

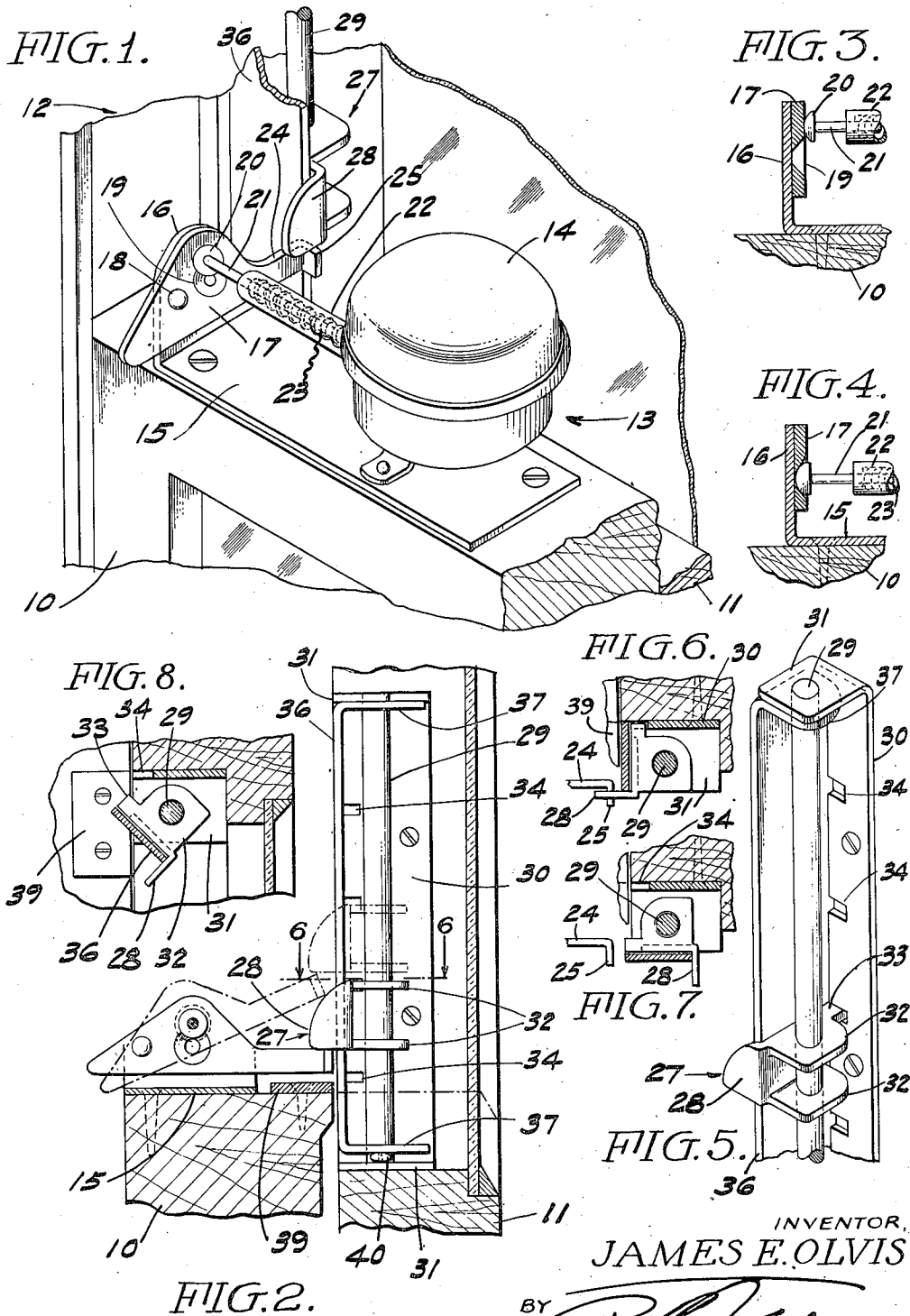
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WINDOW OPERABLE BURGLAR ALARM

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WINDOW OPERABLE BURGLAR ALARM

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10 Claims. (Cl. 116—86)

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This invention relates to a window operable burglar alarm.

Heretofore it has been usual so to construct burglar alarms for windows that the alarms would be operated only when a burglar moved a window from a closed position. Therefore windows provided with burglar alarms have usually lacked desirable ventilating qualities because it has been necessary to place them in a completely closed position whenever the burglar alarm was set.

It is an object of the present invention to overcome this defect and to provide a burglar alarm which is operatively related to the window when the window is in a more or less open condition, as well as when it is completely closed.

A further object of the invention is to provide a burglar alarm which will be sounded when a burglar moves either the upper or lower sash of a window, whether said sash is completely closed or in a more or less open position.

Yet another object is to provide an alarm operating structure furnished with an improved means for putting the alarm into either an operative or inoperative condition, as desired.

Other objects, advantages and features of invention will hereinafter appear.

Referring to the accompanying drawing which illustrates a preferred embodiment of the invention,

Fig. 1 is a perspective view of the device in an alarm sounding position, an intruder having moved parts thereof from their normal set position to a position for setting off the alarm.

Fig. 2 is a vertical section wherein the device is shown in full lines in alarm operating position and in dotted lines in the position of the parts when the alarm is silent.

Fig. 3 is a fragmentary detail of a portion of the alarm actuating mechanism in sounding position.

Fig. 4 is a reproduction of the showing of Fig. 3 except that the parts are positioned for silencing the alarm.

Fig. 5 is a fragmentary perspective view of the actuating mechanism for the alarm and the means for setting the windows in different ventilating positions.

Fig. 6 is a section on line 6—6 of Fig. 2.

Fig. 7 is a reproduction of Fig. 6 with the parts in a different position.

Fig. 8 is a reproduction of Fig. 6 with some additional structure added showing the parts adjusted to the position where movement of either sash is restricted.

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Referring in detail to the drawing, in Figs. 1 and 2 are shown parts of a lower window sash 10, upper sash 11 and a fragment of the window casing 12. On top of the lower sash 10 is mounted an alarm assembly 13, which comprises a bell 14 supported upon a mounting plate 15, said plate having an upwardly directed end portion 16 to which a cam lever 17 is fastened by means of a pivot 18 so that said lever can swing to a limited extent in a vertical plane. Said cam lever, on the side thereof which is directed toward the bell 14, is furnished with a circular cam recess 19 with which cooperates a cam head or button 20 carried by the alarm operating pin 21. Said pin is contained within a sleeve 22 which projects radially from the bell 14, this pin being under constant outward pressure from a spring 23 contained within said sleeve. When the cam lever 17 has its free end portion 24 up-tilted the button 20 seats within the recess 19, the rod 21 being then held outwardly by the spring 23 in a non-alarm sounding position. When however the free end or arm 24 of the lever 17 is swung down to the position shown in Fig. 1 the alarm actuating arm 21 is pushed toward the bell against the opposition of the spring 23, thus causing the bell to ring.

The free end portion of arm 24 of the cam lever 17 is provided with a terminal flange 25 which is directed laterally and towards the bell 14. A clip 27 is provided which is adjustable so that its extension or ear 28 is at times brought into engagement with the cam lever flange 25 either by raising the lower sash or by lowering the upper sash, thus moving said cam lever from the full line to the dotted line position of Fig. 2 and vice versa thus, in the present showing, by a downward movement of the upper sash, as already explained, setting off the alarm. Said clip 27 is turnably and slidably mounted upon a vertical rod 29, said rod being supported by a strap metal bracket 30 the body portion of which is abutted flatwise against and secured to the inside of a side piece of the upper sash 11, the end flanges 31 of said bracket being apertured to have secured in them the end portions of said rod 29.

Said clip 27 is preferably stamped out of a single piece of sheet metal and is furnished with a pair of parallel spaced apart apertured flanges 32 whereby the clip is turnably and slidably attached to said rod. Said clip is also furnished at the side or end thereof farthest from its ear 28 with a projecting finger 33 entrant into any selected individual recess of a series of recesses 34 formed

by making cut-outs in an edge portion of the body portion 30 of the strap iron bracket. Said recesses function as holding elements to hold the clip 27 against vertical movement when the latter's finger 33 is in any selected recess this functioning being possible only when the sashes are adjusted so as partly to obstruct the window opening.

A keeper 36 is provided which is adjustable to and from a position wherein it prevents the clip 27 from having its finger 33 disengaged from any recess 34 within which it may have been positioned. Said keeper consists of a piece of strap iron having at each end a lateral flange 37 which is apertured and has a turning fit upon the rod 29, upper flange 37 fitting closely against the inner side of the flange 31 of the bracket 30. Owing to the fact that the body portion of the keeper 36 is at all times in an overlying closely adjacent relation to the body portion of the adjustable clip 27, the clip and keeper must swing together, but the clip may be adjusted lengthwise of the keeper and bracket 30 whenever the clip and keeper are swung to a position wherein the finger 33 of the clip is disengaged from the recess portions of the bracket 30.

When the keeper 36 is adjusted to a point halfway between the limits of its ninety degree swing, as shown in Fig. 8 (which can only be done when both window sashes are closed), it serves to maintain the window in a completely closed position, because the lower corner portion of the keeper lies adjacent to the lower sash and in the path of the opening movement thereof.

A wearing plate 39 is shown fastened to the upper surface of the lower sash in a backwardly spaced relation to the mounting plate 15 to prevent the keeper 36 from marring the upper surface of the lower sash.

A cotter pin 40 is shown interposed between the lower end flange of the keeper 36 and the lower end flange of the bracket 30 to lessen friction.

I claim:

1. In a burglar alarm structure, a rigid, vertical strip attached to and extending interiorly along a window sash at one side of the window opening, said opening having upper and lower relatively movable sashes, there being a series of longitudinally spaced apart recesses in said strip, a vertical rod secured in the window sash in an adjacent parallel relation to said series of recesses, a clip slidably and turnably mounted on said rod and having a finger selectively entrant into said recesses when the window is shut, and an alarm assembly mounted upon the upper surface of a lower sash in said window opening; said alarm assembly comprising an operating pin to set off and stop a bell, a spring tending to longitudinally extend said operating pin in relation to said bell to a position wherein the latter is silent, and a cam arm mounted upon the aforesaid lower sash and having a seat normally in engagement with said operating pin, said cam arm being movable to and from a position wherein it forces said pin from said seat against the opposition of its spring and causes the bell to sound; the aforesaid clip which slides and turns on the vertical rod having its aforesaid finger swingable into individual recesses of the aforesaid strip to hold said finger against sliding along the rod and in a position wherein another part of said clip lies in the path of said cam arm to move the latter and cause the bell to sound when there is a relative vertical movement between the two sashes, said adjustable clip being carried by the upper sash.

2. The subject matter of claim 1, and a keeper for said clip, said keeper being turnably adjustable upon said rod and of a sufficient length to be in an approximately contactual relation to said clip during all portions of its travel along said rod, said keeper being swingable to and from a position wherein it maintains said clip with its aforesaid finger in the selected recess of the aforesaid strip only when the windows are partly open.

3. In a burglar alarm structure, a rigid, vertical strip attached to and extending interiorly along a window sash at one side of the window opening, said opening having fitted within it upper and lower relatively movable sashes, there being a series of longitudinally spaced apart recesses in said strip, a vertical rod secured in the window sash in an adjacent parallel relation to said series of recesses, a clip slidably and turnably mounted on said rod, said recesses affording an additional turning movement clearance for said clip when it is brought opposite to any one of them, and a keeper for said clip, said keeper consisting of a broadly U-shaped metal strap having apertured end arm portions through which said bar extends, said keeper being turnably adjustable to and from a position wherein the portion thereof between its end arms holds said clip in the selected recess of the aforesaid series to maintain said clip in the selected recess only when the windows are partly open, said clip, when within any selected recess, being in the path of an alarm set-off means carried by one of the sashes, said adjustable clip being carried by the other sash.

4. The subject matter of claim 3, and said keeper being turnable through an angle of substantially ninety degrees and being adjustable to maintain itself frictionally at the midlength of its travel when the two sashes are in closed position in which position it prevents relative movement of said sashes.

5. In a burglar alarm for a pair of vertically movable window sashes, an alarm sounding means carried by the lower sash of said pair and means carried by the upper sash of said pair for actuating said alarm, said alarm actuating means comprising a vertical rod secured in said upper sash in an adjacent parallel relation to one side thereof, an adjustable clip to sound the alarm turnably and slidably mounted on said rod, a vertical series of holding elements for said clip carried by said upper sash adjacent to said rod, said clip being engageable individually with and disengageable from said holding elements by reason of its aforesaid turnable, slidable mounting, and a keeper for said clip consisting of a rigid strip mounted upon said rod and turnable thereon to and from a position wherein it holds said clip in engagement with individual aforesaid holding elements only when the window sashes are partly open.

6. The subject matter of claim 5 and, said keeper consisting of a metal strap having end flanges through which the rod extends.

7. The subject matter of claim 5 and, said keeper consisting of a metal strap having end flanges through which the rod extends, said keeper being swingable on the rod through an angle of ninety degrees, and being positionable at the middle of its swing to lock the sashes in a closed condition.

8. In a burglar alarm structure, a rigid, vertical strip attached to and extending interiorly along a window sash at one side of the window opening, said opening housing upper and lower relatively movable sashes, there being a series of

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longitudinally spaced apart recess-forming cut-outs in said strip, a vertical rod secured in said vertical strip in an adjacent parallel relation to said series of cut-outs, a clip slidably and turnably mounted on said rod, the turning movement of said clip being greater when additional clearance is afforded therefor by reason of the clip being adjusted along said rod to points opposite to said cut-outs, and an alarm operating means carried by one of said sashes, said clip being carried by the other sash and in the path of movement of said means only when the windows are partly open and said clip is in an entrant relation to said cut-outs.

9. In a burglar alarm for vertically adjustable upper and lower window sashes, a mounting plate attached to the upper surface of the lower sash and having an upwardly directed end flange, a cam plate lever overlying a side portion of said flange and connected therewith by a pivot to swing in a vertical plane, said lever having in the face thereof farthest from said flange a cam recess, an alarm carried by said mounting plate and

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having operating means a portion of which moves into and out of said recess, the movement thereof out of said recess actuating the alarm and the movement thereof into said recess silencing the alarm, and mechanism carried by the upper sash to move said cam plate lever so that the device will function as a window operable burglar alarm.

10. The subject matter of claim 9, and said alarm actuating means comprising an alarm actuating pin which aligns with the cam recess when the lever is at one limit of its swing and which is out of register with said recess when said lever is at the other limit of its swing.

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