Oct. 14, 1958 J. H. SCHULTZ 2,856,477

DEVICES FOR CONTROLLING DOOR-OPERABLE ELECTRIC SWITCHES

Filed March 19, 1954

Fig. 1

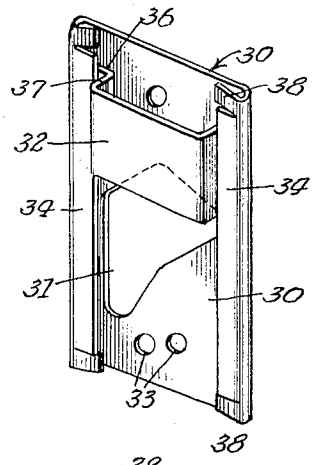


Fig. 2

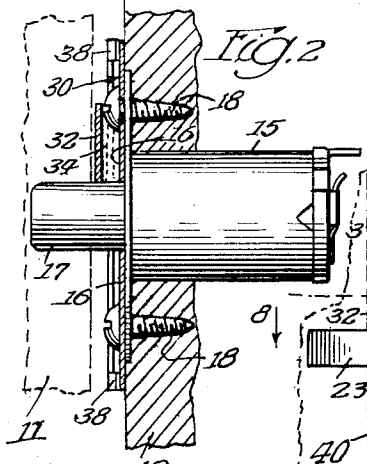


Fig. 3

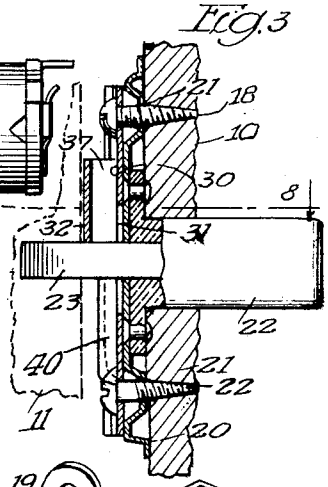


Fig. 4

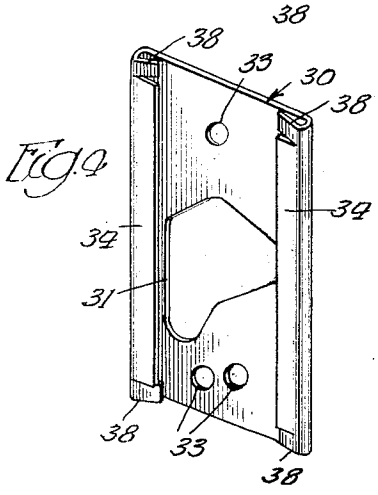


Fig. 5

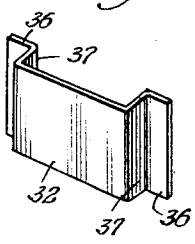


Fig. 6

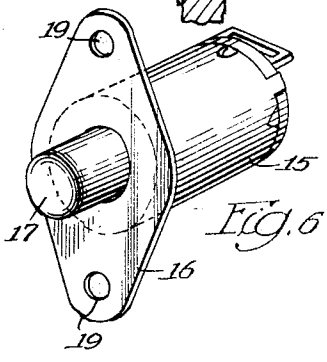


Fig. 7

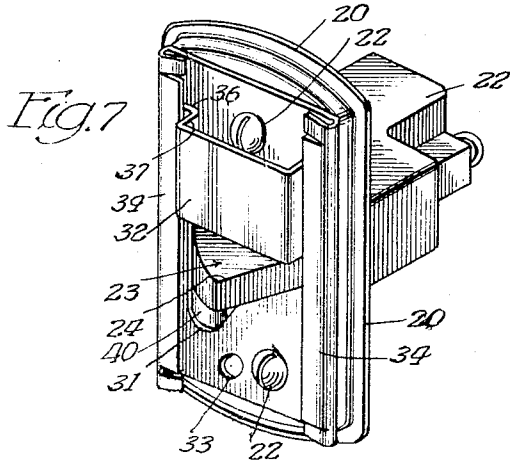
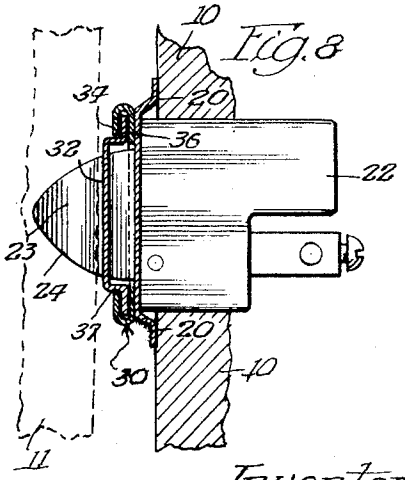


Fig. 8



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DEVICES FOR CONTROLLING DOOR-OPERABLE ELECTRIC SWITCHES

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3 Claims. (Cl. 200—61.79)

The invention relates to switches of the type used in motor vehicles for automatically closing the circuit for a lamp for illumination when the door is open and to automatically open the circuit when the door is closed.

The object of the invention is to provide a simple device which is adapted to be mounted in front of the switch installed in the door jamb without alteration of the switch or the jamb, for latching the actuator of the switch to hold it open when illumination is not necessary and the door is open.

Another object of the invention is to provide a device of this character which is applicable to switches of different types.

Other objects of the invention will appear from the detailed description.

The invention consists in the several novel features which are hereinafter set forth and are more particularly defined by claims at the conclusion hereof.

In the drawings:

Fig. 1 is a perspective view of a device embodying the invention separated from the door jamb;

Fig. 2 is a vertical section of said device when installed on the door jamb with a switch of the type shown in Fig. 6;

Fig. 3 is a vertical section of said device installed on the door jamb in front of a switch of the type illustrated in Fig. 7;

Fig. 4 is a perspective of the mounting plate of said device;

Fig. 5 is a perspective view of the latch which is slidable on said mounting plate;

Fig. 6 is a perspective view of a push button type of switch in front of which the latching device is adapted to be operatively mounted;

Fig. 7 is a perspective view of a lever type of switch with the latching device mounted thereon; and

Fig. 8 is a section taken on line 8—8 of Fig. 3.

The invention is exemplified as applied to a jamb 10 of the frame for a door 11 in a motor vehicle in front of an electric switch set into the jamb, for controlling a lamp for illumination of a desired area in the body of the vehicle or around the door opening. The switches for this purpose now in use are of different types to which the invention is applicable. One of said types is illustrated in Figs. 2 and 6 and comprises: a cylindrical housing or body 15 containing the switch contacts, a mounting plate 16 usually set into the jamb 10 and a slidable actuator or button 17 which is slidable through mounting plate 16 and is spring-pressed to urge it outwardly for closing a circuit through said contacts and slidable inwardly into the housing 15 to open the switch. Holes 19 are provided in the top and bottom of mounting plate 16 for screws 18 which extend into the jamb 10 for securing the switch in the door frame. Another type of switch is illustrated in Figs. 3 and 7 and comprises a mounting plate 20, a housing 22 for the usual switch contacts, and a lever or actuator 23 which is pivoted in the housing 22, spring-pressed to urge it outwardly for

closing the circuit at said contacts and adapted to be retracted by a cam surface 24 which is engageable by the door 11. Mounting plate 20 is provided with holes 21 for screws 22 for attaching the switch in the jamb 10.

The invention is exemplified in a device which comprises a supporting plate 30 which is formed of sheet metal and adapted to be mounted against the front of and to overlie the mounting plate of a switch of either of the aforesaid types in the usual clearance between the door and the jamb. Plate 30 is provided with a slot 31 through which the actuator of the switch of either type is adapted to move so that the back face of the supporting plate will abut against the front face of the mounting plate. Supporting plate 30 is provided with holes 33 which are adapted to register with the holes 19 for attaching the screws in the mounting plate 16 or the holes in the mounting plate 20 so that the supporting plate 30 may be secured in front of and against either of said mounting plates by the same screws which will secure the mounting plates in the door frame. Plate 30 has integral inturned vertical side flanges 34 which form channels and a vertical slideway on the front of said plate. The upper and lower ends 38 of said flanges are bent against the front face of said plate to form stops at or close to the upper and lower ends of said slideway. A latch or abutment bar 32 is framed of sheet metal with flanges 36 which slidably fit in the channels formed by flanges 34 on the supporting plate 30. The back face of flanges 36 slidably fit the front face of supporting plate 30, and the central portion of plate 30 is spaced from the front face of plate 30 by offsets 37 so the front end of actuator button 17 or of actuator lever 23 will abut the back face of bar 32 at a point spaced forwardly from the front of either of the mounting plates 16 or 20 when the supporting plate 30 is attached to one of the switches. This spacing facilitates the upward movement of the actuator to the rear of the plane of the back face of the central portion of bar 32 by finger pressure on the actuator. The indented ends 38 which function as stops for limiting the vertical sliding movement of the bar 32 are disposed to permit said bar to be raised or lowered below the actuator for releasing it for spring actuation for convenience in manually shifting the bar 32 into and out of operative relation with the actuator.

When the invention is to be applied to a door equipped with an automatically opening switch of the type shown in Fig. 7, the screws which secure mounting plate 16 on the jamb 10 are removed and supporting plate 30 is placed against the front face of mounting plate 16 with two of the holes 33 in plate 30 in registry with the holes 19 in mounting plate 16 and screws, either those removed or others, are passed through registering holes 30 and 19, and when tightened, will firmly and securely clamp the supporting plate 30 and the plate 16 on and in front of plate 16. The bar 32 will then be slidable in the slideway in plate 30 between stops 38 on flanges 34 to points above or below the actuator button 17 to release it for automatically closing the switch or across the front end of and into abutting relation with the actuator button 17 to prevent the switch from being closed automatically when the door is opened.

When the invention is applied to a door with a switch of the type shown in Fig. 7, the screws which secure the plate 20 to the jamb 10 are removed and the plate 30 is placed against the front plate 20 with two of the holes 33 in plate 30 in registry with the holes 21 in plate 20 and screws are passed through said registering holes which when tightened will firmly clamp plates 30 and 20 to the door jamb. The actuator lever 23 will extend through slot 31 in plate 30 and said slot will receive protuberance 40. The latch bar 32 will be vertically slidable in the

channels in flanges 34 between stops 38. When the actuator lever 23 is to be latched to prevent automatic closing of the switch, said lever will be pressed inwardly and bar 32 moved to the front of and into abutting relation with the front end of said lever. When it is desired to automatically close the switch, bar 32 will be raised or lowered out of the path of lever 23 and cam surface 24 will be engaged to actuate said lever to open the switch while the door is being closed.

The invention exemplifies a simple device for controlling the operation of an automatically closing switch which includes a supporting plate and a slidable abutment mounted thereon which can be readily installed with switches of different types without alteration of the switch or the door frame.

The invention is not to be understood as restricted to the details set forth since these may be modified within the scope of the appended claims without departing from the spirit and scope of the invention.

Having thus described the invention what I claim as new and desire to secure by Letters Patent is:

1. A device for controlling an electric switch including a mounting-plate secured in a door frame, a casing carried by the mounting-plate and containing switch-contacts, operable to automatically close the switch when the door is open and to open the switch when the door is closed, comprising: a sheet metal supporting-plate separate from, extending across the outer face of the mounting-plate, and provided with a slot through which the projecting portion of either the push-button or the pivoted lever may extend from the supporting-plate for engagement by the door to operate the switch contacts in the casing, a latch-bar movably supported on the supporting-plate into abutting relation with either the push-button or the lever, and means for interchangeably securing the supporting-plate on the mounting-plate of either a switch with a push-button or with a lever.

2. A device for controlling an electric switch including a mounting-plate secured in a door frame, a casing carried by the mounting-plate and containing switch-contacts, operable to automatically close the switch when the door is open and to open the switch when the door is closed, comprising: a sheet-metal supporting-plate separate from, extending across the outer face of the mounting-plate, and provided with a slot through which the projecting portion of either the push-button or the pivoted lever may extend outwardly from the supporting-plate for engagement by the door to operate the switch contacts in the casing, a latch-bar slidably supported on the supporting-plate into abutting relation with either the push-button or the lever to hold the switch closed, stops on the supporting-plate for selectively positioning the bar above or below the bar to open the switch, and means for interchangeably securing the supporting-plate on the mounting-plate of either a switch with a push-button or with a lever.

3. A device for controlling an electric switch including a mounting-plate secured in a door frame, a casing carried by the mounting-plate and containing switch contacts, operable to automatically close the switch when the door is open and to open the switch when the door is closed, comprising: a sheet metal supporting-plate separate from, extending across the outer face of the mounting-plate, and provided with a slot through which the projecting portion of either the push-button or pivoted lever may extend outwardly from the supporting-plate for engagement by the door to operate the switch-contacts in the casing, a latch-bar slidably supported on the supporting-plate for passing into abutting relation with either the push-button or the lever to hold the switch closed, and above or below said button or lever to open the switch, and means for conjointly securing mounting-plate on the door frame and interchangeably securing the supporting-plate on mounting-plates with switches with either a push-button or with a lever.

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