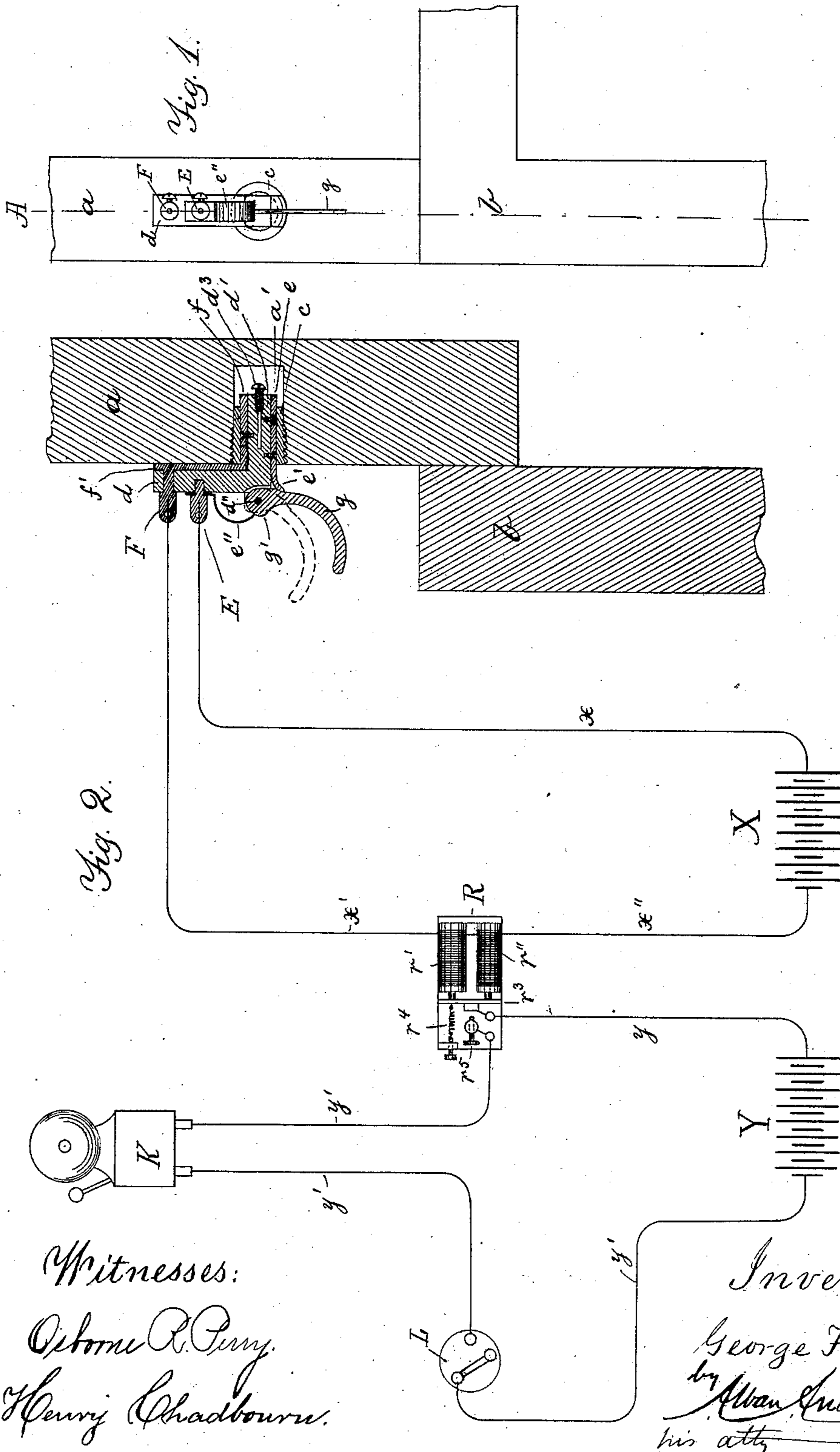


(No Model.)

G. F. TAFT.
ELECTRIC BURGLAR ALARM.

No. 382,444.

Patented May 8, 1888.



UNITED STATES PATENT OFFICE.

GEORGE F. TAFT, OF BOSTON, MASSACHUSETTS.

ELECTRIC BURGLAR-ALARM.

SPECIFICATION forming part of Letters Patent No. 382,444, dated May 8, 1888.

Application filed January 28, 1888. Serial No. 262,201. (No model.)

To all whom it may concern:

Be it known that I, GEORGE F. TAFT, a citizen of the United States, and a resident of Boston, in the county of Suffolk and State of Massachusetts, have invented new and useful Improvements in Electric Burglar-Alarms, of which the following, taken in connection with the accompanying drawings, is a specification.

This invention relates to improvements in electric burglar-alarms for the purpose of automatically sounding an alarm if a door, gate, or window is opened while the apparatus is electrically connected for operation, as will hereinafter be fully shown and described. The circuit-breaker attached to the door, gate, or window is so constructed and arranged that it can easily be detached from such door, &c., whenever the device is not needed for use.

The invention is constructed and carried out as follows, reference being had to the accompanying drawings, wherein—

Figure 1 represents a front elevation of the detachable circuit-breaker, shown as being attached to a window-sash. Fig. 2 represents a vertical section on the line A B, (shown in Fig. 1,) showing the circuit-breaker connected electrically for operation with an alarm or equivalent device.

Similar letters refer to similar parts wherever they occur on the different parts of the drawings.

a and *b* represent the upper and lower sashes, respectively, of a window; or they may represent corresponding parts of a door, gate, &c., according to the purpose for which the invention is desired.

In the sash *a*, I make a recess or cavity, *a'*, into which I secure in a suitable manner the metal sleeve *c*, which may be provided with an exterior screw-thread, as shown in Fig. 2, and screwed into the recess *a'*; or it may be made without such screw-thread and driven into the cavity *a'* without departing from the essence of my invention. Into the said metallic sleeve *c*, I insert my improved circuit-breaker, which is composed of a non-conducting block or frame, *d*, having a shank, *d'*, adapted to be inserted in the metal sleeve *c*, as shown in Fig. 2. To one side of the non-conductive shank *d'* is secured in a suitable manner the metal plate *e*, having a stop projection, *e'*, in its outer end, as shown. To the oppo-

site side of the non-conductive shank *d'* is secured the metal plate *f*, the outer end, *f'*, of which is metallically connected to the binder-screw *F*, as shown. To the outer end of the non-conductive block or frame *d*, I pivot at *d''* the metal lever *g*, the rear of which is normally held in metallic connection with the metal stop projection *e'* by the influence of the metal spring *e''*, the free end of which presses on the hub or central part of the lever *g*, as shown in Fig. 2. The other end of said spring *e''* is metallically connected to the binder-screw *E*, that is secured in a suitable manner to the non-conductive head or frame *d*. For the purpose of establishing a proper metallic connection between the sleeve *c* and the plates *e* and *f*, when the shank *d'* is introduced into said metal sleeve *c*, I prefer to longitudinally slit said shank *d'* from its rear end, as shown in Fig. 2, and into the rear end of said slit is inserted a screw or wedge, *d³*, by means of which said shank and its metal plates *e f* can be expanded whenever so desired, so as to obtain a proper metallic connection between the interior of the metal sleeve *c* and the metal plates *e* and *f*.

I prefer to provide the hub of the lever *g* with a projection or swell, *g'*, as shown in Fig. 2, the object of which is, in connection with the spring *e''*, to retain the lever *g* in its raised position, as shown by dotted lines in Fig. 2, if the sash *b* has been raised and afterward closed, so as to cause the alarm to continue until the occupants of the room or building are enabled to ascertain the cause of such alarm.

The device is electrically connected for operation, preferably in a manner as shown in Fig. 2, in which *X* represents a blue-vitriol or other closed-circuit battery, having wire *x* leading to the binder-screw *E*, and wire *x''* leading to the spool *r''* of the relay *R*, on which *r'* is the other spool, to which the wire *x'* leads from the binder-screw *F*, as shown.

r³ is the armature of the relay, which is normally forced and held against the ends of the spools *r' r''* by the electro-magnetic attraction as long as the circuit in battery *X* is closed. When said circuit is broken, the armature *r³* is moved by the influence of a suitable spring, *r⁴*, against the binder-screw *r⁵*, as is common in relays, causing said armature and binder-screw to be metallically connected.

Y is a Leclanché or other suitable open cir-

cuit-battery, having wire y leading to the armature r^3 , and wire y' leading to the binder-screw r^5 . In the circuit of the wire y' is located the electric bell or other alarm, K, which is set in operation whenever the circuit of the battery Y is closed. I also locate in the circuit of the battery Y a suitable switch, L, (shown in Fig. 2,) to enable the operator to test the device at any time, as may be desired.

The operation is as follows: The parts being arranged and electrically connected, as shown in the drawings, and the switch L closed, if the sash b is raised or the sash a lowered, the lever g will be turned around its axis to the position shown in dotted lines in Fig. 2, causing the battery-current X to be broken by reason of the lever g being disconnected from the stop projection e' at the same time as the battery-current Y is being automatically closed by the armature r^3 , that is then forced against the binder-screw or projection r^5 by the influence of the spring r^4 , and thus causes the electric bell or other alarm, K, to be sounded as long as the current Y is closed.

The circuit-breaker may at any desired time be detached from the ring or ferrule c , if not required for use.

Having thus fully described the nature, construction, and operation of my invention, I wish to secure by Letters Patent, and claim—

In an electric burglar-alarm, the stationary metallic ring or ferrule c , in combination with the detachable circuit-breaker, consisting of the non-conducting part $d d'$, the lever g , pivoted to it and normally held in metallic connection with the insulated binder-screw E and ferrule c by means of the spring e'' and metal plate $e e'$, respectively, and the binder-screw F, metallically connected to said ferrule by means of the metal plate $f f'$, and wires leading from said binder-screws E F to a battery and electric alarm arranged in the circuit, as and for the purpose set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 23d day of January, A. D. 1888.

GEORGE F. TAFT.

Witnesses:

ALBAN ANDRÉN,
GEORGE EDWARDS.