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AUTOMATIC LIGHT FOR CABINETS

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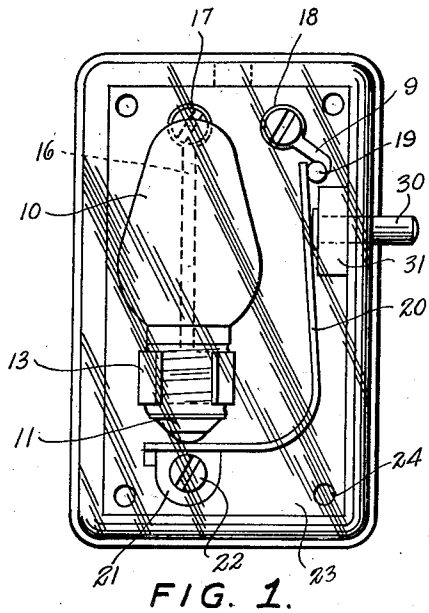

FIG. 1.

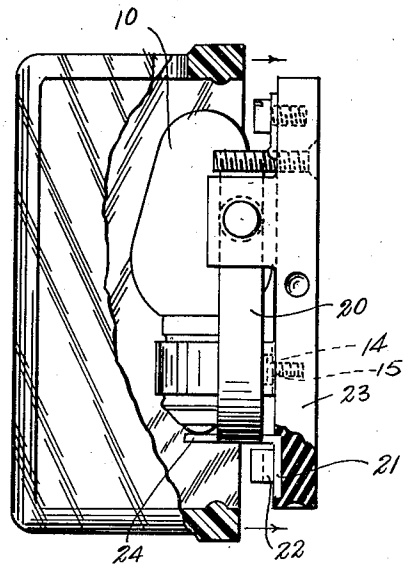

FIG. 2.

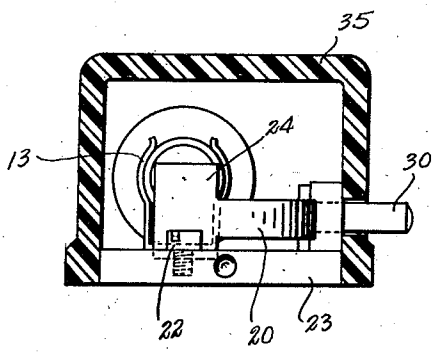

FIG. 3.

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AUTOMATIC LIGHT FOR CABINETS

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1 Claim. (Cl. 240—4)

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This invention relates to automatic light apparatus for cabinets, closets, ice boxes, desks, and other enclosures provided with doors or lids, the object being to provide an improved lighting structure that will coact with the door or lid to automatically provide a light when the door or lid is opened, and automatically extinguish the light when the door or lid is closed.

Another object is to provide an improved light structure wherein a novel switch is provided for opening and closing the circuit.

Another object is to provide a lamp and switch unit that will be compact and simple in construction, that may be readily manufactured and assembled at low cost, and that in use will provide efficient and convenient lighting.

Further objects and advantages of the present invention will be apparent from the following description, reference being had to the accompanying drawings, wherein a preferred embodiment of the present invention is clearly shown.

In these drawings:

Figure 1 is a schematic front elevation of the new and improved lamp and switch unit.

Figure 2 is a side view, partially in section, of the same structure.

Figure 3 is an end view of the same device.

The device comprises a light bulb 10 that is adapted to be energized from a battery or other source of electrical energy. The electrical circuit includes a movable spring contact 20, to be more fully described hereinafter. A movable plunger 30 is so mounted that when it is depressed, it will move the spring switch 20 out of contact with the rest of the circuit and thereby extinguish the bulb 10. The plunger 30 is adapted to be operated by the lid of a desk, the door of a refrigerator or closet or cupboard, so that in the closed position of said lid or door, the electrical contact will be broken and the light 10 will be out. When the door or lid is opened, or otherwise moved, the pressure on the plunger 30 will be released, and the spring switch 20 will automatically close the circuit and light the bulb 10. Conversely, the light 10 and associated mechanism may be mounted on a movable door or lid, or, if desired, the circuit may be so arranged that the light will be on when the lid or door is closed, and extinguished when the lid or door is opened.

The movable switch 20 is made of resilient conducting material, preferably brass. One end thereof has an enlarged flange portion 21 that is fixed by means of a screw 22 to a base 23. To

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provide firmer anchorage for the spring 20, the flanged end portion 21 is recessed into the base 23, as shown more particularly in Figure 2. The spring member 20 is arcuate shaped and is curved more than three-quarters of a circle, that is, more than 270°. This shape is designed to furnish adequate spring energy to restore the plunger 30 to inoperative position. The fixed end portion of the spring member 20 is laterally extended to provide a support and contact 24 for the base 11 of the bulb 10.

The bulb 10 is designed to be received in a spring or screw clip 13. The clip 13 is made of a conducting material and is attached to the non-conducting base 23 by means of an insulating switch 14 and screw 15. A conducting wire 16 is soldered, or otherwise permanently fastened to the clip 13, and the other end of the wire 16 leads to one of the terminals 17. The other terminal 18 is permanently joined to a contact screw 19 by means of a conducting lug 9. The terminals 17 and 18 are, of course, connected with a dry cell, or battery, or other source of electrical energy.

A bearing 31 may be fixed to the base 23 or to the wall of the closet or desk to provide a support for the movable plunger 30. The base 23 may be provided with a hole, or plurality of holes, 24 with which it may be fastened to the closet, cupboard, or door, as the case may be. The whole device may be accommodated within a plastic enclosure 35 that is transparent or partially transparent.

Let it be assumed that the device is designed to operate with the bulb 10 fixed in position, and the plunger 30 operated by the movement of a door or lid. As hereinbefore indicated, the structure is so arranged that when the plunger 30 is in the position shown in Figure 1, the switch 20 will be in contact with the contact screw 19, completing the circuit from the terminal 17, through the conducting wire 16, through the clips 13 and into the lamp 10, through the spring switch arm 20, through the contact screw 19, and back through the lug 9 into the terminal 18. When the door or lid is moved against the plunger 13, the latter will be shifted from right to left against the energy of the spring 20 to break contact between the switch 20 and the contact screw 19, and the lights will go out. When the door is opened, the energy of the spring 20 will restore the plunger 30 to the position shown in Figure 1, and the switch arm 20 will again make contact with the contact screw 19.

What is claimed is:

An illuminating device for cabinets and the like, comprising a relatively thin flat insulating base, a conducting spring clip fixedly mounted upon the base, a light bulb secured within the spring clip and having one terminal in electrical contact therewith, a single substantially L-shaped resilient contact arm secured to the base and including a transverse portion arranged in permanent electrical contact with the opposite terminal of the light bulb and a free portion extending longitudinally of the light bulb for substantially its entire length, said free portion being biased laterally outwardly from the light bulb, a pair of fixed terminals mounted upon the base and adapted for connection with a source of current, a wire connecting one of said fixed terminals with said spring clip, the opposite fixed terminal being normally engaged by the free portion of the L-shaped contact arm to complete a circuit through the light bulb, and a reciprocable plunger mounted upon the base near the end of the free portion and projecting laterally beyond a side of the base, the inner end of the plunger engaging the free portion and directly shifting the same toward the light bulb to open the circuit when the plunger is moved axially inwardly.

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