Feb. 13, 1951 W. H. LAWRENCE 2,541,770

UNIVERSAL BURGLAR ALARM

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Fig. 1

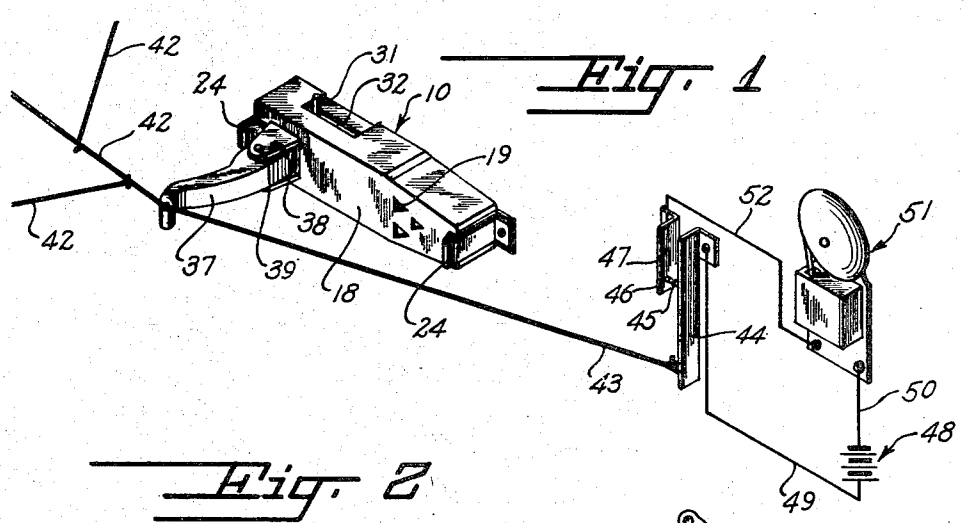


Fig. 2

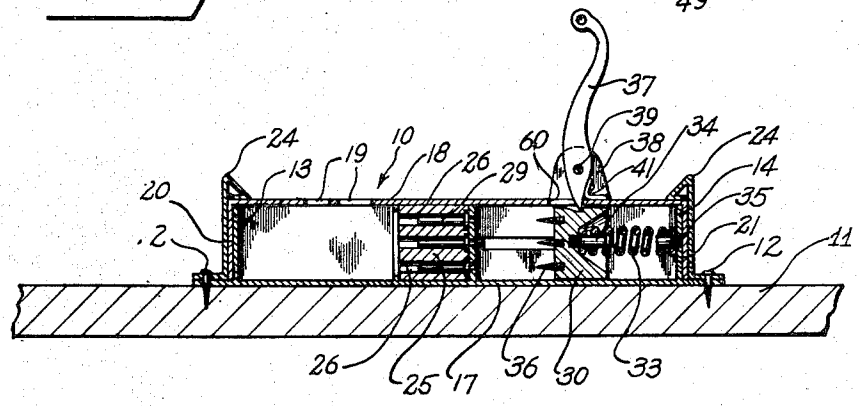
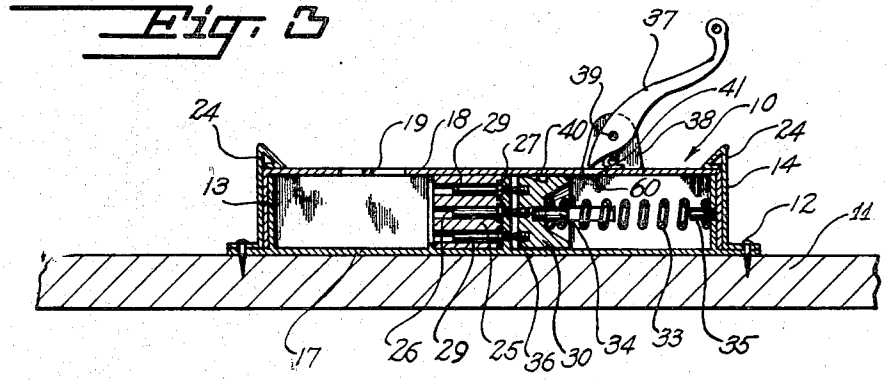


Fig. 3



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Fig. 4

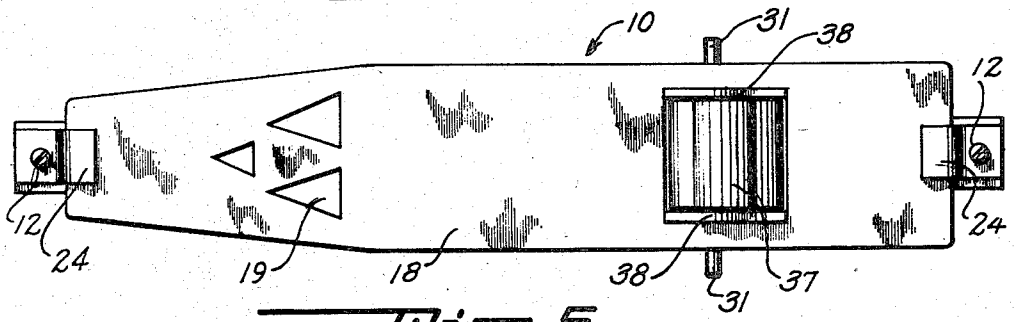


Fig. 5

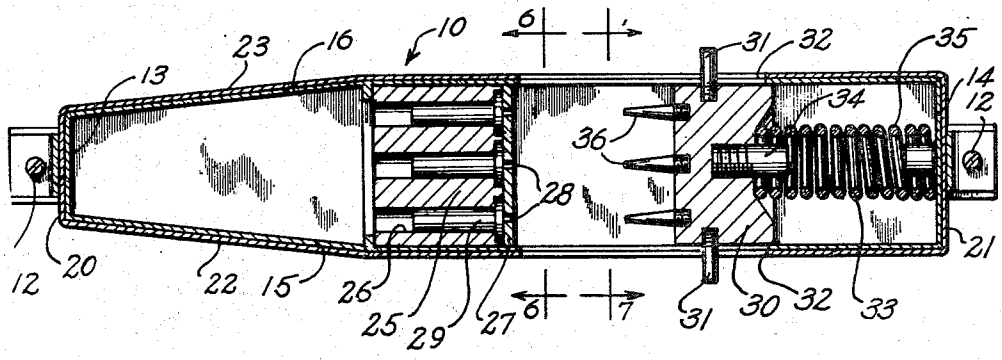


Fig. 6

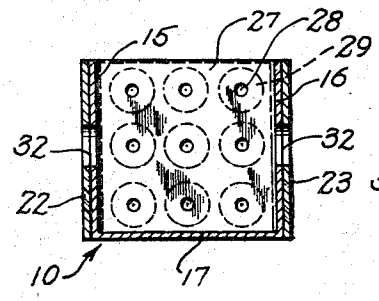
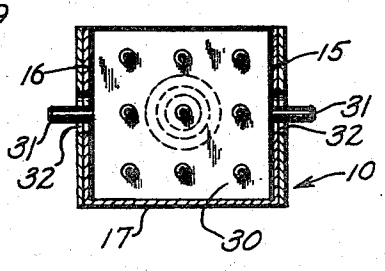


Fig. 7



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UNIVERSAL BURGLAR ALARM

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2 Claims. (Cl. 177—314)

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This invention relates to a burglar alarm, and more particularly to an alarm which is adapted to be actuated upon surreptitious opening of a door, window, or the like.

The object of the invention is to provide a burglar alarm which is actuated upon opening of a door, or window, to give a combined explosive and ringing alarm to scare away a burglar and warn the occupant.

Another object of the invention is to provide a burglar alarm wherein a plurality of blank cartridges are fired upon actuation of the device to thereby simulate a revolver being fired whereby the burglarly or hold-up will be frustrated.

A further object of the invention is to provide a burglar alarm which is extremely simple and inexpensive to manufacture.

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

In the accompanying drawings, forming a part of this application, and in which like numerals are used to designate like parts throughout the same:

Figure 1 is a perspective view of the burglar alarm, according to the present invention;

Figure 2 is a longitudinal sectional view taken through the alarm housing; and showing the position of the parts when the alarm is "set" or "cocked."

Figure 3 is a view similar to Figure 2, but showing the position of the parts after the cartridges have been fired;

Figure 4 is a top plan view of the alarm housing;

Figure 5 is a longitudinal horizontal sectional view taken through the housing;

Figure 6 is a sectional view taken on the line 6—6 of Figure 5; and

Figure 7 is a sectional view taken on the line 7—7 of Figure 5.

Referring in detail to the drawings, there is shown a burglar alarm which includes a housing 10 that is adapted to be connected to a supporting structure, such as a part of a building 11, by suitable securing elements, such as screws 12. The housing 10 includes spaced parallel end walls 13 and 14, and extending between walls 13 and 14 are spaced sidewalls 15 and 16, Figure 5. The housing 10 further includes a bottom wall 17 which is arranged contiguous to the supporting body 11.

The upper end of the housing 10 is open, and a cover 18 is provided for normally closing the open end of the housing 10. The cover 18 is provided with a plurality of openings or slots 19 and exhaust gases from the detonated cartridges

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are adapted to pass through the openings 19. The cover 18 is further provided with depending end portions 20 and 21, and depending side portions 22 and 23, and these depending portions surround the end and side walls of the housing 10 when the cover is assembled thereon. For maintaining the cover 18 assembled on the housing 10, a pair of spring levers or catches 24 are arranged in engagement with the ends of the cover. The spring levers 24 can be readily moved out of engagement with the cover 18, when the cover is to be removed, as for reloading the device with blank cartridges.

Positioned in the housing 10, intermediate the ends thereof, is a base 25 which is provided with a plurality of spaced parallel sockets 26 therein. A plate 27 having openings 28 therein is arranged adjacent one face of the base 25, and the base 25 is secured in any suitable manner to the housing 10. A blank cartridge 29 is adapted to be positioned in each of the sockets 26.

Slidably arranged in the housing 10 is a plunger or hammer 30 which has projecting therefrom a pair of pins 31. The pins 31 project through slots 32 in the sides of the housing and the cover, and the pins 31 serve to guide the plunger 30 during its movement through the housing 10.

For urging the plunger 30 towards the base 25, a coil spring 33 is arranged in the housing, one end of the coil spring 33 being circumposed about a bolt 34 which is secured to the plunger 30. The other end of the coil spring 33 is circumposed around a short stud bolt 35 that projects from the end of the housing. The bolts 34 and 35 serve to insure that the spring 33 will be correctly aligned.

Carried by the plunger 30 is a plurality of spaced firing pins 36 which are adapted to project through the openings 28 in the plate 27 and into engagement with the blank cartridges 29 to detonate or fire the latter upon forward movement of the plunger 30.

For maintaining the plunger 30 in a retracted or cocked position, as shown in Figure 2, a keeper or latch 37 is provided. The latch 37 is pivotally connected to a pair of spaced ears 38 which project from the cover 18, there being a pin 39 pivotally connecting the keeper 37 to the ears 38. The inner end of the keeper 37 is adapted to extend through an opening 60 in the cover 18 and engage with a recess 40 in one side of the plunger 30, Figure 3. A spring 41 is secured to the keeper 37 for normally urging the keeper 37 in engagement with the recess 40. The free end of the spring 41 slidably engages the portion of the

cover about the opening 60 through which the lower end of the keeper 37 extends. Thus the spring tensions the keeper in the position shown in Figs. 2 and 3, the spring 41 tends to resist the thrust provided by spring 33. Spring 41 also holds arm 44 in a position so as to keep the circuit completed whereby the bell 51 will keep ringing until the device is reset.

For acutating or pivoting the keeper 37, a plurality of feeler lines 42 are connected to the outer end of the keeper 37, Figure 1. Thus, in the event that a burglar contacts one of the keeper lines 42, the keeper 37 will be pivoted to the position showing in Figure 3, whereupon the plunger 30 will be forced forwardly by the coil spring 33.

Further, the burglar alarm of the present invention includes an electrically operated bell or sounding device which further serves to warn the occupants of the building and scare away the burglar.

Thus, it will be seen that a cable or line 43 connects the outer end of the keeper 37 to an arm 44. Carried by the arm 44 is a terminal 45 which is mounted for movement into and out of engagement with a terminal 46 that is mounted on an arm 47. A suitable source of electrical energy, such as a battery 48, is connected to the arm 44 by a line 49, and a line 50 electrically connects the battery 48 to the bell or buzzer assembly 51. A line 52 electrically connects the bell assembly 51 to the arm 47.

In use, the housing 10 is secured to any suitable supporting structure, and after the cover 18 has been removed, the base 25 is loaded with blank cartridges 29. Then, the cover 18 is replaced on the housing 10, and the spring levers 24 serve to maintain the cover on the housing 10. The user then retracts the plunger 30 by means of the pins 31, and then the inner end of the keeper 37 is moved into engagement with the recess 40 on the plunger 30, so that the plunger 30 is maintained in its retracted position. In the position of Fig. 2 the keeper has passed its center of balance on the pin 39. Thus the spring 41 will urge the keeper into the position of Fig. 2 to retain the plunger 30 in its retracted position. The feeler lines 42 are connected to a window, door, or may be extended across a field. Then, in the event that a burglar surreptitiously opens the window or trips the feeler line 42, the keeper 37 will be pivoted to the position shown in Figure 3, whereupon the coil spring 33 will force the plunger 30 forwardly. As the plunger 30 moves forwardly, it carries the firing pins 36 into engagement with the blank cartridges 29 so that the cartridges are detonated whereupon the occupants will be warned and the burglar will be frustrated. At the same time, pivotal movement of the keeper 37 will cause the terminal 45 to move into engagement with the terminal 46 so that the circuit leading to the buzzer 51 will be energized whereupon a further alarm will be sounded to insure that the burglary will be frustrated.

Further, the various parts of the device are made of fireproof material, and the exhaust gases are adapted to be emitted through the openings 19 in the cover 18 on the housing 10. If desired, the cartridges can be filled with tear gas to further harass the burglar. When the alarm is not needed, it can be readily disconnected so as to prevent accidental actuation thereof. Since there is a plurality of the cartridges 29, even though one of the cartridges may be defective, the device will still work. The feelers 42 are preferably arranged so that dogs, cats, hogs and the like will not accidentally give the alarm. Further, the cost of operating the alarm is very small.

From the foregoing, it is apparent that applicant has invented a universal burglar alarm. If desired, the burglar alarm of the present invention can be arranged so that an electric light may be energized when the alarm is actuated. However, it is to be understood that the universal burglar alarm can be used in places which do not have electricity. The alarm gong or bell may be of the type which is hand wound. The primary alarm emits noise but no fire. If desired, tear gas cartridges may be used in the alarm to harass and frustrate the burglar. The number of cartridges and also the number of feeler lines may be varied as desired so that many different places can be protected by this universal burglar alarm.

What I claim:

1. In a burglar alarm, a housing having an open top, a cover for closing the open top of the housing, a pair of spring catches carried by the housing and adapted to engage the cover to retain said cover on said housing, a base member in said housing intermediate of the ends thereof, a plurality of spaced parallel sockets in said base member, a plate fixed to the base of said housing within said housing, and said base member is secured to said plate and said plate is provided with openings in alinement with the sockets in said base member, cartridges in said sockets, a plunger slidably mounted in said housing, firing pins carried by said plunger adapted to engage the cartridges for the firing thereof, said housing having longitudinally extending slots in the opposite sides thereof, pins extending outwardly of said plunger on both sides thereof and engaging said slot to guide said plunger in said housing, extensions mounted on the rear of said plunger and in the housing at the rear of said plunger in alinement with each other, a spring on said extensions to urge said plunger toward said plate, a pair of upstanding apertured ears on said cover and said cover provided with an opening between said ears, a keeper pivoted in said ears having one end thereof extending through said opening, and engaging a notch in the upper surface of said plunger, a spring on said keeper adapted to engage the cover about the opening and retain the keeper in engagement with the notch in the plunger and the plunger in retracted position, and a plurality of feeler lines connected to said keeper for actuating the same, and openings in said cover for the egress of exhaust gases from said housing.

2. In a burglar alarm, a housing including spaced parallel end walls and spaced side walls extending between said end walls, a cover supported on the upper end of said housing, there being a plurality of openings spaced in said cover for egress therethrough of exhaust gases, a pair of spring levers for maintaining said cover on said housing, a base positioned on said housing intermediate the end walls thereof, said base being provided with a plurality of spaced parallel sockets therein for holding cartridges, a plunger slidably arranged in said housing, there being opposed slots in the side walls of said housing, pins projecting from said plunger and through said slots, a plurality of spaced firing pins carried by said plunger and adapted to detonate said cartridges, a coil spring interposed between said

plunger and one of the end walls of said housing for normally urging said plunger toward said base, a keeper for selectively holding said plunger in recoiled position, a plurality of feeler lines connected to said keeper and adapted to disengage said keeper from said plunger.

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