April 10, 1962 E. C. FORRESTER 3,029,425

DOOR ALARMS

Filed Sept. 12, 1960

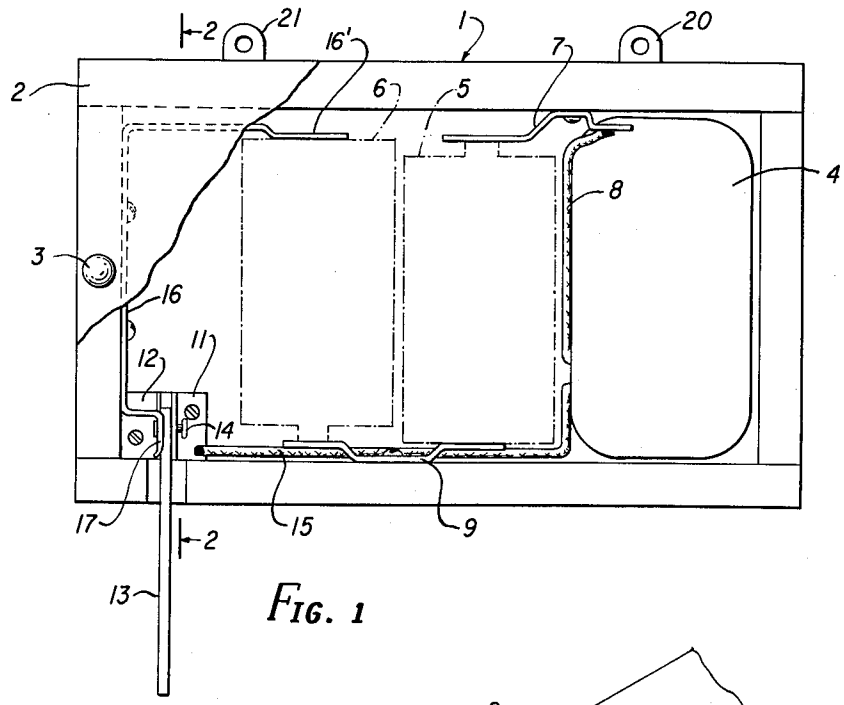
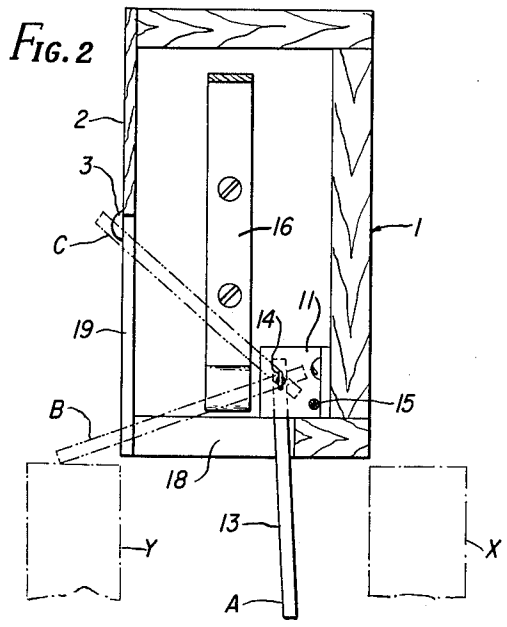


FIG. 1

FIG. 2



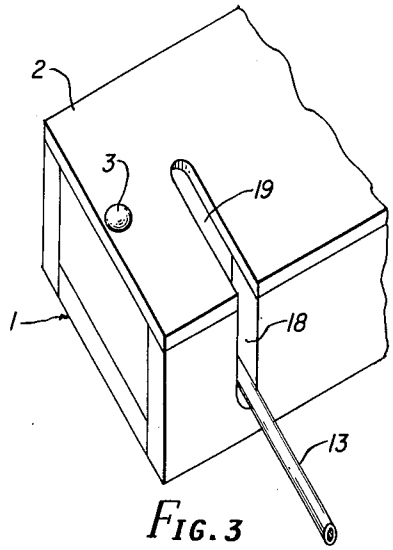


FIG. 3

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DOOR ALARMS

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My invention relates in general to improvements in door alarms and more specifically to an alarm device which is automatically operated when a door is opened to operate an alarm signal and maintain it operated independent of further movement of the door.

The alarm of my invention comprises an alarm circuit with a swinging arm for controlling the same. This arm is pivoted tightly in a friction joint so that it will stay put in any position in which it may be placed. The arm has three positions, one an operative position in the path of a door from which it may be moved to the second or alarm position by the opening of the door to close the alarm circuit, and the third position which is an inoperative or off position to which the arm may be manually moved to render the alarm inoperative. In this third position the door may be freely opened and closed without touching the arm.

I will now describe the alarm in detail having reference to the accompanying drawing in which:

FIG. 1 is a front view of the alarm with a portion of the cover removed.

FIG. 2 is a sectional view taken in the direction of the arrows along line 2—2 of FIG. 1.

FIG. 3 is a partial view of the alarm taken in perspective, showing the slots in the bottom and cover of the device in which the operating arm moves.

The alarm comprises a box 1, presently shown as being constructed of wood, but which may be formed from plastic or other material. A cover 2 is also provided which is slidable around the pivot 3 so that it may be turned about the pivot to change batteries or make repairs. Inside the box 1 is a buzzer 4 of any known type, and batteries 5 and 6. A terminal 7 provides a spring pressure against one end of battery 5 and is connected by wire 8 to one of the terminals of the buzzer 4. Another spring terminal at the bottom of the box forms the usual connection between the lower ends of batteries 5 and 6. The spring terminals 7 and 9 are secured to the box in any manner such as by the wood screws shown. At the lower left in FIG. 1 are brackets 11 and 12 secured to the back of box 1 by screws or the like, and the forward extending ends of the brackets have tension toward each other and form a frictional knife pivot for the arm 13 which is pivoted therein by the screw and nut 14 which may be tightened to exert pressure against arm 13. The bracket 11 is electrically connected to the end of wire 15 which is the other terminal of buzzer 4. At the left end of box 1 is secured another bracket 16 having an upper arm 16' which forms a spring terminal bearing against the upper end of battery 6. The lower end of bracket 16 is bent out and formed into the terminal 17 against which the arm 13 wipes as it is moved forward. The bracket 16 is fastened to the left end of box 1 by screws or the like as indicated.

The arm 13 is rotatable about its pivot point 14 in the slots 18 and 19 in the box and cover as shown in FIG. 3. The positions to which arm 13 may be rotated are shown in solid and dotted lines in FIG. 2 at A, B and C. The whole unit is mounted just above the door on the upper side of the frame by means of brackets 20 and 21. The position of the box relative to the door is shown in FIG. 2 where the door is shown just below box 1 in closed position X and open position Y.

In operation the arm 13 is placed in position A so that when the door is opened and moves to position Y, the arm 13 is moved to position B where it engages and makes electrical contact with terminal 17 to complete the buzzer circuit in an obvious manner. Due to the friction of the pivot joint, arm 13 will remain in position B independent of any further movement of the door, and keep the buzzer sounding. During the day or at times when it is desired to have the alarm ineffective, the arm 13 is moved manually to position C as shown in FIG. 2. In this position, the buzzer circuit is open and movement of the door does not affect the buzzer circuit, as it cannot engage or move the arm 13. At night or when it is desired to render the alarm effective, then the arm is moved manually to position A in which position it is again in the path of the door and will be moved to position B to close the alarm circuit when the door is opened.

Having fully described the operation of my improved alarm device it will be apparent that I have provided a very simple door alarm which is operated whenever the door is opened and is maintained operated. Also a simple manual movement of the arm renders the alarm inoperative. Various minor changes may be made in the construction of the device or the materials used without departing from the spirit of the invention.

What I claim is:

An alarm device for sounding an alarm when a door is opened, comprising a box containing a buzzer and a battery for operating the same with a normally open circuit for connecting the battery to the buzzer, said box mounted on the frame above a door opening and having an operating arm for closing said circuit when the door is opened after the alarm has been set, said box having a slot in two sides thereof, said arm pivoted by means of a frictional pivot inside said box and extending out through said slot, said arm movable about said pivot in said slot throughout a vertical arc from a lower operative through an intermediate operated to an upper inoperative position, said frictional pivot maintaining said arm in any position to which it is moved, a contact engaged by said arm in its operated position to complete said circuit, said arm placed in its lower operative position in the path of the door to set the alarm, said arm moved to its operated position by the door when opened to engage said contact to complete said circuit and sound the alarm, said arm moved manually from its operated to its inoperative position at the upper end of said slot to stop said alarm and maintain the circuit open with the arm out of the path of the door.

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