United States Patent [19]

Reed

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

[54] **INTRUDER REPELLER AND BURGLAR ALARM**

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[51] **Int. Cl.** **G08b 13/08**

[58] **Field of Search** 116/6, 16, 67, 75, 81, 116/85, 86, 100, 112, 94; 109/20, 21, 29, 31, 38, 32, 33, 43; 340/297, 304

[56] **References Cited**

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378,317	2/1888	Iske	116/94
468,557	2/1892	Andrews et al.	116/94
1,184,550	5/1916	McMahon	116/86
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3,299,960	1/1967	Stern	116/112 UX
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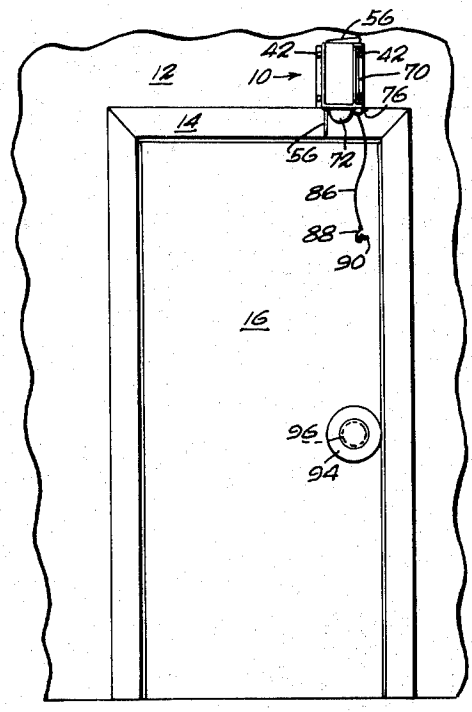
338,382	11/1959	Switzerland	116/67

Primary Examiner—Louis J. Capozi

[57] **ABSTRACT**

A combination intruder repeller and audible burglar alarm for fixed mounting relative to a swinging closure means, such as a door or swinging window, through which an intruder may gain unlawful entry. The device comprises a housing for the reception of a gas cartridge to be mounted relative to a swinging house closure means, and a burglar alarm and trip means attached between the closure means and the gas cartridge and burglar alarm whereby both are simultaneously activated when the closure means is opened.

7 Claims, 3 Drawing Figures



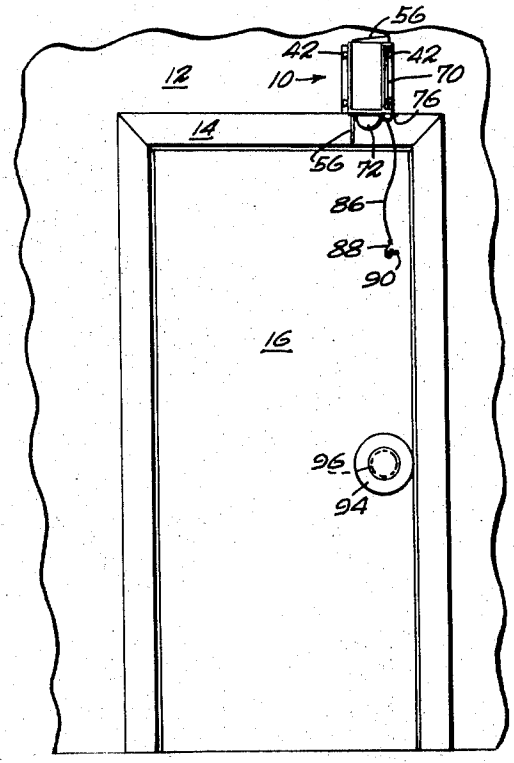


Fig. 1

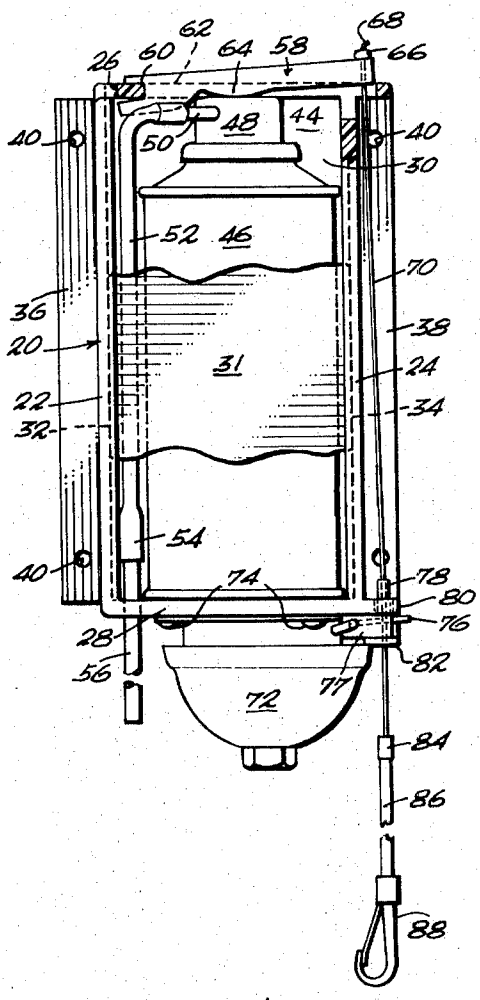


Fig. 2

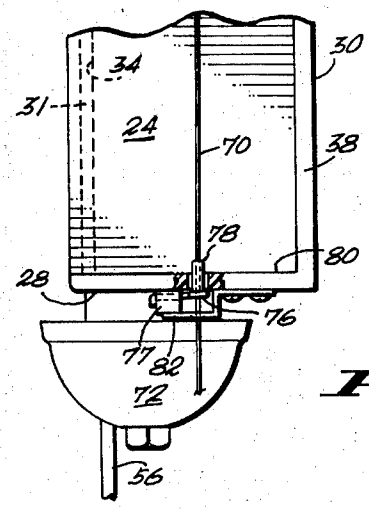


Fig. 3

INTRUDER REPELLER AND BURGLAR ALARM

STATE OF THE PRIOR ART

Prior art U.S. Pat. No. 3,322,078 to A. J. MacDonald discloses a combination repeller and alarm system which is mounted exterior of a house, in a box extending across the entire top portion of a window screen. By means of a quite complicated mechanical assembly, a pair of gas cartridges and an alarm are actuated when the screen is moved. This movement trips a latch which releases a prewound, spring-loaded rod, extending substantially across the length of the box. The resulting rotational movement of the rod imparts a like movement to a plurality of levers which actuate the gas cartridges and audible alarm.

U.S. Pat. No. 2,721,532 discloses a prowler alarm interconnected with a door by means of a fine wire or thread. Movement of the door releases a prewound, spring-loaded clapper mechanism which strikes a spiral spring gong.

Gas cartridge actuated air horn devices have been used to provide an audible signal when the doors of vending machines or the like are tampered with such as disclosed in U.S. Pat. No. 3,451,369 to N. I. Leve and Leonard E. Raiffie. In general, this device and others of similar nature include means, connected to a door of the machine, which releases the compressed gas in the cartridge for passage through an air horn or the like to provide an audible signal when the door is opened in any manner by an unauthorized person.

BACKGROUND OF THE PRESENT INVENTION

The present invention provides a combination intruder repeller and audible alarm signal when an intruder attempts to gain unlawful entry to a private residence, office or the like. A housing containing a cartridge of compressed gas such as tear gas, mace, or colored dye or the like is mounted adjacent to an exterior opening, normally closed by a swinging door, window or the like. An audible alarm signal device is attached to the housing and both the gas cartridge and alarm device are provided with respective trigger means which are operably associated with one end of a flexible line. The second end of the flexible line is attached to the swinging closure means whereby movement from a closed to an open position causes simultaneous operation of the gas cartridge and the audible signal device.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is an elevational view, from the interior of a building structure, of an outside door having the combination intruder repeller and burglar alarm of the present invention connected thereto;

FIG. 2 is an enlarged elevational view of the device of the present invention with parts broken away to better illustrate the invention; and

FIG. 3 is a fragmentary side elevational view of the bottom portion of the device as viewed from the right-hand side in FIG. 2.

DETAILED DESCRIPTION OF THE DRAWINGS

With reference to the drawings in which like reference numerals designate like or corresponding parts throughout the several views and with particular reference to FIG. 1, the numeral **10** generally indicates the intruder repeller and burglar alarm of the present invention, mounted to a wall **12** above the door frame **14** of a conventional door **16.**

FIG. 1 illustrates a preferred application of the present invention but is not intended as a limitation of its uses. FIG. 2 illustrates a housing, indicated generally at **20,** comprised of opposed side walls **22** and **24,** top and bottom walls **26** and **28** and back wall **30.** A removable front closure door **31** is illustrated in sliding engagement at opposite edges in opposed tracks **32** and **34** formed adjacent the outer edges of the side walls **22** and **24,** however, any type of conventional door closure may be employed to achieve the maximum degree of convenience and aesthetic value.

Opposed flanges **36** and **38** project outwardly beyond the side walls **22** and **24,** in a planar relation to the back wall, and provide holes **40** for the reception of conventional attachment means **42** (FIG. 1) to the wall **12.**

The housing **20** provides an interior chamber **44** for the reception of a pressurized gas container **46** of a conventional type, including a depressible cap **48** providing a discharge nozzle **50**; see, for example, the patent to Stern U.S. Pat. No. 3,299,960. A flexible tube **52,** attached to the nozzle **50,** is turned downwardly therefrom, extending through the chamber **44** to a point of attachment **54** to a semi-rigid tube **56** extending through the bottom wall **28** and projecting a predetermined distance downwardly therefrom.

A first trigger **58,** pivotally attached at one transversely bifurcated end **60** in a slot **62** in the top wall **26**; see FIG. **2,** includes a downwardly extending, central projection **64,** normally in kissing contact with the top wall of the depressible cap **48** of the pressurized gas container **46.** The opposed end of the first trigger **58** is attached, as at **66,** to the upper end portion **68** of a cable or wire **70** extending downwardly therefrom exteriorly of the side wall **24.**

An audible alarm device, such as the bell **72,** is fixed exteriorly of the bottom wall **28** by attachment means **74.** A second trigger means **76** associated with the bell **72,** is fixed at **78** to the cable or wire **70** intermediate its length. The alarm bell **72,** illustrated in FIGS. **2** and **3,** is of a commercially available type which includes a spring motor device which, when wound, is actuated by tripping the second trigger means **76,** pivoted in the bottom extension **77**; see, for example, U.S. Pat. No. 2,721,532 earlier-mentioned.

The cable or wire **70** extends downwardly beyond the attachment **78** to the second trigger means **76,** through an outwardly extending flange **80** from the bottom wall **28** and a guide bracket **82,** to a point of attachment **84** to a flexible line **86** terminating in a hook means **88** at its lower distal end. As illustrated in FIG. **1,** the hook **88** on the flexible line **86** is attached to a screw hook **90,** or the like, fixed to the door **16.** As illustrated, sufficient slack is provided in the line **86** to permit the door to be opened a predetermined distance before the slack in the line **86** is taken up. Further inward movement of the door actuates the first trigger to depress the cap **48** to discharge the pressurized gas contents of the container **46** downwardly through the tubes **52** and **56** and to simultaneously trip the second trigger **76** to sound the alarm **72.**

In operation, the device of the present invention is fixed to a wall relative to a swinging closure means such as the door **16.** The semi-rigid tube is directed to discharge the contents of the pressurized gas container **16**

directly toward an intruder when the door or the like is opened sufficiently to expose the intruder to the spray from the semi-rigid tube **56.** Simultaneously, the audible alarm **72** is sounded to warn of the presence of the intruder.

The flexible line **86** may be removably attached to the cable or wire **70,** at **84,** by appropriate hook means, for example, to permit removal thereof during periods of deactivation of the device. Safety means may also be provided to remind occupants inside of the premises that the alarm and repellant system is activated. The safety means may take the form of an enlarged snap-on cover **94** for the door knob **96** which makes it impossible to obtain a grip thereon to open the door from the inside; thus one being apprized of the activated system, would first detach hook **88** from hook **90** to de-activate the system, and would then remove cover **94** so knob **96** is accessible to open the door **16.**

What is claimed is:

1. An intruder repeller and burglar alarm device comprising in combination:

A. a housing mounted relative to a displacable closure means controlling an access through which an intruder may gain unlawful entry to a premises;

B. a pressurized gas cartridge, disposed in an interior chamber of said housing and including a discharge nozzle from a depressible cap, operable to discharge the pressurized gas in the cartridge;

C. separate, self-energized audible alarm means fixed to said housing;

D. a discharge tube, connected to said discharge nozzle, directed toward said access opening to spray an intruder with the contents of said cartridge when said swinging closure means is moved away from the access opening;

E. a first trigger means, associated with said depressible cap;

F. a second trigger means, associated with said audible alarm means;

G. connecting means operatively connected between said first and second trigger means and the displacable closure means whereby said first trigger means is actuated to depress said cap to discharge the pressurized gas and said second trigger means is simultaneously actuated to sound said alarm means when said closure means is moved from a closed to an open position relative to the access opening.

2. The device as defined in claim **1** wherein said first trigger means comprises a lever pivotally mounted at one end in a slot on said housing, over the depressible cap, including attachment means at a second end to a first portion of said connecting means, said lever including a downwardly extending projection, intermediate said ends, normally in operable position, relative to the top surface of said depressible cap whereby "opening" of the displacable closure pivots the lever and depresses the cap.

3. The device as defined in claim **2** wherein said second trigger means comprises a pivotal lever, mounted in said housing, including a first end in releasable engagement with said self-energized alarm means, said pivotal lever including a second end in operable engagement with said first portion of the connection means.

4. The device as defined in claim **3** wherein said connection means includes a second, flexible portion, attached to said first portion, said flexible portion providing detachable attachment means to the displacable closure means.

5. The device as defined in claim **4** including detachable connection means between said first and second portions.

6. The device as defined in claim **3** wherein said preenergized alarm means comprises a bell provided with a wind-up type of spring motor, said second trigger means being normally positioned to hold said bell in a normally wound-up condition.

7. The device as defined in claim **1** wherein said displacable closure means comprises a swinging door, and snap-on safety means mounted over a door knob, at the interior of the door said snap-on means being configurated to render it impossible to grasp and turn the door knob.

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