

W. BOYD.
BURGLAR-ALARM.

No. 175,590.

Patented April 4, 1876.

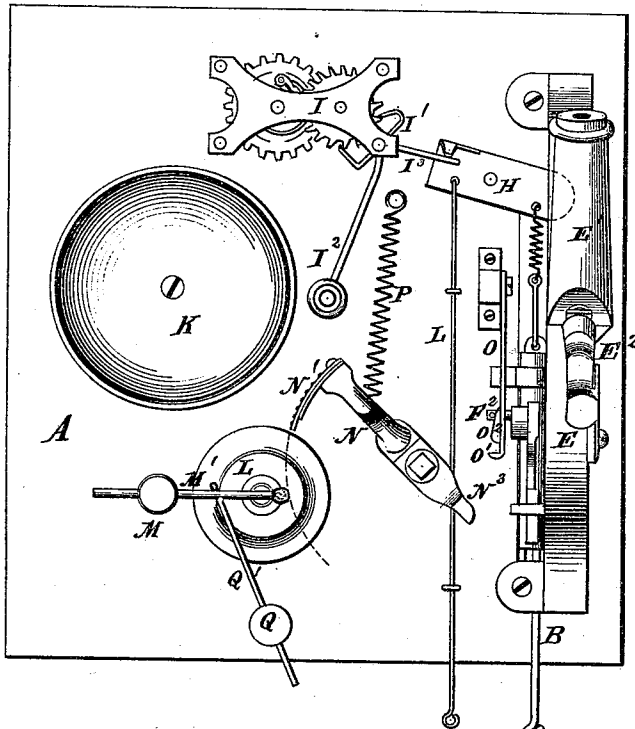
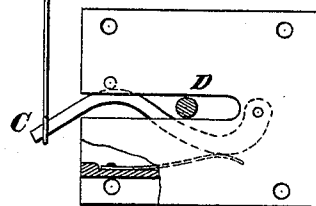


Fig. 1.

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Witnesses.
A. Ruppert.
F. Holloway.



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Fig. 2.

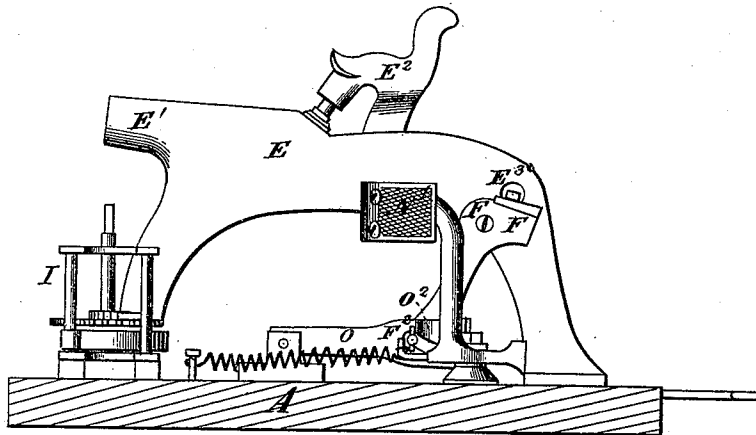


Fig. 3

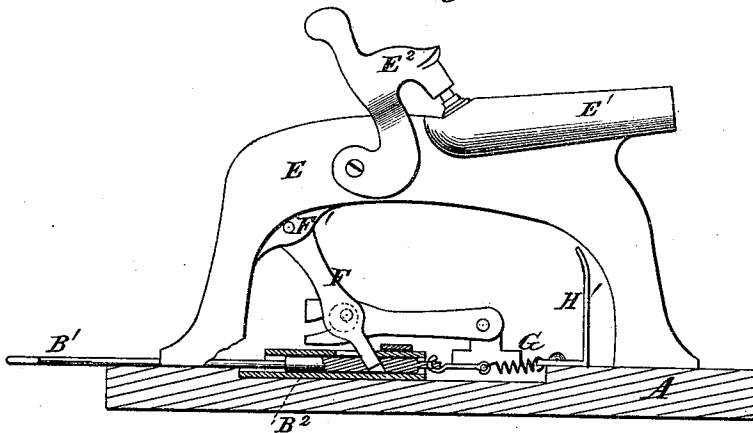
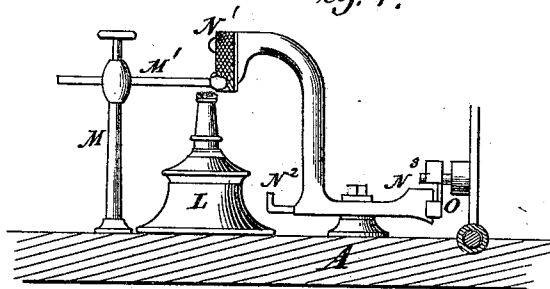


Fig. 4.



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UNITED STATES PATENT OFFICE.

WILLIAM BOYD, OF MANSFIELD, MASSACHUSETTS.

IMPROVEMENT IN BURGLAR-ALARMS.

Specification forming part of Letters Patent No. **175,590**, dated April 4, 1876; application filed February 15, 1876.

To all whom it may concern:

Be it known that I, WILLIAM BOYD, of Mansfield, in the county of Bristol and State of Massachusetts, have invented a new and useful Improvement in Burglar-Alarms, of which the following is a specification:

My invention is designed to give an alarm in case the doors or windows of a house are opened at night, which alarm may be graduated according to circumstances, may be continuous, and also accompanied by the striking of a light. The alarm may be communicated to one or more apartments in the same house, or may be communicated to other neighboring houses to summon assistance in case of a burglarious attack.

In the annexed drawings making part of this specification, Figure 1 is a plan view of the alarm, showing also one convenient attachment to a door or window for giving the alarm when the same is opened. Fig. 2 is an elevation of the alarm-mechanism. Fig. 3 is an elevation partly in section, showing the firing mechanism; and Fig. 4 is an elevation of the mechanism for striking a light.

The same letters are employed in all the figures in the indication of identical parts.

A is the frame, to which the alarm-mechanism is attached, and B the wire by which it is put in action. The wire B is connected with a series of wires, B¹, running through all the exposed parts of the building and connected with the windows or doors, so that when any of them are opened the wire B shall be drawn out. I have shown in Fig. 1 a convenient attachment for the doors or windows. C is a bent lever pivoted at one end, and having the other attached to a wire, which, by means of the ordinary bell-wire system, is extended to the alarm. D is the shackle of a bolt or lock attached to the door or window, while the lever is fastened to the frame. When the house is closed for the night, the bolt D being shot when the door, window, or window-shutter is opened, the shackle, pressing against the bent lever C, will draw on the wire and actuate the alarm. E is a frame, to which is attached a pistol-barrel, with a nipple for a percussion-cap, so that the alarm may be given by the action of the hammer B² on the nipple or by the explosion of the cap, or by firing the

pistol loaded with powder. F is the trigger pivoted on the outside and acting upon the arm E¹, which projects from the lock through the casing. The lock is the ordinary percussion-lock. The lower end of the trigger is inserted in a slot in a cylindrical attachment, B², attached to the wire B, clearly shown in Fig. 3. A spiral spring, G, serves to retract the wire B when released after being drawn out. It is attached to one arm of a bell-crank, H, an arm of which, H', serves as a stop for an alarm-bell mechanism, consisting of the ordinary clock-work I, escapement I', and hammer I², acting on the bell K. When the spring of the clock-work is wound up it is held by drawing the arm H' against the arm I³ of the escapement. This is done by means of the wire L. When the wire B acts on the arm of the bell-crank H, the arm H' disengages I³, and the alarm will sound continuously until it runs down.

The object of the bell is to give a sufficiently protracted alarm to awaken every one roused by the explosion so completely that they will be brought to the full comprehension of the situation.

As an additional security I make provision for lighting a lamp instantly on the giving of the alarm. It is done in the following manner: L is a lamp of camphine or some similar inflammable fluid, which will take fire instantly from the flame of a match. Alongside of the lamp, which is held firmly, I place a post, M, with a hole through it to receive a match, which may be fixed in proper position by means of a set-screw. The fulminate end of the match is placed on the wick of the lamp or near to it, and in contact with the roughened face N¹ of the oscillating arm N, which is pivoted to the frame, so as to swing freely (a spiral-spring being attached to the arm N²) when the arm N² is freed. This arm is engaged by turning it (against the tension of the spring) until its point catches a hook, O¹, on the spring O, the tension of the spring being such as to hold the hook toward the arm N². There is a swell, O², with an inclined face on the spring O, and a stud-pin projects from the lower end of the trigger F at F², passing through a slot in the spring O, and having a pin passed through a hole in the end of the

stud to engage the inclined face of the swell O^2 , and press back the spring when the trigger is drawn back by the wire B, so as to disengage the hook O^1 from the arm N^2 , when the spring P will draw the surface N^1 across the match M' , and light the lamp. To enable the match to sustain the strain of the surface N^1 I fix another post, Q, on the table, with a set-screw for fastening the hooked wire Q' when it has been drawn up to hold the match.

I do not claim the parts of the alarm separately, nor broadly in combination. My invention is distinguished from the machine in which the same general combination has been employed, not only in the organization of the details of the mechanism, but in so connecting the operative parts with the wire B that all the parts may be used united, or that any of them may be used separately, which cannot be done when the operation of the other parts is made to depend on the motion of the hammer of the gun.

It is evident that the stud-pin F^2 , instead of being attached to the trigger, may be attached directly to the wires B B^1 .

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In combination with the wire B, the trigger F, the bell-crank H, and oscillating arm

N, respectively, attached to the gun-lock, the alarm-bell, and lamp-lighting mechanism, so that either or all the parts may be actuated by drawing the wire, substantially as set forth.

2. In combination with the wire B and spring O, and arm N^2 , the hook O^1 , inclined surface O^2 , and stud-pin F^2 for releasing the lamp-lighting mechanism, substantially as set forth.

3. In combination with the match and oscillating arm for igniting it, the adjustable hook Q^1 , for supporting the stem of the match near the fulminate, substantially as set forth.

4. In combination with a burglar-alarm and connecting-wires, B B^1 , the bent lever C and shackle D of a lock or bolt for actuating the alarm upon the opening of a door or window, substantially as set forth.

5. In combination with the wire B, the slotted cylinder B^2 , trigger F, spring G, and bell-crank H, for operating both the firing-mechanism of the gun and the bell-alarm, by the direct action of the wire, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM BOYD.

Witnesses:

SAMUEL WARNER,
EVERETT F. BOYD.