

Nov. 18, 1952

W. E. PARISH ET AL

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DUPLEX ELECTRICAL WALL RECEPTACLE

Filed Aug. 1, 1951

2 SHEETS—SHEET 1

Fig. 1

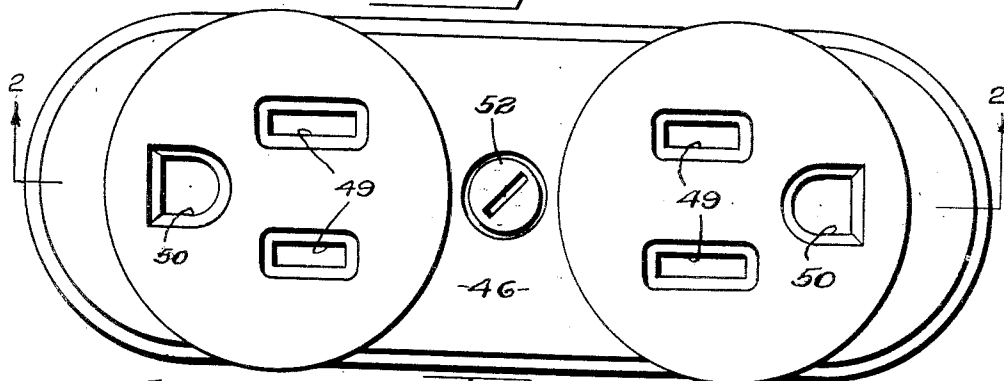


Fig. 2

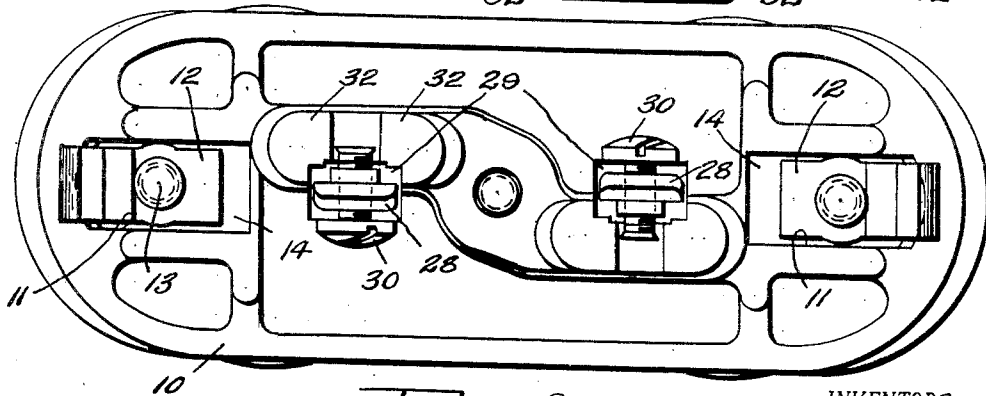
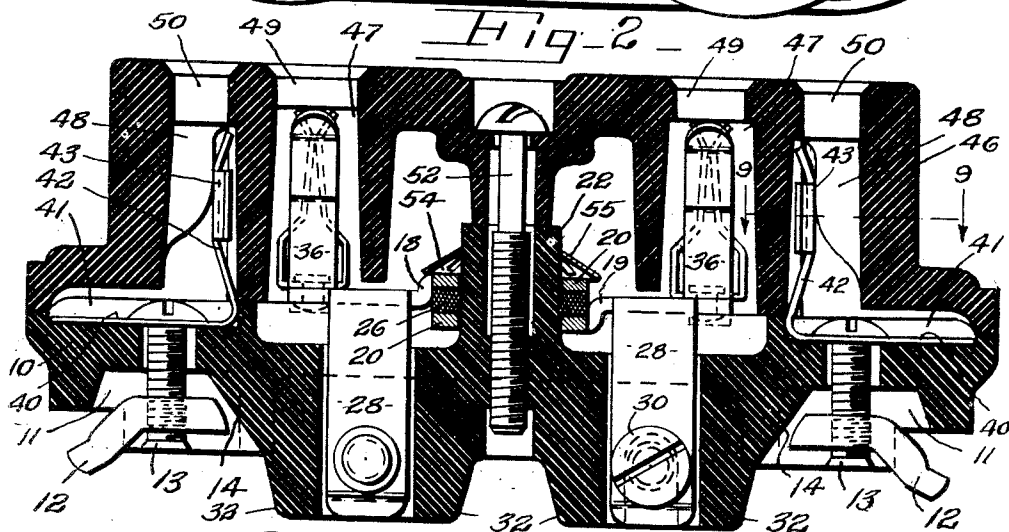


Fig. 3

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2 SHEETS—SHEET 2

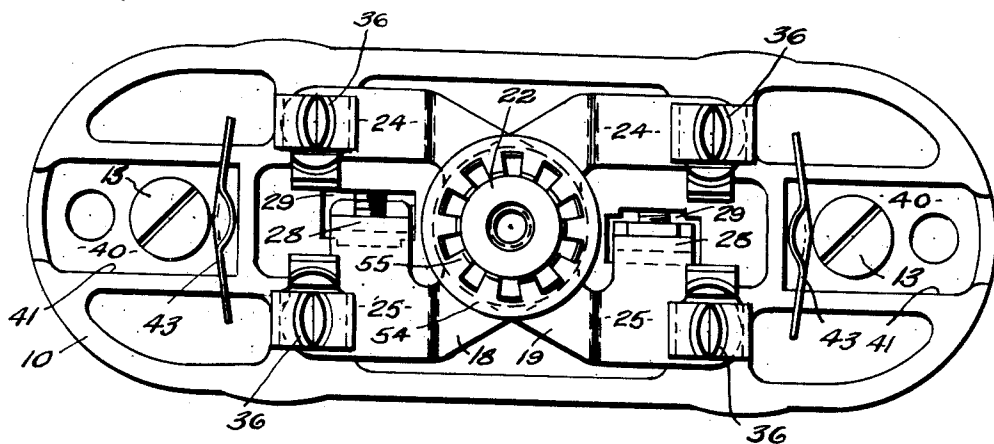


Fig. 4

Fig. 5

Fig. 6

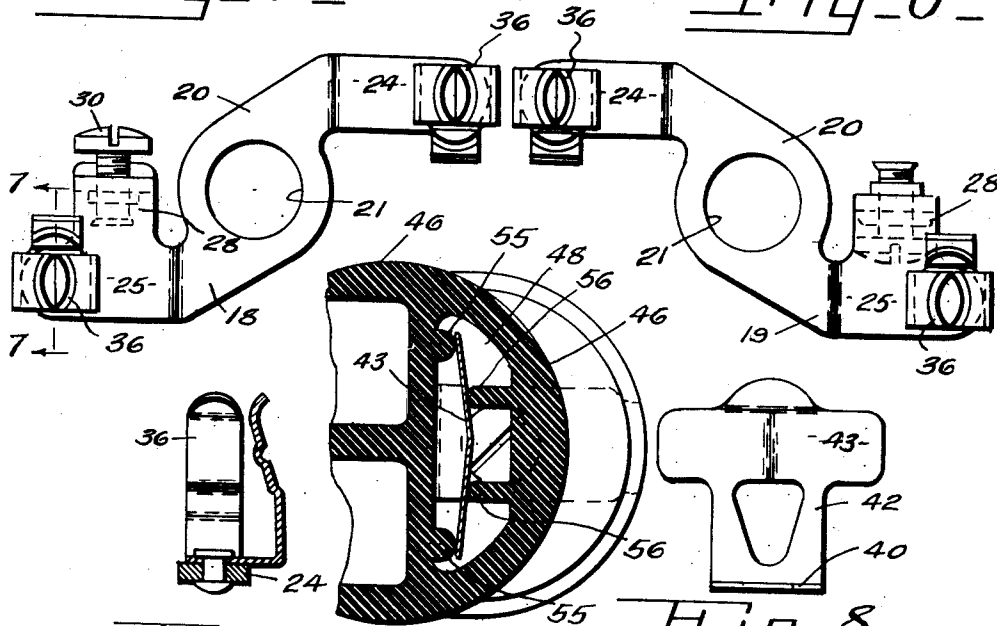


Fig. 7

Fig. 9

Fig. 8

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DUPLEX ELECTRICAL WALL RECEPTACLE

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3 Claims. (Cl. 173-330)

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This invention relates to receptacles for electrical plugs, and is of the type commonly known as a "convenience outlet." These receptacles are installed in the wall structures of homes and offices for the reception of plugs attached to the cords of lamps and other electrical appliances.

More particularly, this invention relates to a receptacle of the type referred to of the duplex type—that is, the receptacle is adapted to accommodate two plugs at the same time, and further the structure herein disclosed is adapted to be detachably mounted in the opening of a conduit outlet box, and further the receptacle is of the type provided with a third contact to receive a grounding contact on the plug.

The invention has as an object a receptacle of the type referred to embodying a novel construction by which the receptacle may be manufactured and parts assembled at low cost, and which is particularly serviceable in use.

The invention consists in the novel features and in the combinations and constructions hereinafter set forth and claimed.

In describing this invention, reference is had to the accompanying drawings in which like characters designate corresponding parts in all the views.

Figure 1 is a top plan view of a receptacle embodying our invention.

Figure 2 is a lengthwise sectional view taken on line 2—2, Figure 1.

Figure 3 is a bottom plan view of the structure shown in Figure 1.

Figure 4 is a top plan view of the base of the receptacle with the cover removed.

Figure 5 is a plan view of one contact plate.

Figure 6 is a view similar to Figure 5 of the second contact plate.

Figure 7 is a view taken on line 7—7, Figure 5.

Figure 8 is a side elevational view of the grounding contact.

Figure 9 is a view taken on a line corresponding to line 9—9, Figure 2.

The receptacle consists of a body or base 10 elongated in general form and being rounded at its ends. The under side of the body is formed with a rectangular recess 11 adjacent each end of the body and in which are mounted nut members 12 threaded on screws 13. When the screws are tightened, the inner ends of the nuts 12 engage an inclined wall 14, and the nuts are urged outwardly into engagement with the conduit outlet box and by this manner, the base 10 is detachably secured to the open side of the box.

The plug receiving contacts are mounted on

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contact carrying plates 15, 16. The medial or center portion 20 of these plates is apertured, as at 21, to permit the plates to be mounted upon a post 22 extending upwardly from the center of the body 10, and the portions 23 extend transversely across the body and merge with end portions 24, 25, which extend lengthwise of the body and in opposite directions from the center thereof. The medial portion 20 of one of the plates, such as 15, is offset downwardly and the medial portion of the plate 16 is offset upwardly whereby, when the contact plates are positioned upon the post 22, there is a space between the medial portions 20 of the plate for the reception of a washer 26 of insulating material, see Figure 2.

The end portions 25 of each contact plate is formed with a depending terminal portion 28 extending downwardly through apertures 29 formed in the base and provided at their lower end with binding screws 30. Each of these depending terminal portions 28 is positioned in proximity to projections 32 which extend downwardly from the under side of the body 10 and which are located on the sides of the contact portions 20 opposite to the heads of the binding screws 30. With this arrangement, each of the contact plates 15, 16, is connected to the feed wires. Each of the plates is provided at each end with upwardly extending plug receiving contacts 36 of conventional blade construction for the reception of plug contacts arranged in either tandem or parallel relation.

A grounding contact is located in proximity to each pair of the contacts 36. These contacts consist of a bottom portion 40 positioned in a slot 41 formed in the top surface of the body 10 adjacent each end thereof and the contacts have an upwardly extending portion 42 terminating in a transversely extending portion 43 formed on a curvature, as shown in Figure 4. The bottom portion 40 is apertured to receive the screws 13 which function to hold the contacts in place and to detachably secure the receptacle body to the outlet box, as previously explained. The contacts 36, 43, are enclosed by a cover 44 formed with compartments 47 for the contacts 36, and with compartments 48 for the contacts 43. The top of the cover is apertured or slotted, as at 49, with the slots arranged in registration with the contacts 36 for guiding the prongs or contacts of the plug into engagement therewith. The covers are also apertured, as at 50, over the compartments 43 for guiding the grounding prongs of the plug into engagement with the contacts 43. The cover 46 is detachably secured to the body

by a screw 52 arranged centrally in the cover and threading into the post 22. The compartments 48 and the cover 46 are formed with vertically extending ribs 55 arranged in proximity to the ends of the compartments. The compartments are also formed with a pair of vertically extending ribs 56 located in the central portion of the compartments and confronting the ribs 55. The transversely extending portion of the ground contact is positioned between the ribs 55, 56, with the ends of the contact engaging the ribs 55, and the central portion of the contact engaging the ribs 56 in the absence of a plug positioned in the receptacle.

The ground contact is formed of spring metal and curved, as shown in Figures 4 and 9. The function of the ribs 56 is to avoid the possibility of the contact springing outwardly an amount to interfere with the insertion of the ground prong of the plug in the aperture 50. With the ends of the contact supported by the ribs 55, the central portion of the contact is yieldingly pressed against the ground prong of the plug when the same is inserted through the aperture 50, thus assuring a proper and adequate engagement between the prong of the plug and the contact.

The contact plates 18, 19, are mounted on the post 22 in superimposed relation and separated by the insulating washer 26. The contact plates are fixedly secured to the post by a grip washer 54 formed with inwardly extending radial projections 55. The washer is of dished or conical formation and is applied to the post with the projections 55 extending or inclined upwardly. These projections frictionally engage the post and as the washer is pressed downwardly against the medial portion 20 of the upper plate 18, the projections 55 are caused to contact tightly against the post 22 as will be apparent, and serve to prevent any upward axial movement of the plates from the body.

What we claim is:

1. In a duplex receptacle comprising an elongated body formed with a centrally arranged upwardly extending post, said body being also formed with apertures extending therethrough and located on opposite sides of said post in a direction lengthwise of the body, a pair of contact plates mounted in superimposed relation on said post and being insulated from each other, each of said plates having a medial portion extending transversely of the body and merging with end portions extending lengthwise of the body in opposite directions from said post, plug receiving contacts mounted on the end portions of each of said plates and extending upwardly therefrom, a terminal portion extending downwardly from one end portion of each contact plate through said apertures respectively, a friction grip washer formed with radial inwardly extending projections engaging said post and being operable to retain said plates thereon against

axial movement thereof, a cover member detachably secured to the body and enclosing said plug receiving contacts and being formed with apertures arranged in registration therewith.

2. A duplex receptacle comprising an elongated body formed with a centrally arranged upwardly extending post, said body being also formed with apertures extending therethrough and located on opposite sides of said post in a direction lengthwise of the body, a pair of contact plates mounted in superimposed relation on said post, each of said plates having a medial portion extending transversely of the body and merging with end portions extending lengthwise of the body in opposite directions from said post, one plate having its medial portion offset downwardly from the end portions, said other plate having its medial portion offset upwardly from the end portions, a washer of insulating material positioned on the post between the medial portions of the contact plates, plug receiving contacts mounted on the end portions of each of said plates and extending upwardly therefrom, a terminal portion extending downwardly from one end portion of each contact plate through said apertures respectively, a friction grip washer formed with radial inwardly extending projections engaging said post and being operable to retain said plates thereon against axial movement thereof, a cover member detachably secured to the body and enclosing said plug receiving contacts and being formed with apertures arranged in registration therewith.

3. A duplex receptacle comprising a body, a cover detachably mounted on the body, a contact mounted on the body and extending upwardly therefrom, the upper end of said contact having a plug contact engaging portion extending transversely of the body, said cover being formed with a compartment to receive said contact, said compartment having a pair of ribs engaging one side of the transversely extending portion of the contact at the ends thereof, said compartment being also formed with a pair of vertically extending ribs engaging the opposite side of the contact in proximity to the center thereof, and the top wall of said compartment being formed with a plug receiving aperture arranged in registration with said vertically extending ribs.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
913,024	Meacham	Feb. 23, 1909
1,572,906	Strongson	Feb. 16, 1926
1,752,225	Birchall	Mar. 25, 1930
1,995,386	Frank	Mar. 26, 1935