United States Patent [19]

Fegley

[11] **3,806,000**

[45] **Apr. 23, 1974**

[54] **ANTI-BURGLARY IRRITANT SPRAYING DEVICE**

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[52] **U.S. Cl.** **222/180,** 222/402.14

[51] **Int. Cl.** **B65d 83/14**

[58] **Field of Search** 222/5, 78, 79, 174, 180, 222/182, 183, 394, 396, 397, 402.14

[56] **References Cited**

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Primary Examiner—Stanley H. Tollberg
Assistant Examiner—Larry Martin

[57] **ABSTRACT**

A chemical irritant spraying anti-burglary device in which a chemical irritant such as tear gas is discharged into the area to be protected when an intruder opens a window or opens a door or enters an unauthorized area with which the device is associated. The anti-burglary device employs a spring biased firing member for discharging a chemical irritant from a pressurized container. An improved means for releasibly retaining the firing member in a cocked position and for triggering the same to release the chemical irritant is described.

2 Claims, 6 Drawing Figures

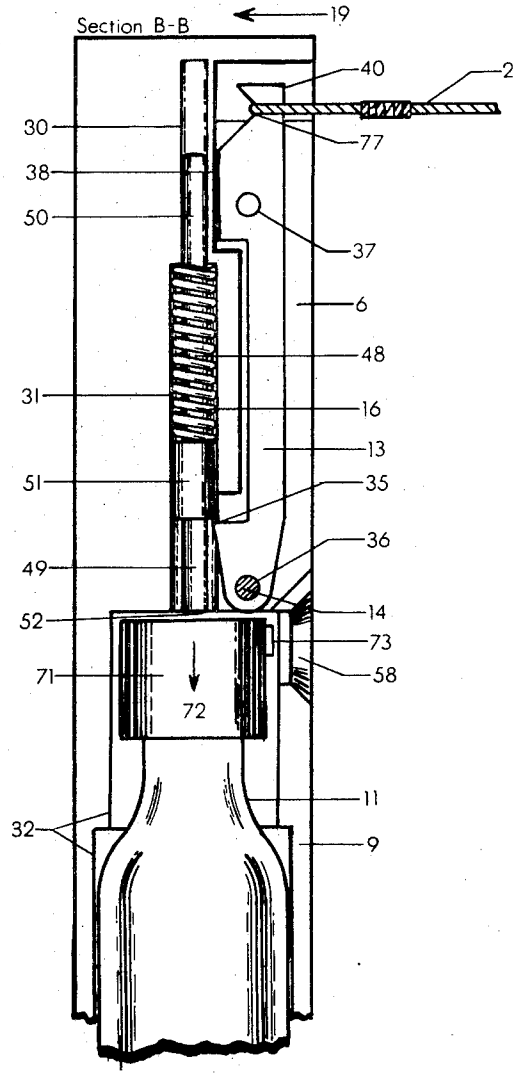


FIGURE 1

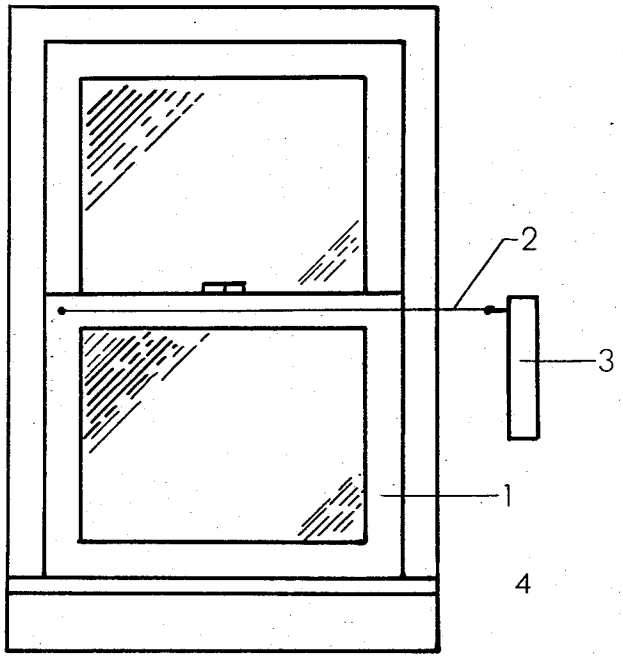


FIGURE 2

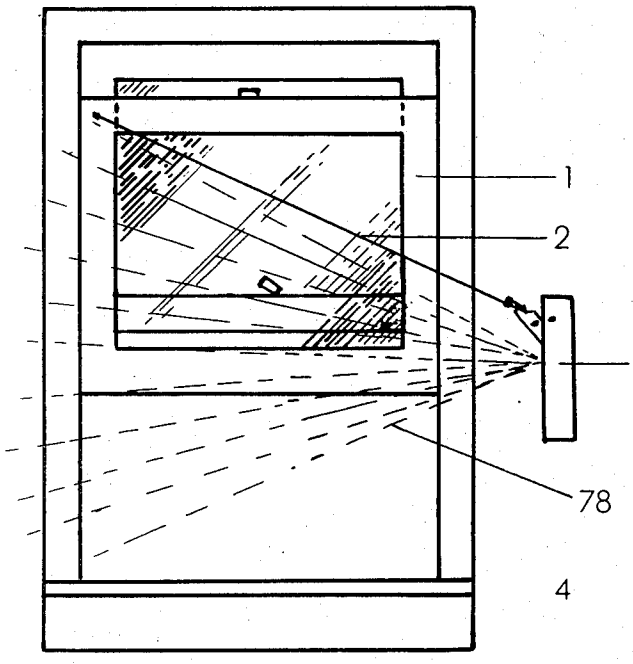


FIGURE 4

Section A-A

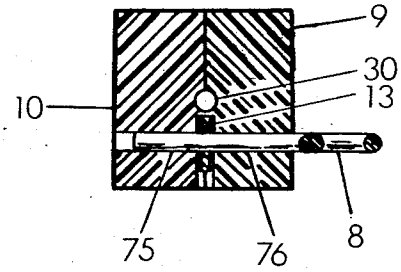


FIGURE 3

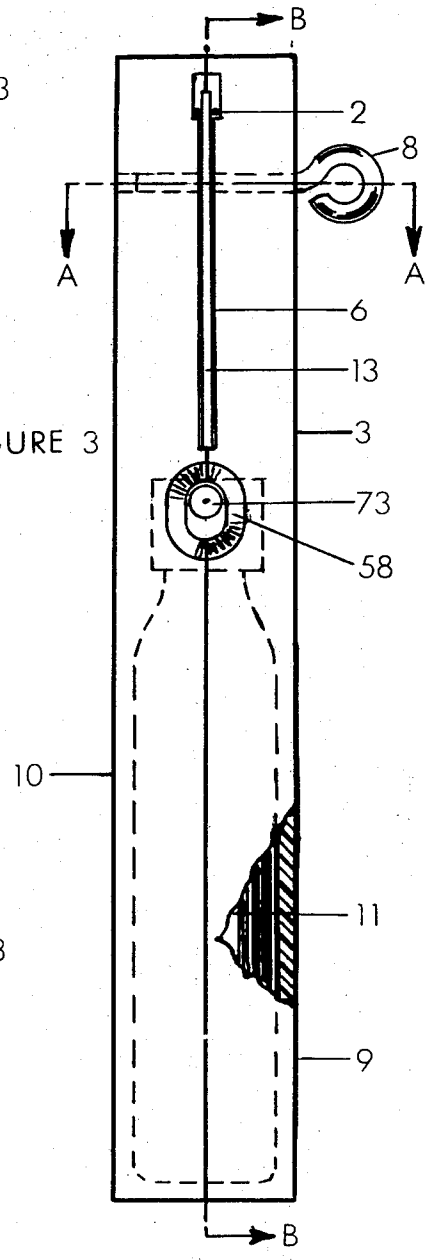


FIGURE 5

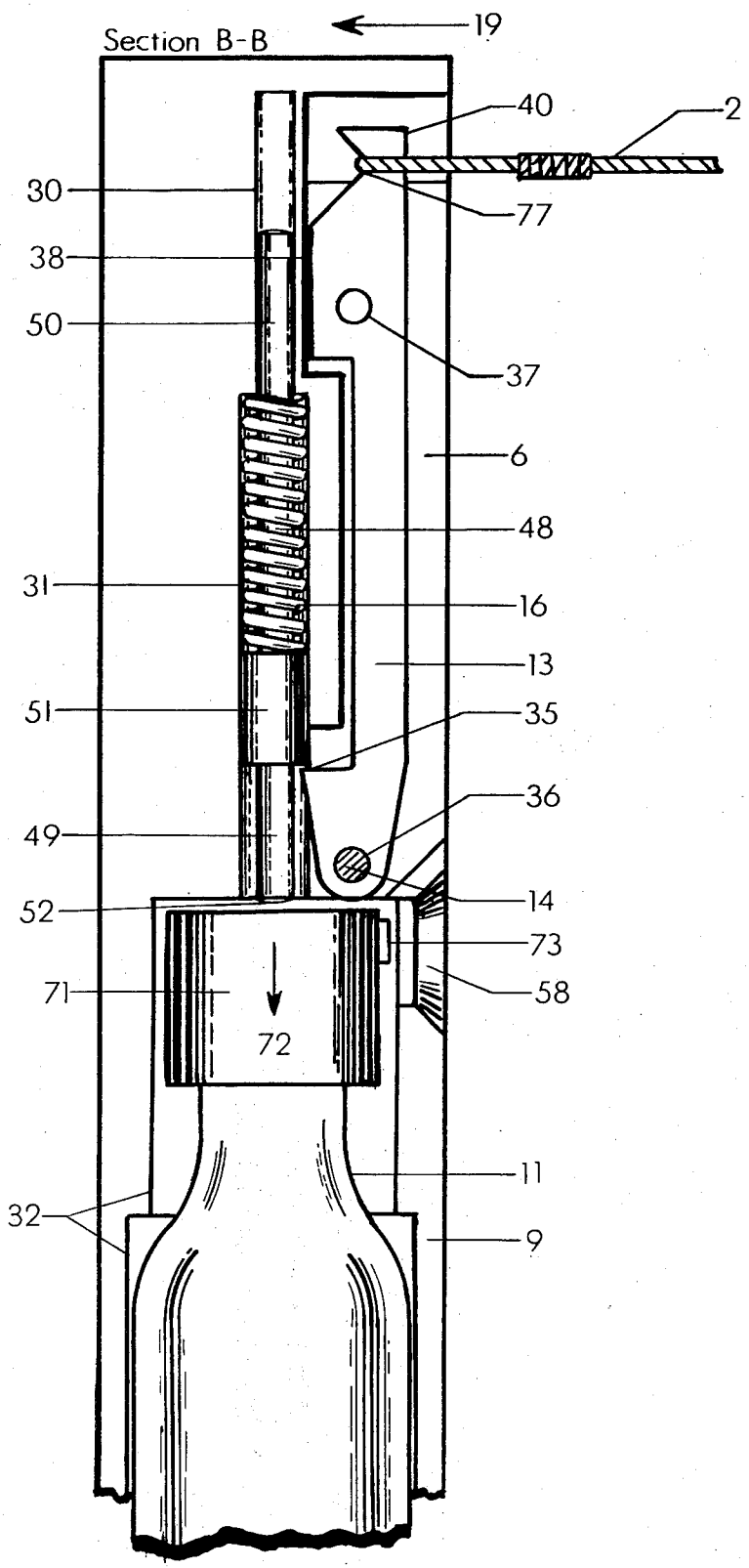
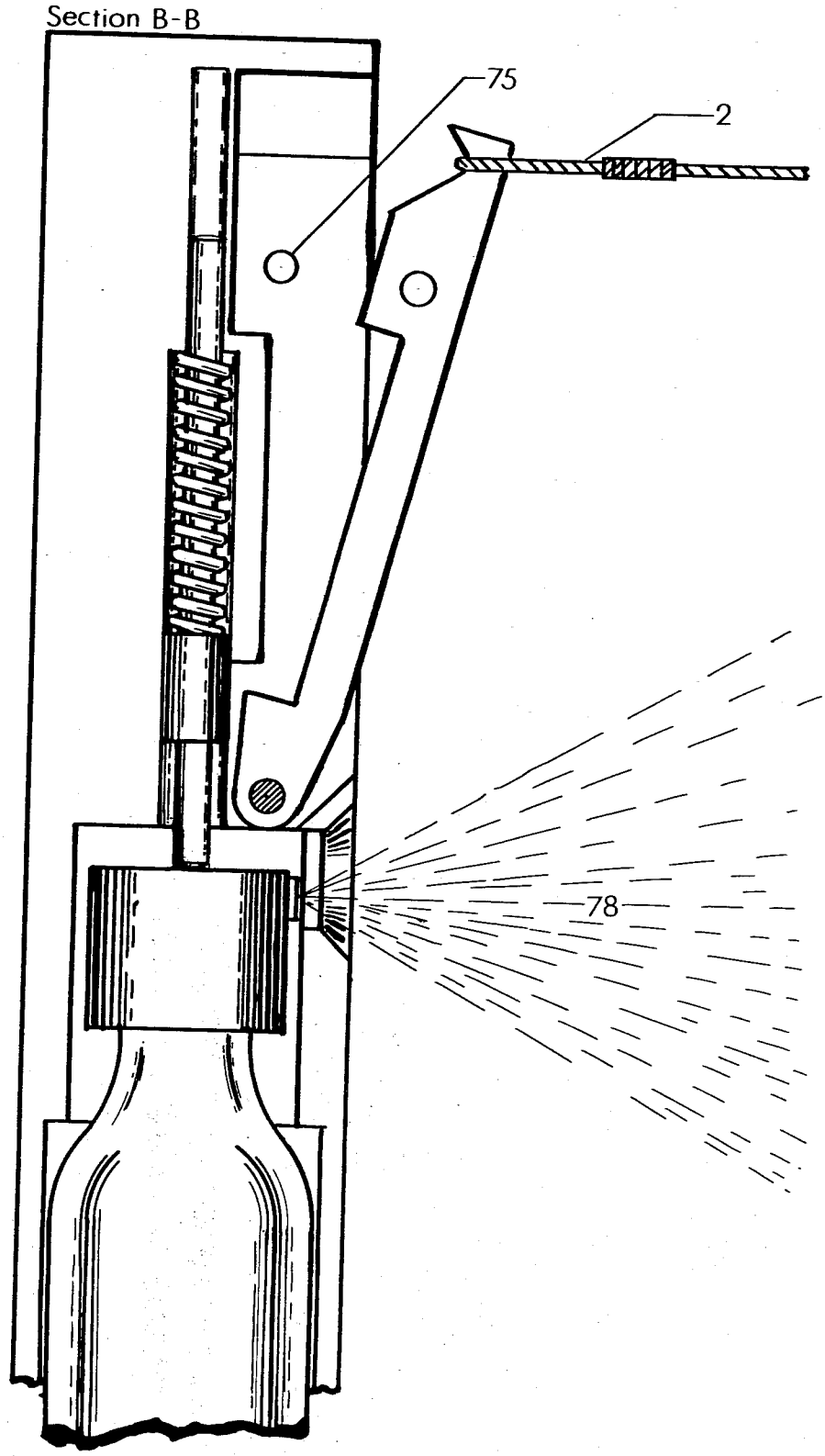

Section B-B
19
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2
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50
37
6
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13
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71
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72
11
32
9

FIGURE 6



ANTI-BURGLARY IRRITANT SPRAYING DEVICE

BACKGROUND OF THE INVENTION

The invention relates generally to an anti-burglary device and more particularly to a anti-burglary device which discharges a chemical irritant such as tear gas from a pressurized container of the aerosol type into a protected area upon activation by an unauthorized person, causing the protected area to be flooded with a chemical irritant and forcing evacuation of the protected area by the intruder.

Chemical weapons have been known in the art for many years. One type of chemical weapon is the conventional tear gas grenade in which the firing member is generally triggered manually and the gernade is manually hurled at a target area, causing the target area to be flooded with the chemical irritant.

In another type of chemical weapon, the chemical irritant is stored under pressure in an aerosol type container. The firing member is again generally triggered manually and the chemical irritant in the form of a spray is manually directed at a target.

A third type of chemical anti-burgulary device discharges an explosive tear gas shell into the area but this type is both dangerous and very limited as to the amount of tear gas which is discharged into the area to be protected.

Thus, what is needed in an anti-burglary device in the form of a chemical irritant dispenser which can be fired by a relatively small amount of force, even though the chemical weapon employs a relatively heavy spring for actuating the firing member against the gas cartridge or other releasing element employed in this type of weapon, yet is positively secured against accidental release until triggered by an intruder, but will release a sufficient volume of tear gas into the protected area to force evacuation.

SUMMARY OF THE INVENTION

The principle object of the present invention is to provide an anti-burglary device of the chemical irritant dispensing type which may be triggered by a relatively small amount of force, yet is positively secured against accidental release.

A further object of the invention is to provide an anti-burglary device of the chemical weapon type which is readily triggered by a cord connecting the device to a window, door or object which might be moved by an intruder, or by an intruder entering an unauthorized area.

Another object of the invention is to provide an improved means of spraying or discharging the chemical irritant into the protected area in a minimum amount of time in order to force the intruder from the protected area and to prevent the intruder from reentering the protected area for a reasonable amount of time.

A further object of the invention is to provide an anti-burglary device having means for easily reloading the device and resetting the firing member of the weapon in its cocked position after the alarm has been triggered.

According to the principle aspect of the present invention, there is provided an improved means for releasably retaining a spring biased firing member of the anti-burglary device in its cocked position. Such means includes a trigger element adapted to be rotatably

mounted in a set position in the body member of the device. A cord, cable, wire or the like, connects the trigger element to a window, door or other object which might be moved by an unauthorized person entering a room or building, or across a walkway or other area from which it is desired to restrict unauthorized persons. When the trigger element is in its set position, it retains a rotatable latch element carried by one of the members in shouldered engagement with the other member, thereby retaining the firing member in its locked position. When the door or window associated with the device is opened by an unauthorized person, or when an object is moved by an unauthorized person or when the person enters the restricted area, the cord connected to the trigger element rotates the latter from shouldered engagement, thereby releasing the latching element and permitting the firing member to be thrust toward the chemical weapon in the device by the force of the spring associated with the firing member and causing the chemical irritant to be discharged into the protected area.

Since the latch element which serves to retain the firing member in its cocked position is rotatable, a relatively small amount of force is required to mount the trigger element in the body member and to position the latch element in shouldered engagement with the other member. Even more important, a relatively small amount of force is required to rotate the trigger element to discharge the chemical weapon, even though a relatively strong spring is employed for forcing the firing member toward the chemical weapon. As a consequence, the cord connected to the trigger element in the present invention will not break in triggering the chemical weapon. The resistance to movement of the cord due to its connection to the trigger element is sufficiently low so as not to be observed by an intruder. Nevertheless, the latch element serves to retain the firing member safely in its cocked position against accidental release.

The anti-burglary device of the chemical weapon type of the present invention may be utilized in homes, factories, farms, office buildings by connecting the cord attached to the trigger element of the device to doors, windows, machinery, appliances, etc. and may be used in connection with vehicles such as boats, trucks, airplanes, etc. The device may also be employed for any other application wherein it is desired to prevent unauthorized persons from moving certain objects. The device may further be utilized to prevent unauthorized persons from entering restricted areas by extending the cord connected to the trigger element a short distance above the ground across a walkway, entrance way, etc., into the area so that the intruder will strike the cord and thereby activate the mechanism and discharge the chemical irritant.

Once actuated, the spray cannot be turned off by the intruder and the entire amount of pressurized chemical irritant will be discharged into the protected area making it impossible for the intruder to remain in the protected area without having protective equipment.

Other objects, aspects and advantages of the invention will become apparent from the following description taken in connection with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

Referring now to the drawings in detail, wherein like

reference characters designate like parts throughout the various views, there is shown in FIGS. 1–6, one form of the irritant spraying device, called device hereafter, of the chemical weapon type according to the present invention, generally designated 3. The device is secured to a wall 4 and connected by means of a cord 2 to a window sash 1 in the wall so that upon opening of the sash by a burglar or other intruder, the device will be actuated to spray a chemical irritant 78 into the restricted area. The device whose front is shown in FIG. 3 comprises of a pressurized chemical irritant container 11 mounted between a right housing half 9 and a left housing half 10. The housing halves 9 and 10 when assembled provide three flat sides, other than the front, for mounting the device 3 to the wall 4 adjacent to the window sash 1 or elsewhere, as may be convenient, with double backed adhesive tape, not shown.

The coaxial cylindrical bores 30, 31 and 32, as shown in FIG. 5, are formed when the symetrically opposite housing halves 9 and 10 are joined together as shown in FIGS. 3 and 4. The cylindrical bores 30 and 31 slidably mount a cylindrical plunger 48 which is coaxial with bores 30 and 31. The cylindrical plunger 48 forward section 49 which is separated from the top main body section 50 of the plunger by means of an annular flange section 51.

The top main body section 50 of the plunger 48 is slidably mounted in bore 30 which is coaxial with the bore 31 while the annular flange section 51 is slidably mounted in bore 31.

The stepped cylindrical bore generally designated 32 mounts the pressurized chemical irritant container 11 which is held in proper position. The pressurized chemical irritant container 11 of which one type is sold by the Middlewest Marketing Co., 216 South Hoyne St., Chicago, Ill. identified as their "28CC Protector" but the invention is not limited to the use of this container. The container 11 comprises of a spring urged cap 71 which when pressed in the direction of arrow 72 discharges a chemical irritant 78 through nozzle 73.

The housing halves 9 and 10 also form a conical hole 58 to provide a means for the irritant 78 to be released from the nozzle 73 to pass through the housing when the cap 71 is depressed.

A coil spring 16 surrounds the main body section 50 of the plunger 48 between the top end of bore 31 and the annular flange section 51 of the plunger.

The plunger 48, in the position illustrated in FIG. 5, is in its cocked position where the spring 16 is compressed and the plunger end 52 is spaced from the cap 71 of the container 11. The plunger 48 is releasably restrained in said cocked position by a trigger 13 which is best seen in FIG. 5. The trigger is generally a flat member and includes a latch element 35 and holes 36 and 37 best seen in FIGS. 5 and 6. The trigger element is rotatably mounted on pin 14 and slidably mounted in slot 6 formed by the housing halves 9 and 10. The latch element 35 of trigger 13 engages the flanged section 51 of the plunger 48. The spring urged plunger 48 acting on latch element 35 causes trigger 13 to rotate in the direction of arrow 19 and therefore will be held against the left most end 38 of slot 6 formed by the housing halves 9 and 10, thus retaining the plunger in its cocked position.

The plunger 48 may be locked in its cocked position, and the trigger 13 in its set position by means of a safety pin 8. The pin 8 passes through a passage 75 in the left housing half 10, a passage 37 in the trigger 13 and a passage 76 in the right housing half 9 as shown in FIGS. 3, 4 and 5. All passages are transverse to the longitudinal axis of the plunger and are aligned when plunger 48 is in its cocked position as seen in FIGS. 3, 4 and 5.

A notch 77 is provided near the top end 40 of trigger 13. The looped cord 2 is connected at one end to the window sash 1 and at its other end to the trigger 13 by being looped over trigger 13 to engage in notch 77. When it is desired to place the device in condition for firing upon opening of the sash 1, the safety pin 8 is removed from passages 76, 37 and 75. If the window sash 1 is opened by a burglar or other intruder, the cord 2 will rotate the trigger 13 moving the trigger element 35 out of engagement from flange section 51 of the plunger 48, and permitting the plunger 48 to be thrust toward the cap 71 of the cylinder 11 by means of the spring to the position illustrated in FIG. 6. In such position, the plunger 48 depresses the cap 71 of the cylinder 11 causing the chemical irritant 78 to be discharged into the protected area as shown in FIG. 2.

After the device has been fired in the manner described herein above, the housing halves are separated to replace the cylinder 11 after recocking the firing plunger 48 and trigger 13 as shown in FIG. 5.

It is an important feature that the trigger 13 be rotatable and that the trigger element 35 slide freely on the flange section 51 of the plunger 48 and, hence, present a surface which will ride smoothly when the trigger is pulled. As a consequence, the trigger 13 may be easily withdrawn from engagement without substantial force. Yet, when the trigger 13 is positioned in engagement with flange section 51 of the plunger 48 it serves to positively retain plunger 48 in its cocked position. Hence, substantially less force is required to trigger the device 3 of the present invention than would be required if the plunger were retained in its cocked position by means of a transversably extending trigger pin, yet, the plunger is still safely retained in its cocked position against accidental release by plunger retaining means 8.

Another important feature is that the spring 16 be of substantial force so that the plunger 48 will depress the cap 71 sufficiently to cause the chemical irritant 78 to be discharged from the nozzle 73 of cylinder 11.

Although I have herein shown and described my invention in what I have conceived to be the most practical and preferred embodiments, it is recognized that departures may be made there from within the scope of my invention, which is not to be limited to the details disclosed herein, but it is to be accorded the full scope of the claims so as to embrace any and all equivalent structures and devices.

What is claimed is:

1. A chemical dispensing anti-burglar device for use with a pressurized container including a projecting dispensing cap actuated to emit fluid discharge therethrough upon depression, the device assembly comprising: a body member; a means for supporting said pressurized container in said body member; an aperture in said body member in communication with said cap; a spring biased firing member supported in said body member arranged to actuate said dispensing cap thereby discharging said pressurized container through said cap and aperture when said firing member is released; means for releasably retaining said firing mem-

ber in a cocked position displaced from said pressurized cap; said retaining means including a trigger element; said trigger element being mounted for rotatable movement within said body member between an actuation position and a release position; said trigger element in said actuation position in shouldered engagement with a surface of said firing member to retain said firing member in said cocked position; and said trigger in said release position allowing said firing member to depress said cap to cause discharge.

2. The chemical dispenser according to claim 1 wherein the said pressurized container support means include a stepped cylindrical bore within said body member for mounting said container and said support means for said firing member including two cylindrical bores in coaxial relationship to said stepped cylindrical bore for slidably mounting said firing member.

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