Nov. 17, 1953 L. E. DAVIS 2,659,333

SELF-CONTAINED BURGLAR ALARM UNIT

Filed Sept. 18, 1951 2 Sheets-Sheet 1

Fig. 1.

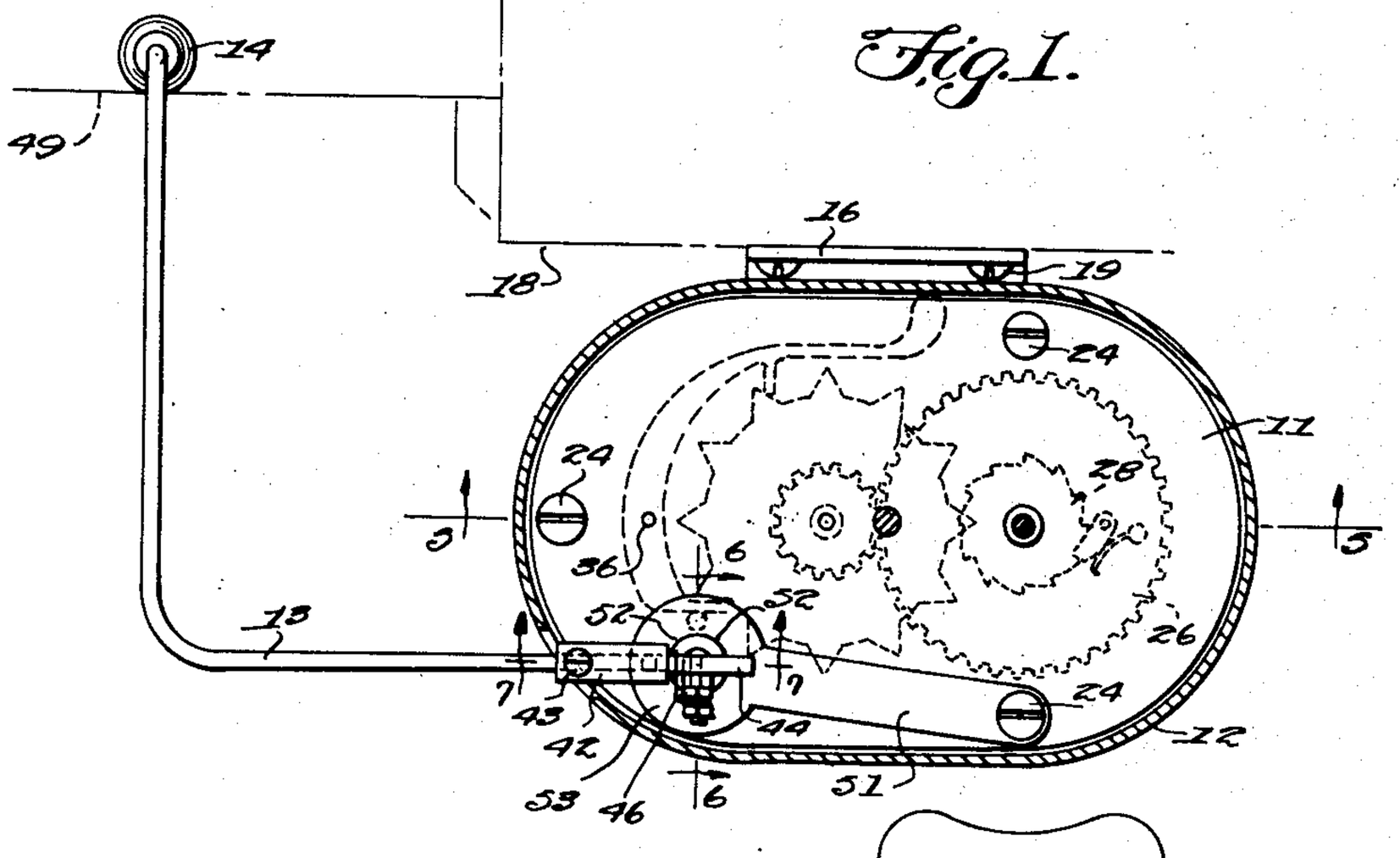
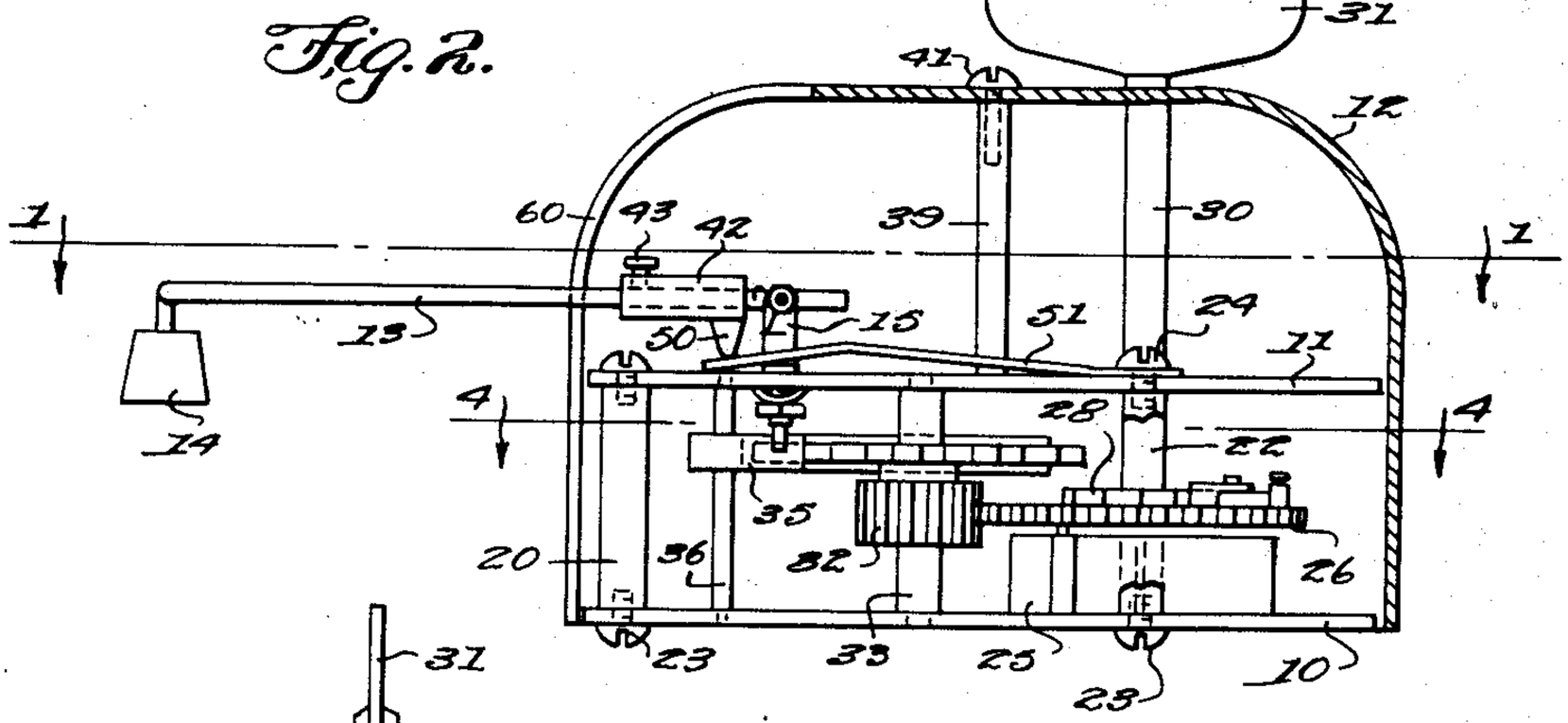


Fig. 2.



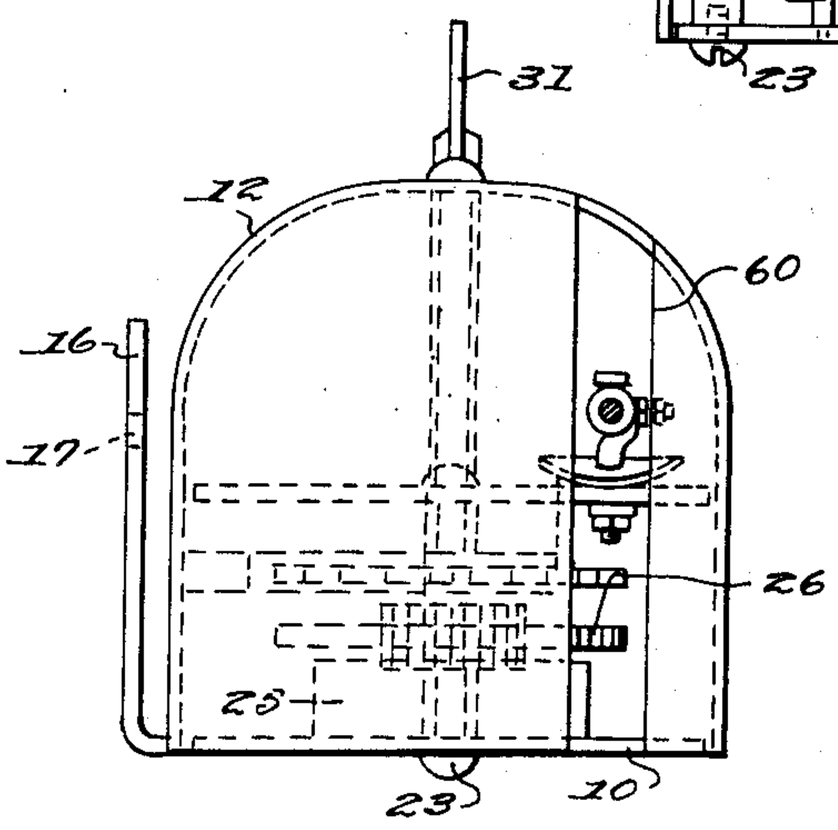


Fig. 3.

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Nov. 17, 1953 L. E. DAVIS 2,659,333

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Filed Sept. 18, 1951 2 Sheets-Sheet 2

Fig. 4.

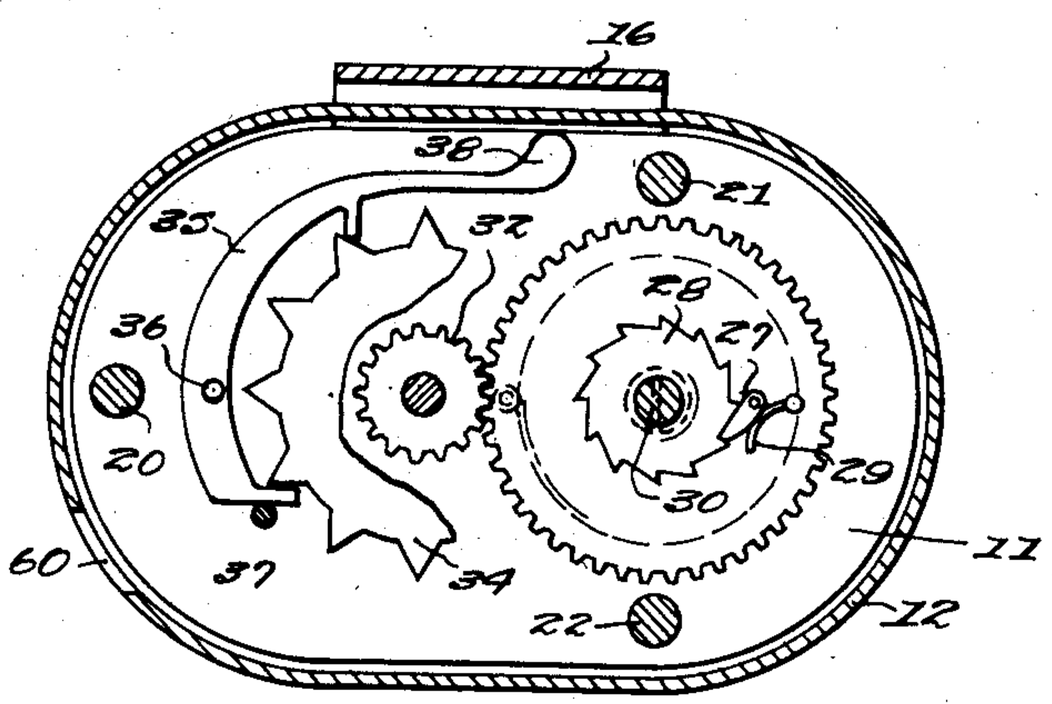


Fig. 5.

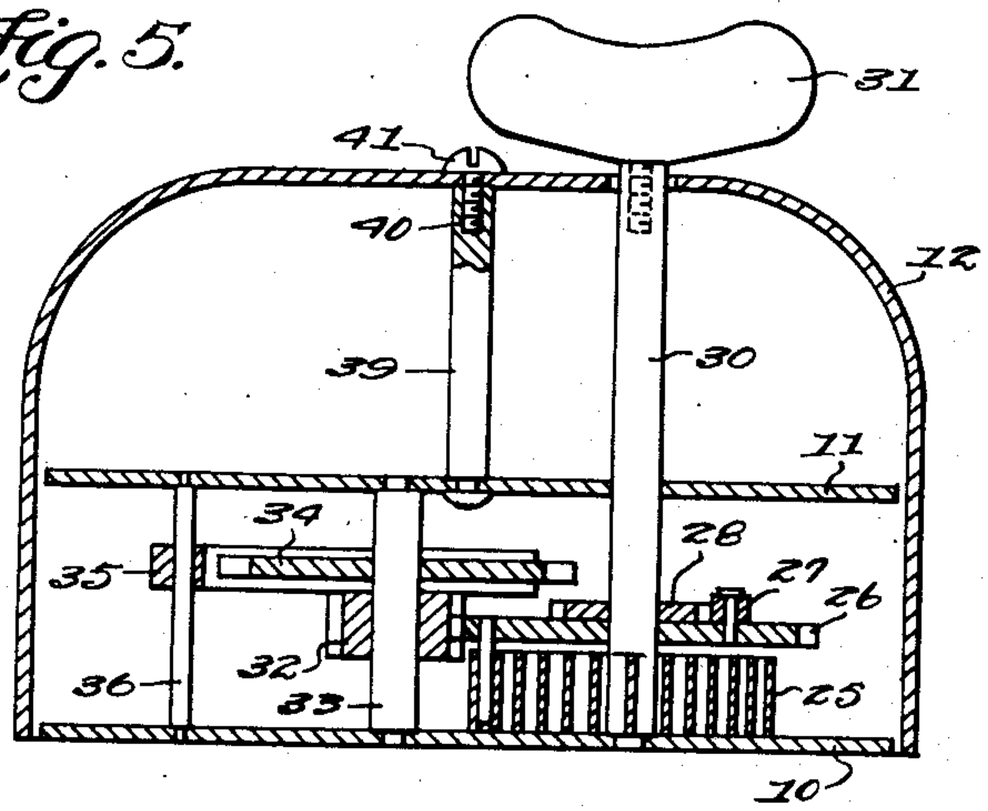


Fig. 6.

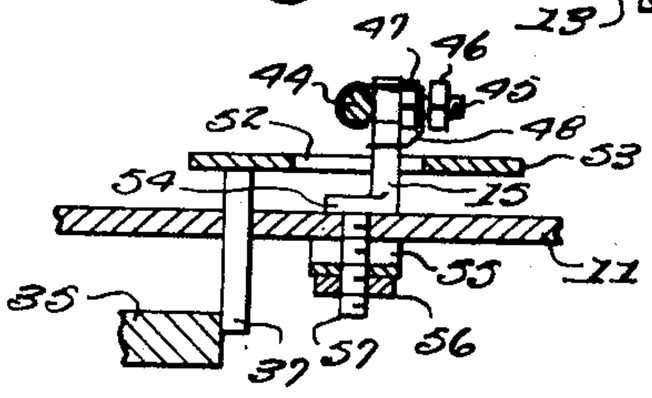
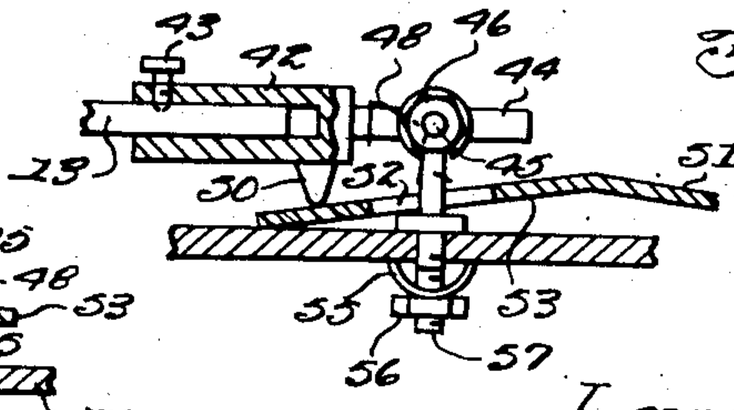


Fig. 7.



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SELF-CONTAINED BURGLAR ALARM UNIT

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Application September 18, 1951, Serial No. 247,086

1 Claim. (Cl. 116—91)

1

This invention relates to individual burglar alarm units of the clock mechanism actuated type in which the parts are actuated by springs instead of electricity, and in particular a casing having a cover providing a bell with a spring arm having a rubber cup on the extended end pivotally mounted in the casing and positioned to release a bell clapper when an object such as a window, is moved in either direction in relation to the side of a window frame upon which the casing is mounted.

The purpose of this invention is to provide a comparatively small burglar alarm unit wherein an individual may attach a unit to different objects in the home such as doors, windows, and the like and wherein one unit is installed on each of said objects and the units are independently actuated.

Various types of independently operating burglar alarm units have been provided for windows, doors, and the like, however, for the average household use where elaborate units are not required it is desirable to provide a small independently operated unit wherein only one, or as many units as may be desired may be used in a residence.

The object of this invention is, therefore, to provide means for forming a burglar alarm unit whereby a single unit may be used on each window, door, or the like of a residence and wherein only one unit, or as many units as may be desired may be used.

Another object of the invention is to provide an individual burglar alarm unit that operates independent of electrical connections.

Another object of the invention is to provide a burglar alarm unit in which the alarm is sounded at the unit whereby both the intruder and the occupant of the residence or building know that an alarm has been sounded.

A further object of the invention is to provide an individual alarm unit which is of a simple and economical construction.

With these and other objects and advantages in view the invention embodies a mounting plate having clock works mounted thereon, with an operating arm extended therefrom and with a bell positioned over the clock works and adapted to be engaged by a clapper thereof.

Other features and advantages of the invention will appear from the following description taken in connection with the drawings wherein:

Figure 1 is a sectional plan through the individual burglar alarm unit taken on line 1—1 of Figure 2.

2

Figure 2 is a front elevational view of the unit with the cover or bell broken away and shown in section.

Figure 3 is an end elevational view of the unit looking toward the end from which the vacuum cup carrying spring arm extends.

Figure 4 is a sectional plan through the unit taken on line 4—4 of Figure 2.

Figure 5 is a longitudinal section through the unit taken on line 5—5 of Figure 1.

Figure 6 is a detail taken on line 6—6 of Figure 1 illustrating the mounting of the spring arm and showing a pin which provides a trigger for holding and releasing the bell clapper of the unit.

Figure 7 is a section similar to that shown in Figure 6 being taken on line 7—7 of Figure 1.

Referring now to the drawings wherein like reference characters denote corresponding parts the individual burglar alarm unit of this invention includes a mounting plate 10, L-shape in cross section upon which conventional clock works are mounted, a support plate 11 carried by the mounting plate, a cover 12 providing a bell, and a spring arm 13 having a rubber cup 14 on the outer end and pivotally mounted on a post 15.

The mounting plate 10 is provided with a flange 16 in which screw holes 17 are provided by which the unit is attached to a window or door frame, as indicated by the numeral 18 with screws 19.

The support plate 11 is spaced from the mounting plate 10 by a plurality of posts 20, 21 and 22 and the posts, which are provided with threaded sockets in the ends, are secured to the mounting plate 10 by screws 23 and to the support plate 11 by screws 24.

The clock works, which is positioned between the plates 10 and 11 includes a main spring 25, and a gear 26 having a pawl 27 pivotally mounted thereon and held into engagement with a ratchet wheel 28 by a spring 29. The spring is mounted on a winding stem 30 having a key 31 on the outer end and the gear 26 meshes with a pinion 32 on a shaft 33 on which a toothed wheel 34 is mounted. The toothed wheel is positioned to be engaged by projections of an escapement arm 35 that is pivotally mounted on a pin 36 and that is positioned to be held stationary by a pin or trigger 37.

The escapement arm 35, which provides a bell clapper, is mounted whereby a knob 38 on one end engages the cover or bell 12 as the escapement arm is operated by the toothed wheel 34

upon release of the escapement arm by the pin 37. The ends of the pins 33 and 36 are journaled in the mounting and supporting plates 10 and 11 respectively.

The cover or bell 12 is supported from the support plate 11 by a post 39, the lower end of the post being secured in the support plate and the upper end provided with a threaded socket 40 into which a screw 41 that holds the bell to the post, is threaded.

The spring arm 13 is adjustably mounted in a socket 42 in which it is held by a set screw 43 and the socket is provided with an extended stem 44 which is pivotally mounted by a threaded stud 45 on the upper end of the post 15. The stud is provided with a nut 46 and a spring 47 positioned on the stud is provided with an extended end 48 that urges the spring arm 13 downwardly with the rubber cup 14 in engagement with the upper surface of a top rail of a window sash as indicated by the numeral 49.

The socket 44 is also provided with a point 50 that rides on the upper surface of a spring plate or arm 51 that carries the pin or trigger 37, and the arm 51 is mounted under the head of the screw 24 that is threaded in the socket in the upper end of the post 22. The end of the arm 51 is provided with an opening 52, as shown in Figure 7, that is positioned around the post 15, and which is formed in a bent or inclined section 53 on the outer end of the arm.

The post 15 is mounted in the support plate 11 as illustrated in Figure 6 whereby a mounting flange 54 is resiliently held against one side of the plate 11 by a spring washer 55 that is secured by a nut 56 on a stud 57 which extends from the flange 54, the stud passing through the plate 11.

The section 53 is circular in shape, as shown in Figure 1, whereby the point or projection 50 may travel in a complete circle and still be in engagement with the upper surface of the arm.

With the parts in the cocked position, as illustrated in Figures 2, 6 and 7 the trigger or pin 37 is in engagement with the bell clapper base or escapement arm 35 and should the window sash be raised or a door opened the arm 13 would spring upward or outward, depending upon the manner in which the device is installed, and in this movement the point 50 moves away from the arm 51 and the resiliency of the arm withdraws the pin 37 thereby releasing the arm 35. Upon release of the arm 35 the bell clapper will operate to ring the bell.

Should it be desired to disengage the alarm it is only necessary to move the arm 13 through an angle of 90 degrees whereby the arm 51 will be held downwardly with the pin 37 in engagement with the bell clapper base.

The spring wire or arm 13 extends through a slot 60 in one end of the cover or bell 12, as shown in Figures 1 and 3, whereby the wire arm is free to move upwardly or downwardly with the movement of the sash or door.

With the parts arranged in this manner a home guard alarm device or individual burglar alarm is provided and the device may readily be installed upon windows, doors, or other objects where protection is desired and should an intruder attempt to open a window or door or move an object the bell clapper would be released and an alarm sounded at the point where the burglary is attempted. The alarm device therefore, warns occupants of the household and discourages the intruder.

It will be understood that modifications may be made in the design and arrangement of the parts without departing from the spirit of the invention.

What is claimed is:

In a burglar alarm, an L-shaped mounting plate provided with a flange for attachment to a supporting structure, a support plate carried by said mounting plate, a cover providing a bell and having a slot therein, a spring-arm pivotally extending through said slot, a resilient cup connected to the outer end of said spring-arm, a plurality of spaced parallel posts extending between said mounting plate and support plate and secured thereto, a clock-work positioned between said pair of plates and including a main spring, a winding stem having its inner end connected to said main spring, a gear mounted on said stem, a rachet wheel arranged contiguous to said gear, a spring pressed pivotally mounted pawl arranged in engagement with said rachet wheel, a shaft spaced from said stem, a pinion mounted on said shaft and meshing with said gear, a tooth wheel positioned within said cover, a pivotally mounted escapement arm having a knob on one end providing a bell clapper for engagement with said cover, said escapement arm having projections for engagement with said tooth wheel, a trigger for controlling movement of said escapement arm, a post extending between said support plate and cover and secured thereto, a spring member for biasing said spring arm in one direction, a socket connected to the inner end of said spring arm and having a point extending therefrom, and a spring plate extending from said trigger and having a circular section engaged by said point.

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