

G. HUTTY.
Burglar-Alarm.

No. 219,401.

Patented Sept. 9, 1879.

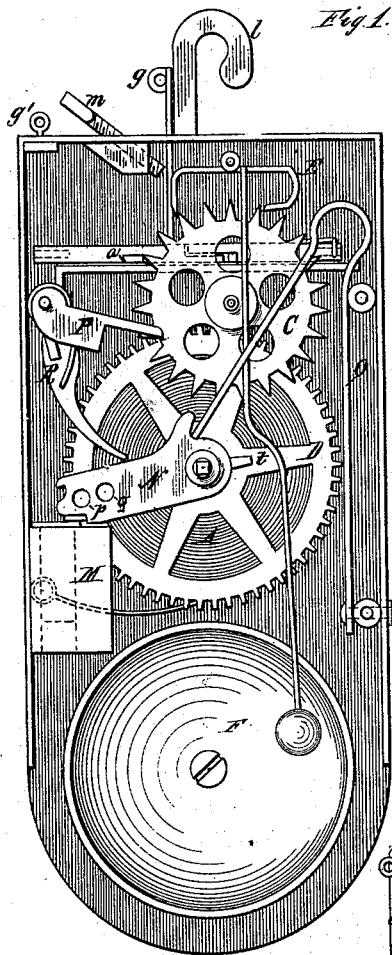


Fig. 1.

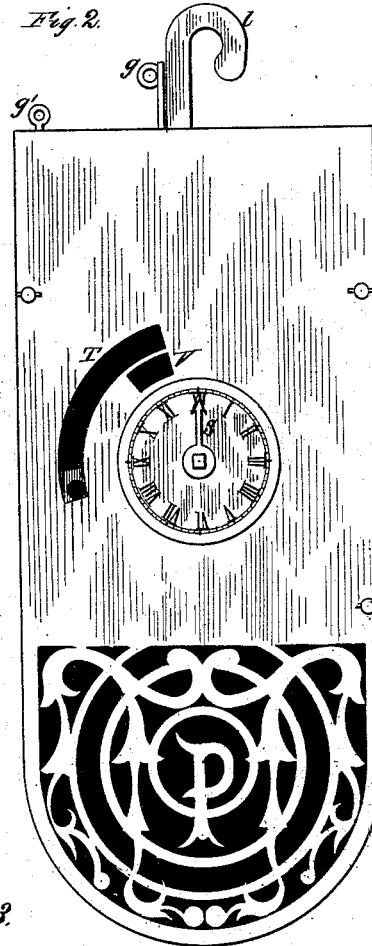


Fig. 2.

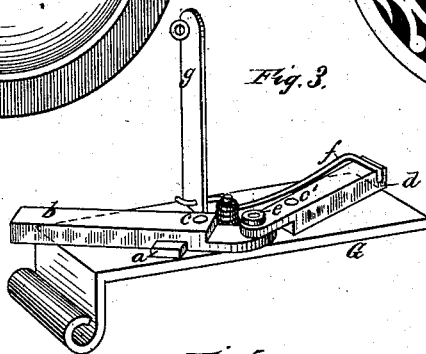


Fig. 3.

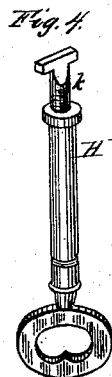


Fig. 4.

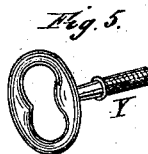


Fig. 5.

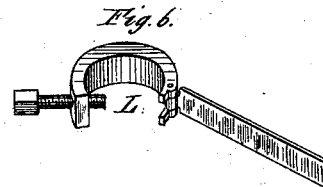


Fig. 6.

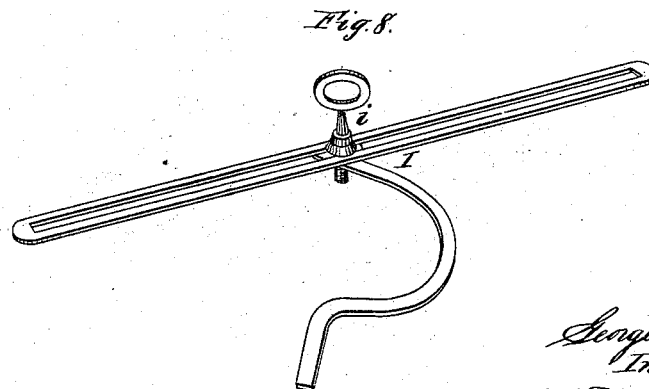
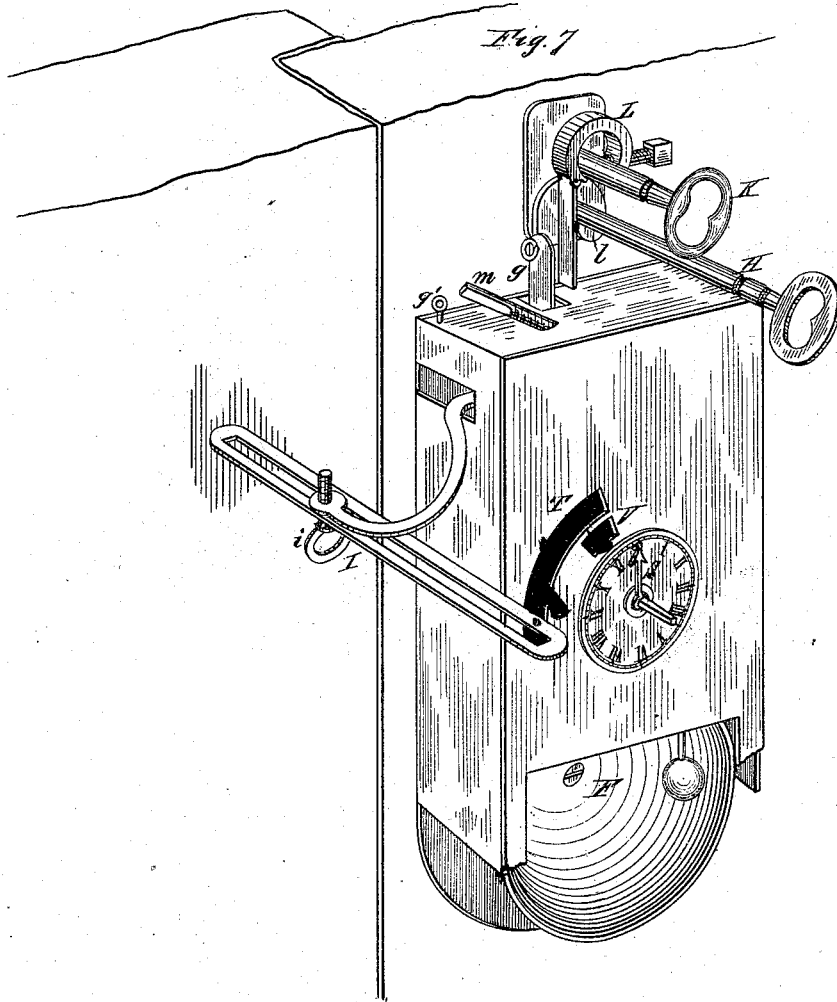
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UNITED STATES PATENT OFFICE.

GEORGE HUTTY, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF HIS RIGHT
TO FANNY L. PIERCE, OF SAME PLACE.

IMPROVEMENT IN BURGLAR-ALARMS.

Specification forming part of Letters Patent No. **219,401**, dated September 9, 1879; application filed
April 30, 1879.

To all whom it may concern:

Be it known that I, GEORGE HUTTY, of New York city, county of New York, and State of New York, have invented certain new and useful Improvements in Burglar-Alarms, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings; and to the letters of reference marked thereon.

Figure 1 is a plan view of my improved device with the face-plate removed, showing the several working elements thereof in their proper positions, the cartridge-exploder being supposed to be sprung and the detent released from contact with the teeth of the anchor-driving wheel; and Fig. 2 is a similar view, showing the face-plate in position over the works. Figs. 3, 4, 5, and 6 are perspective views, representing, respectively, the hinged saddle which carries the detent-arms, the supporting-key, the adjusting and holding pin for the exploding-hammer, and the coupling attachment for the ordinary door-key, all detached from the parts in connection with which they are intended to operate. Fig. 7 is a perspective view representing the improved burglar-alarm as connected with an ordinary door and adjusted ready for use, being suspended from my improved supporting-key and coupled with the ordinary door-key. Fig. 8 is a perspective view of the jointed adjustable arm removed from its socket, showing its construction and arrangement independently of the parts to which it is to be applied, as in Fig. 7.

Like letters in all the figures indicate corresponding parts.

My improvements have relation to that class of devices ordinarily denominated "burglar-alarms," and especially to such as are operated through the medium of a train of clock-work actuated by a suitable spring, or by other equivalent mechanical means, the purpose or object of my invention being to produce an efficient, durable, and practical device capable of being readily and easily applied to any door, window, or other movable obstruction, and capable alike of being used in any situation remote from such obstruction, to produce an apparatus easy to operate, not liable to get out of order, and capable of being connected with

any number of windows or doors, &c., and to sound the alarm upon the disturbance of either one, and to supply certain useful adjuncts to the improved device calculated to increase the facility with which it may be suspended or adjusted for use.

To accomplish all of this the invention consists, essentially, in a peculiar means of mounting the detent which maintains the gear-train in a locked position, so that said train may be released by motion of this detent in any one of a number of directions; in combining with the bell-sounding apparatus a cartridge-exploding device, which is tripped by mechanisms connected with the train; and in certain peculiarities of construction and relative arrangements or combinations of parts, all of which will be hereinafter first fully described, and then pointed out in the claims.

In the drawings, A is the usual mainspring of the apparatus, provided with an ordinary pawl and a winding-shaft extending through the face-plate of the casing which contains the operating mechanism.

The toothed wheel C, when released, is moved by spring A through the medium of a gear, D, and corresponding pinion, and in turn it operates the anchor E, by which a rapid motion is communicated to the striker within the bell or gong F, in a manner easily understood. Whenever the train is released the bell is continuously sounded until spring A is unwound.

A small projection, *a*, is brought into contact with one of the teeth upon wheel C, and serves to prevent any motion thereof until released or withdrawn. This projection or detent *a* is mounted upon an arm, *b*, which is pivoted at *c* upon a movable block or saddle, G. A second arm, *d*, is hinged to *b*, as at *e*, and likewise pivoted to the saddle G, as at *e'*, and a spring, *f*, is connected with one of these two arms, the tendency of which spring is always to draw the detent away from the toothed wheel C. The saddle G is hinged at one side of the casing, and is provided with an upright, *g*, to which any cord or wire may be connected. It carries the detent with it in all its motions, and it will be apparent that whenever the saddle is elevated, or whenever either of the arms *b d* are released, so as to allow spring

f to operate upon them, the detent must be withdrawn from its engaged tooth and the alarm sounded. This provision for releasing the train by any one of a variety of different motions renders the improved device applicable in almost any situation, and for the purpose of indicating the movement of any door, window, or other barrier with which it may be connected. For instance, if it be desired to connect with any remote window or other obstruction, a simple cord or wire is attached thereto, carried through the eye *g'*, and made fast to arm *g*. Any strain upon the cord will suffice to elevate saddle *G*, thus releasing the detent, as before indicated, and causing the sounding of the alarm.

To apply the device to a door it may be suspended thereon by the specially-provided key *H*, or otherwise, as desired. The detent is held in proper place by the adjustable arm *I*, one portion of which enters a socket in the end of either of the arms *b* or *d*, and the other portion bears against the door-casing, the two parts being conveniently adjusted by use of the set-screw *i*. The device being so applied, whenever the door is opened the pressure against the detent-arm is, of course, released, and the spring *f* operates to throw the detent out of position.

The use of the two hinged arms *b d* renders it convenient and easy to apply the device to any door, whether it opens to the right hand or to the left, and when in this position the alarm may also be connected with any desired number of other doors or windows by means of cords connected with upright *g*.

The key *H* is a very simple and convenient adjunct or appendage. It is provided with a screw, *k*, the angular head of which is passed through the escutcheon, to be found upon nearly all doors, and secured therein by simply turning the shank *H*.

The alarm-box is hung upon the screw *k* by the ear *l*, and clamped against the door by sufficiently turning shank *H*. When in this position any turning of the ordinary door-key *K* may be made to release the detent by the application to said key of the collar *L*, all as plainly shown in Figs. 6 and 7. This collar is provided with a hinged tongue, which, when key *K* is turned in one direction, bears directly against the upright *g*, and when turned in the opposite direction bears first against shank *H* and then against *g*, in either case forcing the standard, and through it the saddle *G* and its connected detent, out of their normal positions and releasing the train; or, the screw *k* being, as shown, amply long for the purpose, it may be made to enter the lock itself, and, being secured therein, will, in consequence of the projecting head, operate as an effectual barrier against the turning of the door-key within its lock, thus affording a guard against entrance from without by unlocking of the door, as is frequently attempted.

Attached to the interior of the casing, as at *M*, is a cylindrically-perforated block adapted

to hold an ordinary blank cartridge, or to contain or hold any explosive material suitable for the purpose.

The exploding-hammer *N* is actuated by a strong spring, *O*, and it is set ready to be tripped by elevating it against the action of spring *O* until the dog *P* engages with the notch cut for the purpose in its extremity.

A simple spring-actuated lever, *R*, is connected with the dog *P*, and whenever the tooth *t* comes in contact with lever *R* it moves the latter sufficiently far to relieve *P* from engagement with the hammer, and thus causes the desired explosion.

For the purpose of setting the hammer ready for use, the face-plate of the alarm-box is slotted, as at *T*, and through this slot the pin *Y* (shown detached in Fig. 5) is inserted, being screwed into the hammer at the perforation *p*. With this it is only necessary to elevate the pin, when the dog automatically assumes its proper location as soon as the hammer is sufficiently raised.

To guard against accidental tripping of the hammer when in its uppermost position, the pin *Y* is inserted through a small opening, *V*, in the casing and screwed into a second perforation, *q*, the walls of opening *V* serving to hold the pin against any movement, and through it to maintain the hammer as desired.

The winding-shaft is provided with a pointer, *S*, which moves over a dial-plate upon the front of the casing, said pointer being so arranged as to indicate the relative position of the tooth *t*, and thus to show just at what point of the motion of the train the hammer will be tripped, this for the purpose of avoiding accidents in the winding and setting of the instrument.

The exploding-hammer may or may not be set with the other sounding apparatus; but the two means of alarm will afford additional indications of the movements of the connected barriers, the explosion of the cartridge being most likely to insure attention, and the succeeding continuous ringing of the bell will direct the person to the particular alarm-box which has been disturbed in case more than one box be used.

In the top of the casing is located a screw-stop, *m*, which may be brought to bear against the anchor, and thus serve to prevent motion in the train of gear-work at any time when it is desired that the alarm, although wound up, should not be disturbed—as, for instance, during transportation of the device or during the daytime, &c.

From a consideration of the construction and operation of the alarm, as herein indicated, it will appear that it will be impossible for any one outside of the building which it is set to guard to open any window or door with which the box may be connected sufficiently to effect an entrance or to seize and interfere with the operation of the box before the alarm will be sounded—a quality in which many forms of alarm-boxes are deficient.

This box may be placed upon the floor *r*

elsewhere, as well as be suspended in any manner, and its operation will be equally as effective in one position as in the other. It may be set to guard closets, chests, or any movable articles of whatever description, either near to or remote from the box, in the house or outside of it, and being properly connected or attached, so that some barrier must be disturbed before access can be had to the instrument by the unauthorized person, it will be found to operate successfully in giving the desired alarm.

When connected with doors or windows and other barriers the alarm will be sounded immediately upon any disturbance thereof from the outside, and considerably before an entrance of the person could possibly be effected, thus giving time to obstruct the unauthorized entrance or to prepare for self-protection, &c.

When constructed and arranged in a workmanlike manner, and in accordance with the foregoing explanations, the improved device is found to be applicable for the purposes intended to all possible desired situations, to be thoroughly practical and efficient, and withal to admirably answer the several purposes and objects of the invention, as previously stated.

Having thus fully described my invention, I desire to add that I am aware of previously existing devices wherein a bell-alarm has been caused by a train of clock-work set in motion upon the release of the detent, and also that the application of the blank cartridge or explosive compound in burglar-alarms has heretofore been proposed, and therefore I do not wish to be understood as making any broad claim to such features; but

What I do claim as new, and desire to secure by Letters Patent, is—

1. In an alarm-box of the character herein specified, the combination, with the train of gears, of the two hinged and pivoted arms, one of which bears the detent for the train-work, the two being adapted to permit the box to be applied to a right or a left hand door, and to be operated substantially in the manner and for the purposes set forth.

2. In an alarm-box of the character herein specified, the combination, with the train of gears, of the spring-actuated detent-arms and the adjustable arm adapted to be connected therewith, and to bear against the door-casing upon either side of the box, substantially as and for the purposes set forth.

3. In an alarm-box of the character herein specified, the combination, with the train of gears, of a detent-arm pivoted upon a saddle, which, in turn, is hinged to the casing, and means, substantially such as described, for per-

mitting the motion of the detent-arm, and for insuring the motion of the saddle, either of which motions will release the train, substantially as and for the purposes set forth.

4. In an alarm-box of the character herein specified, the combination, with the train of gears, of the two detent-arms hinged to each other and the movable or hinged saddle upon which they are both pivoted, the whole being adapted to operate substantially in the manner shown and described.

5. In combination with the hinged saddle which bears the articulated detent-arms, the standard *g* and eye *g'*, for the attachment and guidance of the cords, substantially as shown and described.

6. In an alarm-box of the character herein specified, the combination, with the cartridge-exploding hammer, of the key *Y* and the front face of the box, slotted as explained, so that the hammer may be set by use of said key or locked in its elevated position, substantially as shown and described.

7. In combination with an alarm-box, the key *H*, having screw *k*, said screw being adapted to enter the ordinary key-hole of a door-lock, to be secured therein in the manner specified, to prevent the turning of the door-key, and to support the alarm-box through the medium of a suitable hook upon its casing, all substantially as and for the purposes set forth.

8. In combination with the projecting standard *g*, which moves the detent-arm, the collar *L*, provided with a hinged tongue, and adapted to be secured upon the ordinary door-key, for the purpose of releasing the train whenever the key is turned, substantially as shown and described.

9. In an alarm-box of the character herein specified, the combination, with the train mechanism, adapted to ring the bell when the detent is released, of an exploding-hammer set free by the tripping-tooth connected with said train mechanism, the box being provided with a dial and indicator, and means, substantially such as shown, for locking and holding both the hammer and the anchor of the bell-alarm, the whole being arranged and adapted to operate substantially in the manner and for the purposes explained.

In testimony that I claim the foregoing I have hereunto set my hand in the presence of two witnesses.

GEORGE HUTTY. [L. S.]

Witnesses:

WORTH OSGOOD,
S. W. HOLCOMB.