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SHIELD FOR ELECTRICAL WALL FIXTURES AND THE LIKE

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This invention relates to electrical devices and more particularly to shields therefor to coat therewith during installation thereof.

One of the objects of this invention is to provide a simple, practical and handy device for temporarily shielding electrical devices such as switches, plug receptacles and the like that are installed in recesses in a wall, usually in an outlet box recessed in the wall, against injury or marring of their exposed surfaces or parts by paint, plaster or the like, or like or other conditions or circumstances as arise between the time that the electrical fixture or device is installed and the time that the finish plate or cover plate is finally applied. Another object is to provide a shield of the above-mentioned character that is readily available to the workman installing the electrical device and that can be quickly and easily assembled to the wall installation. Another object is to provide a shielding device of the above-mentioned character which will have a wide range of adaptability and which will be capable of functioning with a wide variety of electrical fixtures. Other objects will be in part obvious or in part pointed out hereinafter.

The invention accordingly consists in the features of construction, combinations of elements, and arrangements of parts as will be exemplified in the structure to be hereinafter described and the scope of the application of which will be indicated in the following claims.

In the accompanying drawing in which is shown one of the various possible embodiments of the invention,

Figure 1 is a front elevation showing the shield device assembled to an illustrative electrical fixture;

Figure 2 is a side elevation or section as seen along the line 2–2 of Figure 1, showing also in exploded relationship an illustrative cover or finish plate and its securing means;

Figure 3 is a development of a carton or package for containing the electrical device to which the shield device is to be assembled and showing a preferred form of shield device, and

Figure 4 is a perspective view on a smaller scale showing the carton or package ready to receive the electrical device.

Similar reference characters refer to similar parts throughout the several views of the drawing.

As conducive to a clearer understanding of certain features of my invention, it may at this point be noted that there are many and various types of electrical fixtures or devices of which wall switches, wall plug receptacles, combinations thereof, and the like, are illustrative and of all of which I have, for purposes of illustration, selected a double plug receptacle as typical or illustrative, but it will be understood that my so doing is not to be interpreted in a limiting sense. Such devices are usually installed in so-called flush relationship to the surface of the building construction such as an interior wall, being set into a hole or recess therein and in one type of wiring installation or system widely employed, they are set into and secured to a so-called outlet or junction box which in turn is secured or mounted in a recess in the wall or the like. I have also selected this latter-mentioned wiring system with which to illustrate my invention and here again my so doing is not to be interpreted in a limiting sense.

In installing such electrical fixtures, practically all of which are provided with a cover or finish plate whose edges rest usually flush with the wall surface, the work is done in stages and at one stage the device is mounted in the recess in the wall and electrically connected and thereafter certain wall-finishing operations take place, such as painting, papering, paneling, finish-plastering or the like and after that work is done, the finish or cover plate is secured in position; in the interim, however, the electrical device remains exposed and frequently becomes marred or injured, foreign materials become smeared onto its surface, or surfaces or finishes, paint, lime, plaster, cement, etc., sometimes become smeared onto the devices, all with various detrimental results as are known to the art. One of the dominant aims of this invention is to provide a simple, inexpensive, handy and efficient device for avoiding such disadvantages and detrimental results.

Referring now to Figures 1 and 2, I have there indicated by the reference character 10 an electrical device of the above-mentioned nature, illustratively a double plug receptacle, provided with suitable means for securing it in position in a recess in the wall and with its front parts or faces usually in line with the front face 11 of the wall structure generally indicated by the reference character 12, and where the electrical fixture is of the type to be related to an outlet box, such as the outlet or conduit box generally indicated by the reference character 13, the fixture 10 is provided with end lugs 14 and 15, usually extending in line with the plane of the front face of the device, and adapted to overlie lugs or ears 16 and 17, respectively, provided in the end walls of the box 18 to which they may be secured in any suitable manner as by screws 18 and 19,
respectively, the box 13 itself being secured in the recess 21 in the wall 12 in any suitable way as by L-shaped brackets 22, 22 the latter being shown in Figure 2 simply to illustrate one of various ways in which the box may be secured in position.

In an illustrative form of electrical fixture and to line the latter up with the face 11 of the wall 12, the lugs 14 and 15 are preferably extended or shaped in any suitable way to overlie and engage the wall face 11 against which they are drawn or held by the securing screws 18 and 19, and an illustrative shaping of the lugs 14 and 15 is shown in Figures 1 and 2 where, at their ends, they are laterally extended to form what I shall term cross-tongues 14A and 15A respectively.

The lateral extensions as seen in Figure 1, when drawn by the securing screws against the wall surface 11, insure also that the electrical fixture 10 is free from substantial tilting about the vertical axis as viewed in Figure 3.

Suitable conductors indicated at 23 are brought through a wall of the box 13 in any suitable way and are electrically connected to the binding screws or connectors with which the electrical fixture 10 is provided and of which one connecting structure is indicated at 24, it being understood, of course, that the conductors are electrically connected to the device 10 before the latter is inserted into the wall recess or outlet box wherein the fixture 10 is secured in place.

In Figure 2 I have shown at 25 a cover or finish plate peripherally flanged as at 28A to take over the installation and to have the periphery of its peripheral flange 26A rest against the wall face 11, and the finish plate 25 may be secured in position in any suitable way, usually by way of a screw 27, the fixture 10 being provided with a threaded hole 28 (Figures 1 and 2) to take the screw and the cover plate 25 being usually apertured to expose therethrough the parts of the fixture 10, such as the plug-prong apertures or receptacles where the device is a plug receptacle, or the switch lever button or buttons where it is a switch, or other part or parts according to the specific character of the electrical fixture itself.

Before the finish plate 25 is applied, such operations as those above mentioned, such as finishing-plastering, painting, papering or the like, are carried on and to guard against injury to or marring or soiling of the fixture structure, including those parts thereof that are to be exposed through the finish plate, I provide a shield which is preferably made of a pliant sheet material, such as cardboard, and which in a preferred embodiment I make out of the same cardboard box in which the electrical fixture device 10, usually accompanied by securing screws, is packaged, and in Figures 3 and 4 I have shown how I modify any suitable form of such packaging box to make it provide the shield device.

Thus, referring to Figure 3, the carton or package may comprise a front panel F of an area adequately to encompass the vertical or plane projection of the fixture 10 which, to show this relationship I have illustrated at F10 with respect to the panel F, but it will be understood need not appear on the panel itself, and to either side of panel F it is joined by side panels S1 and S2 of which one, such as side panel S2, is joined to the back panel B, side panel S1 having a flap extension B1 which is secured as by an adhesive to the inside face of the back panel B to convert the cardboard blank of Figure 3 into tube-like form of rectangular cross-section, the width of the side panels S1 and S2 being just about equal or a little bit greater than the thickness of the electrical fixture to be slipped into the tube-like structure.

The ends of the latter may be closed as by folding end flaps E1 and E2 and then folding over the latter the closing end flap E3 which has a tuck-in flap E4 to hold these flaps in closing position.

Upturning the blank, it is of course seated in any suitable or usual way so that it may be folded up into the closed package as above described and according to my invention, I may during the same scoring operation provide lines of weakening or lines of spaced perforations, some of them superimposed upon the above-mentioned fold lines, outlining, in development, the shape of the shield device, and in Figure 3 I have shown these lines which I shall hereafter term "tear lines" in broken lines that are heavier than the above-mentioned fold lines and to emphasize the presence or availability of the shield device in the carton structure, I may distinguish the area encompassed by these tear lines in any suitable way as by printing that area in a manner to contrast it with the rest of the area of the carton, as by giving it a different color, as indicated by the stippling in Figures 3 and 4.

For convenience, I have designated the tear lines by the reference character T.

Accordingly, when the workman installing the fixture 10 takes it out of the box X of Figure 4, he immediately tears the carton material, or he may cut it if he prefers, along the demarcating lines T, thus segregating from the carton what is indicated by the stippled area in Figure 3, thus providing him with the shield device and that device, generally indicated in Figures 1 and 2 by the reference character 30, will be seen to comprise a front panel 30A of a width greater than the width of the device 10 with pairs of upper and lower end flaps 35A—35A and 33A—33A whose overall extend is equal to or greater than the overall length of the fixture 10, leaving between the flap members of each pair an open-ended slot 30B whose width is greater than the width of the supporting lugs 14 and 15 (see Figure 1): the front panel 30A has extending laterally therefrom (see Figure 3) side panels 30A and 30A whose vertical dimension as viewed in Figure 3 is less than the inside vertical dimension of the wall recess, or of the outlet box 13, and conveniently, the horizontal dimension as seen in Figure 3 is the same as or greater than the thickness of the fixture 10 (horizontal dimension as seen in Figure 2).

Accordingly, having made the electrical connections to the fixture and completed the testing of the circuits or of the installation, the workman now takes this shield device and assembles it to the fixture 10, in this illustrative embodiment, in the manner shown in Figures 1 and 2 from which it will be seen how the upper end flaps 30A—30A are slipped under the cross-tongue extensions 15A of the lug 15, the lower end flaps 30A—30A are slipped under the lateral extensions of the cross-tongue 14A, and the side panels or flaps 30A and 30A, having been previously folded into parallel relationship to give the shield device a U-shaped cross-section, are entered into the wall recess or into the outlet box, as the case may be, each to one side of the electrical fixture 10.

The screws 18 and 19 may now be tightened up.

Painting or the like may be proceeded with and it will be seen that the electrical fixture 10 is
dependably prevented from becoming scratched up or foreign material, such as paint, plaster and the like, slumped onto it.

If at any time access to the fixture 10 is desired, during this interim, one pair of end flaps, such as 36, when detached from in under the cross-tongue 14*, and this may be easily done by swinging the shield device in counterclockwise direction, as viewed in Figure 2, the upper pair of flaps 20—30* serving as hinge-like connections. Where the electrical fixture is a panel, access to the switch lever or buttons may frequently be necessary and it will be seen that my device makes it simple and easy to gain such access.

It will be noted that, in gaining such access, detachment of the shield device at only one end need be made, thus leaving the device secured to the fixture and avoiding the need of having to depend upon the workman replacing it. For that matter, the device has wide adaptability; for example, after gaining access by detachment at one end, the detached end plates, such as 23—35, can be placed back in under the cross-tongue 14* and where the latter has some degree of resiliency, that action is greatly facilitated, or these end flaps 30*—30* can be simply tucked inwardly into the wall recess or conduit box 16, the friction of the thus-bent flaps sufficing to hold the lower end of the shield device in place.

The end flaps 20—20 and 30—30 are preferably of substantial length so as to give the shield device a substantial range of accommodation thereunder of various shapes, types or configurations of electrical fixture and hence to let the front panel 30* of the device project forwardly (to the right as viewed in Figure 2) of the plane of the wall surface 11 according to the extent to which parts project in that direction from the fixture 10 itself. In Figure 2 such a relationship is indicated and the bends in the upper and lower securing flaps are clearly shown. Were the device to be a switch and hence have a switch lever or buttons or the like, the length of the upper and lower securing flaps is still adequate to keep their end portions in clamping relationship to the clamping parts and permit greater bends therein, thereby to bring the front panel 30* of the shield 30 sufficiently forward of the plane of the wall face 11 to accommodate thereinunder such projecting parts.

When the finish plate 26 is ready to be put in position, the shield device 30 is removed and the finish plate mounted in any suitable or usual way as by the screw 27 to secure it to the fixture 10. Removal of the shield 30 may be accomplished in any suitable way as by disengaging the end flaps from underneath the coating clamping part and then tightening the securing screws 18—19, or the device may be removed as by tearing so as to leave portions of the upper and lower end flaps in the position in which they were initially clamped, and in such case, they act simply as relatively thin shims, but without disturbing the alignment of the fixture relative to the wall surface.

It will thus be seen that there has been provided in this invention a shield device in which the various objects and advantages heretofore noted are successfully achieved. It will be seen that, either, it is effectual, convenient and simple and that it is well adapted to meet the widely varying conditions met with in hard practical use.

As many possible embodiments may be made of the mechanical features of the above invention and as the art herein described might be varied in various parts, all without departing from the scope of the invention, it is to be understood that all matters hereinafore set forth, or shown in the accompanying drawing, is to be interpreted as illustrative and not in a limiting sense.

I claim:

1. A shield device for an electrical fixture that is adapted to be recessed in a wall or wall box or the like and that has at opposed ends thereof rigid outwardly projecting ears for securing it in position when installed, said fixture having a cardboard box-like carton for initially containing it and said carton having top and bottom walls dimensioned to have the projection of the fixture with said ears fall within their outlines, said top and bottom walls being joined by side walls, said shield device comprising a front panel for covering over the front of said fixture and opposed end extensions to extend beyond the front of said fixture and into coacting relation with said rigid ears thereof and each of said opposed end extensions being bifurcated to take in under said rigid ears, said front panel and said opposed end extensions thereof being portions of the top wall of said container, said carton having tear lines marked thereon which to tear or sever the cardboard thereof to provide said front panel and tab extension.

2. A shield device for an electrical fixture that is adapted to be recessed in a wall or wall box or the like and that has at opposed ends thereof rigid outwardly projecting ears for securing it in position when installed, said fixture having a cardboard box-like carton for initially containing it and said carton having top and bottom walls dimensioned to have the projection of the fixture with said ears fall within their outlines, said top and bottom walls being joined by side walls, said shield device comprising a front panel for covering over the front of said fixture and opposed end extensions to extend beyond the front of said fixture and into coacting relation with said rigid ears thereof and inwardly directed apron-like side panels of said front panel and its extensions, said apron-like side panels extending at an angle from opposed side edges of said front panel and receivable about the sides of said fixture and within said wall recess or box, said shield device comprising portions of said box-like carton and its front panel and said apron-like side panels corresponding, respectively, to portions of said top wall and of two side walls of the carton.

3. A shielded electrical fixture comprising an electrical fixture that is received in a recess of a mounting means therefor that has opposed wall elements for supporting the fixture, said fixture having at opposed ends thereof rigid laterally projecting ear means, screw means coating with said ear means to secure the latter against said opposed wall elements of said recess, and a temporary shield device of cardboard comprising a front panel for covering over the entire front of said fixture to protect the latter pending subsequent application of a cover plate, and having opposed end extensions that extend into co-acting fastening relation respectively to said temporary shield device and said means by which said shield device is thereby detachably secured in position with said electrical fixture and hold said front panel in position to cover over the front of said fixture, whereby said
fixture is temporarily protected and said covering front panel may be removed to uncover the mounted fixture for the reception of a cover plate over the said fixture and said recess.

4. A shield device for an electrical fixture that is adapted to be recessed in a wall or wall box or the like and that has at opposed ends thereof rigid outwardly projecting ears for securing it in position when installed to form a substantially completed fixture installation excepting for a cover plate to be subsequently applied, said fixture having a cardboard box-like carton for initially containing it and said carton having top and bottom walls dimensioned to have the projection of the fixture with said ears fall within their outlines and having marked out thereon tear lines outlining a shield device, said top and bottom walls being supplemented by side closing walls, said shield device comprising a front panel for overlying the front of said fixture and opposed tab-like slotted extensions that are engageable respectively with portions of said fixture installation to hold said front panel in position overlying the front of the fixture to protect it pending subsequent removal thereof to uncover the fixture for the application to the installation of said cover plate, the cardboard of said carton providing said front panel and tab-like extensions upon tearing or severing the cardboard thereof along said tear lines.

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