Aug. 14, 1945. H. E. MOYSES 2,382,738

DECORATIVE SWITCH MANIPULATOR

Filed March 7, 1944

FIG. 2.

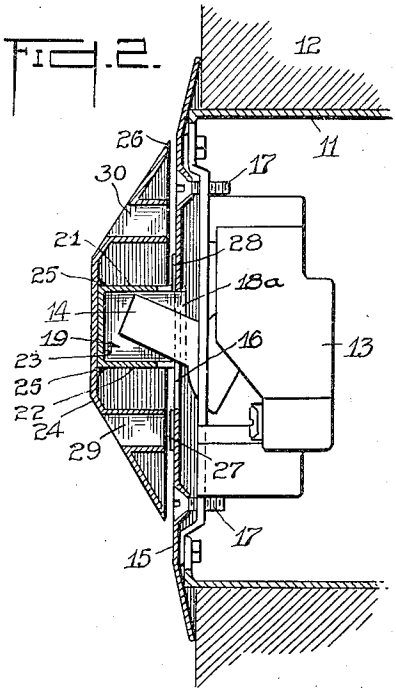


FIG. 1.

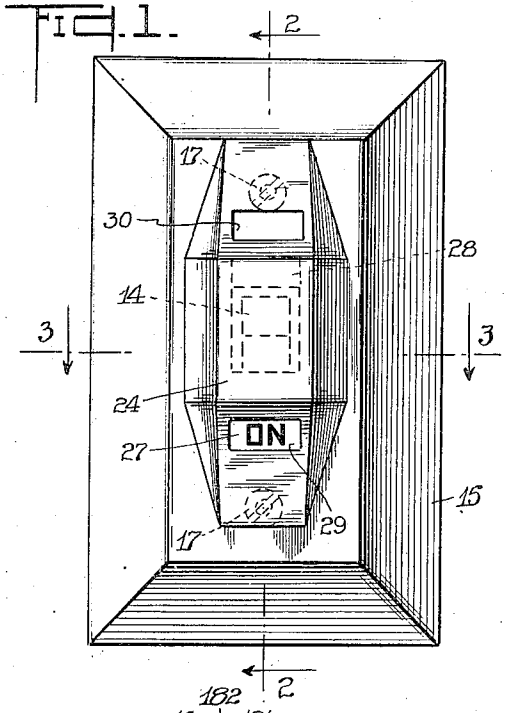


FIG. 3.

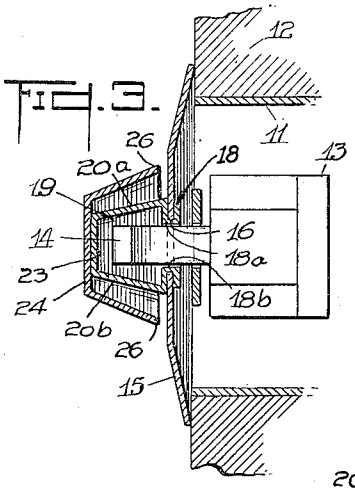


FIG. 4.

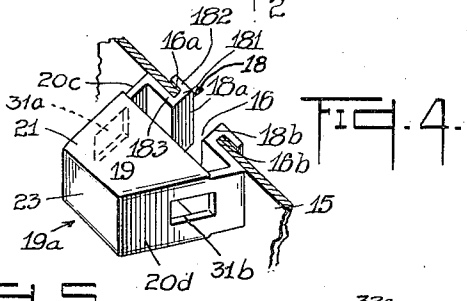


FIG. 5.

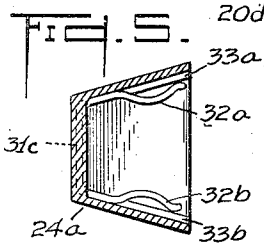


FIG. 6.

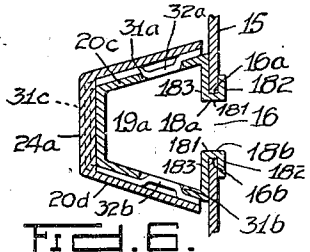
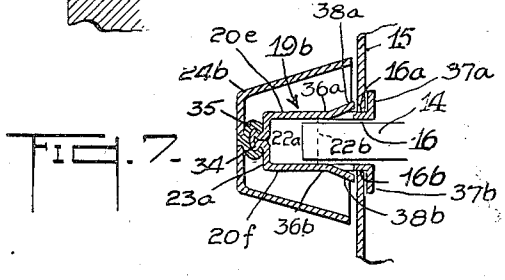


FIG. 7.



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DECORATIVE SWITCH MANIPULATOR

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Application March 7, 1944, Serial No. 525,354

12 Claims. (Cl. 200—172)

My invention relates to decorative manipulators for standard toggle lever wall switches and more particularly to an auxiliary manipulator of the type mounted on the switch plate of a flush type toggle lever wall switch to permit operation of the switch upon displacement of the manipulator parallel to the switch plate between two end positions, the opening in the switch plate being kept completely covered by the manipulator in either end position thereof.

One object of my invention is to provide an auxiliary switch manipulator of this type which is of simple and inexpensive construction but sturdy and reliable in operation and which can be used in combination with a commercial switch plate.

Another object of the invention is to arrange the shield portion of the manipulator, which serves as operating handle and covers the opening in the switch plate, in such a manner that it slides over the switch plate at a distance from the face of the latter so as to avoid marring or scratching of any visible portions of the switch plate surface.

A further object of the invention is to make the shield of the manipulator easily removable and exchangeable so that the decorative features of the manipulator may be readily changed without dismantling the switch.

A still further object of my invention is to provide a decorative switch manipulator of the type described comprising resiliently mounted slide rails which can be sprung onto the longitudinal edges of the rectangular central opening of a commercial switch plate to permit mounting of the manipulator on such switch plate in a simple manner without special tools and without any permanent deformation of the plate or of any part of the manipulator.

Still another object of the invention is the construction of a manipulator comprising resiliently supported slide rails capable of being mounted on the edges of the central opening in a standard switch plate without tools and without permanent deformation of any part of the manipulator in such a manner that the assembly is secured against any forces acting from the front of the switch plate.

These and other objects which will appear more fully as the specification proceeds are accomplished by the arrangement and combination of parts set forth in the following detailed description, defined in the appended claims and illustratively exemplified in the accompanying drawing in which

Fig. 1 is a front elevation of one embodiment of my switch manipulator mounted on the switch plate of a standard flush wall switch.

Fig. 2 is a vertical section taken on line 2—2 of Fig. 1.

Fig. 3 is a horizontal section taken on line 3—3 of Fig. 1.

Fig. 4 is a perspective view of a modified slide cage.

Fig. 5 is a section similar to that of Fig. 3, of a shield adapted to be removably mounted on the slide cage according to Fig. 4.

Fig. 6 is a section similar to that of Fig. 5 showing the slide cage according to Fig. 4 and the shield according to Fig. 5 in assembled position, and

Fig. 7 is a sectional view of still another embodiment of the invention.

Referring now to the drawing, and particularly to Figs. 2 and 3, 11 denotes a standard switch box mounted flush in the wall 12 and containing a toggle lever switch 13 of the standard type. The operating handle 14 of the switch 13 projects from the face of the wall 12 in the usual manner. A switch plate 15 provided with the customary rectangular central opening 16 for the projecting switch handle 14 closes the switch box 11 and is secured thereto by means of the screws 17.

A slide, generally designated by the reference numeral 18, includes channel-shaped slide rails 18*a* and 18*b* mounted opposite each other on the longitudinal edges 16*a* and 16*b* of the opening 16. The rails 18*a* and 18*b* are about half as long as the opening 16. Each rail comprises a flat metal strip 181 in contact with the corresponding edge 16*a* or 16*b* of the opening and having a thickness less than the distance between said edge and the adjacent side of the switch handle 14, to permit free movement of the latter between the rails 18*a* and 18*b*.

The strips 181 are provided with spaced projections in the form of parallel metal flanges 182, 183 which extend adjacent the front and rear faces of the plate 15. The flanges 182 extend, prior to the mounting of the slide 18 on the switch plate 15, in the same planes as the associated strips 181 and are bent over at right angles after having been passed through the opening 16. The rails 18*a*, 18*b* are connected with each other by means of a cage 19 for the switch handle 4, said cage forming part of the slide 18 and comprising two side walls 20*a*, 20*b*, integral with the rails 18*a*, 18*b*, respectively, a top wall 21 and a bottom wall 22, which act as

abutments cooperating with the switch handle 4 to open or close the switch when the slidable cage is displaced upwardly or downwardly parallel to the switch plate 15, and an end wall 23. It will be readily seen that a shifting of the slidable cage 19 downwardly along the opening 16 will cause its top wall 21 to act upon the switch handle 4 so as to throw the switch from the "on" position shown in the drawing to the opposite "off" position. Similarly, when the switch is in its "off" position, an upward movement of cage 19 and rails 18a and 18b will force the handle 4 to assume the position shown in the drawing.

A shell-shaped shield 24 is mounted on the slidable cage 19, said shield being adapted to cover and hide the cage 19 and the switch plate opening 16 completely in either end position of the cage. The shield may be made of metal, molded plastic or any other suitable material and it may be given any color or decorative features desired. In the embodiment of the invention shown in Fig. 1, the shield 24 consists of metal and is secured to the end wall 23 of the cage 19 by means of solder 25. Thus, shifting of the shield 24 lengthwise of the plate 15 in one or the other direction will displace the cage 19 and cause flipping of the switch handle 14 to "off" or to "on" position as desired. As will be seen from the drawing, the shield 24 has its peripheral edge 26 spaced a small distance from the front face of the switch plate 15 so that marring and scratching of any part of the switch plate face which may be exposed to view in any position of cage 19 and shield 24 are positively avoided.

Suitable markings, for instance in the form of labels 27, 28 carrying the printed words "on" and "off" respectively, may be provided on the switch plate 15 to be exposed alternatively in the opposite end positions of the shield 24 through apertures 29 and 30 provided for this purpose in the shield 24.

Figs. 4 to 6 illustrate a modification of the invention in which the shield 24a is removably secured to the cage 19a. In these figures, two recesses 31a and 31b are provided in the side walls 20c and 20d, respectively, of the cage 19a. These recesses are engaged by two resilient elements 32a and 32b secured to the inside of the shield 24a. In the embodiment shown in Fig. 5, the shield 24a is made of plastic and the resilient elements 32a and 32b are the ends of a single suitably shaped spring band the central portion 31c of which is molded directly into the plastic. Grooves 33a and 33b formed in the plastic on the inside of the shield 24a receive the spring band ends 32a and 32b when they are compressed while the shield 24a is attached to or removed from the cage 19a. When it is desired to remove the shield 24a from the cage 19a a pull in a direction normal to the face of the switch plate 15 will compress the spring ends 32a and 32b so as to release them from the slots 31a and 31b, but forces acting in a direction parallel to the face of the switch plate will displace the shield 24a and cage 19a as an integral unit. Thus, it is possible to change the decorative features of my switch manipulator readily and without removing either the switch plate from the switch box or the cage or slide elements from the switch plate.

Fig. 7 illustrates a further embodiment of my invention in which the cage 19b has parallel side walls 20e, 20f spaced to pass through the opening 16 of a commercial switch plate 15 in close proximity to the longitudinal edges 16a and 16b of such opening. The end wall 23a, in this case, carries the male element 34 of a snap fastener which engages into a female snap fastener element 35 secured to the inside of a shield 24b. The side walls 20e, 20f extend in their own plane beyond the free edges 22b of the top and bottom walls 21a and 22a, to form resilient tongues 36a and 36b provided at their free ends with outwardly projecting flanges 37a, 37b. Oblique projections 38a, 38b struck out from the material of the tongues 36a and 36b have their free ends spaced from the flanges 37a, 37b a distance approximately equal to the thickness of a standard switch plate. The flanges 37a, 37b extend outwardly from the tongues 36a, 36b a substantially greater distance than the projections 38a, 38b. This arrangement has the advantage that the manipulator can be easily mounted by any layman on a standard switch plate without special tools and without any permanent deformation of any part of the manipulator. In order to provide a standard wall switch with a manipulator of this type, the shield 24 is pulled off the cage 19b. The switch plate 15 is removed from the switch box and the cage 19b is inserted from the rear of the switch plate through the opening 16. When the projections 38a, 38b pass through the opening 16, their inclined outer surfaces act as cams, forcing the tongues 36a and 36b towards each other. As soon as the free ends of the projections 38a, 38b have passed through the opening, the resilient tongues are automatically released, and return to their positions shown in the drawing to seat the cage 19b slidably on the edges 16a and 16b of the opening 16. The switch plate is then remounted on the box, and finally the shield is attached to the cage. By a reverse procedure upon manual compression of the tongues 36a, 36b the manipulator may just as easily be removed from the switch plate, but, due to the considerable width of the end flanges 37a, 37b, it is not possible to disconnect the cage 19b from the switch plate 15 accidentally by a pull from the front of the switch plate, even if the resilient tongues 36a and 36b should be accidentally compressed to some extent.

I claim:

1. In combination with a commercial wall switch plate provided with a central rectangular opening for the handle of a wall switch toggle lever, a decorative switch manipulator comprising a slide including two slide rails mounted opposite each other on the longitudinal edges of said opening and having a length not exceeding approximately half that of the latter, each of said rails including a flat strip portion in contact with one of said edges and having a thickness less than the distance between said edge and the adjacent side of a standard switch handle projecting through said opening and spaced projections extending from said strip portion adjacent the front and rear faces, respectively, of said switch plate, a shield connected to said slide and supported thereby in front of said plate for displacement lengthwise of the latter between two end positions, said shield being provided on its underside with a recess to receive a switch handle projecting through said opening between said slide rails, and two transverse abutments connected to and movable with said shield and slide to cooperate with such switch handle upon displacement of said shield in either direction for opening or closing the switch, a portion of said slide being de-

formable to permit seating of said slide rails upon the edges of said rectangular opening.

2. The combination, as claimed in claim 1, in which said shield is supported on said slide with its peripheral edge spaced from the front face of said switch plate.

3. The combination, as claimed in claim 1, in which said slide rails are channel members seated upon and embracing the longitudinal edges of said opening.

4. The combination, as claimed in claim 1, in which two markings indicating, respectively, the "on" and the "off" position of the switch are provided on said switch plate, and said shield has at least one aperture through which said markings are alternatively exposed in opposite end positions of said shield, respectively.

5. The combination, as claimed in claim 1, in which said shield is removably secured to said slide.

6. In combination with a commercial wall switch plate provided with a central rectangular opening for the handle of a wall switch toggle lever, a decorative switch manipulator comprising a slide including two slide rails mounted opposite each other on the longitudinal edges of said opening and having a length not exceeding approximately half that of the latter, each of said rails including a flat strip portion in contact with one of said edges and having a thickness less than the distance between said edge and the adjacent side of a standard switch handle projecting through said opening and spaced projections extending from said strip portion adjacent the front and rear faces, respectively, of said switch plate, and a thin-walled cage to receive and cooperate with a switch handle projecting through said opening, said cage including two side walls integral with said two slide rails, respectively, and projecting forwardly from the front face of said plate and top and bottom walls at substantially right angles to the face of the plate and connecting the corresponding edges of said side walls, a portion of said slide being deformable to permit seating of said slide rails upon the edges of said opening, a shield, and means for securing said shield to said cage.

7. The combination, as claimed in claim 6, in which said means for securing said shield to said cage includes cooperating resilient elements and recesses on the walls of said cage and on the inside of said shield, respectively.

8. The combination, as claimed in claim 6, in which said side walls are at least partially resilient to permit of springing said slide rails on the longitudinal edges of said switch plate opening.

9. For use with a wall switch plate provided with a central rectangular opening for the handle of a wall switch toggle lever, a decorative switch manipulator comprising a sliding cage to receive and cooperate with such switch handle, said cage having two side walls at opposite sides of a central plane, top and bottom walls at substantially right angles to said central plane, two resilient tongues integral with said side walls and having portions parallel to said central plane and adapted to rest with their outer surfaces against the longitudinal edges of said rectangular switch plate opening, a pair of integral outward projections at the free ends of said tongues, and another pair of integral outward projections on said tongues at a distance from said first mentioned projections substantially equal to the thickness of such switch plate, a shield and means to mount said shield on said sliding cage.

10. A switch manipulator, as claimed in claim 9, in which both of one of said pairs of outward projections are provided with cam surfaces, each of said cam surfaces extending obliquely from the outer end of the projection to the outer surface of the corresponding tongue to cause said tongues to approach each other while said cam faced projections are passed through a switch plate opening.

11. For use with a wall switch plate provided with a central rectangular opening for the handle of a wall switch toggle lever, a decorative switch manipulator comprising a sliding cage to receive and cooperate with such switch handle, said cage having substantially parallel side walls the outer surfaces of which are spaced a distance substantially equal to the width of such switch plate opening, and substantially parallel top and bottom walls, two resilient tongues projecting from said side walls in the planes thereof and between the planes of said top and bottom walls, integral outward projections at the free ends of said tongues, other integral outward projections on said tongues at a distance from said first mentioned projections substantially equal to the thickness of such switch plate, a shield and means to mount said shield on said sliding cage.

12. A switch manipulator, as claimed in claim 10, in which said first mentioned projections extend outwardly from said tongues a substantially greater distance than said other projections.

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