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M. S. KISSEL

3,027,416

ELECTRICAL OUTLET BOX

Filed May 18, 1961

FIG. 1

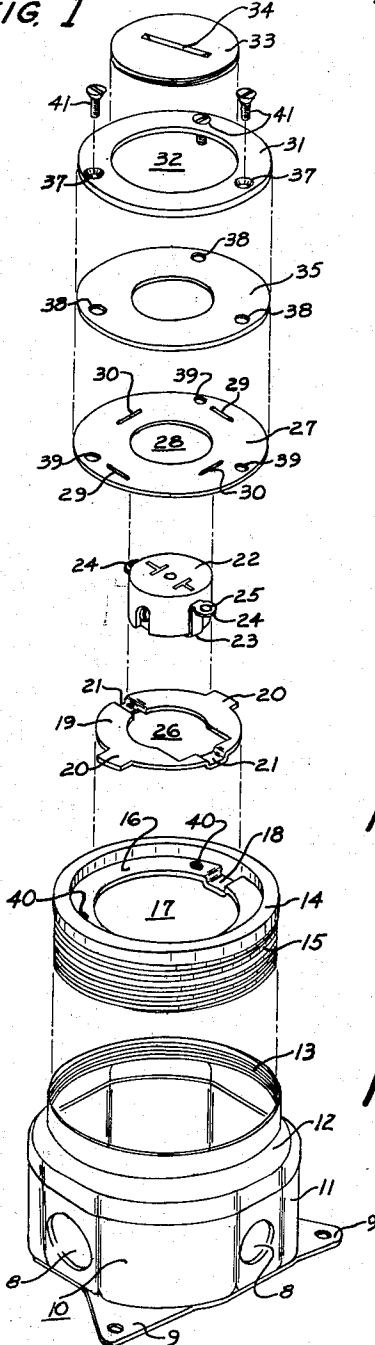


FIG. 2

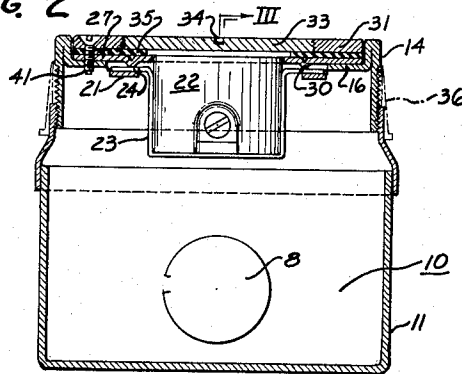


FIG. 3

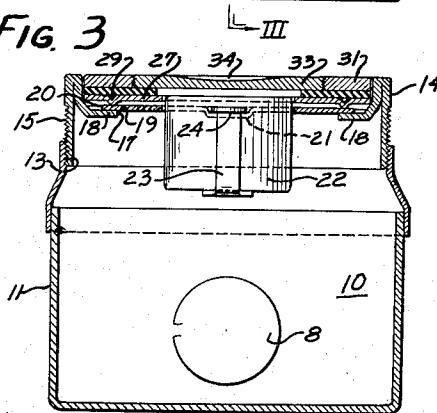


FIG. 6

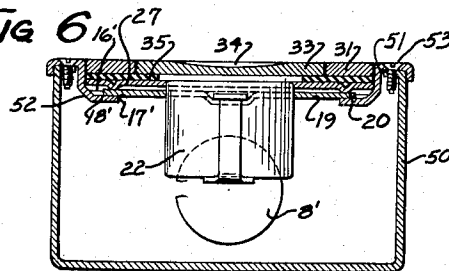


FIG. 4

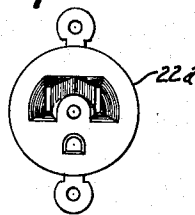
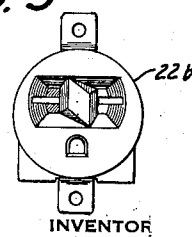


FIG. 5



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3,027,416

ELECTRICAL OUTLET BOX

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4 Claims. (Cl. 174—57)

This invention relates to electrical outlet boxes and is particularly useful in such boxes of the type that are secured in floors and are sometimes referred to as floor outlet boxes.

A continuing problem with both manufacturers and consumers of such boxes is the fact that there is very little standardization of outlet boxes with respect to the electrical receptacles for use therewith. There are a great many different boxes as well as receptacles and generally the manufacturer must apply special fittings to the receptacle for the particular boxes employed. Further, such fittings are generally applied to the receptacle by riveting or screwing and the fitting thereafter is again screwed or riveted to a mounting support in the box. As a result, manufacturers must stock at least the most widely used and accepted receptacles and attach them to the special fittings necessary to adapt them for use in their particular boxes.

My invention permits the use of a number of the most popular but different makes and types of receptacles in a standard box without any need for special adaptation. This permits a consumer utilizing my box to install and use any one or more of a variety of receptacles without having to have them fabricated or adapted to fit therein by the manufacturer; i.e., the consumer may install the box of my invention without any receptacle therein and thereafter select the receptacle he desires for each particular outlet and install it therein himself with a minimum of difficulty. This is because, inter alia, I have invented an electrical outlet box that is universal to the extent that it will receive a number of the most widely used and accepted receptacles without the necessity of any further fabrication by the manufacturer to adapt one to the other. Further, the unique structure of my outlet box permits these receptacles to be installed in my box without riveting or screwing the same therein. The consumer simply attaches the wires to the receptacle as usual and then drops the receptacle into place. This means that the receptacle may not only be installed with a minimum of difficulty, but may also be replaced or changed for another type with a minimum of difficulty and without the necessity of going back to the manufacturer of the outlet box for specially adapted receptacles.

The advantages of such a universal outlet box are readily apparent to those skilled in the art. I provide an electrical outlet box comprising a box member adapted to communicate with electrical conduit and the like having a flanged opening in the top thereof, said flange having at least two opposing depressions therein, a saddle member having a central opening therethrough disposed in said box member opening, said saddle member having ear elements adapted to seat in said depressions of said flange and having at least two opposing depressions therein adapted to receive the ear elements of an electrical receptacle member disposed in the opening thereof, a retainer member disposed on said saddle member having raised portions spaced thereon adjacent said ear elements of the receptacle and saddle members, a cover member disposed on said retainer member, said cover member and retainer member each having a central opening therethrough and fastening means adapted to secure said cover member to said box member.

I preferably provide adjusting means whereby my outlet box may be leveled with the surface of the floor or

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whatever it is disposed in; in which case the above described flange would be integral with the adjusting means in a central opening thereof rather than in the box member as just described.

I further preferably provide a gasket disposed between the cover member and retainer member and a removable plug means adapted to close the central opening of the cover member to prevent water seepage into the outlet box.

Other details, objects and advantages of the invention will become apparent as the following description of a present preferred embodiment thereof proceeds.

In the accompanying drawings, I have shown a present preferred embodiment of the invention in which—

FIGURE 1 is an exploded isometric view of an electrical outlet box embodying my invention;

FIGURE 2 is a vertical cross-sectional view of an electrical outlet box embodying my invention;

FIGURE 3 is a full cross-sectional view taken on the line III—III of FIGURE 2;

FIGURE 4 is a top plan view of another type of electrical receptacle of widespread use which may be utilized in my outlet box;

FIGURE 5 is a top plan view of still another electrical receptacle of widespread use which may be utilized in my outlet box; and

FIGURE 6 is a vertical cross-sectional view of another embodiment of my invention.

Referring now to the drawings and initially to FIGURE 1, I provide a box member 10 having knockout ports 8 into which conduit, cable, or the like may be inserted. Box member 10 is sunk in the floor or fastened wherever desired by nails or screws in the openings provided in tabs 9 fastened thereto. The installation of box member 10 is familiar to those skilled in the art and thus not shown in the drawing. Box member 10 has a central opening 13 in the top thereof which is threaded as clearly shown in the drawing. Box member 10 may be formed of a single casting or of a lower portion 11 and upper portion 12 as shown. An adjusting ring 14 having a threaded portion 15 is threadably engaged with opening 13 of box member 10 and as is readily apparent may, by turning therein, be raised or lowered as desired relative to box member 10, for leveling purposes familiar to those skilled in the art. Adjusting ring 14 has integral therewith an annular flange 16 which extends partially into the central opening thereof. Flange 16 has a pair of depressions 18 disposed therein in opposing relation as shown most clearly in FIGURES 1 and 3. A universal adaptor ring or saddle 19 is disposed in opening 17. Saddle 19 has a pair of opposing lugs or ears 20 which seat in depressions 18 of flange 16. Saddle 19 in turn has a pair of depressions 21 disposed therein in opposing relation as clearly shown in FIGURES 1 and 2. Receptacle 22 is a typical receptacle that enjoys widespread use with a yoke 23 attached thereto which has ears 24 formed at the end thereof. The drawings show ears 24 with holes 25 therethrough. This is simply because most receptacle yokes are fabricated this way by the manufacturers thereof so that they may be riveted or screwed to the support member of outlet boxes made in accordance with prior practice. Of course, in my outlet box said holes 25 are superfluous as any such fastening operation is obviated by my invention as will become apparent as the description continues. Receptacle 22 is placed into central opening 26 of saddle 19 so that ears 24 thereof seat in depressions 21 of saddle 19. It should be noted that opening 26 of saddle 19 is large enough and shaped to accommodate a number of the more popular receptacles of widespread use such as receptacles 22a and 22b shown in FIGURES 4 and 5.

A retaining ring 27 having a central opening 28 is dis-

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posed on saddle 19; central opening 28 leaving the top of receptacle 22 exposed therethrough. Retaining ring 27 has raised portions such as ridges or protrusions 29 and 30 on the lower face thereof in spaced relation as shown in FIGURES 1, 2 and 3. Retaining ring 27 is positioned so that protrusions 29 and 30 bear on ears 20 and 24, respectively, of saddle 19 and receptacle 22. On top of retaining ring 27 is disposed cover plate 31 having a central opening 32 for access to receptacle 22. Opening 32 is preferably threaded to receive a suitably threaded plug 33 for closing opening 32 where such is desirable, such as in a floor outlet box. A slot 34 is provided in plug 33 for the insertion of a tool or coin for turning plug 33 in opening 32. I further preferably provide a gasket 35 between cover plate 31 and retaining ring 27 to prevent moisture seepage down into the outlet box, which is a desirable feature in outlets of the floor box type. I also preferably provide a thread protector ring 36 which seats on top of box member 10 adjacent central opening 13 and extends upwardly therefrom to cover and thereby protect the exposed threads of threaded portion 15 of adjusting ring 14.

Cover plate 31, gasket 35, retaining plate 27 and flange 16 each have matched screw openings 37, 38, 39 and 40, respectively, so that screws 41 may be inserted therethrough to hold the box in assembly; openings 40 being threaded for this purpose. Openings 37 are countersunk to provide a smooth surface at the cover plate.

Referring now to FIGURE 6; for those installations where no leveling is needed or desired I illustrate an electrical outlet box embodying my invention without a leveling or adjusting ring therein. In this embodiment, outlet box 50 is open at the top thereof and has tabs 51 adjacent said top opening. A flange plate 52 is fastened to tabs 51 by suitable means such as screws 53. Flange plate 52 has a flanged ring portion 16' and central opening 17'. Like flange 16 described earlier, flange 16' has depressions 18' therein for the reception of ears 20 of saddle 19 and threaded holes (not shown) for engagement with screws 41 as earlier described with respect to flange 16. This last described embodiment is otherwise like the first described embodiment and therefore will not be further described. It is obvious that thread protector 36 is not needed in said last described embodiment and is therefore omitted.

Thus, it is clear, that in an electrical outlet box embodying my invention, the consumer thereof may simply remove the screws 41, lift out cover plate 31, gasket 35 and retaining ring 27 and thereafter install or exchange the receptacle of his choice without having to adapt a receptacle himself or go to the manufacturer for a receptacle specially adapted therefor. Further, it is clear that neither the manufacturer of the outlet box nor the receptacle need stock receptacles specially adapted for the outlet box, as such special adaptation is obviated.

While I have shown and described certain present preferred embodiments of the invention, it is to be distinctly understood that the invention is not limited thereto but may be otherwise variously embodied within the scope of the following claims.

I claim:

1. An electrical outlet box comprising a box member adapted to communicate with electrical conduit and the like having a flanged opening in the top thereof, said flange having at least two opposing depressions therein, a saddle member having a central opening therethrough disposed in said box member opening, said saddle member having ear elements adapted to seat in said depressions of said flange and having at least two opposing depressions therein adapted to receive the ear elements of an electrical receptacle member disposed in the opening thereof, a retainer member disposed on said saddle mem-

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ber, cover means disposed on said retainer member, said cover means and retainer member each having a central opening therethrough and fastening means adapted to secure said cover means to said box member.

2. An electrical outlet box comprising a box member adapted to communicate with electrical conduit and the like having an annular opening in the top thereof with an annular flange therein, said flange having at least two opposing depressions therein, a removable saddle ring member having a central opening therethrough disposed in said box member opening, said saddle ring member having ear elements adapted to seat in said depressions of said flange and having at least two opposing depressions therein adapted to receive the ear elements of an electrical receptacle member disposed in the opening thereof, a retaining plate member disposed on said saddle ring member having raised portions on the lower surface thereof, said raised portions being spaced thereon adjacent said ear elements of the receptacle and saddle members, a cover plate member disposed on said retaining plate member with gasket means therebetween, said cover plate member, retaining plate member and gasket means each having a central opening therethrough, removable plug means adapted to close said central opening of the cover plate member and fastening means adapted to secure said cover plate member to said box member.

3. An electrical outlet box comprising a box member adapted to communicate with electrical conduit and the like having an opening in the top thereof, a level adjusting member engaged in said box member opening and having an opening therethrough, said adjusting member having a flange in said opening with at least two opposing depressions therein, a saddle member having a central opening therethrough disposed in the opening of said adjusting member, said saddle member having ear elements adapted to seat in said flange depressions and having at least two opposing depressions therein adapted to receive the ear elements of an electrical receptacle member disposed in the opening thereof, a retainer member disposed on said saddle member, a cover member disposed on said retainer member, said cover member and retainer member each having a central opening therethrough and fastening means adapted to secure said cover member to said level adjusting member.

4. An electrical outlet box comprising a box member adapted to communicate with electrical conduit and the like having a threaded annular opening in the top thereof, adjusting ring means threadedly engaging said box member and having an annular opening therethrough, said adjusting ring means having an annular flange in said opening with at least two opposing depressions therein, a removable saddle ring member having a central opening therethrough disposed in the opening of said adjusting ring means, said saddle ring member having ear elements adapted to seat in said flange depressions and having at least two opposing depressions therein adapted to receive the ear elements of an electrical receptacle member disposed in the opening thereof, a retaining plate member disposed on said saddle ring member having raised portions on the lower surface thereof, said raised portion being spaced thereon adjacent said ear elements of the receptacle and saddle members, a cover plate member disposed on said retaining plate member with gasket means therebetween, said cover plate member, retaining plate member and gasket means each having a central opening therethrough, a removable plug means adapted to close said central opening of the cover plate member and fastening means adapted to secure said cover plate member to said adjusting ring member.

No references cited.