March 15, 1932. K. L. M. FISHER ET AL 1,849,918

BURGLAR ALARM

Filed March 19, 1931

Fig. 1

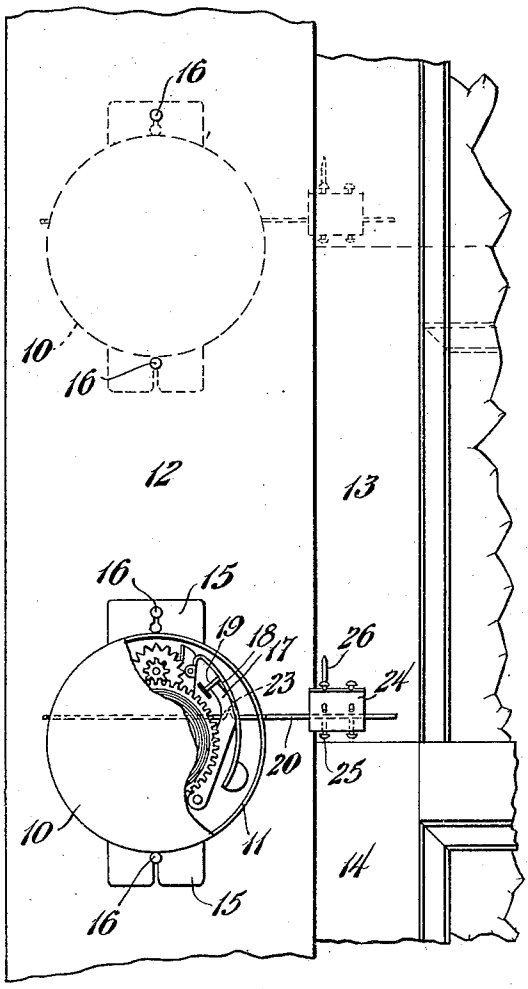


Fig. 2

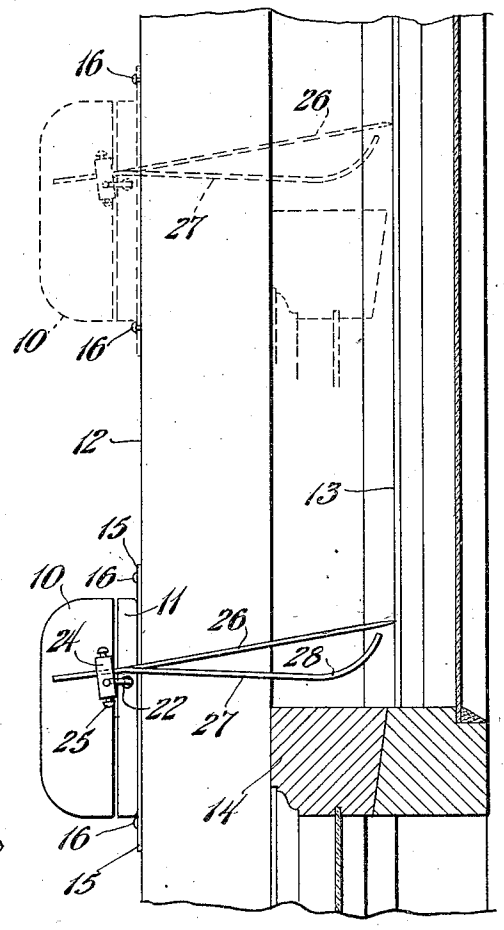
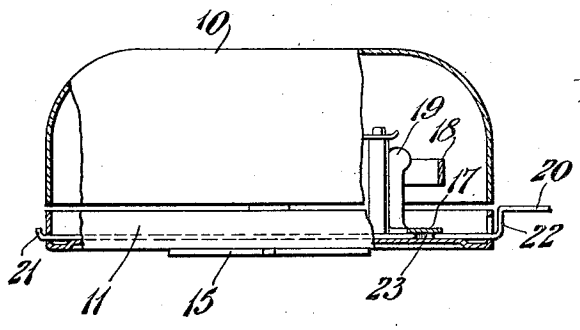


Fig. 3



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UNITED STATES PATENT OFFICE

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BURGLAR ALARM

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This invention relates to burglar alarms for windows having sliding sashes and, among other objects, aims to provide improved, reliable and relatively inexpensive mechanism for releasing a spring-actuated bell when either sash is opened, whereby the bell will ring until its spring is unwound and thereby notify the occupants of a home of the presence of a burglar as well as frighten the burglar away.

Other aims and advantages of the invention will appear in the specification, when considered in connection with the accompanying drawings, wherein:—

Fig. 1 is a fragmentary elevation of an alarm embodying the invention applied to a window, a part of the bell being broken away and also showing a dotted outline of the alarm in another position;

Fig. 2 is a fragmentary sectional view through the window showing the alarm mechanism in side elevation; and

Fig. 3 is a side elevation partly in section of the bell.

Referring particularly to the drawings, there is shown a spring-wound bell having a gong 10 and a base 11 secured to the inside of a window casing 12 adjacent to the meeting rails of upper and lower sliding sashes 13 and 14 respectively. In this instance, the base 11 has opposed slotted flanges 15 adapted to engage the shanks of screws, brads or escutcheon pins 16 driven into the window casing. The slot in the uppermost flange shown in Fig. 1 has an enlarged entrance opening to receive the head of the upper escutcheon pin while the slot in the lower flange is open. However, this mode of fastening may be widely varied.

In this example, the bell has a spring trigger or catch 17 secured at one end to the base and engageable at its free end with the clapper arm 18 normally to hold the bell inactive by locking the escapement mechanism so as to prevent the spring from being unwound. The upwardly projecting arm of this spring trigger is shown as having a cam-shaped end 19, so arranged that, when it is forced outwardly, it will release the clapper arm and permit the bell to ring.

In accordance with this invention, there is provided a transverse shaft 20 journalled in openings through the opposite sides of the base and having provision to impart releasing movement to the trigger upon either the raising of the lower sash 14 or the lowering of the upper sash 13. Referring to Figs. 1 and 2, the shaft 20 is shown as being made of a piece of wire and has a bent end 21 on that side of the base opposite from the window opening to prevent it from sliding out of the base toward the window opening. The other journalled end of the shaft is bent at right angles at 22 to prevent the shaft from moving to the left and the bearing opening for that end is sufficiently large to permit upward wedging movement of the shaft, later to be explained. The shaft is shown as being bent to provide a V-shaped trigger operating portion or cam 23 directly below or behind the trigger and normally resting flatly against the base so that when the shaft is turned in one direction, the cam portion will directly act upon the spring trigger and when it is turned in the other direction, the cam will serve as a lever engaging the base to force the shaft outwardly against the spring trigger and also effect releasing movement.

The shaft 20 is here shown as projecting beyond the base 11 in front of the window opening adjacent to the meeting sash rails. There is shown an adjustable block 24 having an opening adapting it to be slid on the projecting end of the shaft and secured thereto by means of ordinary set screws 25 (Figs. 1 and 2). This block is shown as having a pair of sockets or openings to receive fingers or arms 26 and 27 adapted to be actuated by the respective sashes to impart trigger releasing movements to the shaft. Both of the arms are preferably made of ordinary wire and are adapted to be adjustably secured in the block 24 so that they can be adjusted to the proper length and their ends cut off when they are applied to a window. It will be understood that these arms are made of sufficient length to be applied to different types of windows so that they can be properly adjusted and cut off.

Referring to Fig. 2, it will be noted that

the arm or finger 26 has a pointed end to engage the side rail of the upper sash a few inches above the meeting rails. This arm is preferably straight and when it is properly adjusted it is inclined slightly upwardly from the block 24 to the side rail of the upper sash. Its pointed end slightly pierces or pricks the side rail so that when the upper sash is initially lowered it will tend to penetrate farther or dig into the side rail and, due to the downward swinging movement, it will also force the shaft 20 outwardly in its loose bearing, while the shaft is being turned. After the upper sash swings this arm downwardly below its horizontal position, bending it slightly, the side rail will slide with respect to the pointed end.

The lower arm 27, which is arranged in the path of the upper sash rail of the lower sash, is shown as having an upwardly bent end or horn 28. It is arranged a short distance above the upper sash rail so as to permit sufficient downward swinging movement of the upper arm to impart trigger-releasing movement to the shaft 20. It will be noted that both of the arms are thus permitted to swing together upon unauthorized lowering of the upper sash. When the lower sash is raised, both of the arms will likewise swing together, the pointed end of arm 26 being swung upwardly out of engagement with the side rail of the upper sash. The curved end 28 of the lower arm will ride on the side rail of the lower sash as the sash is pushed up and when the arms are thus actuated, arm 26 will be clear of the side rails of both sashes. The lower sash is free to be lowered without bending either arm permitting an end of one of them to engage and bite into its side rail. When it is lowered, both of the arms will swing back automatically by gravity into their proper positions to be operated again. Furthermore, the spring trigger 13 tends to rotate the shaft so as to swing the arms into their proper operating positions and thereby assists gravity in restoring them.

In both Figs. 1 and 2, the alarm is shown in dotted position a short distance above the meeting sash rails so as to permit the lower sash to be raised sufficiently for ventilating purposes without releasing the alarm. Ordinarily, the lower sash will be raised 8 or 10 inches for this purpose so that a burglar or unauthorized person will have to raise it a little more to crawl in the window opening, thereby releasing the alarm. The upper sash will operate its corresponding arm in the same manner as has previously been explained.

From the foregoing description it will be seen that the improved operating mechanism for the alarm is very simple. The parts are adapted to be made principally of ordinary wire. No material alteration is required to be made in the standard spring-wound bell to apply the operating mechanism. The construction and arrangement of the parts are such that the device can easily be applied to a window by an ordinary layman. The detachable connection of the bell to the window casing permits easy and quick removal of the alarm so that it can be applied in another position, as shown. The operating shaft and the arms do not constitute any obstruction for ordinary window shades or curtains and all of the mechanism may be practically concealed by window curtains.

Obviously, the present invention is not restricted to the particular embodiment thereof herein shown and described. Moreover, it is not indispensable that all the features of the invention be used conjointly, since they may be employed advantageously in various combinations and sub-combinations.

What we claim is:—

1. A burglar alarm for windows having a pair of sliding sashes comprising, in combination, a spring-wound bell; a trigger arranged to release the bell; a trigger-releasing shaft journalled in the base of the bell; and operating means adjustably secured to the trigger-releasing shaft and arranged to be actuated upon the movement of either sash toward its open position.

2. A burglar alarm for double-sash windows comprising, in combination, a spring-wound bell having a base secured to the window casing adjacent to the meeting rails of the sashes; a spring trigger associated with the bell actuating mechanism and arranged to release it so that the bell will operate automatically; a shaft journalled in the casing and projecting through the side adjacent to the window opening; a trigger actuating member on said shaft arranged to engage and release said trigger when the shaft is partially rotated in either direction; an arm secured to the projecting end of said shaft and engaging the side rail to impart trigger releasing movement to the shaft when the upper sash is lowered; and a second arm secured to the shaft projecting into the path of the upper rail of the lower sash also to impart trigger-releasing movement to the shaft when the lower sash is raised beyond a predetermined point.

3. A burglar alarm comprising, in combination, a spring-wound bell having a base adapted to be removably and adjustably secured to the casing of a double sash window; a spring-urged trigger member in the casing connected to control the operation of the bell; a wire shaft journalled in openings on the opposite sides of said base and having one end projecting through the base on the side adjacent to the window opening; a member on the shaft arranged to impart releasing movement to the trigger when the shaft is turned in either direction; a block adjustably secured to the projecting end of said shaft; a

wire arm having a pointed end piercing the side rail of the upper sash and adapted to impart trigger-releasing movement to the shaft when the upper sash is lowered; and a second wire arm adjustably secured to the block and having a bent end projecting into the path of the upper sash rail of the lower sash and also arranged to impart trigger-releasing movement to the shaft when the lower sash is raised beyond a predetermined point.

4. In combination with a window having a pair of sliding sashes, a burglar alarm comprising a spring-wound bell having a base secured to the inside of the window casing adjacent to the meeting rails of the sashes; a spring-urged trigger connected to control the operation of the bell; a shaft journalled in the base of the bell and projecting through that side adjacent to the window opening; means on the shaft operable to release said trigger when the shaft is turned in either direction; a straight arm adjustably secured with respect to the projecting end of the shaft and having a pointed end engaging the side rail of the upper sash above the meeting rails, said arm being arranged to impart releasing movement to the shaft when the upper sash is lowered; a second arm adjustably secured with respect to the shaft and projecting into the path of movement of the lower sash below the first arm and also arranged to impart trigger-releasing movement to the shaft when the lower sash is raised and simultaneously swing the other arm out of engagement with the upper sash; and an upwardly bent end on said second arm adapted to engage the side rail of the lower sash when the lower sash is raised so as to hold the pointed end of the other arm out of engagement with the side rail and permit the lower sash to be lowered, both of said arms being arranged to be reset automatically when the window is closed.

5. A burglar alarm comprising, in combination, a spring-wound bell having trigger-controlled, operating mechanism; a base having slotted flanges adapted to be removably secured to a window casing; a trigger-releasing shaft mounted in the base; and bendable, wire arms adjustably secured to the shaft, one of the arms engaging the upper sash and the other arm being arranged in the path of the lower sash, whereby said arms will impart trigger releasing movement to the shaft when either sash is moved toward its open position.

6. A burglar alarm comprising, in combination, a spring-wound bell having trigger-controlled, operating mechanism and adapted to be secured to a double-sash window casing adjacent to the meeting rails of the sashes; a shaft journalled in the base of the bell; a trigger actuating member on the shaft arranged to release the trigger upon partial rotation of the shaft in either direction; and an arm adjustably secured to the shaft having a pointed end engaging a side rail of the upper sash above the meeting rails and adapted to impart trigger-releasing movement to the shaft when the window is opened.

In testimony that we claim the foregoing as our own, we have hereto affixed our signatures.

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