A. G. HUTCHINSON & G. F. RANSOM.

BURGLAR-ALARMS

No. 195,822. Patented Oct. 2, 1877.

Fig. 1.

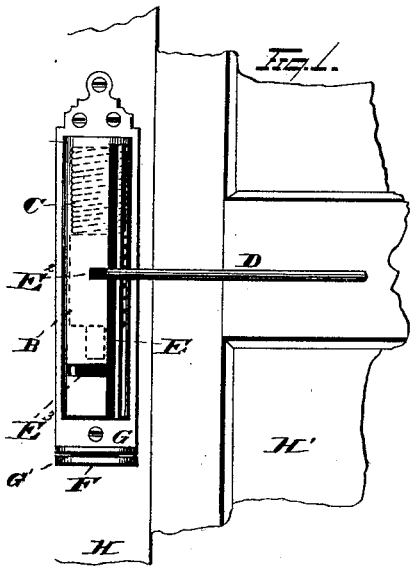


Fig. 2.

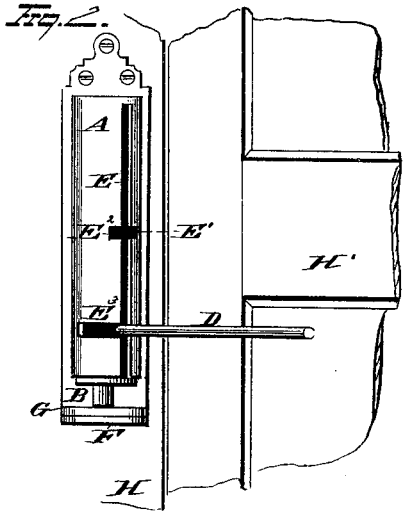


Fig. 3.

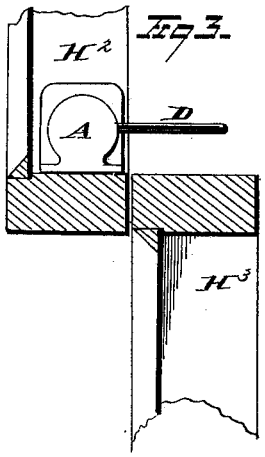


Fig. 4.

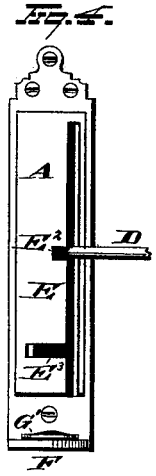
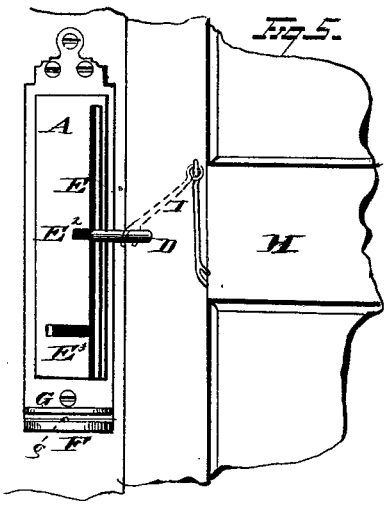


Fig. 5.



WITNESSES

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UNITED STATES PATENT OFFICE.

ARTHUR G. HUTCHINSON AND GEORGE F. RANSOM, OF CLEVELAND, OHIO.

IMPROVEMENT IN BURGLAR-ALARMS.

Specification forming part of Letters Patent No. **195,822**, dated October 2, 1877; application filed September 6, 1877.

To all whom it may concern:

Be it known that we, ARTHUR G. HUTCHINSON and GEORGE F. RANSOM, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Burglar-Alarms; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

Our invention relates to a new and useful improvement in burglar-alarms; and consists in a tubular shell or case containing a plunger and a spring to actuate the same, and to the plunger is attached a trigger-arm, which moves in a right-angular slot; and the construction is such that when the trigger-arm is set in the horizontal branch of the slot and the door is opened it will press the trigger into the vertical or longitudinal arm of the slot, and the spring will then force the plunger down against a friction or fulminate pad, or against a shield containing the pad or pellet, thus exploding the same, and creating a marked alarm or report sufficient to arouse the occupants of the house or apartment.

In the drawings, Figure 1 represents one of our improved burglar-alarms set ready for use. Fig. 2 represents the same after the door has been sufficiently opened to release the trigger. Fig. 3 represents the same as applied to a window. Fig. 4 represents a variation, wherein the plunger is permitted to strike directly upon the fulminate-pellet. Fig. 5 presents a variation of our invention, wherein the construction is such that the trigger may be set during the day, and, when desired for use, it may be engaged with a separate latch or catch.

A is a cylindrical or other case for containing a plunger or exploder, B, and C is a spring for driving the said exploder B. D is an arm or trigger projecting outward from the plunger B, to which it is rigidly attached, so that the motion of the plunger is governed by the motion of the trigger. E is the vertical arm, and E^1 the horizontal arm, of a rectangular slot. E^2 is a short elongation of the slot upon the opposite side of the vertical portion E^1, and E^3 is a branch of the slot which permits a free movement of the trigger-arm after the device has been sprung or when not in use. F is a support or abutment, upon which the pellet of fulminate rests and is exploded. G is a small plate of metal, which serves to hold the pellet in place. This plate G is loosely pivoted at *g*, so that, as the plunger strikes it, it will have a slightly rasping or sliding motion upon the friction-pad which is placed between it and the support F. This is not absolutely essential, however, as the plate may be dispensed with entirely, and the plunger be permitted to strike directly upon the fulminate; or, instead of the plate G, a spring or retainer of any description may be employed for holding the pellet in place. We prefer, however, to employ the plate G, as shown.

H is the door-jamb, and H^1 the door. H^2 and H^3 are, respectively, the upper and lower sashes of the window.

The operation of this device is very simple. Having secured the device to a door-frame, as shown, and the door having been closed, as shown in Fig. 1, the alarm is set by lifting the trigger-arm D, and with it the plunger B, until the arm D rests within the horizontal portion E^1 of the slot, and until the end of the trigger-arm rests against the door. A fulminate-pad, G′, is then placed beneath the plate G, and all is ready.

Now, should a person open the door, the door will press upon the arm or trigger D, and turn it until it is released from the portion E^1 of the slot, and is driven down through the vertical portion E of the slot. Being attached to the plunger B, the spring C forces the plunger so strongly as to explode the fulminate-pellet, thus creating a loud alarm or report. Having reached the bottom of the slot E, the arm D is then free to move in the branch E^3 of the slot until again set.

If, for any purpose, it should be desired to give an alarm on the occasion of an open door being closed, then the trigger-arm may be set in the slot E^2, and be so attached to the door as to pull it free as the door closes.

It may at times be desirable to so construct the device that, although the trigger D may be set, the door may still be opened and closed without springing the alarm. For this purpose the trigger-arm may be made short, as shown

in Fig. 5, so as not to be struck directly by the door; and when it is desired to guard the door a latch, I, may be engaged, as shown, with the arm D, so as to trip the trigger as the door is opened.

It is not absolutely essential that the spring C and plunger B be incased in a shell, A, for it is apparent that the plunger and the spring might be arranged concentrically around a central supporting-stem without departing from our invention.

When it is desired to use the device upon a window, the apparatus is so attached that the raising or lowering of either frame or sash will trip the trigger D, as shown in the drawings.

A device of this nature is simple and cheap, and furnishes a ready means of attachment wherever it may be needed, and, with a couple of tacks or nails for fastening it, may be secured, in a few moments, to the windows and doors of a hotel apartment or other place where a portable alarm is needed.

It will be understood that instead of a pellet, as shown, being employed, we may use a cap or any other explosive agent which may be exploded with a blow of the plunger.

The branch E^2 of the slot enables the device to be set, as before explained, so as to trip the trigger as the door is swung away from the implement. It is apparent that this may be employed to advantage in securing doors which open outward from an apartment, which is frequently the case.

What we claim is—

1. A burglar-alarm consisting of the slotted shell A, plunger B, and coiled spring C, the latter having butt-end bearing, respectively, against the plunger and the close top of the shell, in combination with the buttress F formed independent of, and in a horizontal plane below, the shell A, substantially as described.

2. The combination, with the upright cylindrical casing A and the spring-actuated plunger B, adapted to operate therein, as described, of the buttress or support F and the close-bodied guard G, the said buttress and guard being located in a horizontal plane below the said casing A, substantially as described.

3. In a burglar-alarm, the longitudinally-slotted shell or casing provided with the lower cross-slot E^3, the latter being adapted, as described, to receive the trigger-arm when the alarm is not set, and thus permit the opening and closing of the door without injury to the operative parts of the alarm, substantially as described.

4. In a burglar-alarm, the combination, with the spring-actuated plunger having a trigger-arm, of the longitudinally slotted shell provided with the cross-slot E^2 and suitable door-connecting mechanism, the same being adapted, as described, to operate the alarm upon closure of the open door, substantially as described.

5. In a burglar-alarm, the combination, with the longitudinally-slotted shell provided with cross-slot E^2, and the spring-actuated plunger having a trigger-arm, of the trip or catch secured to the door and adapted to engage with the said trigger-arm, substantially as described.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

ARTHUR G. HUTCHINSON.
GEO. F. RANSOM.

Witnesses:
F. TOUMEY,
W. E. DONNELLY.