July 26, 1932. A. F. SEMON 1,868,923

BURGLAR ALARM

Filed Oct. 26, 1929

Fig. 1. Fig. 2. Fig. 3.

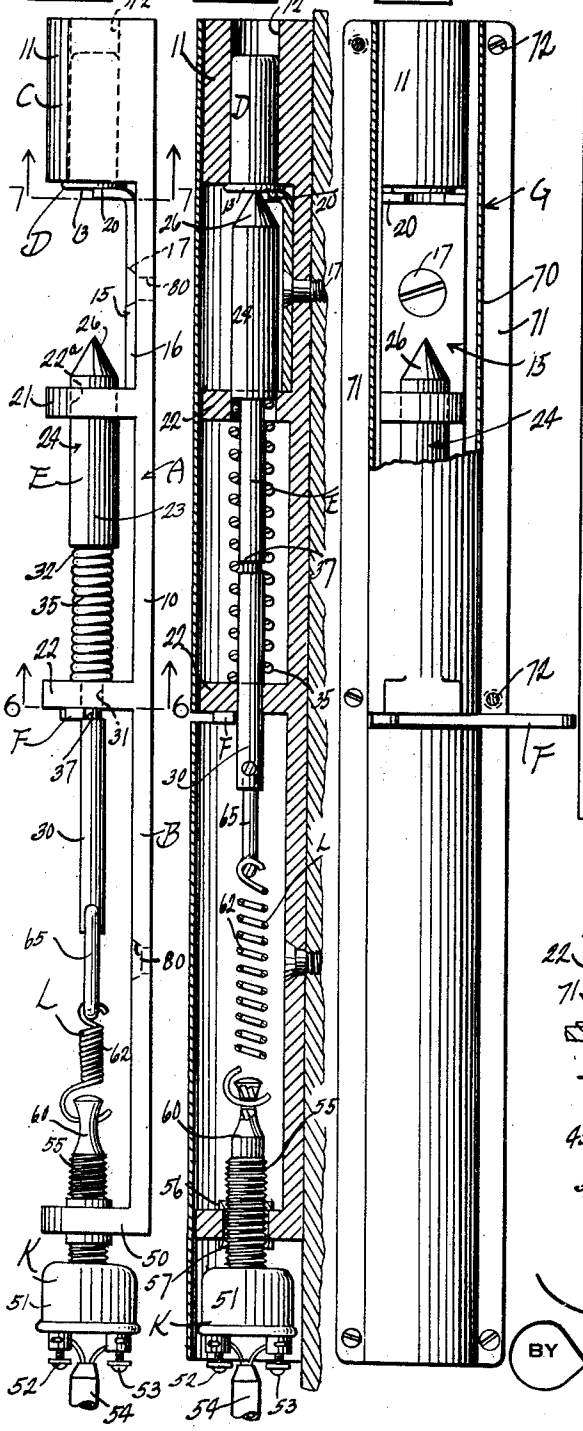


Fig. 4.

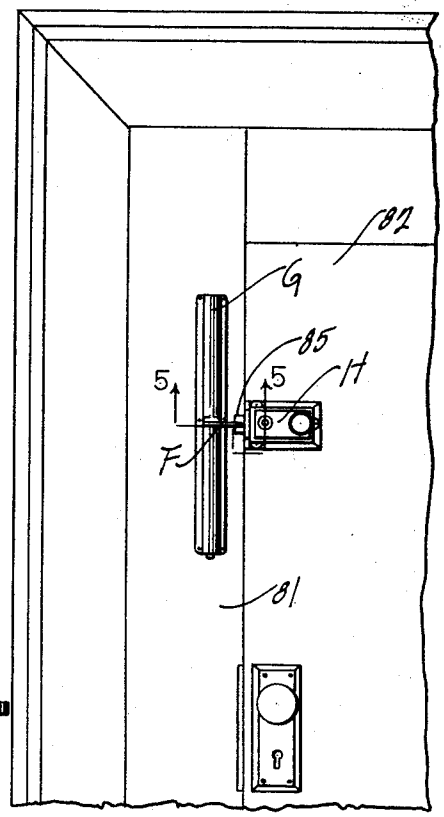


Fig. 5.

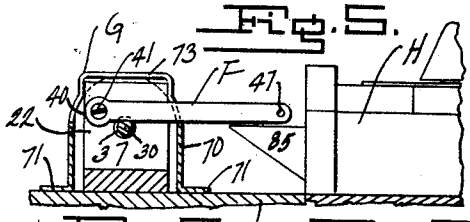


Fig. 6.

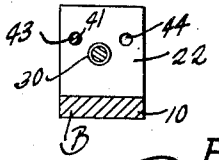
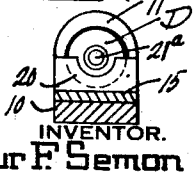


Fig. 7.



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Patented July 26, 1932 1,868,923

UNITED STATES PATENT OFFICE

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BURGLAR ALARM

Application filed October 26, 1929. Serial No. 402,697.

This invention relates to improvements in burglar alarms.

The primary object of this invention is the provision of an improved burglar alarm adapted to be operated by some member or part moved by an unauthorized person, to signal such unauthorized use.

Other objects and advantages of this invention will be apparent during the course of the following detailed description.

In the accompanying drawing, forming a part of this specification, and wherein similar references designate corresponding parts throughout the several views,

Figure 1 is a side elevation of the improved burglar alarm, showing it in its cocked position.

Figure 2 is a vertical sectional view taken through the burglar alarm, showing the parts in "set-off" or discharging position.

Figure 3 is a front elevation, partly in section, of details of the burglar alarm, with the plunger portion thereof cocked.

Figure 4 is a view showing one manner in which the improved burglar alarm may be attached for use; and in said view the trigger thereof being in the path of a retractible door bolt.

Figure 5 is an enlarged sectional view taken substantially on the line 5—5 of Figure 4.

Figures 6 and 7 are sectional views taken substantially on their respective lines in Figure 1 of the drawing.

In the drawing, wherein for the purpose of illustration is shown only a preferred embodiment of the invention, the letter A may generally designate the improved burglar alarm, which comprises a frame B having means C formed thereon for holding a cartridge D. Plunger means E is provided for discharging the cartridge D, being held inoperative until the time of discharge, by the lever F. The lever F may be operated by any suitable means attachable to a part which may be moved by a burglar or unauthorized person, such as a retractible door bolt of a latch or lock construction H. Simultaneous with the discharge of the cartridge D, the circuit may be closed, and to this end a switch K is operatively supported upon the frame B, having means L connecting it with the plunger E for circuit closing purposes.

The frame B preferably comprises an elongated narrow bar-like body 10, one end of which is provided with a lateral tubular extension 11, comprising part of the cartridge holding means C, having a bore 12 therethrough, within which the cartridge D may be placed; the bore 12 outletting at both ends of the extension C, and the bore being such that the flange 13 of the cartridge will lie in abutment at the inner end of the extension 11.

The cartridge holding means C further includes an L-shaped detachable cartridge retaining member 15, including the body portion 16 which is disposable upon the inside face of the body 10, between the cartridge barrel 11 and the plunger E, being attachable in such position by a detachable countersunk screw 17. The end of the body 16 adjacent the cylinder 11 is provided with a bifurcated right angled cartridge flange engaging and retaining extension 20, best shown in Figure 7 of the drawing, which engages against the peripheral portion of the flange 13 of the cartridge D, to hold the latter in position, but unobstructing the detonating point 21^a which the firing pin or plunger of the means E engages, as will be subsequently mentioned.

The plunger means E has right angled flange supports 21 and 22, upon the body 10, projecting to the same side thereof as the cartridge cylinder 11. The support 21 nearest to the cylinder 11 is provided with a passageway 22^a adapted to receive the larger cylindrical body portion 23 of a firing pin 24 comprising part of the plunger means E. This pin 24 is provided with a point extension 26 adapted to engage the detonating portion of the cartridge D for exploding the latter. The pin 24 extends parallel and in spaced relation with the body 10, and is provided with a reduced stem 30 slidable through an opening 31 provided in the other support 22. Between the support 22 and the shoulder 32 formed at the juncture of the portions 23 and 30 of the firing pin 24, there is a spiral spring 35, under compression, normally urg-

ing the pointed end of the firing pin towards the cartridge supporting barrel or cylinder 11. This portion 30 is provided with an annular groove 37, wherein the detent F is adapted to engage for cocking the firing pin.

The detent F is best shown in Figure 5 of the drawing, having one apertured end 40, adapted to be detachably connected by a pin 41 in a pivoted relation upon the side of the flange 22 opposite the flange 21. The flange 22, as shown in Figure 5, is provided with openings 43 and 44, outwardly of and at each side of the passageway 31 above mentioned, by means of which the detent F may be pivoted either to the right or left of the axis of the firing pin, so that the free end of the detent F may be positioned to the right or the left, in accordance with the structure upon which mounted. At its free end the detent F has an aperture 47 for receiving a wire, string, or a number of wires or strings, leading to any suitable location and attachable to members which might be moved by an unauthorized person, for setting off the alarm.

At the end of the elongated body 10 opposite the cartridge supporting barrel 11 there is provided a right angled extension 50, adapted to support the switch K. The latter consists of a casing 51, wherein the circuit maker and breaker means (not shown) is placed, of a conventional nature, having terminals 52 and 53 facing away from the extension 50, to which the circuit connecting wires 54 may be attached. The casing 51 at the opposite side from said terminal is provided with a screw threaded tubular shank 55, having adjustable nuts 56 and 57 thereon; the extension 50 being provided with a passageway thru which the screw threaded stem 55 is adjustable, and attachable to the extension 50 by means of said nuts 56 and 57, engageable at opposite sides of said extension 50, as shown in Figures 1 and 2 of the drawing. The switch casing 51 may thus be adjusted towards or away from the extension 50, as desired, in accordance with other features to be susbequently mentioned. The switch K furthermore includes an operating plunger 60, slidable in the screw threaded tubular stem 55, having an end extending therefrom in the direction of the firing pin 30. This switch operating plunger 60 is provided with an opening therethrough, within which one end of a spiral spring, comprising part of the means L engages; the spring at its opposite end being detachably connected to a ring 65, which is swingable upon the end of the firing pin stem 30, opposite the firing point end 26.

When the firing pin 24 is held cocked by means of the detent F, the spring 62 is contracted, and exerts no pulling force whatsoever upon the switch plunger 60. However, at the instant that the detent F releases the firing pin, and latter has moved to discharge the cartridge D, the spring 62 will be extended, tensioning the same, and which will pull the switch operating plunger 60 towards the firing pin, and close a circuit in the switch K, through the wires 54, for performing any of a number of functions. Among these functions are preferably the primary one of illuminating all the lamps in a building upon which the burglar alarm may be positioned, so as to inform persons, after the discharge of the cartridge, that the building, or its contents have been tampered with. Another and also principal feature of closing a circuit is that of illuminating red signalling lamps, at the front or rear of the building, or any other location, such as the police station, or an owner's home, and in this connection means may be provided to flash the lamps, such as the conventional flasher button.

The body 10 of the frame B is preferably provided with a plurality of countersunk openings 80 therethrough, by means of which the device may be vertically or horizontally attached at any desired location. In the preferred use of the invention, which is shown in Figure 4, the device is vertically positioned upon a jamb or stile 81 of a door or window casing. The latch or lock is positioned upon the movable closure member 82, and the same is preferably of the so-called "night latch" type having a retractible bolt 85 which may be retracted by a key from the outside of the closure 82, or which from the inside of the closure may be retracted and set in a retracted position by means of a suitable detent, as can readily be understood. The operating lever-detent F of the burglar alarm A, is positioned in the path of the extended latch bolt 85, when said lever F holds the firing pin cocked. This position of parts is shown in Figure 4, and if for any reason the closure 82 is moved without insuring that the bolt is retracted the detent-lever F will be moved for releasing the firing pin. The cartridge D will be discharged and the switch K closed, as can readily be understood from the foregoing, for the reasons described.

An elongated U-shaped cover 70 is provided, having flanges 71 at opposite sides thereof apertured for receiving screws 72 by means of which to attach same over the frame B, to hide the latter and secrete the details therein. The cover has a slot 73 through which the lever F extends.

Various changes in the shape, size, and arrangement of parts may be made to the form of invention herein shown and described, without departing from the spirit of the invention or the scope of the claims.

I claim:

1. In a burglar alarm of the class described a supporting frame having a cartridge supporting extension thereon, a firing pin slidable on the frame having means to urge it against a cartridge for exploding the same, and an L-shaped cartridge holding member

detachably connected with the frame and including a bifurcated end engageable with the flange of a cartridge to hold it in position in said bore.

2. In a burglar alarm the combination of a supporting frame, a cartridge holding portion on the frame having a bore for receiving a cartridge, means for holding the cartridge in position in said bore, including a bifurcated right angled cartridge engaging extension in abutment with the peripheral portion of an end of the cartridge, a firing pin in position to engage the detonating end of the cartridge, and detent means for holding the firing pin cocked.

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