

- [54] **WARNING DEVICE FOR INDICATING LOCKED POSITION OF DOOR**
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- [51] Int. Cl. **G08b 13/06**
- [58] Field of Search **340/274; 200/61.64, 61.65, 200/61.67, 61.68**

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[57] **ABSTRACT**

A warning device for indicating locked position of door wherein a light bulb is mounted in a position so that its light may be seen from the exterior of the door. An electrical circuit is provided for the bulb and it includes a switch operated by a swingable arm, the arm engaging with a movable member of a door-locking mechanism and movable by the latter to close the switch and thus illuminate the bulb when the door is locked. However, the arm is movable into a position to open the switch and extinguish the light when the member is moved into door-unlocked position.

4 Claims, 3 Drawing Figures

[56] **References Cited**

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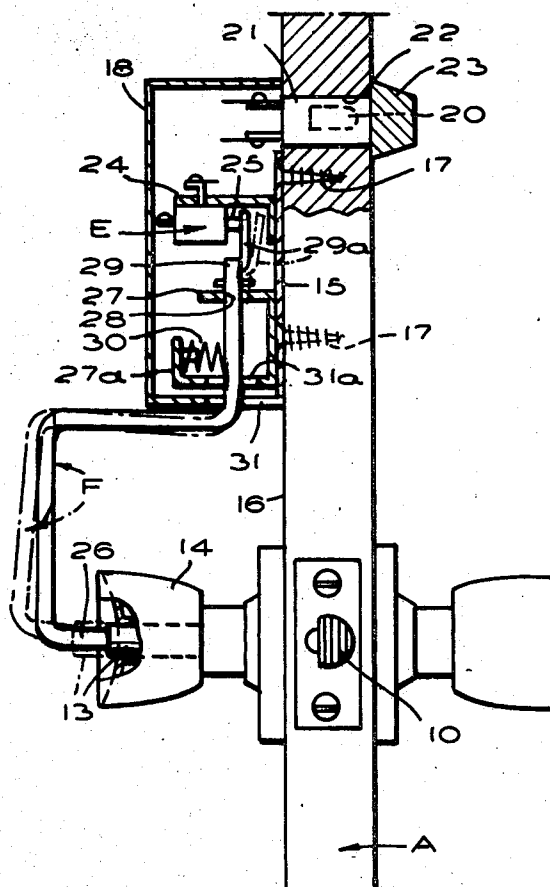


FIG. 1

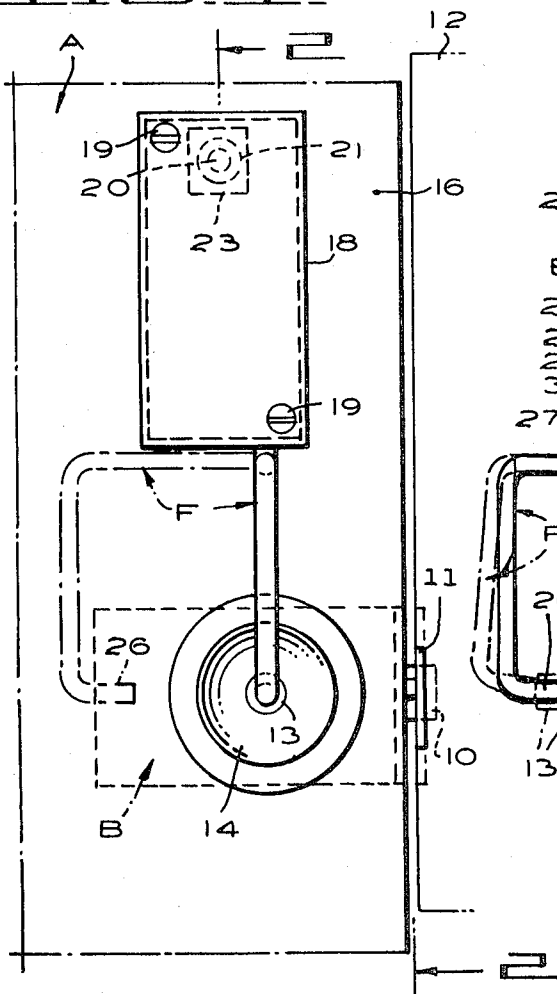


FIG. 2

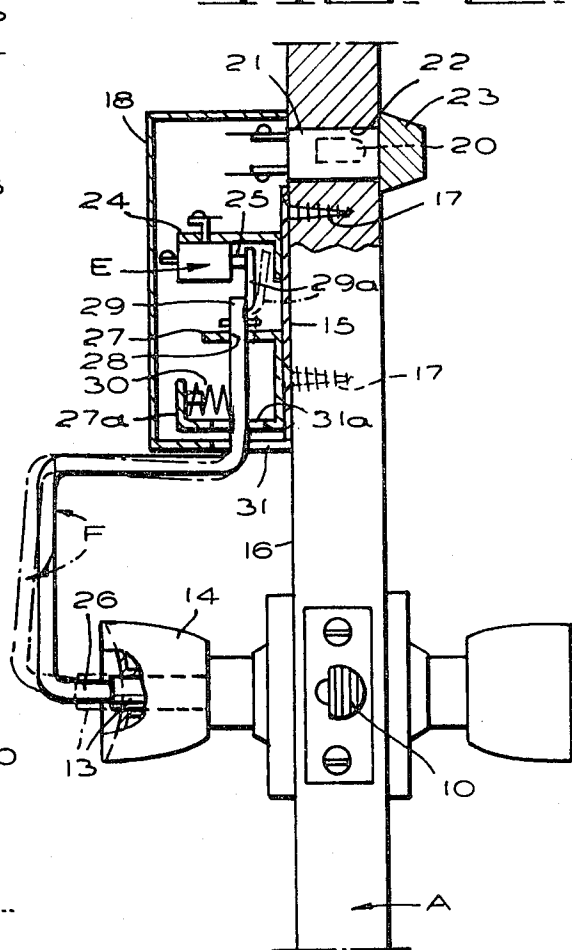
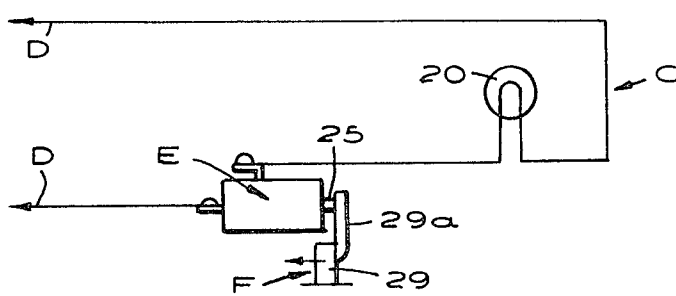


FIG. 3

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WARNING DEVICE FOR INDICATING LOCKED POSITION OF DOOR

SUMMARY

An object of the invention is to provide a warning device that may be readily attached to a door for indicating locked position of the latter, whereby a patrolman passing through the area may easily determine the locked or unlocked condition of a door by merely glancing toward the door.

Another object of the invention is to provide a warning device that may be used with various types of door locks, for example, a locking mechanism having an axially movable plunger mounted in an inner door knob. In any event, a light will be viewable from the exterior of the door whenever the latter is locked, thus facilitating and expediting the work of a patrolman making the rounds in the area.

Other objects and advantages will appear as the specification proceeds, and the novel features of the invention will be pointed out in the appended claims.

BRIEF DESCRIPTION OF THE DRAWING

For a better understanding of the invention, reference should be made to the accompanying drawing, forming part of this specification, in which:

FIG. 1 is a fragmentary view in elevation of the inner face of a door with my warning device applied thereto, the locking mechanism for the door including an axially movable plunger for actuating a swingable arm for closing and opening a switch;

FIG. 2 is a sectional view taken along the line 2—2 of FIG. 1, parts being shown in elevation;

FIG. 3 is a wiring diagram for the warning device shown in FIGS. 1 and 2.

While I have shown only the preferred embodiment of the invention, it should be understood that various changes, or modifications, may be made within the scope of the appended claims without departing from the spirit thereof.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring now to the embodiment of the invention, as in FIGS. 1 to 3, inclusive, a door A has been disclosed as being provided with a door-locking mechanism B, the latter having a bolt 10 that may be engaged with a keeper 11 on doorframe 12 for holding the door closed.

It will be seen that the locking mechanism B is provided with an axially movable plunger 13 mounted in an inner door knob 14, the mechanism being locked when this plunger or member 13 is depressed and unlocked when the plunger or member is extended relative to the knob 14 in the conventional manner, such a type of lock being well known in the art.

As disclosed in FIGS. 1 and 2, a mounting plate 15 is secured to the inner face 16 of the door A by any suitable fastening means, such as screws 17, and a casing 18 is mounted over this plate by screws 19 or the like.

Moreover, a light bulb 20 is mounted in a position so that its light will be seen from the exterior of the door A when the bulb is illuminated. As shown, this light bulb is contained in a tubular housing 21 mounted in an opening 22 formed through the door, and a colored reflector 23, here hatched to show the color green, is carried by the outer end of the housing 21. Of course, the color of the reflector may be changed, if desired.

As shown in FIG. 3, an electrical circuit C connects the bulb 20 to a source of electricity D, and a switch E is coupled into the circuit and has been shown as being supported by bracket 24 attached to the mounting plate 15. This switch includes a pushbutton 25 operable for closing and opening the circuit C. This switch may be of the microswitch type, if desired.

As an important structural feature, a swingable arm F is provided for engaging with the pushbutton 25 for closing and opening the switch E when the arm is moved in one direction or the other, respectively. It will be observed that the arm F has its lower end 26 engaging with the plunger or member 13.

When the plunger 13 is depressed relative to the inner knob 14, as shown by full lines in FIG. 2, the arm F will be moved in one direction (see full lines in FIG. 2), closing the switch E and thereby illuminating the bulb 20, and at this time the bolt 10 will be locked. However, the arm F may be swung into the dot-dash line position shown in FIG. 2 to open the switch E and thereby extinguish the light of the bulb 20, when the plunger or member 13 is moved into door-unlocked position, as shown by dot-dash lines in FIG. 2.

For the purpose of supporting the arm F, a bracket 27 has been provided on the mounting plate 15, and this bracket is formed with an opening 28 to receive the upper end 29 of the arm. The latter may be rotated in this bracket and the upper end 29 may be swung toward and away from the pushbutton 25 of the switch E when the plunger or member 13 is depressed and extended, respectively. A compression spring 30 engages with the upper part of the arm F so as to yieldingly urge an offset finger 29a on the upper end 29 of the arm against the pushbutton, as shown by full lines in FIG. 2. This same view shows the finger 29a in dot-dash lines as being disengaged from the push button.

The swinging arm F passes through slots 31 and 31a formed in the casing 18 and the lower part 27a of the bracket 27. The arm F is rotatable into a position wherein its lower end 26 will be swung clear of the door knob 14 and its plunger 13, as shown by dot-dash lines in FIG. 1. At this time, the finger 29a will be moved out of contact with the pushbutton 25 and the switch E will be opened, thus automatically extinguishing the light of bulb 20.

I claim:

1. The combination with a door-locking mechanism having a member movable between door-locked and door-unlocked positions, of a door-attachment warning device for indicating locked position of a door comprising:
 - a. a tubular housing disposed in an opening formed in the door, a light bulb mounted in this housing in a position so that its light will be seen from the exterior of the door when the bulb is illuminated;
 - b. a mounting plate secured to an inner face of the door, an electrical circuit connecting the bulb to a source of electricity, a switch supported from the mounting plate, the switch being coupled into the electrical circuit and including a pushbutton operable for closing and opening the circuit;
 - c. a swingable arm engaging with the pushbutton for closing and opening the switch when the arm is moved in one direction or the other, respectively;
 - d. the arm engaging with said member of the locking mechanism, and said member moving the arm on one direction to close the switch and thereby illuminate the bulb when said member is moved into door-locking position;
 - e. and the arm being movable in the other direction to open the switch and thereby extinguish the light of the bulb when said member is moved into door-locked position;
 - f. said member of the locking mechanism being provided by a plunger mounted for axial movement in an inner door knob, the mechanism being locked when said plunger is depressed and unlocked when said plunger is extended relative to the knob;
 - g. the arm having one end thereof abutting an outer end of the plunger so that the arm will swing into a position to close the switch when the plunger is depressed, and the arm being swingable into a position to open the switch when the plunger is extended.
2. The combination, as set forth in claim 1;
- h. and in which a bracket is fixed to the mounting plate and rotatably supports the other end of the arm, and this other end of the arm being swingable with respect to the bracket toward and away from the pushbutton of the switch, when said plunger of the locking mechanism is depressed and extended, respectively.
3. The combination, as set forth in claim 2;

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i. and in which a compression spring is provided for yieldingly urging said other end of the arm against the pushbutton of the switch, said spring being carried by the bracket.

4. The combination, as set forth in claim 2;

j. and in which the arm is rotatable into a position wherein

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the plunger-engaging end thereof will be swung free of the inner door knob and its plunger, and said other end of the arm will be disengaged from the pushbutton and the light extinguished.

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