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C. F. BOHNSON

2,492,616

ELECTRIC WALL RECEPTACLE

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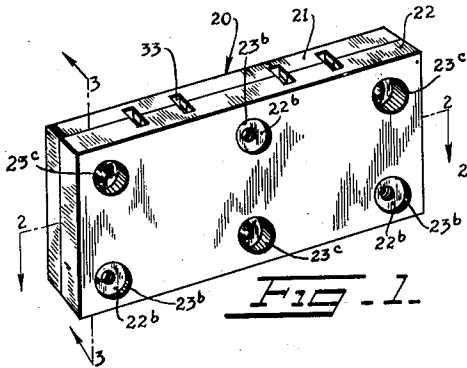


Fig. 1.

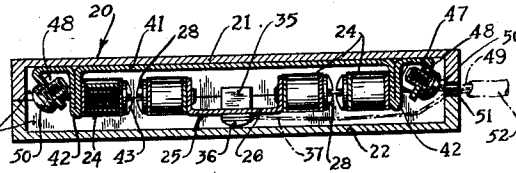


Fig. 2.

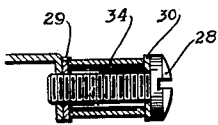


Fig. 3.

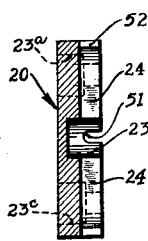


Fig. 4.

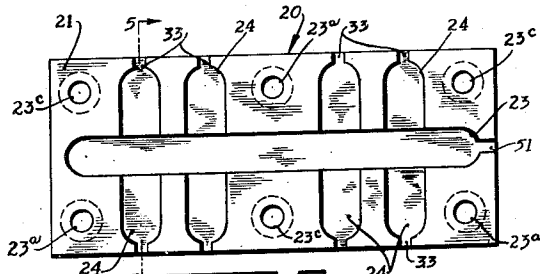


Fig. 5.

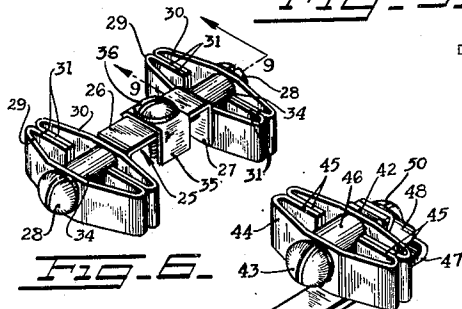


Fig. 6.

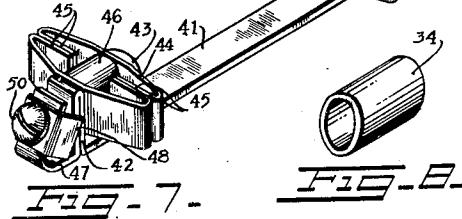


Fig. 7.

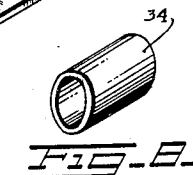


Fig. 8.

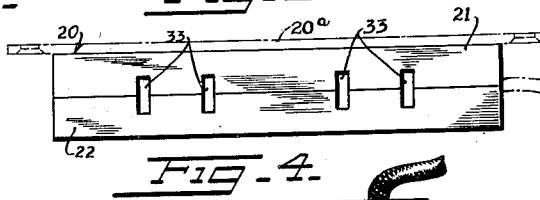


Fig. 9.

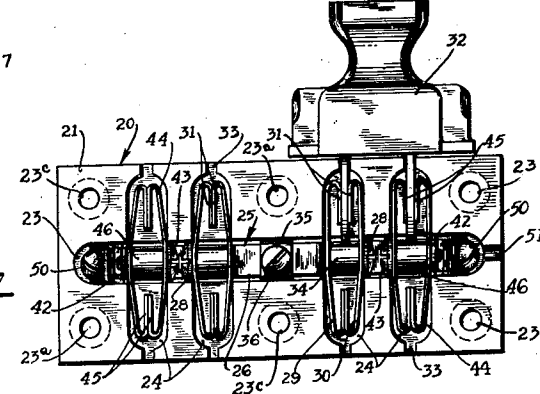


Fig. 10.

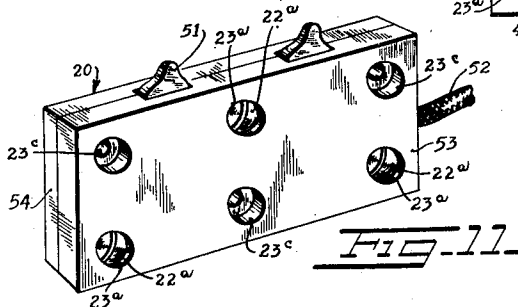


Fig. 11.

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ELECTRIC WALL RECEPTACLE

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6 Claims. (Cl. 173-334)

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This invention relates to electric wall receptacles, electric switches and the like.

It is an object of the present invention to provide an electric receptacle which can be attached to the exterior of a wall surface which has openings for receiving the terminals of an electric plug which extend from the top and from the bottom so that the plug when attached to the receptacle will not be interfered with by the moving of furniture about the room, or in other words, wherein the slots or openings for the plug terminals are extended at right angles to the wall surface on which the receptacle is attached.

It is another object of the present invention to provide an electric receptacle which not only can be attached to a wall but also can be attached to the back of furniture without the plugs being damaged should the furniture and the receptacle engage with a wall.

It is another object of the present invention to provide an electric receptacle of the multiple outlet type wherein the switch contacts for a plurality of outlets can be removed as a unit as the insulating parts are separated from one another and wherein one of the parts will retain one unit while the other of the parts will contain the other unit of opposite polarity, and wherein each of the parts have adequate recesses and grooves to contain the contact units.

It is another object of the present invention to provide in a contact unit for an electric receptacle a strap for supporting the contacts which will be bent upon itself to provide a support for the individual contact and also to provide a terminal formation to which a wire can be attached.

Other objects of the present invention are to provide an electric receptacle which is of simple construction, easily and quickly assembled and efficient in operation.

According to the invention, the receptacle is formed with two parts which are separable from one another and which are adequately recessed and grooved on their interior faces to receive contact terminal units, with one unit being mounted in one part and the other unit mountable in the other part. The contact terminals are mounted and supported on pieces of strap which have portions turned at an angle to the strap axis on which the contacts are mounted. On one strap a double bend is formed to support the contact and adjacent this double bend and with a continuation of the strap a terminal connection is provided for to which one of the wires is attached.

With the two parts assembled, the receptacle

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is mounted upon a wall with its extended flat surface lying flush therewith and with its narrow edges having the outlets lying at right angles thereto so that the plugs adapted to enter the outlet openings will extend laterally upwardly or downwardly from the edges and out of the way. With such an arrangement the plugs are not easily interfered with by the movement of furniture about a room.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawing, and to the appended claims in which the various novel features of the invention are more particularly set forth.

In the accompanying drawing forming a material part of this disclosure:

Fig. 1 is a perspective view of the electric receptacle, embodying the features of the present invention, mounted upon a wall surface.

Fig. 2 is an enlarged cross sectional view taken substantially on the line 2-2 of Fig. 1, looking in the direction of the arrows thereof.

Fig. 3 is a plan view looking upon the grooved inner face of one of the parts.

Fig. 4 is an elevational view looking upon one of the edges having the outlet openings.

Fig. 5 is a transverse cross sectional view taken on line 5-5 of Fig. 3 looking in the direction of the arrows thereof.

Fig. 6 is a perspective view looking upon one of the units bearing the contact terminals and adapted to fit the grooves of the parts.

Fig. 7 is a perspective view of the other unit wherein the contact terminals are more greatly spaced from each other than with the unit shown in Fig. 6.

Fig. 8 is an enlarged perspective view of a sleeve adapted to be disposed between the contact elements to retain them in spaced relation.

Fig. 9 is a cross sectional view taken on the line 9-9 of Fig. 6 looking in the direction of the arrows thereof.

Fig. 10 is a similar view to Fig. 3 with the contact terminal units and a plug inserted in position.

Fig. 11 is a perspective view of a switch receptacle having the operating buttons extending upwardly from one of its edges and at right angles to the surface to which the receptacle is attached.

Referring now to the figures, 20 represents a wall plug receptacle embodying the features of the present invention. This receptacle is formed of two parts 21 and 22 of insulating material,

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The parts 21 and 22 are held together by screws 22^a and internally threaded bushings 22^b passing through openings 23^a and 24^a respectively. Other holes 23^c are provided in both members 21 and 22 for attaching the wall plug receptacle 20 to furniture, wall, etc. Each of the parts has a longitudinally extending groove 23 and a plurality of transversely extending grooves 24. The groove 23 is of greater depth than the grooves 24 and is adapted to receive the bus bar or strap of a contact unit and also the cable wires entering the receptacle.

Within the grooves of one part, there is mounted a contact unit 25 as shown in Fig. 6. This contact unit includes a piece of strap 26 having downturned ends 27 with a threaded opening therein to receive a contact fastening or supporting screw 28. On this screw there are mounted two contact elements 29 and 30 having inturned spring ends 31 adapted to engage one another and provide surfaces with which a terminal of a plug 32 extending through outlet openings 33 in the edges of the receptacle will engage. A spacing sleeve 34 retains the contact terminals in their proper positions on the supporting screw 28. A clip 35 is fastened to the center of the strap 26 to which a cable wire 37 is attached by a screw 36.

Referring now particularly to Fig. 7, there is shown the longer unit formed of a long strap 41 which is double bent at opposite ends as indicated at 42, Fig. 2. To the inner side of these double bent portions 42 there are connected by means of an attaching screw 43, contact terminals 44 having inbent ends 45.

A spacing sleeve 46 is disposed between the contact terminals. The inbent ends form a female receptacle for the terminals of the plug 32. This unit is fitted into the part 21 so as to provide contact exteriorly of the unit 25 disposed in the part 22. Also on the long unit and extending from the double bent portions there are extensions 47 having terminal plates 48 to one of which a wire 49 is attached by a screw 50. The long unit can be disposed with either end adjacent opening 51 through which the wires 37 and 49 extend. The transverse openings 33 provide outlet openings through which the plug terminals can be extended for engagement with the contacts. The respective plug terminals will engage one set of contacts of each unit whereby to receive current of opposite polarity.

Referring now to Fig. 11, there is shown a receptacle formed in a similar manner to the receptacle 20, shown in Fig. 1, of two parts but instead of having outlet openings at the top edge they have operating switch handles 51 extending upwardly therefrom. These switch handles can be moved from one position to the other and are in a location whereby they would not be easily dislocated by furniture which is moved about the room. Cables 52 will extend therefrom and the casing is made of two parts 53 and 54.

It is to be understood that the device may be used as one or a multiple of units, made of any suitable material, shape and design and may be equipped with suitable switches or other electrical controlled devices which will protrude only in the vertical direction.

While I have illustrated and described the preferred embodiments of my invention, it is to be understood that I do not limit myself to the precise constructions herein disclosed and the right is reserved to all changes and modifications

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coming within the scope of the invention as defined in the appended claims.

Having thus described my invention, what I claim as new, and desire to secure by United States Letters Patent is:

1. A wall receptacle comprising an elongated body formed of adjacent sections of insulation material, each of said sections being formed with aligned elongated grooves extended in from the adjacent faces thereof and parallel to the length of said sections, each of said sections being formed with aligned opposed pairs of shallow grooves extended from opposite sides of said first-mentioned elongated grooves and extended towards the longitudinal edges of said body, said body being formed with openings extended inward from the longitudinal edges thereof and communicating with the outer ends of said shallow grooves through which the free ends of the prongs of an electric plug can be passed to enter the outer ends of said shallow grooves, a short bus bar for connection with one lead of an electric wire extended along the base wall of the elongated groove of one of said sections, said short bus bar having its ends bent at right angles to the length thereof and extended substantially across said aligned elongated grooves adjacent the inner sides of the innermost grooves of each opposed pair of shallow grooves, pairs of contact elements mounted on each of said ends of said short bus bar intermediate of their ends and having their ends extended into the innermost grooves of each pair of shallow grooves to make electrical contact with one of the prongs of an electric plug inserted into any one of said pairs of shallow grooves, a long bus bar for connection with the other lead of the electric wire extended along the base wall of the elongated groove of the other of said sections, said long bus bar having its ends bent at right angles to the length thereof and extended substantially across said aligned elongated grooves adjacent the outer sides of the outermost grooves of each opposed pair of shallow grooves, and pairs of contact elements mounted on each of said ends of said long bus bar intermediate of their ends and having their ends extended into the outermost grooves of each pair of shallow grooves to make electrical contact with the other prongs of an electric plug inserted into any one of said pairs of shallow grooves.

2. A wall receptacle comprising an elongated body formed of adjacent sections of insulation material, each of said sections being formed with aligned elongated grooves extended in from the adjacent faces thereof and parallel to the length of said sections, each of said sections being formed with aligned opposed pairs of shallow grooves extended from opposite sides of said first-mentioned elongated grooves and extended towards the longitudinal edges of said body, said body being formed with openings extended inward from the longitudinal edges thereof and communicating with the outer ends of said shallow grooves through which the free ends of the prongs of an electric plug can be passed to enter the outer ends of said shallow grooves, a short bus bar for connection with one lead of an electric wire extended along the base wall of the elongated groove of one of said sections, said short bus bar having its ends bent at right angles to the length thereof and extended substantially across said aligned elongated grooves adjacent the inner sides of the innermost grooves of each opposed pair of shallow grooves, pairs of contact

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elements mounted on each of said ends of said short bus bar intermediate of their ends and having their ends extended into the innermost grooves of each pair of shallow grooves to make electrical contact with one of the prongs of an electric plug inserted into any one of said pairs of shallow grooves, a long bus bar for connection with the other lead of the electric wire extended along the base wall of the elongated groove of the other of said sections, said long bus bar having its ends bent at right angles to the length thereof and extended substantially across said aligned elongated grooves adjacent the outer sides of the outermost grooves of each opposed pair of shallow grooves, and pairs of contact elements mounted on each of said ends of said long bus bar intermediate of their ends and having their ends extended into the outermost grooves of each pair of shallow grooves to make electrical contact with the other prongs of an electric plug inserted into any one of said pairs of shallow grooves, and means securing said body sections together with said bus bars and said contact elements in their respective grooves.

3. A wall receptacle comprising an elongated body formed of adjacent sections of insulation material, each of said sections being formed with aligned elongated grooves extended in from the adjacent faces thereof and parallel to the length of said sections, each of said sections being formed with aligned opposed pairs of shallow grooves extended from opposite sides of said first-mentioned elongated grooves and extended towards the longitudinal edges of said body, said body being formed with openings extended inward from the longitudinal edges thereof and communicating with the outer ends of said shallow grooves through which the free ends of the prongs of an electric plug can be passed to enter the outer ends of said shallow grooves, a short bus bar for connection with one lead of an electric wire extended along the base wall of the elongated groove of one of said sections, said short bus bar having its ends bent at right angles to the length thereof and extended substantially across said aligned elongated grooves adjacent the inner sides of the innermost grooves of each opposed pair of shallow grooves, pairs of contact elements mounted on each of said ends of said short bus bar intermediate of their ends and having their ends extended into the innermost grooves of each pair of shallow grooves to make electrical contact with one of the prongs of an electric plug inserted into any one of said pairs of shallow grooves, a long bus bar for connection with the other lead of the electric wire extended along the base wall of the elongated groove of the other of said sections, said long bus bar having its ends bent at right angles to the length thereof and extended substantially across said aligned elongated grooves adjacent the outer sides of the outermost grooves of each opposed pair of shallow grooves, and pairs of contact elements mounted on each of said ends of said long bus bar intermediate of their ends and having their ends extended into the outermost grooves of each pair of shallow grooves to make electrical contact with the other prongs of an electric plug inserted into any one of said pairs of shallow grooves, said bus bars having their right angular bent ends formed with threaded openings, said pair of contact elements being formed intermediate of their ends with openings aligned

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with said threaded openings, said pairs of contact elements having their ends bent toward each other and inwards to extend along the opposite faces of one of the prongs of the plug, sleeves inserted between the adjacent faces of said pairs of contact elements in alignment with the openings thereof and said threaded openings, and screws passing through the openings of said pairs of contacts, said sleeves and threadedly engaging said threaded openings of said ends for securing said pairs of contact elements and said sleeves to said ends.

4. A contact strip for use in a socket designed to receive the free ends of the prongs of a plug, comprising a bus bar having its ends bent at right angles to the length thereof and formed with threaded openings, pairs of spaced contact elements extended at right angles to said ends along one face of each of said ends, said pairs of contact elements being formed intermediate of their ends with openings aligned with the threaded openings of the respective ends of said bus bar, said pairs of contact elements having their free ends bent inwards and toward each other to extend along the opposite faces of the prong of an electric plug inserted between the ends of each of said pairs of contacts, a sleeve inserted between the adjacent faces of the contact elements of each pair of contacts in alignment with the openings thereof holding them properly spaced, and screws passing through the openings of said pairs of contact elements, said sleeves and threadedly engaging said threaded openings securing said pairs of spaced contact elements and said sleeves to said ends.

5. A contact strip for use in a socket designed to receive the free ends of the prongs of a plug, comprising a bus bar having its ends bent at right angles to the length thereof and formed with threaded openings, pairs of spaced contact elements extended at right angles to said ends along one face of each of said ends, said pairs of contact elements being formed intermediate of their ends with openings aligned with the threaded openings of the respective ends of said bus bar, said pairs of contact elements having their free ends bent inwards and toward each other to extend along the opposite faces of the prong of an electric plug inserted between the ends of each of said pairs of contacts, a sleeve inserted between the adjacent faces of the contact elements of each pair of contacts in alignment with the openings thereof holding them properly spaced, and screws passing through the openings of said pairs of contact elements, said sleeves and threadedly engaging said threaded openings securing said pairs of spaced contact elements and said sleeves to said ends, and a screw threadedly engaging said bus bar intermediate of its ends to which an electric lead can be secured.

6. A contact strip for use in a socket designed to receive the free ends of the prongs of a plug, comprising a bus bar having its ends bent at right angles to the length thereof and formed with threaded openings, pairs of spaced contact elements extended at right angles to said ends along one face of each of said ends, said pairs of contact elements being formed intermediate of their ends with openings aligned with the threaded openings of the respective ends of said bus bar, said pairs of contact elements having their free ends bent inwards and toward each other to extend along the opposite faces of the prong of an electric plug inserted between the ends of each of said pairs of contacts, a sleeve

inserted between the adjacent faces of the contact elements of each pair of contacts in alignment with the openings thereof holding them properly spaced, and screws passing through the openings of said pairs of contact elements, said sleeves and threadedly engaging said threaded openings securing said pairs of spaced contact elements and said sleeves to said ends, extensions continuing from the right angular bent ends of said bus bar, and screws threadedly engaging said extensions to which the end of an electric lead can be selectively engaged.

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