H. A. BROOKS.

ELECTRIC APPARATUS FOR BURGLAR-ALARMS.

No. 179,998. Patented July 18, 1876.

Fig. 1.

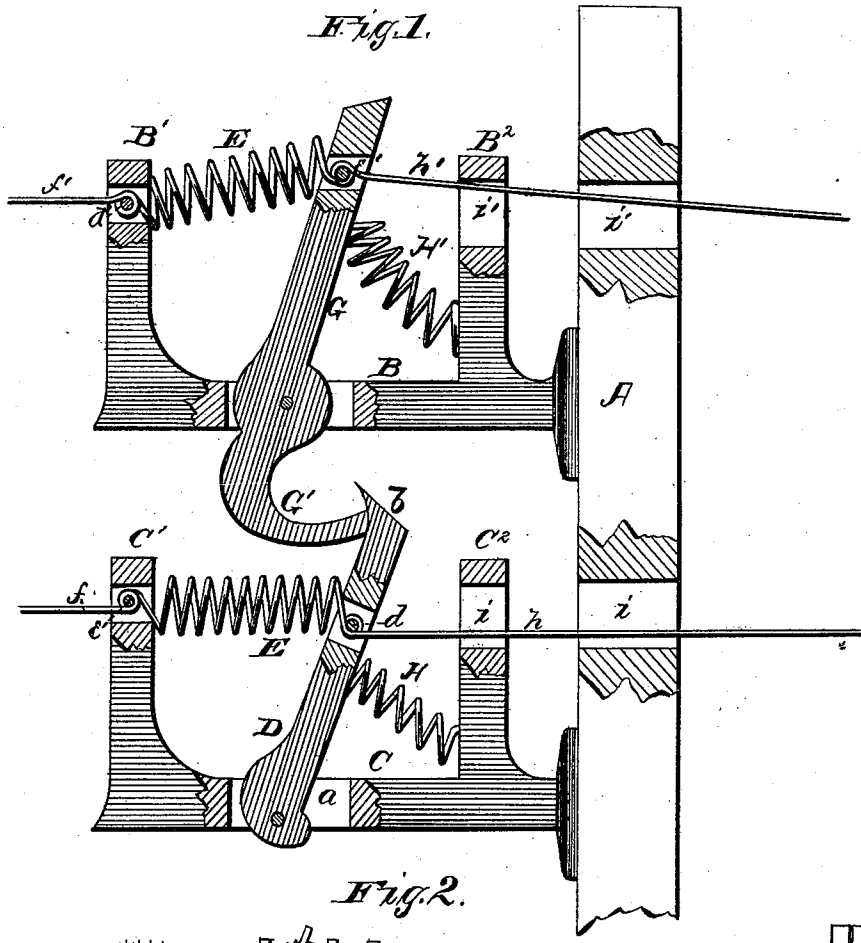
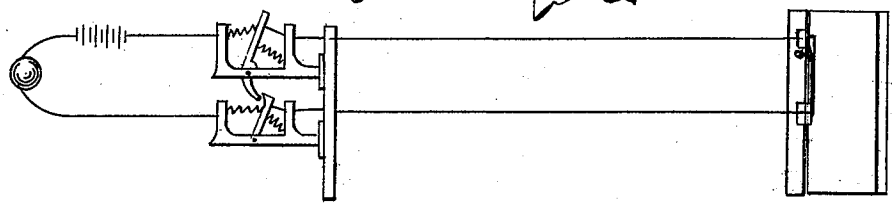


Fig. 2.



WITNESSES

Franck L. Durand

C. L. Ewert

INVENTOR

H. A. Brooks.

By Alexander Hudson

Attorneys

UNITED STATES PATENT OFFICE.

HORACE A. BROOKS, OF OWEGO, NEW YORK.

IMPROVEMENT IN ELECTRIC APPARATUS FOR BURGLAR-ALARMS.

Specification forming part of Letters Patent No. **179,998**, dated July 18, 1876; application filed May 24, 1876.

To all whom it may concern:

Be it known that I, HORACE AGARD BROOKS, of Owego, in the county of Tioga and in the State of New York, have invented certain new and useful Apparatus for Short-Circuiting a Long Circuit in an Electric Machine; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

The nature of my invention consists in an apparatus interposed between the battery and the end of a long open electric circuit, said apparatus being held open by tension of the electric wires of the long circuit, and arranged to close and short-circuit the long circuit by relieving the tension on one or more of the wires, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawings, in which—

Figure 1 is a side elevation, partly in section, of an apparatus by which my invention may be carried out. Fig. 2 is a diagram, showing the application of my invention.

A represents the base, made of wood or other suitable non-electric conducting material, to which the apparatus is fastened. The apparatus, as shown, is composed of two horizontal brackets, B and C, fastened to the base A, and provided, respectively, with upwardly-projecting arm B^1 B^2 and C^1 C^2. The lower bracket C has a vertical slot, *a*, at or near the center, in which is pivoted the lower end of an arm or lever, D, the upper end of said lever being formed with a projection, *b*, as shown. In a slot in the lever is, by a pin, *d*, fastened one end of a spiral-wire spring, E, the other end of which is, by a pin, *e*, fastened in a slot in the arm C^1, and from this pin the wire *f* extends, and connects with one pole of the battery. From the pin *d* in the lever D the wire *h* extends through elongated slots *i i* in the arm C^2 and base A, respectively, to form the long circuit. The bracket B is also formed with a slot, in which is pivoted a lever, G, the lower end of which is extended, forming the curved arm G′, to come in contact with the front of the projection *b* on the lever D. E′ is a spiral-wire spring, connecting pins *a′* and *e′* in the lever G and arm B^1, in the same manner as described for the spring E in the lower bracket. From the pin *e′* a wire, *f′*, leads to the other pole of the battery; and from the pin *d′* the wire *h′* passes through slots *i′ i′* in the arm B^2 and base A, to form the long circuit. Between the lever D and arm C^2 is placed a spiral spring, H; and a similar spring, H′, is placed between the lever G and arm B^2.

The operation of the device is as follows: The wires *f* and *f′* are connected with the two poles of a battery, one of said wires being passed through a burglar-alarm (if an alarm is used) before reaching a battery. Then a sufficient strain on the wires *h h′* will draw the levers D and G to the standards C^2 and B^2, respectively, so that the adjoining ends of said levers will not be in contact with each other. In this situation if the wires *h h′* be connected in any way at their distant termini, the circuit will be closed, and, if there be a bell, it will ring, the electric current passing from one pole of the battery along the wire *f*, spring E, and wire *h*; thence back on wire *h′*, spring E′, and wire *f′*, to the other pole of the battery. But if the wires *h h′*, while the apparatus is in this position, are not connected at their extreme ends, there will be no electric circuit. Then, if the strain be removed from either one or both of the wires *h* or *h′*, the lever with which such wire is connected will, by the springs operating thereon, be thrown in contact with the other lever, and a circuit at once established from one pole of the battery, through, for instance, the wire *f*, spring E, lever D, lever G, and back, through the spring E′ and wire *f′*, to the other pole of the battery.

Thus it will be seen that, with wires connecting, through this attachment, at a house, and running from a battery and alarm within the house to an outhouse, and so arranged that the opening of any door or window would ring the bell, though they may all be closed, the cutting of either wire at any point between the house and outhouse would ring the bell. Instead of both wires *h h′* being air-wires,

only one may be used as such, and the other wire be a ground-wire.

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

1. In an open electric circuit, an apparatus interposed between the battery and end of circuit, held open by tension of the electric wires of the long circuit, and arranged to close and short-circuit the long circuit by relieving the tension on one or more of the wires, as set forth.

2. In an open electric circuit, the closing and short-circuiting of the circuit by means of a spring or springs attached to the wire between the battery and the end of the circuit, and by means of relief of tension from one or more of the wires of the circuit.

In testimony that I claim the foregoing I have hereunto set my hand this 19th day of May, 1876.

HORACE AGARD BROOKS. [L. S.]

Witnesses:
C. P. MASTERSON,
C. M. BROOKS.