July 6, 1965 E. J. MAGNER 3,193,819

ALARMS FOR PARKING METERS

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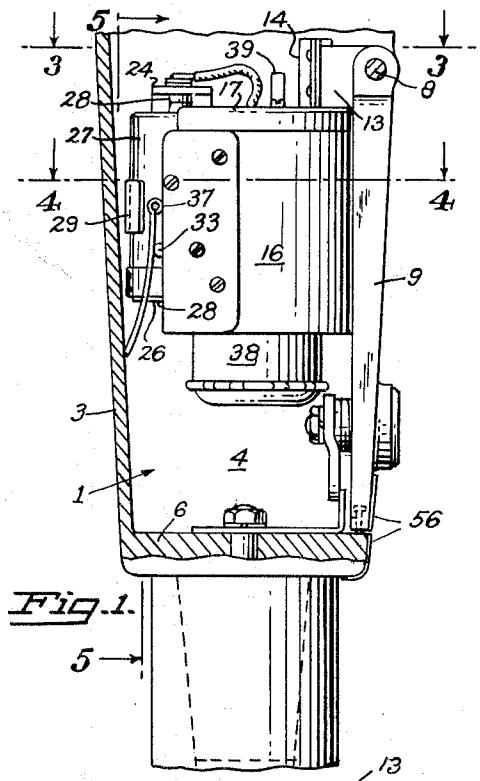


Fig. 1.

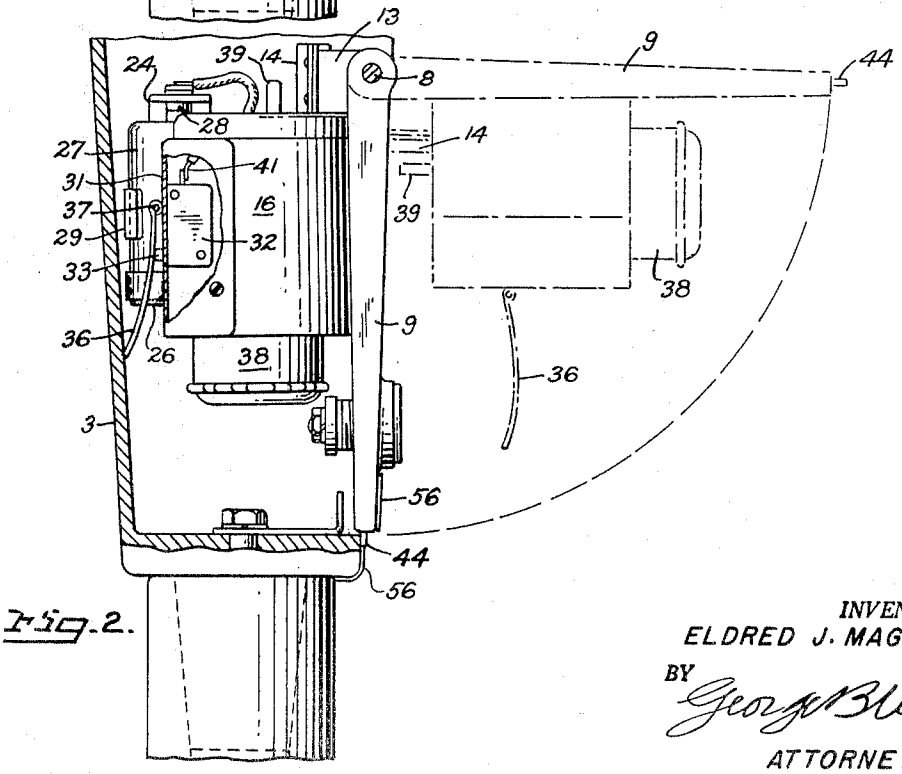


Fig. 2.

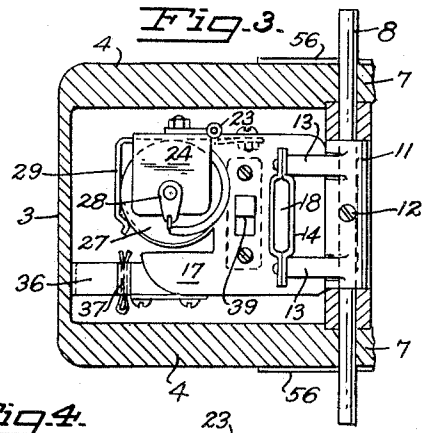


Fig. 3.

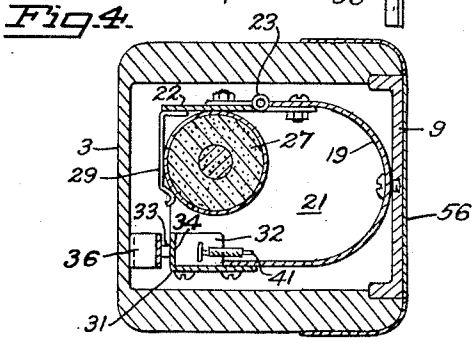


Fig. 4.

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Fig. 5.

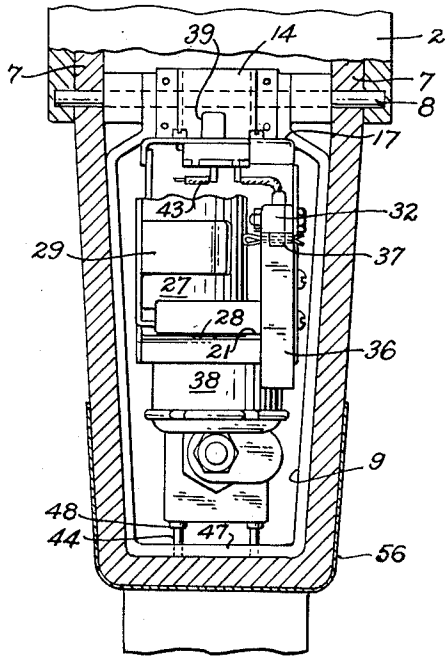


Fig. 6.

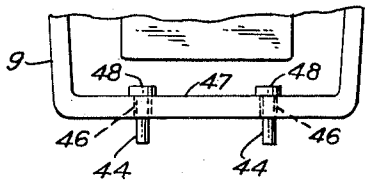


Fig. 7.

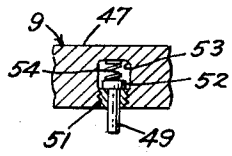
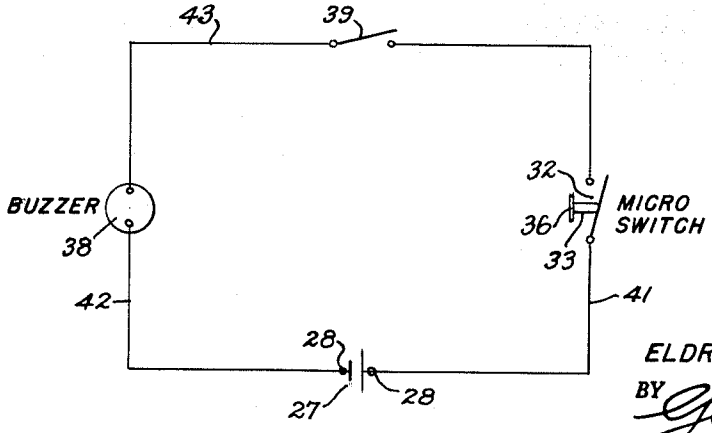


Fig. 8.



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ALARMS FOR PARKING METERS

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6 Claims. (Cl. 340—280)

This invention relates to alarms for parking meters.

The stealing of coins from parking meters is a sizable problem for communities. The collected coins in parking meters are stolen mainly by the use of master keys. The castings of parking meters are comparatively soft, hence by sawing through the door of the parking meter the usual lock can be removed and keys made to fit hundreds of similar parking meters. The constant watching of thousands of parking meters scattered all over a city is an impossible task, consequently thousands of dollars worth of coins are lost daily.

The object of this invention is to provide a deterrent and possible detection of culprits by automatically signalling of sounding an alarm at the parking meter when the door to the cash box is opened, means being provided to prevent the quick shutting of the door so as to continue the signal and thereby frighten the thief; means being provided also to take the fingerprints of the thief as the door and box is manipulated, yet the alarm device is concealed completely and cannot be detected.

FIG. 1 is a side view of the coin box and the alarm device in the coin compartment of the parking meter the side of the compartment being broken away.

FIG. 2 is a side view of the device on the door in closed position in the coin compartment of a parking meter partly in section exposing the automatic switch actuator, and showing the door and the device in open position in broken lines.

FIG. 3 is a cross-sectional view of the parking meter with the alarm device, the section being taken on lines 3—3 of FIG. 1.

FIG. 4 is another cross-sectional view of the parking meter and the alarm device the section being taken on lines 4—4 of FIG. 1.

FIG. 5 is a rear view of the alarm device on the closed door, the parking meter compartment being shown in section on lines 5—5 of FIG. 1.

FIG. 6 is a fragmental view partly in section showing gravity obstruction pins on the door.

FIG. 7 is a fragmental sectional view showing a spring pressed obstruction pin in the door.

FIG. 8 is a wiring diagram of the alarm device.

In the illustration herein only so much of the parking meter structure is shown that is pertinent to the alarm device. The timing mechanism and coin actuation, and time indicator and support post are omitted and only the coin compartment 1 is shown. In the type of parking meter herein illustrated the indicator and timing mechanism are above the coin compartment and are covered by a removable cover plate 2 shown fragmentarily in FIG. 5.

The coin compartment 1 has a back 3, sides 4 and a bottom 6. The top edges of the sides 4 have bearing flanges 7 formed at the open front thereof to accommodate a pivot pin 8 transversely across the top of open front of the coin compartment 1.

A door 9 is hung on the pivot pin 8 by means of a suitable hub 11 fixed on the pin 1 by means of a set screw 12. The door 9 is swingable out of the compartment opening from the closed position shown in full lines in FIG. 2 to the open position shown in broken lines in FIG. 2.

From the hubs 11 extend inwardly bosses 13. A coin chute 14 is secured to the bosses 13 in suitable alignment

with the path from the coin slot on the top of the parking meter not shown.

A coin box 16 is suitably fixed on the inside face of the door 9. The top 17 of the coin box 16 has a suitable slot 18 under the coin chute 14 through which the coins drop into the box 16. The box 16 has sides 19 and a bottom 21. As shown in FIG. 4 the box 16 herein is of generally U-shaped cross section.

On one side of the box 16 is swingably mounted a battery bracket 22 on a vertical hinge 23. This vertical bracket 22 has spaced flanges 24 and 26 respectively at the top and bottom thereof extending transversely in front of the box 16. A usual flashlight battery 27 fits vertically between the flanges 24 and 26 so that the opposite ends of the battery contact suitably insulated terminals 28 in the respective flanges 24 and 26. The top terminal 28 is shown in FIG. 3 and the bottom terminal is of the same construction on the bottom flange 26.

On the bracket 22 is a spring plate 29 which extends substantially intermediate between the flanges 24 and 26 across the front or outside of the battery 27 and bears against the battery to hold it in place.

On the side, opposite to the side on which the bracket 22 is mounted, is secured a vertical angle bracket 31 on which in turn is mounted a suitable microswitch 32. The button 33 of the switch 32 projects thru the flange 34 of the angle bracket 31 as shown in FIGS. 1, 2 and 4. An actuating finger 36 is pivoted at its upper end on a suitable hinge 37 so as to swing freely relatively to the switch button 33. The finger 36 is sufficiently pliant so that it may be suitably bent or shaped according to the space or clearance between the angle bracket 31 and the compartment's back 3 in such a manner that when the door 9 is closed the finger 36 is pressed against the back 3 and depresses the micro switch button 33 thereby to keep the micro switch 32 in circuit opening attitude.

In the electric alarm buzzer 38 of a suitable construction is mounted on the underside of the coin box bottom 21. A suitable manipulable switch 39 is mounted on the top 17 of the coin box, as indicated on FIGS. 1, 2 and 5.

An illustrative circuit is shown in FIG. 8 one terminal 28 of the battery 27 is connected to a terminal of the microswitch 32 by a conductor line 41, and the other battery terminal 28 to the buzzer 38 by another conductor line 42; the line 43 between the terminal of the microswitch 32 and buzzer 38 is interrupted by the manipulable switch 39 so that the circuit can be rendered inoperative by opening the manipulable switch 39. This switch 39 is covered by the top plate 2 which latter is usually locked in place by a separate lock not shown.

In order to prevent the quick closing of the door 9 a pair of obstruction pins 44 are slidably positioned in holes 46 through the inner bottom flange 47 of the door 9. The heads 48 of the pins 44 suspend the pins in position so that when the door 9 is swung open the pins 44 hang in obstructing position as shown in FIG. 6 and prevent the closing of the door 9 as shown in FIG. 2.

In the modified form shown in FIG. 7 the obstruction pin 49 is guided in a bushing 51 and the head 52 of the pin 51 is in a pocket 53 above the bushing 51. A coil spring 54 in the pocket 53 urges the pin 51 outwardly into obstructing position. The advantage of this structure is that the position of the obstructing pin 51 can be varied so as to project from the bottom flange or through either side edge of the door 9 and render it more difficult to find by unauthorized persons.

The exterior surfaces of the bottom 6 and sides 4 of the coin compartment near the door 9 and the lower portion of the door 9 are covered by a film of suitable emulsion indicated at 56, such as paraffin, adapted to bear

identifiable fingerprints of those who handle the parking meter.

In operation, when an authorized person is to empty the coin box the top plate 2 is first unlocked and removed permitting access to the manual switch 39. The operator turns "off" the manual switch 39 and then unlocks and opens the door 9 into the broken line position shown in FIG. 2, and finally swings the battery bracket out of the way and empties the coins into his collection bag. Then the operator locks the door 9 again, turns the manual switch 39 "on" to close the alarm circuit and finally locks the top plate again to protect the manual switch 39.

When an unauthorized person opens the door 9, as soon as the finger 36 is freed from the back 3 it releases the microswitch button 33 whereupon the microswitch 32 closes the alarm circuit and sounds the loud buzzer alarm signal. Any attempt to slam shut the door 9 is obstructed by the pins 44 or 49 and if the person fumbles with the door trying to force it shut he leaves firm fingerprints on the film 56. The culprit usually flees when he discovers that he cannot stop the alarm and also the alarm will draw attention to the attempted theft.

I claim:

1. In a parking meter having
(a) a compartment having an opening in a side thereof
(b) and a swinging door to cover an opening of the compartment
(c) an alarm device on said door comprising
(d) a coin box mounted on the inside of said door concealed in said compartment when said door is closed and adapted to receive coins inserted in the parking meter
(e) a normally closed switch mounted on said coin box
(f) an electrically actuated audible alarm mounted on said coin box,
(g) a source of electric current connected to said switch and said alarm for actuating said alarm when the switch is closed
(h) and a switch actuating element on said coin box coacting with a wall of said compartment when said door is closed for opening said switch.

2. In a parking meter defined in claim 1, and
(i) a second switch connected in series with said alarm and accessible from another part of said meter for breaking the electric circuit of said alarm at will.

3. In a parking meter defined in claim 1, and
(i) abutment elements movably in said door and engaged by the adjacent side of said opening to be held concealed in said door when said door is closed, and projectable from said door when the door is moved from said opening thereby to free said elements from said side, said abutment elements being of such length as to project beyond said adjacent side thereby to prevent the movement of the door into said opening far enough to press said actuator to said wall of said compartment thereby to prevent the opening of said switch.

4. In a parking meter defined in claim 1, and
(i) said electric circuit including a battery
(j) said coin box having an opening for removal of the coins therefrom
(k) a bracket obstructing said opening and detachably mounting said battery, said bracket being swingably mounted on said box so as to be movable out of said coin box opening.

5. In a parking meter defined in claim 1, and
(i) said electrical circuit including a battery
(j) a battery supporting bracket hinged on said coin box and supporting said battery
(k) said coin box having an access opening on the side thereof farthest from said door and said bracket forming a closure for said opening and being swingable to uncover said opening.

6. In a parking meter defined in claim 1, and
(i) abutment pins held in an edge of said door and being slidable into and out of said edge respectively into concealed and projecting positions, said pins being of such length as to be normally held concealed in the edge of said door by the adjacent side of said opening, and to project beyond the adjacent side of said opening when freed by the opening of said door thereby to abut said adjacent side and prevent the closing of said door, said actuating element being so spaced relatively in said wall that it is out of engagement with said compartment wall until said door is closed completely.

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