Nov. 7, 1939. J. M. REED 2,179,198

ELECTRICAL SWITCH PLATE

Filed May 10, 1937

Fig. 1.

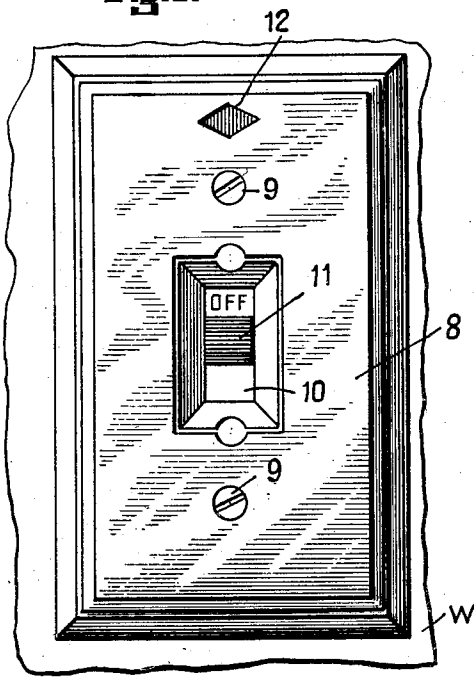


Fig. 2.

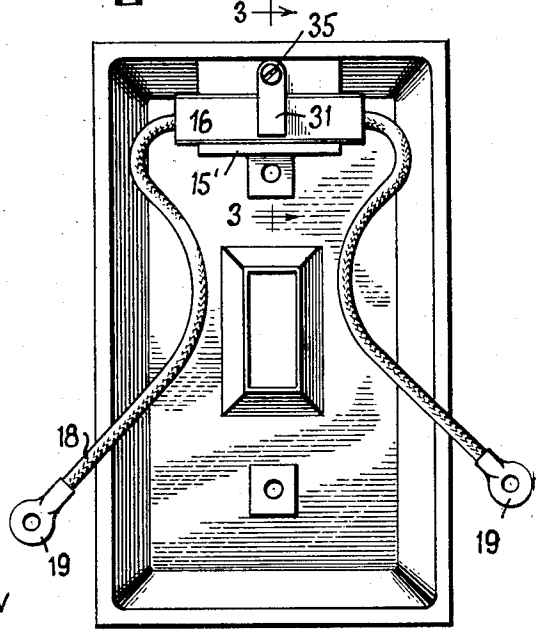


Fig. 3.

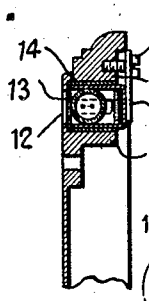


Fig. 6.

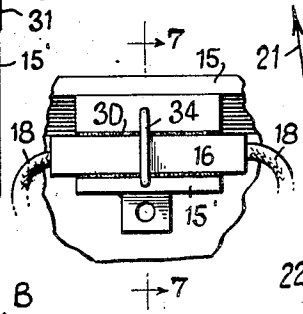


Fig. 4.

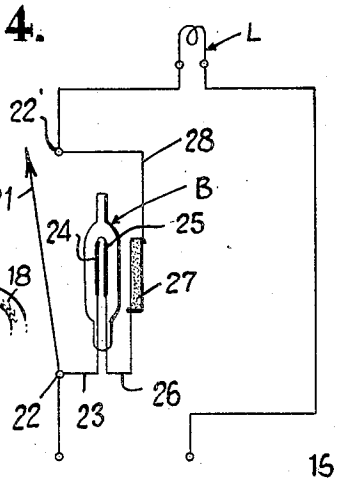


Fig. 5.

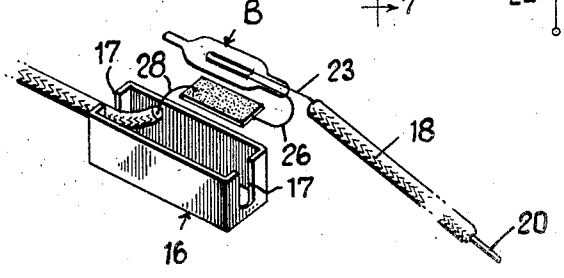
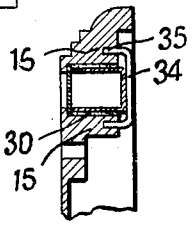


Fig. 7.



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ELECTRICAL SWITCH PLATE

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Application May 10, 1937, Serial No. 141,727

5 Claims. (Cl. 200—168)

My present invention relates to improvements in electrical switch plates, and especially to switch plates having visible indicating means.

Patent No. 2,015,698 discloses a generally similar device in which the switch plate has an outwardly extending housing provided with a sight window, with a visible indicating element located within said outwardly extending housing, so that one may readily locate the switch which operates the main light. In said patent the visible indicating device consists in a bulb having flexible lead wires for attachment to the terminals of the switch so as to be illuminated to indicate in the dark the location of the switch.

The present invention as stated embodies generally the features of the above mentioned patent; and the principal objects of the present invention reside in the construction of switch plates to receive visible indicators; means for attaching the visible indicators to the switch plates; and in the special construction of the visible indicators.

All of said objects of the invention will be hereinafter pointed out, in connection with the detailed description of the accompanying drawing, during which description it will become more apparent that the general object of the invention is to provide a device of the character described which eliminates possibility of personal injury because of dislocation of essential parts.

An important object of the invention also resides in accurately locating the indicating bulb relative to the window or opening in the plate to assure visibility of the glow created by the bulb from different angles.

The foregoing and other objects and advantages of the invention will become more apparent and will be pointed out during the course of the following description of the accompanying drawing, in which

Fig. 1 is a front elevation of a switch plate of the toggle type embodying the present invention;

Fig. 2 is a rear elevation of the switch plate shown in Fig. 1;

Fig. 3 is a view taken on the line 3—3 of Fig. 2;

Fig. 4 is a diagrammatic view of an electrical circuit in which the indicating element is connected;

Fig. 5 is a fragmentary enlarged perspective view of the indicating element and its connections including the housing attachable to the plate showing the parts in exploded position;

Fig. 6 is an enlarged fragmentary view in elevation showing optional means for holding the housing for the indicating element in position; and

Fig. 7 is a view taken on the line 7—7 of Fig. 6.

In the drawing the numeral 8 designates generally a switch plate which is adapted to cover the usual switch box (not shown) within the wall W and held in place as by means of screws 9. The plate 8 is shown as having an opening 10 within which the toggle lever 11 operates to make and break the circuit which turns on and off the light or lights controlled by the switch. Of course switches of the push button or pull chain type may be used in connection with the invention as will become hereinafter more apparent. The front of the plate is provided with a window or sight opening 12 behind which the indicating element is located. The sight opening may be of any shape, size, or location, and may be provided with a transparent window or any desired color or character.

Referring to Figs. 2 and 3, it will be noted that a window 13 is held across the opening 12 by means of a shell 14 of insulating material located between the inward projections 15—15' on the interior of the plate 8.

A housing 16 of insulating material is adapted to fit between the projections 15 and 15', and within the shell 14 to contain the indicating element or gaseous bulb presently described. It will be noted, by reference to Fig. 5, that the ends of the housing 16 are provided with notches 17 to receive the lead wires which attach the gaseous bulb or indicating element to the switch. The notches hold the lead wires and bulb close to the back of the plate, obviating the necessity of making a deeper and cumbersome plate.

In Fig. 2 I have shown the ends of the lead wires 18 provided with loops 19 for connection with terminals of the switch, while in Fig. 5 I have shown the end of one of the wires 18, provided with a plain end 20 which may be soldered or otherwise connected to the terminals of the switch.

It will also be noted, especially by reference to Figs. 2 and 3, that when the housing or box 16 is fitted within the shell 14 between the sustaining walls or projections 15 and 15', that the indicating element or bulb B is completely housed or enclosed behind the plate 8. It should further be apparent that the construction and arrangement of the parts is such as to permit location of the bulb B in alignment with and proximity to the opening 12 so as to assure complete visibility thereof through window 13 from various angles. Furthermore the construction and arrangement is such as to afford ample room or working space between the plate and the switch box in the wall to facilitate connection and disconnection of the lead wires 18 and their terminals, should replacement of the indicating bulbs become necessary.

Referring to Fig. 4, the numeral 21 designates a switch of any type having terminals 22—22' across which the indicating element or bulb B is shunted as presently described. One wire 23 is connected to the terminal 22 and is connected to electrode 24 within the bulb B. The electrode

24 is arranged in parallelism with electrode 25 within the bulb, which contains any suitable gas or combination of gases to effect the glow of the bulb. The electrode 25 is connected to a wire which leads out through the same end of the bulb as that into which the wire 23 leads. The wire 26 is connected to a resistance unit 27, the other end of which is connected by wire 28 to the terminal 22', of the switch. The resistance unit, I have found, prolongs the life of the indicating bulb.

L designates the lamp which is connected in the circuit controlled by the switch 21. Obviously when the switch 21 is open, as shown in Fig. 4, current passes through the wires 23 and 26, bulb B, and electrode therewithin, through resistance unit 27, and wire 28 from terminals 22, 22' to create a glow which is exhibited through the opening 12 in the switch plate behind which the bulb is located within the box or housing 16. When the switch is closed the current passes directly therethrough to illuminate lamp L.

I have found in actual practice that a bulb having electrodes connected through one end only of the bulb, and with one of the lead wires connected to the resistance pad or element 27 as shown best in Fig. 5, permits housing the resistance pad or element in relatively small space. Said arrangement also greatly facilitates a very efficient attachment and detachment of indicating devices for switch plates and the like.

The structure thus far described may be used with perfect effect and results by frictionally securing the housing 16 within the shell 14, or between the sustaining walls 15 and 15'. However, for safety and avoidance of short circuits, I prefer to provide an auxiliary holding means to maintain the housing 16 in place. One effective means of so doing is to provide cement between the sustaining walls and the housing as indicated by the numeral 30 in Fig. 7. Another means of maintaining the housing 16 in place is to provide a small plate or arm 31, as shown in Fig. 3, pivotally connected to the projection 15 as by means of a screw 32. Said arm or plate 31 may be moved into position directly behind the housing 16 when the housing is properly positioned between the sustaining walls or projections 15 and 15' or within the shell 14, and may be swung to the side to permit removal and insertion of the housing.

Another means of positively maintaining the housing in position is shown in Fig. 7, wherein a U-shaped spring or clip 31 has its ends engaged in openings 35 in the sustaining walls 15 and 15', with the intermediate portion extending across the housing. In Fig. 7 the provision of the spring or clip 34 is shown in conjunction with the cement, but I wish it understood that the cement may be used with or without the spring or clip 34 and vice versa, or arm 31 may be used with or without the cement; the important point being to properly maintain the housing in adjusted position to properly locate the bulb B relative to the opening 12 in the plate 8.

It should be obvious from the foregoing, as has been established in actual practice, that the invention provides a wall switch plate having a smooth exterior surface, with a clearly visible means for indicating the location of the switch, and with readily replaceable means for effecting the indication or location of the switch.

I claim:

1. A switch plate of the character described having a relatively smooth outer surface, and having a sight opening, and openings for the reception of fastening elements and switch operating member, supporting elements bordering said sight opening and providing a channel on the interior of the plate, a box-like housing mounted between said supporting elements and having an open end arranged over said sight opening, a gaseous bulb within said housing, said box-like housing being slidable in said channel to position the bulb with respect to the sight opening, and wires leading from said bulb and housing for connection with the terminals of an electric switch over which the plate is mounted.

2. A switch plate of the character described having a relatively smooth outer surface provided with a sight opening and openings for the reception of fastening elements and a switch operating member, the inner surface of said plate being provided with sustaining walls bordering said sight opening, a box-like housing slidably mounted between said sustaining walls and having an open end arranged over said sight opening, said housing being adapted to contain a glow bulb.

3. A switch plate of the character described having a relatively smooth outer surface provided with a sight opening and openings for the reception of fastening elements and a switch operating member, the inner surface of said plate being provided with sustaining walls bordering said sight opening, a box-like housing slidably mounted between said sustaining walls and having an open end arranged over said sight opening, said housing being adapted to contain a glow bulb, and means on said sustaining walls to adjustably and removably hold the housing and bulb in place with respect to said sight opening in the plate.

4. A switch plate of the character described having a relatively smooth outer surface, and having a sight opening, and openings for the reception of fastening elements and a switch operating member, supporting elements bordering said sight opening and providing a channel thereacross on the interior of the plate, a box-like housing slidably mounted in said channel between said supporting elements having an open end arranged over said sight opening, a gaseous bulb within said housing, and wires leading from said bulb and housing for connection with the terminals of an electric switch over which the plate is mounted, and means to removably and firmly hold said housing in place.

5. A switch plate of the character described having a relatively smooth outer surface provided with a sight opening, spaced projections on the interior of the plate above and below said sight opening providing a channel, a box-like housing or shell mounted within said channel and supported by said projections, said box-like housing having an open front arranged across said sight opening to receive a gaseous bulb in alignment with said sight opening, and means supported by at least one of said projections engageable across said box-like housing to maintain said shell within said channel.

JOHN M. REED.