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ILLUMINATED SWITCH

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3 Claims. (Cl. 200—167)

This invention relates to switch devices of various kinds and classes to control the circuit to the bulbs of electric lighting fixtures, lamps and the like; and the object of the invention is to provide a switch of the class described with means for illuminating the switch to render the same visible in a dark room or compartment, and especially when the switch is in an off, or open circuit position, and in order that the switch may be readily located to facilitate operation thereof to turn on the light or lights controlled thereby; a further object being to provide a switch, the manually operated element of which is provided with a neon glow lamp, visible externally of said element, especially when the switch is in open circuit position; a still further object being to provide an illuminating means for switches of the class described involving a neon bulb and suitable resistors in each side of the circuit to the neon bulb, and to the arrangement of the neon bulb circuit in the electric supply circuit to the switch so as to utilize a very nominal amount of energy in the operation of said neon glow lamp; and with these and other objects in view, the invention consists in a switch device 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 cross sectional view through one form of switch showing my invention applied thereto.

Fig. 2 is a front and sectional view of the construction shown in Fig. 1.

Fig. 3 is a partial section on the line 3—3 of Fig. 2; and,

Fig. 4 is a longitudinal, sectional view through the switch element, detached.

My invention is applicable to various kinds and classes of switch devices controlling electric lighting and other circuits. To illustrate one method of carrying my invention into effect, I have shown in the accompanying drawing one type or form of wall switch modified to incorporate my improvement in connection therewith. In this illustration, 5 represents the usual body of insulating material having the two binding posts or screws 6 and 7 with which the circuit wires 8 and 8a are connected. The wires 8 and

8a form one side of an electric circuit supply, the other wire 9 of which is continuous as is indicated in Fig. 3 of the drawing. In this connection, it will be understood that other types of electrical connections may be made.

Extending through the body 5 are screws 10 and 11 which contact with the posts 6 and 7. Extending from the inner ends of the screws are spring contacts 12, the circuit between which is completed by the contact arm 13 of a switch element 14 rotatably mounted in the forward end of the body 5 on the pivot 15. The arm 13 is provided with the usual spring mounting 16 for snapping the arm 13 into and out of engagement with the contacts 12, the arm operating in a hollow or recessed portion 17 of the body 5 as in other devices of this kind. The switch element 14, in the construction shown, is composed of two parts of insulating material, the adjacent surfaces of the parts abutting, as indicated at 18. These parts are so formed as to provide an outwardly projecting finger piece 19, within which is formed a chamber 20 opening through the side surfaces of the finger piece 19 as indicated at 21. The switch device includes the usual mounting plate 22 for securing the same to a wall or other support or in conjunction with an outlet box.

Mounted in connection with the body 5 is a cover or housing 23 also preferably composed of insulating material. This housing is held in place by screws 24 which extend into a supporting plate 24a arranged upon the body 5, said body 5 being preferably composed of porcelain or other insulating material. The front of the housing 23 is provided with an opening 25 in which the switch element 14, and especially the finger piece 19 thereof is free to operate in moving the switch element into "off" and "on" positions in opening and closing the electric circuit controlled thereby. In Fig. 1 of the drawing, the switch is shown in its "off" position with the circuit broken through the spring contacts 12.

At 26, I have shown a neon glow lamp in the form of an elongated tube which is arranged in the chamber 20 of the finger piece 19. Extending from this bulb are two circuit wires 27 and 28 which couple with spring contacts 29 and 30 secured to the inner portion of the switch element 14 and in position to engage contact plates 31 and 32 at one end of resistance elements 33 and 34. The other ends of said elements are coupled with the screws 10 and 11 through plates 35 and 36. It will thus be seen that when the switch element 14 is in the "off" or open circuit

position, the contacts 29 and 30 place the bulb or glow lamp 26 in circuit with the wires 8, 8a through the resistance elements 33, 34 and the various contacts defined so that the lamp or bulb 26 will be illuminated when the switch is in the "off" or open circuit position. On the other hand, when the switch 14 is moved into closed circuit position, the circuit will be completed through the contacts 12, and the spring contacts 29 and 30 will be moved out of engagement with the plates 31 and 32, thus breaking the circuit to the lamp 26.

By the circuit arrangement disclosed, very little current will be consumed in the operation of the neon glow lamp 26, and by providing a lamp of this type in various kinds and classes of switch devices, and so mounting the lamp as to be exposed through a part of the device to render the same visible, a switch may be located or detected in a dark room or compartment, thus facilitating the operation thereof.

By mounting the lamp in the finger piece 19 of a switch such as shown in the accompanying drawing, the lamp will be protected against destruction, and at the same time, will present a clearly visible light to register the location of the switch. Various other types of mountings of the glow lamp as well as modifications in the structure of the lamp may be made to suit switches of different designs, constructions and modes of operation.

Instead of completing the circuit of the glow lamp to the terminals of a switch device through spring contacts, as described, the same result can be accomplished by freely flexing wires which will be coupled directly with the resistance elements employed. It is preferred, however, that the resistance elements be directly coupled with the terminals to avoid the exposure of any moving circuit wire carrying the current supply to the exposed parts or areas of the complete switch. The resistance devices or plates may be made with terminal ends which will adapt the same to various designs and types of switch devices.

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

1. A switch device for controlling an electric circuit to open and close said circuit, said device comprising an opaque body having a transverse pivot axis, said body having an integral part

projecting radially therefrom, said part having an opening in one side wall thereof, means arranged within said part and exposed through said side opening for producing a light to identify the location of the switch device when arranged in a dark room or compartment, and said means comprising a neon glow lamp with means extending through and arranged upon said body for placing said lamp in the electric circuit controlled by said switch device in the off or open circuit position.

2. A switch device for controlling an electric circuit to open and close said circuit, said device comprising an opaque body having a transverse pivot axis, said body having an integral part projecting radially therefrom, said part having an opening in one side wall thereof, means arranged within said part and exposed through said side opening for producing a light to identify the location of the switch device when arranged in a dark room or compartment, said means comprising a neon glow lamp with means extending through and arranged upon said body for placing said lamp in the electric circuit controlled by said switch device in the off or open circuit position, and said last named means involving resistance elements on said device and in the circuit of said glow lamp.

3. A switch device for controlling an electric circuit to open and close said circuit, said device comprising an opaque body having a transverse pivot axis, said body having an integral part projecting radially therefrom, said part having an opening in one side wall thereof, means arranged within said part and exposed through said side opening for producing a light to identify the location of the switch device when arranged in a dark room or compartment, said means comprising a neon glow lamp with means extending through and arranged upon said body for placing said lamp in the electric circuit controlled by said switch device in the off or open circuit position, said last named means involving resistance elements on said device and in the circuit of said glow lamp, said body being divided centrally and longitudinally into two substantially similar parts with chambers therebetween facilitating attachment and detachment of the neon lamp and circuit wires extending therefrom.

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