June 15, 1948. T. M. CADENHEAD 2,443,553

BURGLAR ALARM

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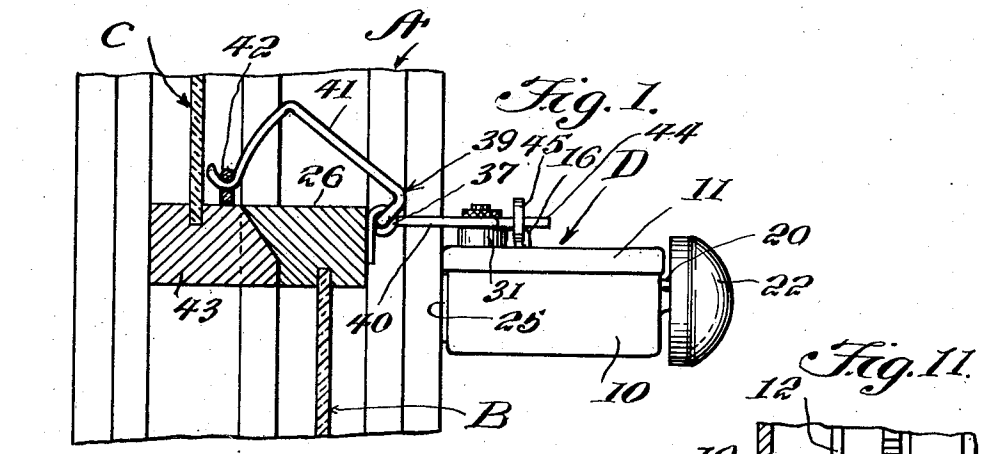


Fig. 1.

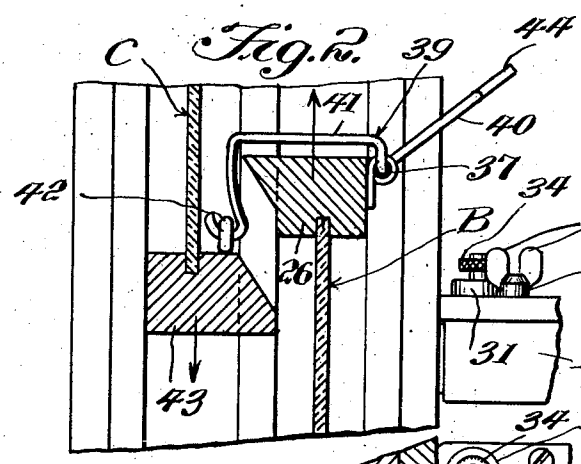


Fig. 2.

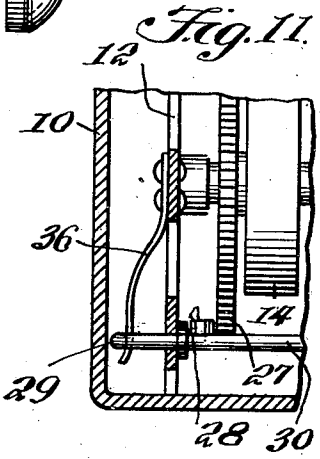


Fig. 11.

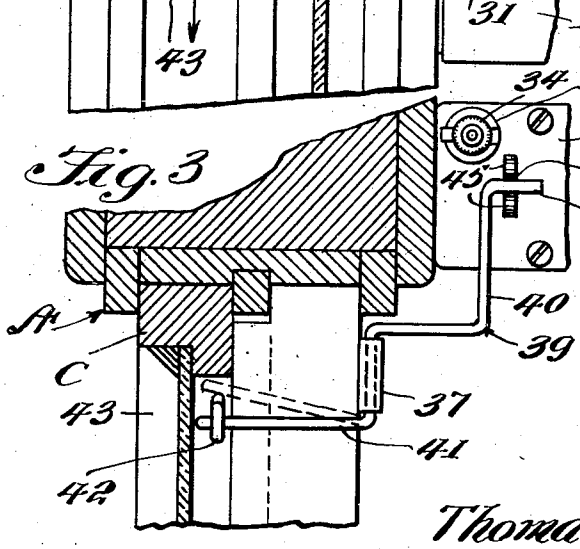


Fig. 3

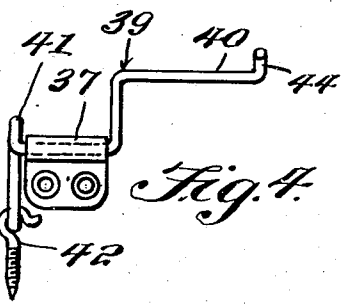


Fig. 4.

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Fig. 6.

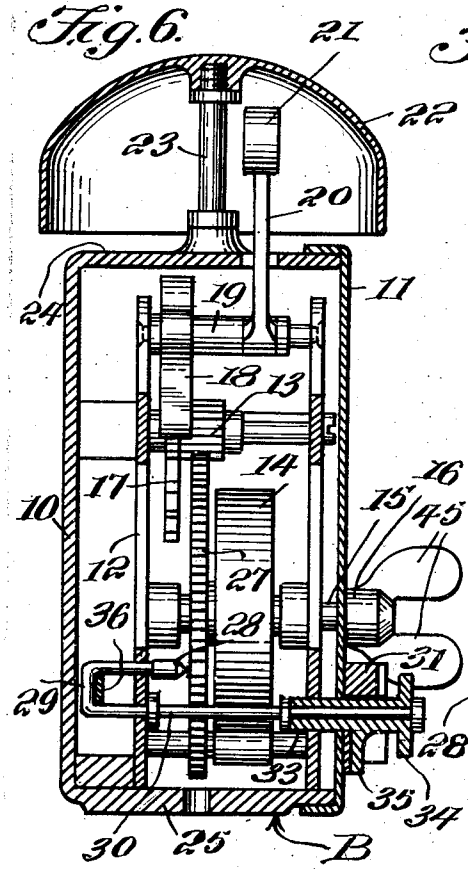


Fig. 5.

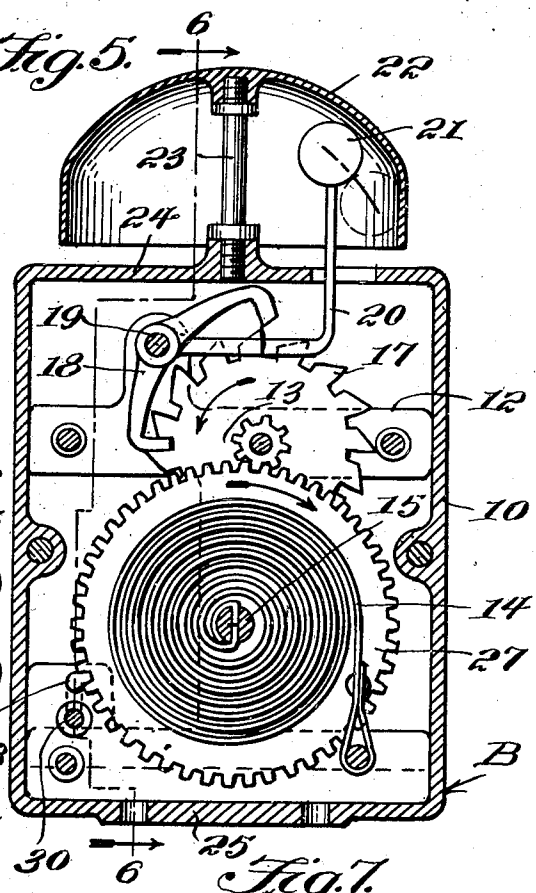


Fig. 7.

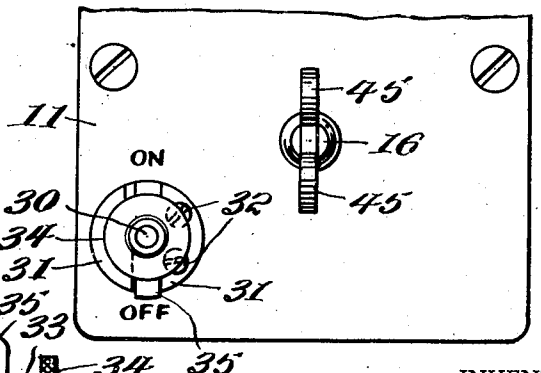


Fig. 8.

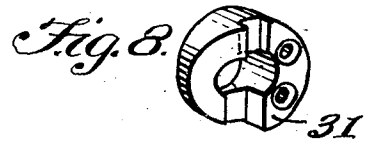
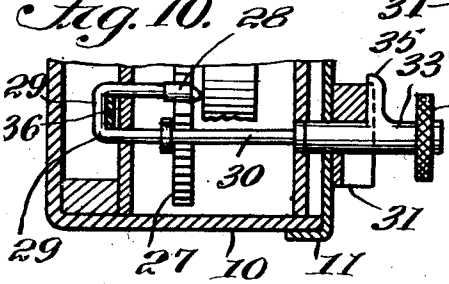


Fig. 9.



Fig. 10.



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BURGLAR ALARM

Thomas M. Cadenhead, Waycross, Ga.

Application November 2, 1944, Serial No. 561,593

1 Claim. (Cl. 116—91)

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The invention relates to a burglar alarm, and more especially to a combined latch and burglar alarm.

The primary object of the invention is the provision of a device of this character, wherein closures, such as window sashes can be latched closed, and when an attempt is made to raise the lowermost one or lower the uppermost one, an alarm will be automatically sounded, thereby signalling that an unauthorized entry is being made to an enclosure, the device being of novel construction and unique in its application for service.

Another object of the invention is the provision of a device of this character, wherein in the working thereof, it affords a dual purpose, namely, the latching of the sashes, and the sounding of an alarm, when a false entry is attempted to an enclosure.

A further object of the invention is the provision of a device of this character, wherein the alarm is manually controlled in the turning on or off thereof, and when turned on, it automatically operates for an alarm when a false entry to an enclosure is attempted.

A still further object of the invention is the provision of a device of this character, which is simple in construction, thoroughly reliable and efficient in operation, strong, durable, readily and easily mounted in place, compact, it being possessed of few parts, readily and easily controlled, and is inexpensive to manufacture and install.

With these and other objects in view, the invention consists in the features of construction, combination and arrangement of parts as will be hereinafter more fully described, illustrated in the accompanying drawings, which show the preferred embodiment of the invention and pointed out in the claim hereunto appended.

In the accompanying drawings—

Figure 1 is a fragmentary vertical sectional view through a window frame, showing the upper and lower sashes thereof closed with the device constructed in accordance with the invention applied.

Figure 2 is a view similar to Figure 1 showing the lower sash partly raised for the automatic operation of the device.

Figure 3 is a fragmentary horizontal cross-sectional view through the upper sash showing the device in top plan.

Figure 4 is a detail elevation of the latch assembly.

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Figure 5 is a vertical transverse sectional view through the alarm assembly.

Figure 6 is a sectional view taken on the line 6—6 of Figure 5 looking in the direction of the arrows.

Figure 7 is a fragmentary top plan view thereof.

Figure 8 is a perspective view of the control cam for the alarm.

Figure 9 is an edge view thereof.

Figure 10 is a fragmentary sectional view through the alarm.

Figure 11 is a further fragmentary sectional view thereof.

Similar reference characters indicate corresponding parts throughout the several views in the drawings.

Referring to the drawings in detail, A designates generally a portion of a window frame, B a portion of the lower sash therein and C a portion of the upper sash therein, respectively. The sashes B and C are slidably mounted in the window frame A in the usual well-known manner, and in association therewith is the device D constructed in accordance with the invention and hereinafter fully described.

The alarm D comprises a substantially rectangular shaped casing 10 having a removable cover plate 11, and within this casing is arranged a spring powered motor mechanism, including a frame 12 for a train of clock gearing 13 driven from a winding spring 14, its winding arbor 15 being extended exteriorly of the cover plate 11 and has attached thereto a double wing winding key 16. The gearing 13 operates a ratchet toothed escapement wheel 17 with which is associated an escapement dog 18, its rocking shaft or arbor 19 being fitted with a clapper arm 20, carrying a clapper head or knob 21 for the sounding of the alarm bell 22. The bell 22 is supported on a center post 23 secured in place at the outer end wall 24 of the casing 10. The other inner end wall 25 of the casing 10 is secured to the vertical run of the window frame A, so that the casing 10 will be disposed in a horizontal plane just slightly below the parting rail 26 of the lower sash B, to have the key 16 disposed vertically uppermost to the cover plate 11, as best seen in Figures 1 and 2 of the drawings.

The master peripherally toothed driving gear 27 of the gear train is normally engaged by a manually releasable locking detent 28 formed at the hook end 29 of a throw stem 30, which passes outwardly of the casing 10 through the cover plate 11 centrally of a cam ring 31 fixed to the latter at 32. The outermost end of this stem 30

has swiveled thereon a turning sleeve 33 having a finger knob 34, and also provided with a horn 35 for riding the cam ring 31, which when at the high area of the latter brings the detent 28 into engagement with the gear 27 for locking the same against movement, and when the horn 35 is at the low area of the cam ring 31, the detent 28 will be disengaged with the said gear 27 for activity of the alarm in a manner presently described. The hook end 29 is acted upon by a leaf spring 36 which holds the horn at all times in contact with the cam ring 31. Adjacent to the ring 31 and allocated to the high and low areas of the cam are the identification markings "on" and "off," respectively, so that it can be determined whether or not the spring motor is on or off for activity or non-activity of the alarm under prescribed conditions.

On the parting rail 26 of the lower sash B at its side next to the casing 10 is a pivot bearing 37 for the pivot crank 39 of an L-shaped combined latching and alarm releasing trigger 40, the U-shaped hook-like latching extent 41 thereof bridges the parting rail 26 of the lower sash B, for detachable engagement in a hooking eye 42 fixed in the parting rail 43 of the upper sash C, while the alarm releasing extent 44 of this trigger 40 is designed to be seated between the double wings 45 of the winding key 16, as best seen in Figures 1 and 3 of the drawings. This seating of the extent 44 is the normal position thereof with respect to the key 16, but when an attempt is made to effect a false entry to an enclosure through the window frame A by a slight raising of the lower sash B or lowering of the upper sash C, the trigger 40 will be caused to rock, assuming the position best shown in Figure 2 of the drawings, and thus become unseated from between the wings 45 of the key 16, which results in releasing the latter. If the alarm mechanism is unlocked by the detent 28 for activity then the bell 22 will be sounded thus issuing an alarm to indicate a false entry is being attempted through the window frame A. The extent 41 is readily detachable from the hooking eye 42 when it is desired to unlatch the sashes and also disconnect the alarm operation therefrom.

What is claimed is:

In a burglar alarm for windows of the double hung type having upper and lower sash slidable in a window frame with parting rails at the meeting point of the sash, an alarm device mounted on the window frame having a clock-like mechanism with a bell and having a winding key with separated upwardly extending wings, a latch member having extending ends, a bearing pivotally mounting the latch member on the inner face of the parting rail at the upper end of the lower sash, one end of said latch member being L-shaped in plan providing a trigger and having a projection at the end positioned between the wings of the winding key of the alarm mechanism retaining said mechanism inoperative, the other end of said latch member being U-shaped in elevation with a short arm extending from the bearing and a longer arm extending over the parting rail of the lower sash and having a hook thereon, and an eye on the parting rail at the lower end of the upper sash in which the said hook of the latch member is positioned whereby upon raising the lower sash or lowering the upper sash the latch member arrests the opening movement locking the sash and releases the alarm mechanism.

THOMAS M. CADENHEAD.

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