

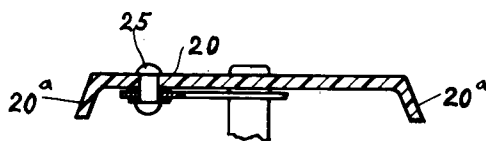
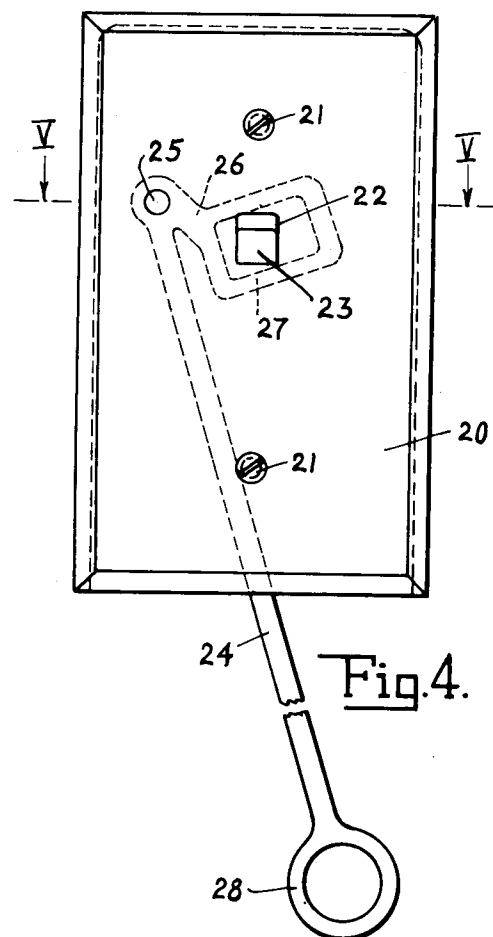
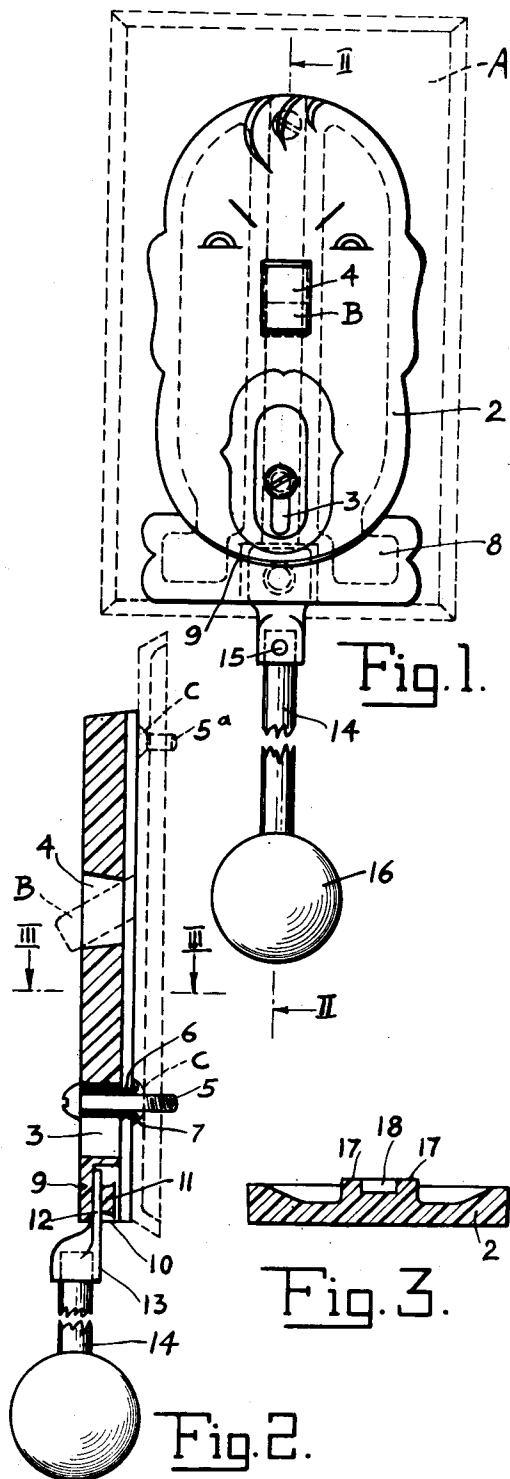
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TOGGLE SWITCH OPERATING DEVICE

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TOGGLE SWITCH OPERATING DEVICE

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1 Claim. (Cl. 200-172)

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This invention is for a device for operating a familiar type of electric toggle switch, and is for an attachment for rendering said switches more convenient to operate, especially by small children.

Electric switches in the home are generally placed at a level most convenient for operation by adults, so that small children have difficulty reaching them. This is especially annoying in such rooms as the nursery and bath room, where a child may have to call an adult to turn a light on or off.

The present invention has for its object to provide a simple attachment for conventional toggle switches that forms an extension enabling a small child to readily operate the switch.

This result may be accomplished in several ways within the contemplation of my invention, and two forms have been specifically illustrated, one of which requires for its attachment to the switch, only the replacement of one screw on the face plate, and the other of which is best applied by replacing the face plate.

In the accompanying drawings:

Fig. 1 is a plan view of one form of attachment in place on the face plate;

Fig. 2 is a longitudinal vertical section on the center line II-II of Fig. 1;

Fig. 3 is a transverse section in the plane of line III-III of Fig. 2;

Fig. 4 is a rear elevation of the face plate showing a modification of my invention; and

Fig. 5 is a horizontal section in the plane of line V-V of Fig. 4.

Referring first to Figs. 1 to 3, which show the present preferred form of my invention, A is the face plate covering a conventional switch receptacle, not shown, and B is the toggle lever that operates through a slot in the face plate A. The face plate is provided with two holes C through which pass screws to hold the face plate on the switch.

The present invention provides a slide plate 2, preferably but not necessarily made of plastic, having a slot 3 therein elongated in a vertical direction and which is located near the lower end of the slide plate 2. It is so positioned as to coincide with the mouth of the figure of the face outlined by the plate 2, and the plate 2 is molded and lined as shown, to illustrate the mouth contour.

The plate 2 also has an opening 4 therein through which the toggle lever B for operating the switch extends. As best shown in Fig. 2, the top and bottom edges of this opening are

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preferably beveled very slightly so that the outer dimension of the opening up and down is slightly greater than the inner dimension. It has been found that this shape reduces any tendency of the toggle lever to bind in the opening 4. The opening 4 is in the position of the nose of the figure pictured by the face. The opening 4 is so positioned with respect to the slot 3 that when the device is applied to the face plate of the switch with the lever B projecting through the opening 4, the slot 3 will then be over one of the openings C in the face plate.

According to my invention, the conventional screw at the bottom of the face plate for holding the face plate to the outlet box is removed and is replaced by a longer screw 5 about which is a spacing sleeve 6. This sleeve 6 has a working fit in the slot 3, and the head of the screw 5, serves to retain the sleeve in place and hold the slide plate 2 on the front of the switch plate. The sleeve has a slight flange 7 that sets in the countersink in the face plate that normally accommodates the head of the usual screw. The vertically elongated slot permits the slide plate 2 to be moved up and down to operate the switch. The sleeve 6 serves to prevent the screw 5 from being turned down so tightly as to bind the slide plate 2.

The lower part of the slide plate 2 is shaped to provide a part 8 which may be contoured to simulate a bow tie. This part of the plate 8 is of course integral with the face-forming part of the plate 2, and the line which forms the chin of the face is merely indented in the plastic at this point to complete the contour of the face. The indentation forming the bottom of the face line or chin is marked 9. On the vertical center line of the slide plate 2 at the back, immediately under the chin of the figure, there is a recess 10 and an integral pin or stud 11 is formed on the back of the plastic. The flattened upper end portion 12 of a member 13, similar to an electric cable terminal, is placed over this pin 11, and the plate being of thermoplastic material, the pin 11 is flattened out, forming in effect, a riveted pivot for retaining the member 13 on the back of the plate. A wooden or other stem 14 is inserted in the member 13 and secured thereto, as for example by punching or indenting the metal 13 as indicated at 15, and a knob 16 of wood or plastic is preferably provided at the lower end of the stem 14. The stem 14 is made long enough so that the handle 16 will be within easy reach of a child, assuming the switch plate

to be located in the usual position on the wall about shoulder high for the average adult.

The back of the plate is provided with two parallel ribs 17, which are located at each side of the slot 3, and which extend vertically. These ribs 17 provide runners which actually bear against the face plate A of the switch, and the space 18 between these runners provides clearance for the screw 5a at the top of the face plate. The back of the plastic plate 2 is otherwise contoured so that the edges of the slide plate 2 will be fairly close to the face plate A, but will not necessarily ride on the face plate. This is best shown in Fig. 3, where it will be seen that the ribs 17 are in a plane slightly beyond the plane of the rear face of the plate 2.

The illusion of a face is further enhanced by the inclusion of eyes and lines simulating hair. The face is intended to be ornamental and attractive to children. It can of course be designed and contoured in various different ways and according to various different patterns, this being a matter merely of design and taste.

It will thus be seen that the invention provides a simple form of switch-operating mechanism that can be attached with the face plate of an ordinary switch by simply removing the conventional screw at the bottom of the face plate, and replacing it with the screw 5 having the spacing plate 6 thereon.

The device is quite cheap to manufacture. It is entirely safe, and a small child or infant is thus enabled to operate the switch by himself, and without climbing up onto a chair or other support. At the same time the switch may still be conventionally operated by an adult, either by taking hold of the handle 16 or the stem 14, or by operating the projecting end of the toggle lever B.

In the modification shown in Figs. 4 and 5, a special form of switch plate is used in place of the conventional form. In these figures, 20 designates a face plate which is generally similar to the face plate now commonly provided, and which has upper and lower screw holes to accommodate screws 21 for attaching the plate to the conventional outlet box. The plate is provided with the usual slot 22 for the toggle switch lever 23.

According to the present invention, an operating lever having a handle extension 24 is pivotally secured to the face plate at 25. It has an arm 26 offset with respect to the arm 24, having a loop 27 through which the toggle lever is passed when the face plate is put onto the switch in lieu of the ordinary face plate. The face plate 20 has a margin 20a around its top, and two side edges, but the flange is omitted at the bottom, leaving clearance for the operating extension 24. The extension 24 is shown as terminating in a ring 28.

In this modification the switch-operating extension is secured to the back of the face plate of the switch, instead of to the front, as described in connection with Figs. 1 to 3. While it could be secured just as well on the front of the face plate, it is not shown as having any ornamental or amusing features, wherefore it is considered

desirable to conceal the upper part of the operating mechanism.

In the form of construction shown in Figs. 4 and 5, the switch is operated by swinging the lever 24 in the manner of a pendulum, rather than pushing the operating extension up and down as in Figs. 1 to 3. Either form of the invention provides a device which can easily be put in place on an ordinary toggle switch by the average individual. The form shown in Figs. 1, 2 and 3 is particularly desirable because the installation can be made without even exposing any of the electrically-charged parts of the switch at all. Even with the arrangement shown in Fig. 4, the conventional face plate can be taken out and the present device installed without disconnecting the switch from service. Also while I have shown the arrangement in Figs. 4 and 5 as being made from thin pressed metal, it may be formed of plastic or plastic and metal, or metal and wood, as desired, so that the exposed part of the extension 24 and the handle 28 may be electrically insulated from the toggle lever of the switch. Thus if perchance the electrically-charged wire should happen to touch the device, it will still be safe.

While I have illustrated and described two embodiments of my invention, it will be understood that this is by way of illustration, and that various changes and modifications may be made within the contemplation of my invention and under the scope of the following claim.

I claim:

An attachment for application to the switch plate of an electrical toggle switch, which switch has an operating lever projecting through the switch plate, the switch plate having upper and lower screws for retaining it on an outlet box, said attachment comprising an operating plate, ribs along the rear of the plate extending backwardly therefrom and making sliding contact with the switch plate to maintain the two plates in proper spaced relationship, said operating plate having an opening therethrough to receive and engage the switch lever and having a vertically cut slot positionable over one of the retaining screw positions when the operating plate is engaged on the lever, a hollow sleeve slidably retained within said slot by flanged ends whereby a screw may be passed through said sleeve and replace the usual switch plate retaining screw to hold the operating plate over the switch lever and on the switch plate and to hold the sleeve fixed for guiding movement of the operating plate on said sleeve to actuate the switch lever, and a depending operating extension for actuating said operating plate.

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