Oct. 29, 1929. J. GEHRING 1,733,222

DUPLEX OUTLET RECEPTACLE

Filed May 23, 1928

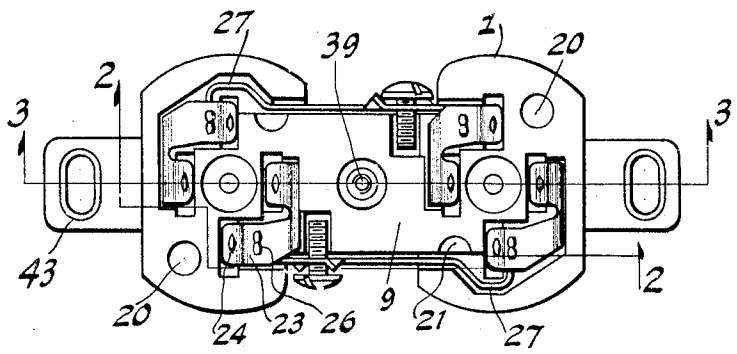


FIG. 1

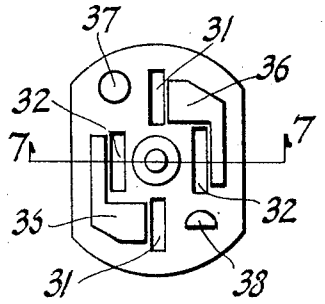


FIG. 6

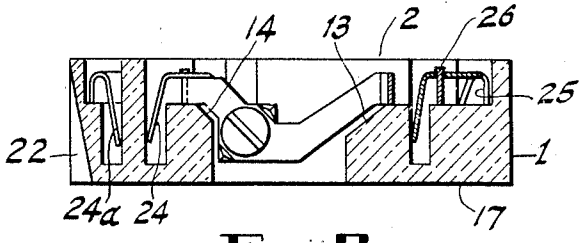


FIG. 2

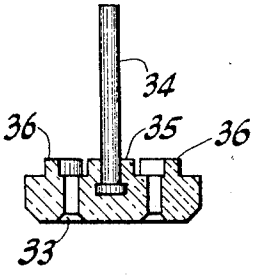


FIG. 7

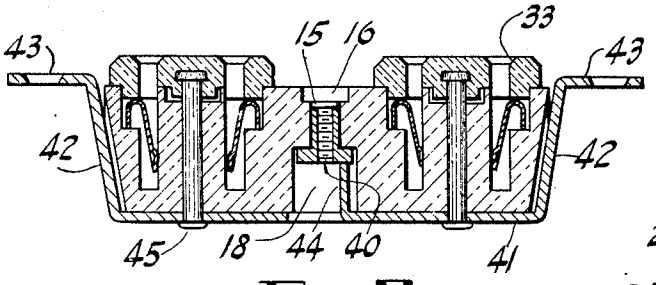


FIG. 3

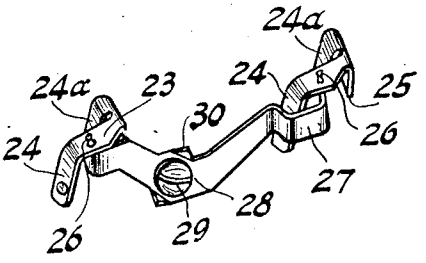


FIG. 5

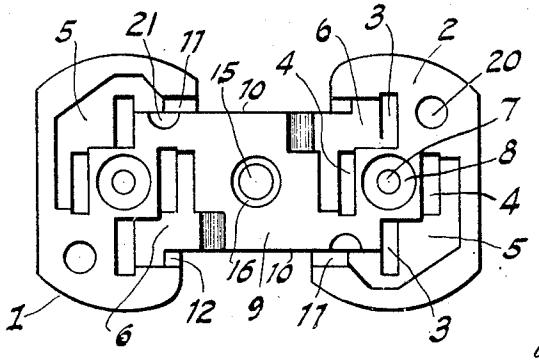


FIG. 4

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UNITED STATES PATENT OFFICE

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DUPLEX OUTLET RECEPTACLE

Application filed May 23, 1928. Serial No. 280,012.

This invention relates to the construction of electrical outlet receptacles commonly known as convenience outlets, and in particular to the type in which twin outlets are provided in a given location in the form of a unitary device.

The object of the invention is to provide a receptacle in which the detail parts are few in number, simple to make and of such general detail as to provide a receptacle that is shallow in depth.

A further object is to provide a receptacle having contact members that are fixed in position within the base, yet provide for the flexing of the resilient ends without restriction other than that imposed by the inherent spring of the metal from which they are made.

Another object is to provide a receptacle having independent aperture plates covering the contact members.

Still another object is to provide a receptacle having a simple fastening means for attachment to a wall outlet box, and which is attached to the base of the receptacle by the same means that are employed to fasten the aperture plates to the base.

Referring to the accompanying drawings,

Figure 1 is a plan of the receptacle with the aperture plates removed to show the contact members and buss bars in position.

Figure 2 is a cross-sectional elevation on line 2—2 Fig. 1.

Figure 3 is a cross-sectional elevation on line 3—3 Fig. 1.

Figure 4 is a plan view of the base.

Figure 5 is a perspective view of the buss bar and assembled contact members.

Figure 6 is a plan view of the under side of the aperture plate.

Figure 7 is a cross-sectional elevation on line 7—7 Fig. 6.

In carrying out my invention I employ a base or body member made from an inexpensive insulating material such as porcelain or asbestos composition, into which are housed resilient contact members and associated buss bars. The buss bars have suitable terminals by which the supply wires are attached to the receptacle for supplying it with electrical current. The exposed terminals are located at the sides of the base to facilitate the attachment of the wires and to afford the opportunity of inspecting the connections after the device has been installed. The buss bars are rigidly attached to the contacts and are held in fixed position in the base by aperture plates which are arranged to accommodate either the tandem type or parallel type of attachment plug cap blades. These aperture plates are preferably made from bakelite and have central studs moulded into them. These studs pass thru suitable holes in the base, and also thru registering holes in a supporting strap which underlies the base. This supporting strap is provided with upturned ends and clamping lugs by which the device as a whole is fastened to a wall outlet box.

The ends of the studs are finally riveted over the supporting strap to securely attach it and the aperture plates to the base.

In order to provide inexpensive means whereby a wall cover plate may be attached to the receptacle after installing it, a relatively short tapped bushing is inserted from the base or strap side of the body and held near the plate side by means of a tongue which is cut from the strap and bent upward. The stud is prevented from rotating during the insertion of the plate screw by a square shoulder on the stud fitting into a like squared hole in the body.

The contact members are so proportioned that they may be seated within suitable depressions in the base and clamped in position by the bosses which are provided on the under side of the aperture plate. The blade engaging resilient ends depend within suitable wells and are free to move under the influence of the attachment plug cap blades, thus assuring good electrical connections at all times.

Referring now to the drawings, and in particular to Figures 1 to 4 inclusive, I employ a base or body member 1, made from insulating material. From the plate face 2 of the body, slot like wells 3 and 4 are sunk substantially thru the body at both ends in duplicate. The object of the two sets of wells at each end of the body is to accommodate con-

tact members which will co-act with either parallel or tandem types of attachment plug cap blades. For the sake of simplicity in the clips, these wells are oriented at right angles to each other, one set parallel to the major axis of the body and the other set positioned transversely of the major axis. Around one side and one end of each set of wells irregular depressions 5 and 6 are sunk substantially half the depth of the wells. These depressions form seats upon which certain parts of the contact members rest.

Aperture plate stud holes 7 pass thru the body, being located centrally in respect to the wells 3 and 4. The face 2 is counterbored around these holes slightly as at 8 to accommodate a reinforcing stud boss on the aperture plates. The middle portion of the body is narrowed to form the bridge 9, the sides 10 of which act as a support for the buss bars during the attaching of the feed wires. The buss bars enter the depressions 5 and 6 thru the channels 11 and 12, which have tapered bottoms 13 and 14. The bridge 9 has a central hole 15, counter-bored at 16 to form a clearance for a projecting portion of a wall plate (not shown). The opposite side 17 of the body has a squared hole 18 sunk therein to accommodate the squared shoulder of a plate screw bushing 39. Dowel holes 20 and 21 are formed in the face 2; their purpose will be explained later on. The ends of the base are taper-channelled as at 22 to accommodate the tapered upturned portions of the supporting strap. The tapering of the strap provides additional clearance between the ends of the wall box and the strap, making it easier to align the receptacle in the box.

Referring now to Figure 5;

Irregularly shaped resilient contact members comprising a flat body element 23, spring blade engaging elements 24 and 24ª and supporting edges 25 are rigidly attached to the ends of the buss bars by means of rectangular holes in the body 23 passing over complementary rectangular projections on the buss bars and riveting as at 26. The contact members are riveted to the buss bars so as to be positioned with their spring blade engaging elements facing in the same direction. The contact members 24 and 24ª and their associated buss bar serve to create one side of a circuit at each end of the receptacle. The buss bars are bent into a U form at 27 so as to clear the face of blade engaging element 24 on one end of the bar. The buss bars are provided with a terminal section 28, and a terminal screw 29 for attaching feed wires to it.

Upturned corners 30 effectively prevent the feed wires from splaying from under the heads of the terminal screws.

The aperture plates, Figure 6, have narrow slot like apertures 31 and 32, positioned so as to register with the wells 3 and 4 in the body 1. These apertures are bevelled on the outer faces as at 33 to facilitate the insertion of attachment plug cap blades thru them. A central stud is moulded into the plates as at 34 with a reinforcing boss 35 surrounding it where it leaves the plate. Bosses 36, having outlines corresponding to the shape of the depressions 5 and 6 in the body 1, rise from the inside face of the plates. These bosses press against the tops of the bodies 23 of the contact members when assembled, clamping them securely to the body, and forming insulating barriers between each set of depressions in the body 1, thus assuring against the current jumping from one side of the circuit to the side of opposite polarity. The dowel 37 and half dowel 38 fit within the holes 20 and 21 in the body 1, to maintain the plates in their proper positions at all times so that registration between the plates and the body is assured.

A central wall plate attaching bushing 39 is housed in the hole 15 with the squared head 40 fitted within the hole 18, to co-act with a plate screw, (not shown) for fastening a wall plate to the receptacle.

A mounting strap having a base element 41, angular end members 42 and fastening lugs 43, also has a narrow tongue cut from the base member and turned upward as at 44. This tongue projects within the hole 18 with its end abutting the squared head 40 of the plate screw bushing, thus forcing the bushing to remain in the most advantageous position with the body. Without this tongue to hold the bushing in place, either a longer bushing would be required or it would have to be cemented or otherwise held in place.

The supporting strap is rigidly attached to the body by means of the aperture plate studs 34 which pass completely thru the body and suitable holes in the strap, after which they are riveted over the strap as at 45.

From the foregoing description it will be understood that I have disclosed a new and novel construction for a duplex receptacle which meets all the objectives set forth; that a receptacle constructed in accordance with these specifications will be shallow in depth, comprised of few and simple parts that are inexpensive to manufacture, and which will function efficiently in use. While I have shown and described the preferred form of receptacle embodying my invention, and which has proved satisfactory in practice, it will be apparent to those skilled in the art to which it pertains that other forms equally suitable may be employed without departing from the spirit and scope of the invention, therefore I do not limit myself to the exact structures shown.

Having described my invention, I claim,

In a duplex receptacle, a body; a threaded bushing mounted in said body and held in place by means removable from said body;

said means comprising an upturned tongue-like member struck from a supporting strap underlying said body.

Signed at Newark, in the county of Essex and State of New Jersey this 21 day of May 1928.

JOHN GEHRING.