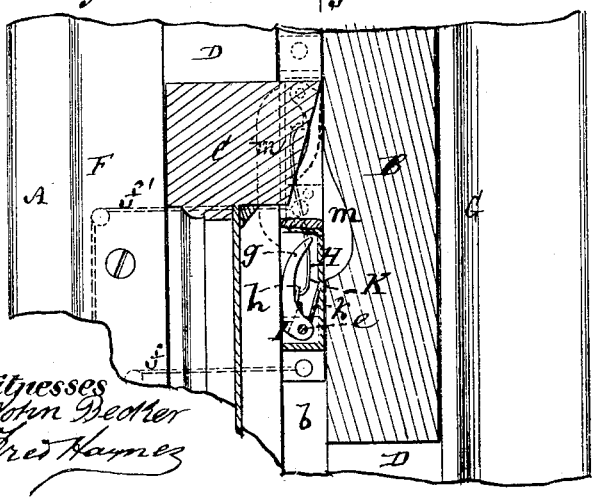
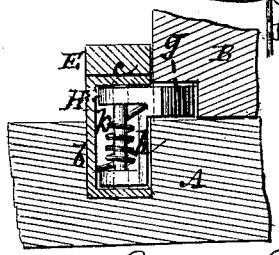


Fig. 4.



Witnesses
John Dedker
Fred Haynes

Lewis Finch
by his Attorneys
Brown & Allen

UNITED STATES PATENT OFFICE.

LEWIS FINCH, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN CIRCUIT-CLOSERS FOR ELECTRICAL BURGLAR-ALARMS.

Specification forming part of Letters Patent No. **168,470**, dated October 5, 1875; application filed November 19, 1874.

To all whom it may concern:

Be it known that I, LEWIS FINCH, of Brooklyn, in the county of Kings and State of New York, have invented certain Improvements in Devices for Making and Breaking Circuit in Electric Burglar-Alarms; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, which forms part of this specification.

This invention is mainly designed to be applied to windows in which one or both of the sashes have a sliding movement when opening and closing; and relates to devices for operating an electric burglar-alarm by the opening of the sash.

The device, which is also applicable to sliding doors, may work either on an open or closed circuit. It will here, however, be described as applied to a window, and as operating on an open circuit.

My invention consists in the combination, with pivoted circuit openers and closers, constructed with cams, levers, and wings, of springs for bearing against the pivoted circuit openers and closers, and an elastic tongue, which is in electric connection with a battery, the whole being arranged within a frame having openings in its opposite sides for the outward movement of the cam-levers, the construction and operation of which will be fully hereinafter pointed out.

Figure 1 is a sectional elevation on the line *x x*, through the side rails of the sashes, in a closed condition of the latter, and with the circuit open. Fig. 2 is a similar view, but with the sashes partly open and the circuit closed. Fig. 3 is a sectional elevation upon a larger scale, at right angles to Fig. 1, on the line *y y*. Fig. 4 is a horizontal section on line *z z;* and Fig. 5, a view in perspective on a larger scale, of one of the yielding circuit openers and closers.

A is a window-frame, in part, constructed to receive an upper sliding sash, B, and lower sliding sash C, the side rails of the sashes working on the usual pulley-stiles D, between the parting-strip E and outer and inner stops F G. Arranged within the groove *b* that receives the parting bead or strip E, and projecting within a recess, *c*, in the under side of the latter, in the neighborhood of where the meeting-rails of the sashes meet when the latter are closed, is a metallic, elongated, box-like frame or case, H, which may be secured to the bottom of the groove *b* by screws *d*. This frame H is in connection by a wire, *f*, with the one pole of the battery, and carries in it, on opposite sides and at opposite ends, circuit openers and closers I, pivoted at *e* to said frame or case, and formed with or composed of cam-shaped levers *g* and smaller arms or wings *h*. These wings *h* are the direct means of closing the circuit, as the sashes B and C, or either of them, in opening press by their sides which are in contiguity with the parting-strip on the cam-levers *g*, and force the latter inward, so as to bring the wings *h* in contact with the bent ends of an elastic tongue, K, which is in connection by a wire, *f'*, with the other pole of the battery. This action of the sashes on the cam-levers *g* closes the circuit, as shown in Fig. 2, and thereby sounds the burglar-alarm.

Springs *k*, applied to the circuit openers and closers I, serve to keep the cam-levers *g* set outward, with a gentle pressure against the sashes, but not so as to bind on the latter while sliding up or down, and the elastic tongue K also assists in relieving the devices from any binding-strain. Said springs *k* likewise serve, when the sashes are closed, and, if desired, during a very partial opening of them, to release the wings *h* from contact with the elastic tongue K, by throwing the cam-levers *g* into receiving-cavities *n* in the sides of the sashes, and so breaking the circuit, as shown in Fig. 1.

When one of the sashes is fitted so that it cannot be opened, then it is not necessary to duplicate, as shown in the drawing, the construction of the elastic tongue, nor yet to duplicate the circuit opener and closer I, but only to make these parts single for operation, in connection with the movable sash.

To work the device on a closed circuit, instead of an open one, it will only be requisite to reverse the position of the elastic tongue.

A device constructed and applied as hereinbefore described, for making and breaking cir-

cuit in electric burglar-alarms, will be found to possess all the advantages hereinbefore specified for it.

I claim—

In combination with the pivoted circuit openers and closers I, having the cam-levers *g*, and wings *h*, the springs *k*, and the elastic tongue K, and all arranged within the box-frame H, having openings on opposite sides for the outward movement of the cam-levers, as herein shown and described.

LEWIS FINCH.

Witnesses:

BENJAMIN W. HOFFMAN,

VERNON H. HARRIS.