No. 647,412. Patented Apr. 10, 1900.

H. C. JOHNSON.

BURGLAR ALARM.

(Application filed Dec. 7, 1899.)

(No Model.)

Fig. 1.

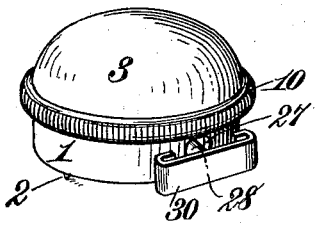


Fig. 2.

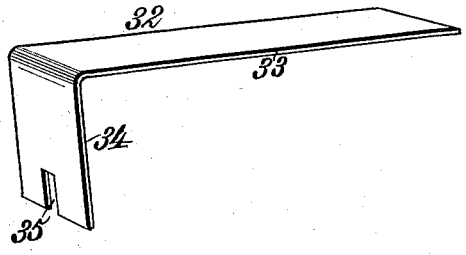


Fig. 3.

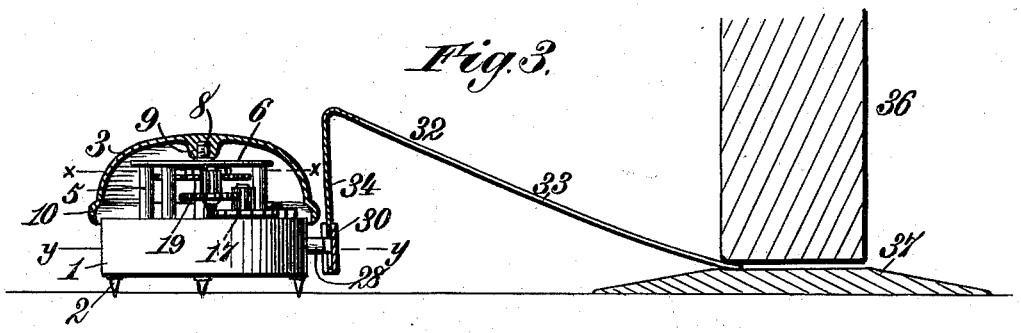


Fig. 4.

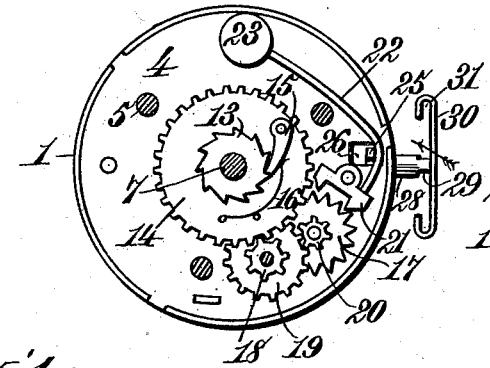
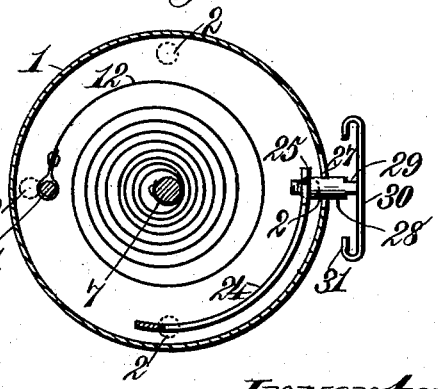


Fig. 5.



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UNITED STATES PATENT OFFICE.

HENRY CLAY JOHNSON, OF WASHINGTON, DISTRICT OF COLUMBIA.

BURGLAR-ALARM.

SPECIFICATION forming part of Letters Patent No. 647,412, dated April 10, 1900.

Application filed December 7, 1899. Serial No. 739,570. (No model.)

To all whom it may concern:

Be it known that I, HENRY CLAY JOHNSON, a citizen of the United States, residing at Washington, District of Columbia, have invented new and useful Improvements in Burglar-Alarms, of which the following is a specification.

My invention relates to burglar-alarms, the object of the same being to provide a simple and cheaply-constructed device of this kind which may be readily carried in the pocket and which may be readily applied, so as to be thrown into operation by the opening of a door or window.

The invention consists of a bell or other signaling device having a longitudinally-movable push-bar for actuating the same and a tripping-bar having two angularly-arranged arms, one of which is removably attached to said push-bar and the other is located beneath a door or other moving part.

It also consists in certain features and details of construction and combinations of parts, which will be hereinafter more fully described and claimed.

In the drawings forming part of this specification, Figure 1 is a perspective view of the alarm. Fig. 2 is a similar view of the tripping-bar therefor. Fig. 3 is a sectional view showing the application of my invention. Fig. 4 is a horizontal section, on an enlaged scale, on the line x x of Fig. 3; and Fig. 5 is a similar section on the line y y of Fig. 3.

Like reference-numerals indicate like parts in the different views.

The alarm mechanism is mounted in a casing made up of a cup-shaped bottom 1, having a plurality of pointed prongs or projections 2 2 on its under side, provided for engagement with the floor of the room, on which the device is placed, and a substantially-hemispherical bell 3, constituting a hood or cover. Secured within the cup 1, in line with the upper edge thereof, is a disk 4, which provides a closed compartment at the lower end of the casing, and secured to the disk 4 upon posts or standards 5 5 is a smaller disk 6, as clearly shown. Mounted centrally of the casing and having bearings in the disks 4 and 6 is a shaft 7, having a screw-threaded upper end 8. The bell 3 is formed at its center and on the inside thereof with an internally-screw-threaded boss 9, in which the screw-threaded upper end 8 of the shaft 7 fits. The said bell is secured in place by screwing the same upon the upper end of said shaft and may be provided, if desired, with a milled rib or bead 10 for facilitating the turning of said bell. Secured to a post 11 in the cup 1 beneath the disk 4 is a motor-spring 12, the opposite or free end of said spring being attached to the central shaft 7, heretofore referred to. This spring when wound up by turning the bell 3 to the right holds the shaft 7 under tension and causes the same to be rotated. Secured to the upper end of the shaft 7 is a ratchet-wheel 13, and loose upon said shaft or upon the hub of said ratchet-wheel is a gear-wheel 14, the said gear-wheel carrying a pivoted pawl 15, which is adapted to engage the teeth of the ratchet-wheel 13 and is held normally in contact with said teeth by means of a spring 16. The gear-wheel 14 is in gear with the star-wheel 17 through the pinion 18, gear-wheel 19, and pinion 20, the latter being secured to said star-wheel. Coöperating with the star-wheel 17 is a pivotally-mounted escapement 21, which has secured to it the curved arm 22 of the clapper or hammer 23 of the bell. Secured at one end within the cup 1 beneath the disk 4 is a locking-spring 24, having a lug or projection 25 thereon, which extends up through a slot 26 in the disk 4 and engages the clapper-arm 22. Through this engagement of the lug or projection 25 with the arm 22 the spring 23 serves to prevent the rocking movement of the escapement 21, and consequently locks the motor-spring and the gearing connected therewith and renders the device inoperative. Connected to the free end of the spring 24 and extending outwardly through an opening 27 in the cup 1 is a push-rod 28, which when forced inwardly throws the lug 25 out of engagement with the arm 22 and permits the motor-spring 12, through the gearing described, to rock the escapement 21 and the clapper 23, connected therewith, and actuate the alarm. The outer end of the bar 28 is recessed on opposite sides, as shown at 29, and has secured to it a plate 30, whose opposite ends are bent inwardly to form flanges 31. Coöperating with the parts above described in the application of the device as illustrated in the drawings is a trip-bar 32, bent to form

a long arm 33 and a short arm 34. The lower end of the arm 34 is formed with a slot 35, which is adapted to fit upon and embrace the cut-away portions 29 of the push-bar 28, and the side edges of said arm are adapted to lie between the flanges 31 on the ends of the plate 30. When thus in place, the free end of the arm 33 is inserted beneath the door 36 and between the lower edge thereof and the sill 37. When applied in the manner described, the arm 34 lies in a substantially-vertical position, while the arm 33 is inclined, as shown. If the door 36 be opened, however, the lower edge thereof will ride upon the upper surface of the arm 33 of the tripping-bar and cause a slight longitudinal movement to be imparted to the opposite end of said bar. The result is that through the connection between the arm 34 and the push-bar 28 the latter will be forced inwardly, carrying the spring 24 and moving the lug 25 on said spring out of engagement with the clapper-arm 22, permitting the motor-spring 12 to actuate the clapper and sound the alarm.

It will be obvious that to wind up the motor-spring 12 it is merely necessary to turn the bell 3 to the right. The same being connected to the shaft 7 will rotate said shaft and the ratchet-wheel 13, secured thereto, increasing the tension of said spring and preventing the unwinding thereof, except through the gearing described, through the engagement of the teeth of said ratchet-wheel with the pawl 15 on the gear-wheel 14.

While I have described my invention as being adapted for use in connection with a door, it is obvious that the same may be employed in connection with window-sashes or other movable parts, all that is necessary being to provide means whereby the opening of the sash or other movable part will cause the push-bar 28 to be forced inwardly, so as to release the lug 25 from the clapper-arm 22.

The device is extremely simple in construction and may be readily carried in the pocket or in a valise, and for this reason is particularly adapted for use by traveling men. All that is necessary in order to place the same in operative position is to place the alarm so that the prongs or projections 2 on the under side thereof engage the upper surface of the floor or the carpet thereon to prevent the lateral movement of the device and afterward applying the trip-bar 22 by placing the short arm 34 thereof between the flanges 31 of the disk 30 and the long arm 33 thereof between the door 36 and its sill 37.

It will be understood, of course, that my improved alarm may be operated without the use of the tripping-bar 32, all that is necessary being to so locate the alarm mechanism that the push-bar 28 will be actuated by the opening of a door, window, or other movable part. When the tripping-bar 32 is employed, however, as illustrated in Fig. 3 of the drawings, it serves not only to actuate the alarm, but as a stop for preventing the opening of the door. The prongs or projections 2 on the under side of the casing in which the alarm mechanism is mounted are provided, as heretofore stated, for anchoring the alarm mechanism and preventing the lateral movement thereof. The number of prongs may of course be varied; but four is a satisfactory number to use in that it enables me to locate one of the same beneath push-bar 28, properly support all the other parts, and prevent the tilting of the casing by the depression of the short arm of the tripping-bar 32, which is in engagement with said push-bar. These prongs or projections may be formed with threaded shanks, which engage corresponding openings in the disk 4 and serve to secure the latter in place.

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

1. The combination with a burglar-alarm having a longitudinally-movable push-bar for actuating the same, of a tripping-bar having two angularly-arranged arms, one of which is attached to said push-bar and the other is adapted to be inserted beneath a door or other moving part, whereby when said door is opened a longitudinal movement will be imparted to said tripping-bar.

2. A burglar-alarm comprising a signaling device, a motor therefor, a lock for rendering said motor inoperative, longitudinally-movable releasing means for said lock, and a tripping-bar for actuating said releasing means having two angularly-arranged arms, one of which is adapted to be engaged by a door or other moving part, whereby when said door is opened, a longitudinal movement will be imparted to said tripping-bar.

3. A burglar-alarm comprising a bell, a motor-spring, a system of gearing including an escapement, a clapper for said bell connected with said escapement, a locking-spring adapted to engage the clapper-arm for rendering the motor-spring inoperative, means for releasing said locking-spring and a tripping-bar for actuating said releasing means having two angularly-arranged arms, one of which is adapted to be inserted beneath and engaged by a door or other moving part.

4. A burglar-alarm comprising a bell, a motor-spring, a system of gearing including an escapement, a clapper for said bell connected with said escapement, a locking-spring adapted to engage the clapper-arm for rendering the motor-spring inoperative, a push-bar connected with said locking-spring for moving the same out of engagement with said clapper-arm, and a removable tripping-bar attached to said push-bar and having an inclined arm adapted to be inserted beneath a door or other movable part, whereby when said door is opened a longitudinal movement will be imparted to said tripping-bar for actuating said push-bar.

5. A burglar-alarm comprising a bell, a motor-spring, a system of gearing, including an escapement, a clapper for said bell connected

to said escapement, a locking-spring having a lug or projection thereon adapted to engage the clapper-arm for rendering said motor-spring inoperative, a push-bar connected to said locking-spring for moving said lug out of engagement with said clapper-arm, a plate secured to the outer end of said push-bar having inwardly-extending flanges thereon, and a removable tripping-bar bent to form two arms, one of which is adapted to be inserted between said flanges and the other beneath a door or other moving part.

6. A burglar-alarm comprising a bell, a motor-spring, a system of gearing, including an escapement, a clapper for said bell connected to said escapement, a locking-spring having a lug or projection thereon adapted to engage the clapper-arm for rendering said motor-spring inoperative, a push-bar connected to said locking-spring for moving said lug out of engagement with said clapper-arm, said push-bar being provided with notches or cut-away portions on opposite sides adjacent to its outer end, a plate secured to the outer end of said push-bar having inwardly-extending flanges thereon, and a tripping-bar bent to form two arms, one of which is adapted to be inserted between said flanges and is provided with a slot adapted to embrace the cut-away portion of said push-bar and the other adapted to be inserted beneath a door or other moving part.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

HENRY CLAY JOHNSON.

Witnesses:
GEO. W. REA,
ROBERT EVERETT.