Nov. 1, 1938. M. L. BIGMAN 2,134,695

ILLUMINATING ATTACHMENT FOR SWITCH DEVICES

Filed April 25, 1936

Fig. 1

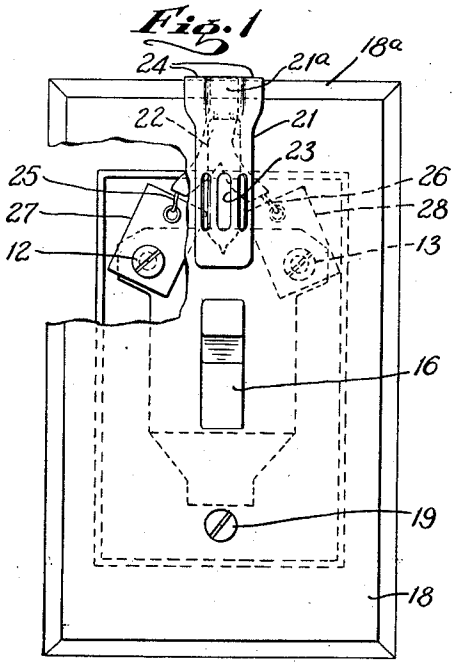


Fig. 2

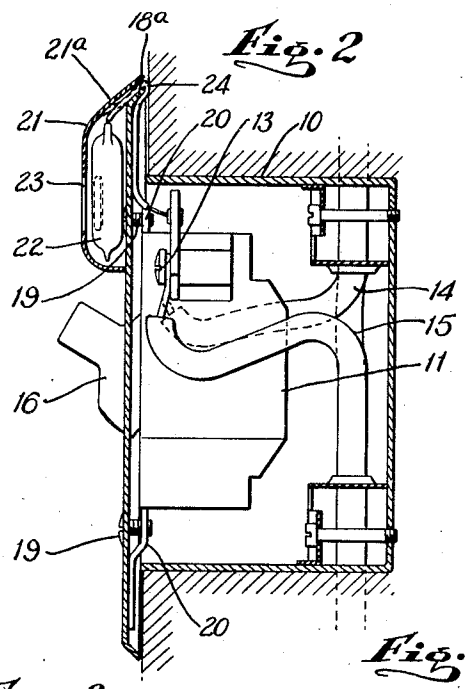


Fig. 8

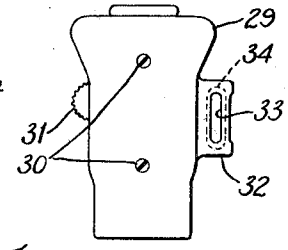


Fig. 4

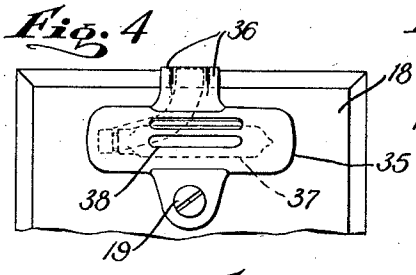


Fig. 3

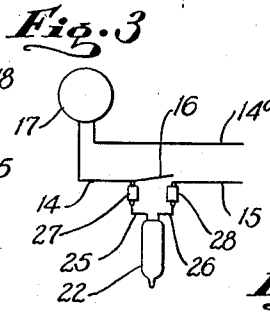


Fig. 7

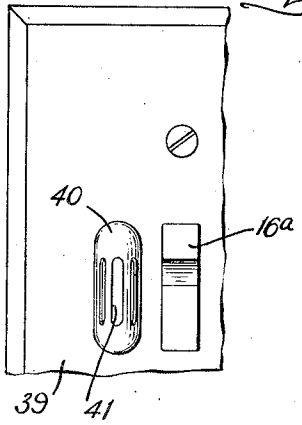
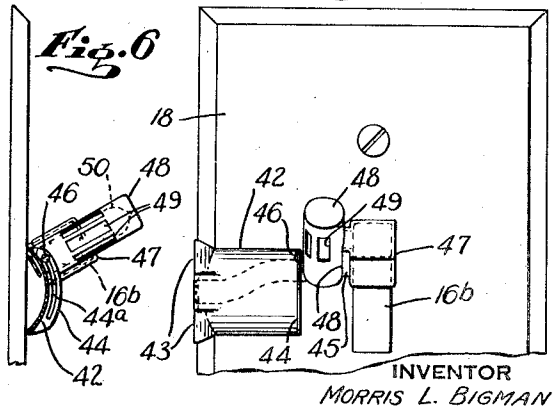


Fig. 6

Fig. 5



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ILLUMINATING ATTACHMENT FOR SWITCH DEVICES

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7 Claims. (Cl. 200—167)

This invention relates to switch devices of various kinds and classes, and particularly to the provision of an attachment adapted to be coupled with a switch device to indicate the location of the device as well as to indicate the "off" or open circuit position thereof; and the object of the invention is to provide an attachment of the class and for the purpose specified in the form of an electrically actuated member, such for example, as a neon light or glow lamp, with means for mounting or supporting the lamp in such position as to render the same visible externally of the switch device or the mounting or finish plate of such a device so as to indicate the location of the device in a dark room or compartment; a further object being to provide an attachment of the class described which may be coupled and uncoupled with a switch device without modifying the structure of the device or interfering with the operation thereof; and with these and other objects in view, the invention consists in an attachment of the class and for the purpose specified, which is simple in construction, efficient in use, and which is constructed as hereinafter described and claimed.

The invention is fully disclosed in the following specification, of which the accompanying drawing forms a part, in which the separate parts of my improvement are designated by suitable reference characters in each of the views, and in which:

Fig. 1 is a front and sectional view of one form of attachment which I may employ, illustrating its mounting in connection with one type of switch device.

Fig. 2 is a longitudinal section through the device shown in Fig. 1.

Fig. 3 is a diagrammatic view illustrating the arrangement of the illuminating device in the electric circuit controlled by a switch device.

Fig. 4 is a view similar to Fig. 1, showing only a part of the construction and showing a modification.

Fig. 5 is a face view of a switch device showing another form of attachment.

Fig. 6 is a side and sectional view of the construction shown in Fig. 5.

Fig. 7 shows a modified form of switch plate which I may employ; and,

Fig. 8 is a plan view of a switch device controlling an electric circuit or appliance, with one of my improved attachments mounted in connection therewith.

In carrying my invention into effect, I propose to provide an attachment which is so constructed as to provide a quick and simplified coupling or mounting of the attachment in connection with various kinds and classes of switch elements so as to provide means for locating the position of a switch element, especially in a dark room or compartment, as well as to indicate the "off" or open circuit position of the switch.

In Figs. 1 and 2 of the drawing, I have shown one form of construction, and in these figures, 10 represents an outlet box or casing of conventional form in which is mounted a body of insulating material 11 forming the switch body proper, and on which is supported the conventional screw terminals 12 and 13 with which the circuit wires 14 and 15 are coupled. At 16, I have shown the movable switch element which opens and closes the circuit through the wires 14 and 15 in the usual manner, and as the structure of the element 15 and its associated parts forms no direct part of this invention, and as these elements are well known, no specific disclosure or description is herein made. However, in Fig. 3 of the drawing, the element 16 is shown in a diagrammatic illustration in its relationship to the wires 14 and 15 to complete the circuit therethrough and through the wire 14*a*, in which wires a suitable electric light or other appliance 17 may be arranged.

In switch devices of the kind illustrated in Figs. 1 and 2 of the drawing, an outer wall finishing plate 18 is usually employed through which the switch element 16 projects. The plate 18 is held in place by screws 19 which couple with extending arms 20 on the body 11 in the conventional manner.

At 21, I have shown an illuminating attachment which is in the form of a hollow casing in which a neon light or glow lamp 22 is adapted to be supported and to be exposed externally through apertures or openings 23 formed in the casing 21. The casing includes at one end portion hook-shaped arms 24 which are adapted to extend around one beveled edge portion 18*a* of the plate 18 in the manner indicated in Fig. 2 of the drawing to support the housing 21 upon the plate 18 in any desired position of adjustment. While the casing is shown supported above the element 16 in Fig. 1 of the drawing, the same may be supported below said element or at either side thereof, and especially in locating the lamp 22 in close proximity to the terminals 12 and 13 of the switch body 11. Extending from the lamp 22 are circuit wires 25 and 26 which couple with resistance plates or elements 27 and 28. These elements are coupled with the binding posts 12 and 13 as clearly illustrated in Figs. 1 and 2 of the

drawing, and also diagrammatically illustrated in Fig. 3. The wires 25 and 26 will be insulated from the point extending from the lamp 22 to the respective resistance plates 27 and 28. These wires will extend through a housing portion 21a on the casing 21 and intermediate the hook-shaped members 24.

With this construction, when the switch element 16 is moved into the "on" or closed circuit position to complete the supply of electric energy to the member 17, the circuit to the neon light or glow lamp 22 will be cut off. However, when the switch element is moved into the "off" or open circuit position, the electric circuit will be completed through said neon lamp, and the same will be illuminated to indicate the position or location of the switch, especially in a dark room or compartment, or in installations such as that disclosed in Fig. 8 of the drawing, the neon lamp will be utilized to indicate in a switch of the type herein shown, the "off" or open circuit position of the switch. In this Fig. 8, I have shown at 29 a switch device of more or less conventional form, and such as is employed in an extension cord controlling various kinds and classes of electrical appliances, electric irons, toasters and the like, the switch device consisting of separate parts secured together by screws 30. At 31, I have shown the manually actuated switch element for opening and closing the circuit in the customary manner. At 32, I have shown one of my attachments in the form of a casing supported between the separate parts of the device 29, the casing being apertured as indicated at 33 to expose a neon bulb 34 therethrough, which bulb is placed in circuit with the terminals of the switch 29 in a manner similar or equivalent to the attachment shown in Figs. 1 and 2 of the drawing, and diagrammatically illustrated in Fig. 3.

In Fig. 4 of the drawing, I have shown a slight modification of the construction shown in Figs. 1 and 2, in which an elongated casing 35 is disposed horizontally across the top of the plate 18 and is supported in connection with one of the screws 19 employed for retaining the plate 18 in position. With this construction, the casing 35 includes a hollow extension 36 through which the wires from the neon bulb 37 pass. This extension 36 may or may not include the hook-shaped members similar to the members 24. The casing 35 will have elongated apertures 38 for exposing the neon bulb therethrough.

In Fig. 7 of the drawing, I have shown another method of carrying my invention into effect, which consists in substituting for the plate 18, a plate 39 of similar general form but modified in its construction by stamping from the front wall or surface thereof an outwardly projecting hollow casing portion 40 preferably adjacent the switch element 16a, and in providing apertures 41 in the hollow portion 40 so as to expose a neon glow lamp supported within the casing portion 40 through said apertures. In other words, instead of providing an independent casing part, the finishing plate may constitute the attachment to provide means for supporting and arranging the neon lamp in position to be seen, to indicate the location of the switch in a room or compartment. In this connection, it will also be understood that it is not absolutely essential that the neon light be arranged beyond or outwardly of the surface of the switch plate, but this arrangement is preferred, in that it enlarges the angle of visibility, and thereby simplifies the problem of locating the position of a wall switch of this type.

In Figs. 5 and 6 of the drawing, I have shown another form of attachment which differs primarily from the structure shown in the other figures by the inclusion of a movable element on the attachment. In these figures, I have shown at 42 a casing including hook members 43 for engaging the plate 18 of the switch. At one end of the casing 42 is an upstanding wall 44 in connection with which a supplemental casing 45 is slidably mounted by virtue of a pin 46 operating in an elongated slot 44a in the wall 44 so as to permit free swinging movement of the casing 45 with respect to the casing 42. The casing 45 has a portion 47 which is adapted to be slipped onto and frictionally engage the switch element 16b and to be movable therewith. The casing 45 also includes a cylindrical portion 48 in which a neon lamp or bulb 50 is supported and exposed through apertures 49 formed in said cylinder, the wires from the neon bulb 50 extending through the casing 42 and being coupled with the terminals of the switch as in the construction shown in Figs. 1 and 2 of the drawing.

While I have shown a few forms of attachments, and have indicated different arrangements thereof in connection with switch devices, my invention is not limited in these respects, and the same may be applied to various kinds and classes of switch devices, and the structure of the attachment will be modified to suit the different forms and construction of switch devices employed.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. The combination with a switch device employing a conventional cover plate, of an illuminating attachment detachably supported upon the outer surface of said plate and arranged within the peripheral boundaries thereof, said attachment comprising an apertured casing, said casing having clips for clamping the same to one edge portion of said plate and a neon lamp mounted in said casing and having wires projecting therefrom and in circuit with the circuit wires controlled by said switch device.

2. An attachment for the cover plate of switch devices of the class described comprising a hollow casing arranged within the peripheral boundaries of said plate, the wall of said casing being apertured to render the interior of the casing visible, a neon lamp arranged within the casing and visible through the apertures in the wall thereof, and said casing having a projecting hook-shaped portion for engaging the edge of the cover plate in retaining the attachment within the boundaries of said plate.

3. An attachment for the cover plate of switch devices of the class described comprising a hollow casing arranged within the peripheral boundaries of said plate, the wall of said casing being apertured to render the interior of the casing visible, a neon lamp arranged within the casing and visible through the apertures in the wall thereof, said casing having a projecting hook-shaped portion for engaging the edge of the cover plate in retaining the attachment within the boundaries of said plate, means involving circuit wires with resistance elements therein for placing said neon lamp in the circuit controlled by said switch device, and said projecting portion having a channel through which said circuit wire is passed from said neon lamp to said circuit.

4. An attachment for the cover plate of switch devices of the class described comprising a hollow casing arranged within the peripheral boundaries of said plate, the wall of said casing being apertured to render the interior of the casing visible, a neon lamp arranged within the casing and visible through the apertures in the wall thereof, said casing having a projecting hook-shaped portion for engaging the edge of the cover plate in retaining the attachment within the boundaries of said plate, means involving circuit wires with resistance elements therein for placing said neon lamp in the circuit controlled by said switch device, said projecting portion having a channel through which said circuit wire is passed from said neon lamp to said circuit, and means for supporting said casing to move relatively to said hook-shaped part.

5. An attachment for the cover plate of switch devices of the class described comprising a hollow casing arranged within the peripheral boundaries of said plate, the wall of said casing being apertured to render the interior of the casing visible, a neon lamp arranged within the casing and visible through the apertures in the wall thereof, said casing having a projecting hook-shaped portion for engaging the edge of the cover plate in retaining the attachment within the boundaries of said plate, means involving circuit wires with resistance elements therein for placing said neon lamp in the circuit controlled by said switch device, said projecting portion having a channel through which said circuit wire is passed from said neon lamp to said circuit, means for supporting said casing to move relatively to said hook-shaped part, and means for supporting said casing in connection with the switch element of the switch device to be movable therewith.

6. The combination with the movable switch arm of a switch device, of an illuminating attachment comprising a casing arranged at one side of said arm and detachable and movable therewith, a neon glow lamp arranged in said casing and having wires in the electric circuit controlled by said switch arm, and means coupled with the switch device independent of said arm for housing the wires extending from said neon lamp.

7. The combination with the movable switch arm of a switch device, of an illuminating attachment comprising a casing arranged at one side of said arm and detachable and movable therewith, a neon glow lamp arranged in said casing and having wires in the electric circuit controlled by said switch arm, means coupled with the switch device independent of said arm for housing the wires extending from said neon lamp, and said last named means forming a supplemental guide for said casing.

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