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GUARDS FOR ELECTRICAL OUTLETS

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1 Claim. (Cl. 339—36)

The present invention relates to a guard for a domestic electrical wall outlet and has for an object to provide such a guard which is economical and easy to install or to remove for the purpose of removing plugs from and adding plugs to the outlet, and at the same time, will be attractive and will effectively prevent tampering by children with the outlet sockets or the plugs therein.

Having in mind the above and other objects that will be evident from an understanding of this disclosure, the invention comprises the devices, combinations and arrangements of parts as illustrated in the presently preferred embodiment of the invention which is hereinafter set forth in such detail as to enable those skilled in the art readily to understand the function, operation, construction and advantages of it when read in conjunction with the accompanying drawings in which:

Fig. 1 is a front elevational view of a guard in accordance with the present invention as applied to a domestic electrical wall outlet.

Fig. 2 is a fragmentary sectional view taken substantially on the line 2—2 of Fig. 1.

Fig. 3 is a fragmentary sectional view taken substantially on the line 3—3 of Fig. 1.

Fig. 4 is a fragmentary elevational view of a portion of the guard and illustrating an aperture for the wires through the side wall of the guard, which aperture is closed by a thin flashing or knock-out.

Figs. 5 and 6 are fragmentary sectional views similar to Fig. 2 but illustrating modifications of the invention.

As illustrated in the drawings, the guard in accordance with the present invention is designed to be used with a domestic electrical wall outlet comprising an outlet box 1 mounted in a wall 2 and having a dual outlet receptacle unit 3 secured therein by screws 4. The illustrated receptacle unit 3 has two receptacles 5, each adapted to receive a plug such as shown at 6 and 7, upon the ends of electrical wires 8 and 9 respectively.

In the usual manner the receptacle unit 3 is provided with a threaded aperture 10 that is adapted to receive a screw for securing a conventional cover plate 11 thereto. In accordance with the present invention, the usual screw for securing the cover plate 11 is replaced by an elongated stud 12 having a threaded end 13 which is of a reduced diameter to define a beveled shoulder 14, the threaded end 13 being formed to screw into the aperture 10 with the shoulder 14 cooperating with the cover plate 11 to secure the cover plate to the receptacle unit 3. The stud is thus secured to the receptacle unit 3 and arranged substantially normal thereto.

Surrounding the cover plate 11 is a rectangular box-like guard element 15 having a top wall 16 and four side walls 17 arranged normal thereto. The side walls 17 terminate in a plane parallel to the plane of the top wall 16 and define an open end for the guard element 15 that is of substantially the same configuration as the cover plate 11 but slightly larger so that the ends of the side walls 17 will abut against the surface of the wall 2 about the periphery of the cover plate 11. The side walls 17

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are made wide enough to space the top wall 16 away from the cover plate 11 a distance adequate to accommodate the plugs 6 and 7.

Formed integral with and centrally of the top wall 16 is a boss 18 having a bore 19 for receiving the free end 20 of the stud 12. The bore 19 is of a diameter slightly less than the diameter of the stud 12 and the guard 15 is formed preferably of moulded rubber or of a soft plastic material having a relatively high coefficient of friction. The guard 15 is designed to be forced into position with the stud 12 received axially in the bore 19 and frictionally held therein. To amplify the frictional connection, the free end 20 of the stud 12 may be knurled. To remove the guard element 15, it is merely forced off the stud 12 against the frictional resistance between the stud 12 and the surface of the bore 19.

The wires 8 and 9 from the plugs 6 and 7 extend outwardly from the guard element 15 through apertures 21 in the side walls 17. By forming the guard element 15 of plastic, it is not only relatively cheap to manufacture, but also does not present sharp edges about the apertures 21 which would cut the wires 8 and 9, thereby avoiding the use of grommets about the apertures 21. At the same time, the use of a plastic material has the advantage that in moulding the guard element 15, the apertures 21 may be conveniently closed by a thin knock-out of flashing as at 22 to present a neat and attractive continuous outer surface. In the illustrated embodiment of the invention, one such knock-out is provided in each of the four side walls 17. When the guard is to be used, any selected one or ones of the knock-outs 22 may be removed to provide an aperture 21 for a lead wire, for example as illustrated, the two knock-outs 22 along the opposite long side walls 17 have been removed to provide apertures 21 for the wires 8 and 9 while the knock-outs 22 along the two short side walls 17, not being used, have not been removed, thus preserving the appearance of the guard.

In Fig. 5 there is illustrated a modification of the invention which comprises a guard element 23 having a top wall 24 and side walls 25. An aperture 26 is formed centrally of the top wall 24 of the guard element 23. Extending through the aperture 26 is a frictional fastening element 27 having a head 28 that is of a larger diameter than the aperture 26 and a shank 29 of a reduced diameter to provide a shoulder 30. The diameter of the shank 29 is slightly less than that of the aperture 26 so that the shank will move freely therethrough. Formed centrally of the shank 29 is a hole 31 having a diameter slightly less than the diameter of the stud 12. The fastening element 27 is designed to be forced into position with the shank 29 extending through the aperture 26 and the stud 12 received axially in the hole 31 so that the shoulder 30 will engage against the outer surface of the top wall 24 about the aperture 26. The fastening element 27 is thus frictionally secured on the stud 12 and will hold the guard element 23 in position. To remove the guard element 23, the fastening element 27 is forced off the stud 12.

One of the advantages of the embodiment of the invention as illustrated in Figs. 1—4 is that the guard element 15 and the means for frictionally securing it to the stud 12, which is the boss 18, are a single integral element that may be moulded in one operation. With the second embodiment of the invention, as illustrated in Fig. 5, the guard element 23 and the fastening element 27 are two separate pieces, thus providing for a better selection of materials for the guard element 23 and the fastening element 27. Thus the guard element 23 can be formed of a cheaper plastic material selected for its rigidity as well as to provide for the knock-outs 22, while

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the fastening element 27 can be formed of a material selected for its use as a frictional fastening means.

A further modification of the invention is illustrated in Fig. 6 wherein there is illustrated a top wall 32 of a guard element similar to the guard element 15 having a boss 33 with a bore 34. A stud 35 similar to the stud 12 is formed with a peripheral groove 36 near the free end thereof and this groove 36 cooperates with an annular ring or bead 37 formed in the boss 33 internally of the bore 34. In this modification of the invention, the guard element is formed of a deformable resilient plastic material such as polyethylene so that the guard element can be forced onto the stud 35 with the stud received in the bore 33 and the bead 37 will snap into the groove 36 to hold the guard element in place.

To use a guard element in accordance with the present invention with existing electrical outlets, it is necessary only to replace the usual fastening screw for the cover plate 11 with the stud 12, and to secure the guard element in position on the stud 12.

Another advantage of the present invention is that in case of an emergency, the pull on the cord not only removes the plug from the receptacle, but also snaps off the guard.

Numerous alterations of the structure herein disclosed will suggest themselves to those skilled in the art. However, it is to be understood that the present disclosure relates to a preferred embodiment of my invention which is for purposes of illustration only and not to be construed as a limitation of the invention. All such modifications which do not depart from the spirit of the invention are intended to be included within the scope of the appended claim.

Having thus set forth the nature of the invention, what I claim herein is:

A guard for protecting a wired plug removably secured to a domestic electrical outlet including a cover plate having an aperture adapted to receive a screw for secur-

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ing the cover plate to the outlet, said guard comprising a guard element having a substantially rectangular top wall and continuous side walls extending substantially normal from the outer edge of said top wall, said side walls having the free edges thereof terminating in a plane spaced from and disposed substantially parallel to said top wall and defining an open bottom for said guard element and with at least one of said side walls having an aperture extending inwardly from the free edge thereof for receiving the wire extending from the wired plug, and means for securing said guard element to the outlet and over the wired plug comprising an elongated stud having a shoulder intermediate its ends of a diameter greater than the diameter of said aperture and with a threaded first end adapted to extend through the aperture in the cover plate and to screw into the outlet to engage said shoulder against the cover plate for securing the cover plate to the outlet and having a free second end extending from said shoulder a distance substantially equal to the width of said side walls, and frictional fastening means for securing said guard element to said stud comprising a boss integral with said top wall and having a bore aligned axially with said stud when said guard is in operative position with relation to said outlet, said bore axially receiving the free second end of said stud and frictionally cooperating therewith to secure said guard to said outlet whereby a manually pull lengthwise of the stud upon the free end of the wire extending from the wired plug will lift the guard off the stud.

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