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2,934,590

ELECTRIC OUTLET RECEPTACLE

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FIG. 1

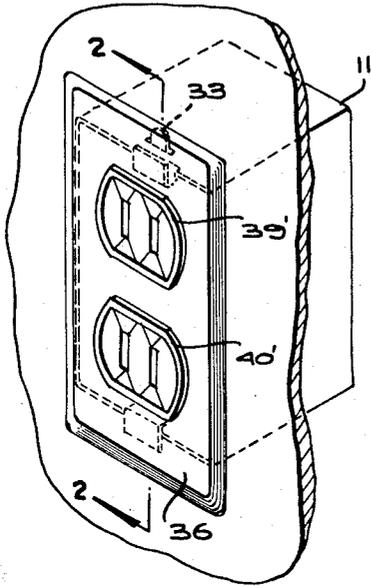


FIG. 2

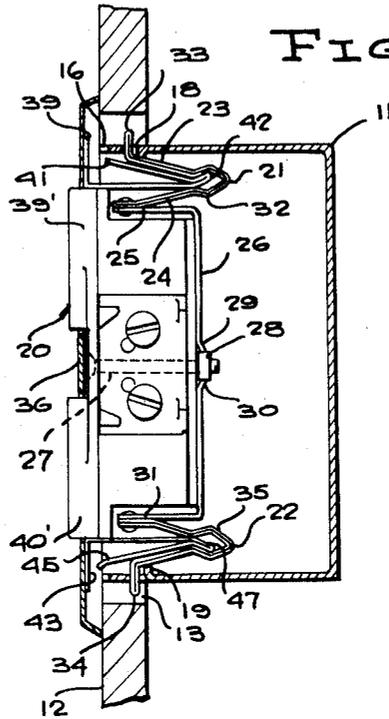
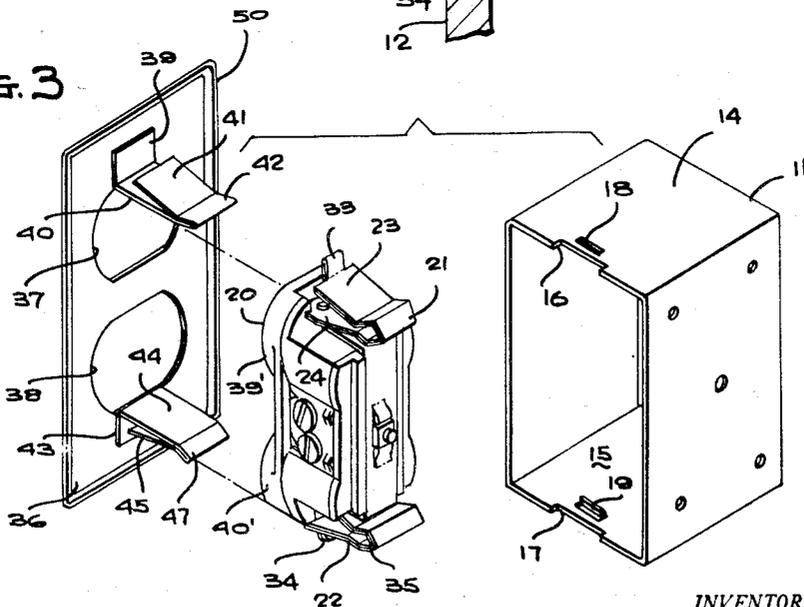


FIG. 3



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ELECTRIC OUTLET RECEPTACLE

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1 Claim. (Cl. 174-53)

This invention relates to electrical receptacles, and more particularly to an electrical outlet receptacle adapted to be installed without requiring the use of screws or similar fasteners.

A main object of the invention is to provide a novel and improved electrical outlet receptacle which is simple in construction, which is very easy to install, and which is inexpensive to manufacture.

A further object of the invention is to provide an improved electrical outlet receptacle adapted to be mounted in an outlet box, the mounting of the receptacle requiring no screws or other fastenings, the receptacle being durable in construction, and the installation of the receptacle being accomplished rapidly, with a minimum of labor, and without requiring the use of other than the simplest of tools.

Further objects and advantages of the instant invention will become apparent from the following description and claim, and from the accompanying drawings, wherein:

Figure 1 is a fragmentary perspective view of a portion of a wall in which is installed an improved electrical outlet receptacle according to the present invention.

Figure 2 is a vertical cross-sectional view taken on the line 2-2 of Figure 1.

Figure 3 is a perspective view of the assembly illustrated in Figures 1 and 2 with the parts thereof shown in separated positions.

Referring to the drawings, 11 designates a conventional outlet box which is secured in a stationary position in the usual manner with its open forward end portion extending through and terminating flush with a wall 12. Thus, the wall 12 is formed with a rectangular aperture 13 which receives the open forward end of the outlet box 11. The outlet box 11 is fastened in any suitable manner to portions of the framing of the wall so that it is securely supported in a stationary position.

The outlet box 11 is provided with the horizontal top and bottom walls 14 and 15 which are formed at the intermediate portions of their forward edges with rectangular notches 16 and 17 and with respective slots 18 and 19 extending parallel to the forward edges of the top and bottom walls 14 and 15.

Designated at 20 is the main receptacle assembly which is generally conventional in construction and which is provided with the top and bottom resilient fastening clips 21 and 22. The top clip 21 comprises a two-ply body of resilient sheet metal which is formed to define the opposing top and bottom arms 23 and 24, the bottom arm 24 being fastened at its forward end to the forward end of the top arm 25 of a generally U-shaped rigid metal bracket 26 secured to and receiving the main double-socket receptacle assembly 20. Thus, the bracket 26 is fastened to the main assembly 20 by a center bolt 27 which extends through the main body of the assembly 20 and through the intermediate portion of the bight element of bracket 26, being threadedly engaged in an anchoring nut 28 seated between a pair of stop lugs 29 and 30

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formed in the bight member of the bracket 26. The bracket member 26 is thus rigidly secured to the main receptacle body 20 with the top arm 25 of the bracket member located closely adjacent the top surface of body 20 and with the bottom arm 31 of said bracket member located adjacent to the bottom surface of body 20.

The clip 21 is formed with the generally diamond-shaped inner loop 32, merging with bottom arm 24 and top arm 23 of said clip 21. The top arm 23 is formed at its free end with the upstanding catch lug 33 which is dimensioned to be received in the slot 18 in the top wall 14 of outlet box 11, as will be presently described. The bottom clip 22 is similar in construction to the top clip 21 but has its top arm secured to the forward end portion of the bottom arm 31 of bracket 26 and is provided on the free end of its bottom arm with a depending lug 34 dimensioned to be received in the bottom slot 19 of the outlet box 11.

As will be apparent from Figures 1 and 3, the lugs 33 and 34 are substantially less in width than the clips 21 and 22, the width of said clips being such that said clips are respectively receivable in the notches 16 and 17 during the installation of the receptacle 20, as will be presently described.

The bottom clip 22 is provided with the generally diamond-shaped inner end loop 35, similar to the inner end loop 32 of the top clip 21. The receptacle 20 may be easily installed in the outlet box 11 by engaging the clips 23 and 22 respectively in the notches 16 and 17 and first elevating the bottom arm of clip 22 sufficiently to engage lug 34 in the slot 19. Subsequently, the body 20 may be rotated inwardly with the top arm of clip 21 depressed sufficiently to allow the upstanding lug 33 to be inserted in the slot 18, whereby the body 20 will be retained in the outlet box in the position thereof illustrated in Figure 2.

Designated at 36 is a cover plate formed with respective apertures 37 and 38 adapted to receive the respective receptacle projections 39' and 40' of the body 20. Secured to the rear surface of cover plate 36 above the receptacle-receiving aperture 37 is a bracket member 39 having the spring arm 40 formed with the resilient upwardly and forwardly inclined leaf element 41 and formed with the folded and upwardly and inwardly inclined inner end portion 42. A similar bracket 43 is secured to the rear surface of plate 36 adjacent the bottom edge portion of the lower aperture 38, the bracket 43 being provided with a horizontally extending arm 44 and the resilient leaf element 45, inclined downwardly and toward the plate 36, being connected to the arm 44 by the downwardly and inwardly inclined end portion 47 which is divergently directed relative to the upwardly and inwardly inclined end portion 42 of top arm 40.

The arms 40 and 44 are spaced apart to be received in the clips 21 and 22, with the inner ends 42 and 47 of the arms lockingly engageable in the respective loops 21 and 22. Thus, in mounting the plate, the arms 40 and 44 are inserted in the clips 21 and 22 and the plate is pushed inwardly until the inclined detent elements 42 and 47 lockingly engage in the fastening loops 32 and 35 in the manner illustrated in Figure 2.

As will be readily apparent from Figure 2, the resilient clips 21 and 22 exert a clamping force on the respective supporting arms 40 and 44 and clampingly engage said supporting arms at the inclined detent elements 42 and 47, with the leaf elements 41 and 45 resiliently engaging the respective top and bottom arms of the clip members 21 and 22 in frictional binding contact therewith. The plate member 36 is thus secured with the edge of its peripheral flange 50 substantially in abutment with the outer surface of wall 12 and with the socket projections 39' and

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40' extending through the apertures 37 and 38 in the manner illustrated in Figures 1 and 2.

The plate 36 may be easily removed, whenever required, by inserting a screw driver between the flange 50 and wall 12 and exerting a prying force on said flange, whereby to pull the arms 40 and 44 outwardly from the fastening clips 21 and 22.

While a specific embodiment of an improved electrical receptacle assembly has been disclosed in the foregoing description, it will be understood that various modifications within the spirit of the invention may occur to those skilled in the art. Therefore it is intended that no limitations be placed on the invention except as defined by the scope of the appended claim.

What is claimed is:

In an electrical receptacle assembly, an outlet box having top and bottom walls, said top and bottom walls being formed with slots adjacent and parallel to the forward edges of said top and bottom walls, a main receptacle body, respective forwardly facing, generally U-shaped spring clips disposed adjacent the top and bottom of said body, each clip having a constricted inner end loop portion, means securing one arm of the spring clips respec-

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tively to the top and bottom of the body, whereby the other arm is free to flex outwardly, respective outwardly projecting, substantially vertical lugs on said free other arms of the clips lockingly engageable in the slots in said top and bottom walls, a cover plate engageable over said main receptacle body, respective inwardly projecting arms on said cover plate lockingly receivable in said spring clips, and divergent inclined detent elements on the ends of said inwardly projecting arms clampingly engageable in said constricted inner end loop portions.

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