Aug. 25, 1936. H. HUBBELL, JR 2,051,856

DUPLEX RECEPTACLE

Filed May 23, 1930

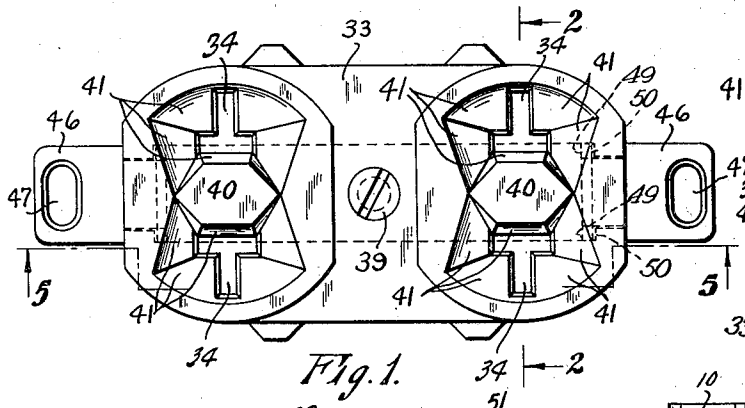


Fig. 1.

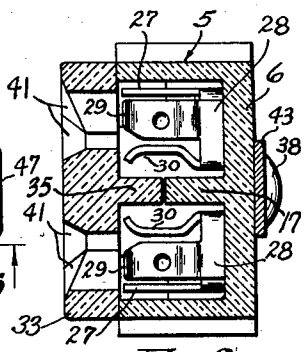


Fig. 2.

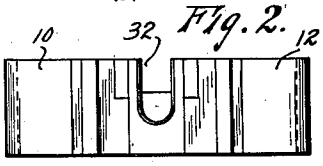


Fig. 4.

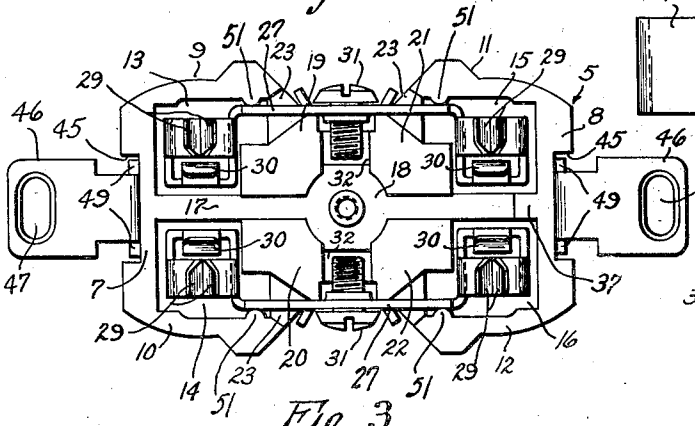


Fig. 3.

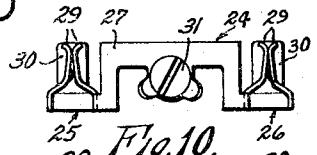


Fig. 10.

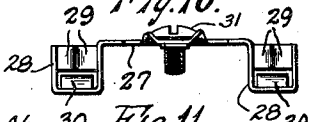


Fig. 11.

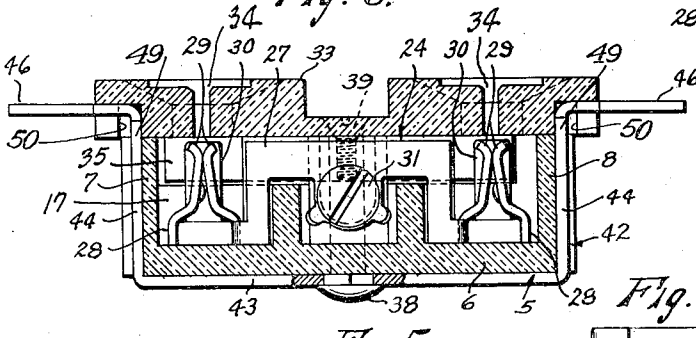


Fig. 5.

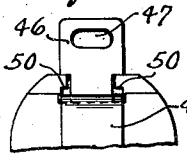


Fig. 6.

Fig. 9.

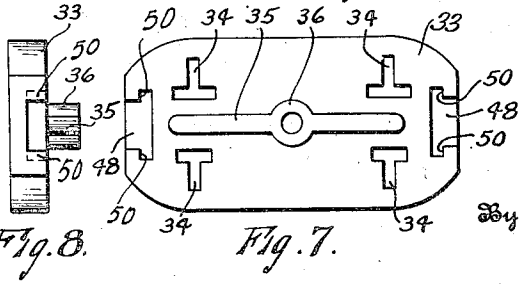
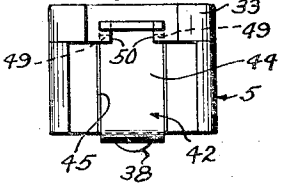


Fig. 8.

Fig. 7.



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DUPLEX RECEPTACLE

Harvey Hubbell, Jr., Bridgeport, Conn.

Application May 23, 1930, Serial No. 454,891

6 Claims. (Cl. 173—330)

This invention relates to new and useful improvements in wall outlet receptacles adapted to be disposed at convenient points about a room and providing ready access to a source of electrical energy.

An object of the invention is to provide an outlet receptacle free of paper or other fibrous moisture absorbing insulating material and which includes only high class insulating materials whereby to avoid the danger of short circuiting due to absorption of moisture.

Another object is to provide an outlet receptacle including a main body formed of insulating material and including a wall fully closing the bottom of the receptacle, the receptacle adapted to have contacts inserted therein from the front and including a cover or front section of insulating material adapted to be secured to the main body of the receptacle to hold the contacts therein.

A further object is to provide an outlet receptacle including a cover or front section having a recess constructed to receive a part of the bridge or mounting yoke to hold the yoke and receptacle against relative movement whereby the bridge or yoke may not be pulled or sprung away from the receptacle.

Other objects and advantages will become apparent from a consideration of the following detailed description taken in connection with the accompanying drawing showing an embodiment of the invention. However, it is to be understood that the drawing and description are for the purpose of making clear the construction and operation of the invention and that the invention is not limited to the details shown since many changes readily suggest themselves to those skilled in the art. Therefore, reference must be had to the claims for a definition of the limitations of the invention.

In the drawing:

Fig. 1 is a plan view of the complete receptacle according to the present invention.

Fig. 2 is a sectional view on the line 2—2 of Fig. 1.

Fig. 3 is a plan view of the main body of the receptacle, the cover or front section being removed.

Fig. 4 is an elevational view of the main body of the receptacle the figure being in a small scale.

Fig. 5 is a sectional view on the line 5—5 of Fig. 1.

Fig. 6 is an end elevation view of the complete receptacle.

Fig. 7 is a bottom plan view of the receptacle cover or front section.

Fig. 8 is an end elevational view of the cover or front section.

Fig. 9 is a bottom plan view of one end portion of the complete receptacle.

Fig. 10 is a side elevational view of one of the contacts, and

Fig. 11 is a bottom plan view of the contact shown in Fig. 10.

Referring in detail to the drawing, at 5 is shown the main body or base of the receptacle, the same being preferably formed of hard moldable insulating material such for example as "Bakelite" or other suitable material. Body or base 5 is an integral structure and includes a bottom 6, upstanding end walls 7 and 8 and side portions 9, 10, 11 and 12, the side portions 9 and 10 extending from the end wall 7 and the side portions 11 and 12 extending toward the side portions 9 and 10 and from the end wall 8.

Internally the body 5 is divided into four pockets 13, 14, 15 and 16 each adapted to receive a contact as will later be explained. A portion of this dividing means is the rib 17 centrally arranged within and extending longitudinally of the base 5. Midway between its ends, rib 17 is enlarged as at 18 and enlargements or lugs 19, 20, 21 and 22 are formed at each side of the rib 17 and about its central enlargement 18. As shown the lugs 19, 20, 21 and 22 extend upwardly above the rib 17 and flush with the upper edges of the side and end walls. The upstanding lugs do not engage and are spaced from the ends of the side portions 9, 10, 11 and 12 as at 23 thereby providing passageways whose purpose will later be described.

In Figs. 10 and 11 is shown the contact element of the present invention. This contact element 24 includes a pair of contacts 25 and 26 connected by a bridge 27 somewhat in the shape of an M. Contacts 25 and 26 are identical and each include a bottom U-shaped strip 28 carrying a pair of up-standing parallel spring fingers 29 and a spring contact finger 30 arranged at right angles to the contact fingers 29. Through the middle depending portion of the bridge 27 there is inserted a binding post 31.

In practice a pair of the contact elements 24 are mounted in the receptacle 5 with the contacts 25 and 26 in opposite end pockets. For example, with contact 25 in pocket 13 contact 26 will be in pocket 15. Owing to the passageways 23 the contact elements will lie in the receptacle with the bottom U-shaped portions of the con-

tacts resting on the bottom of the pockets. Bridge 27 will be located in the passageways 23 and binding posts 31 will lie in the spaces 32 between the pairs of upstanding lugs 19 and 21 and 20 and 22 respectively.

It will be understood that the contacts are simply inserted into the body 5 from the front side thereof, and the bridge or connecting bar 27 is preferably curved when inserted so that they must be sprung somewhat to straighten them as they are so inserted. Thus, when in position the spring or resilient action of the bridge will bind the elements on the walls of the base and prevent them from rattling and also frictionally hold them in position. To assist in securing this result the walls of the sockets may be provided with upright ribs 51 to engage the outer side of the bridge 27. To maintain the contacts within the body a cover or front section 33 is provided, preferably molded of the same insulating material as the body section. Pairs of T-shaped perforations 34 are provided in the respective end portions, and when the cover is in position on the receptacle body 5 these perforations are aligned with and give access to the various contacts 25 and 26. On its underside the cover or front section 33 is formed with a depending rib 35 enlarged intermediate its ends as at 36, the enlargement being perforated to receive a screw.

When the cover or front section 33 is in place on the body 5, rib 35 will be in line with and may be spaced slightly above rib 17 of the body and thus helps to further define the pockets 13, 14, 15 and 16 previously referred to. Also, rib 35 being disposed between the spaced adjacent surfaces of the respective pairs of lugs 19 and 20 and 21 and 22, the cover is held against lateral movement and is properly positioned. To further facilitate the positioning of the cover, rib 35 extends further to one side of the enlargement 36 than it does to the other side thereof and end 8 of body 5 carries a projection 37 which prevents the cover or front section 33 from being placed on the body 5 end for end since the short side of the rib 35 must be disposed toward the projection 37.

A bolt 38 passes forwardly through the opening in the enlargement 18 of the rib 17 and at its end the bolt is drilled and tapped to receive the shank of a screw 39 which is passed inwardly through the opening in the enlargement 36 of the rib 35 on the underside of the cover 33. The bolt 38 and screw 39 thus secure the cover section to the body.

On its upper or outer surface about the T-slots 34 the cover is formed with a number of inclines to facilitate plugging in to the outlet. The surface 40 intermediate the respective pairs of T-slots 34 is flat but the other surfaces about the respective slots or perforations incline toward the cross-piece or head of the T-shaped slots. That is, each of the surfaces 41 inclines toward the head of that T-slot opposite to which it is disposed.

A yoke or bridge 42 mounts the receptacle in the standard wall outlet box (not shown). This yoke is somewhat U-shaped and includes a portion 43 which extends along the bottom of the base or body 5, upstanding end portions 44 which are received in depressions 45 in the end walls 7 and 8, and out-turned end portions 46 having slots 47 for anchoring or mounting screws. Bolt 38 passes through the bottom portion 43 of the yoke and thus secures the yoke to the receptacle.

Cover 33 in the underside or inner side of its end portions is provided with T-shaped recesses 48 into which the upper ends of portions 44 and the inner ends of portions 46 of the yoke are received. This connection is such as to prevent the end portions of the yoke from being pulled out from the receptacle or from being so pulled as to spring the yoke at opposite sides of the bolt 38 and thereby leave the receptacle but loosely secured. Should the receptacle and yoke tend to separate the upper corners 49 of the end pieces 44 of the yoke will engage the shoulders 50 of the T-shaped recess 48 and relative movement will be prevented.

Heretofore a common type of these outlet receptacles has included a body consisting simply of side walls against the lower edges of which a plate of compressed paper or other moisture absorbing fibrous insulating material has been disposed and secured by a mounting yoke. Such arrangements are unsatisfactory since the paper is moisture absorbing and short circuits are likely to result. According to this invention the bottom 6 of the body of the receptacle is integral with the walls thereof and is formed of a high grade insulating material which will not absorb moisture, thereby eliminating the danger of short circuits from this cause.

Further, according to this invention the contacts are definitely held in place in the body by the cover section and are substantially isolated in pocket like formations. An additional advantage of the present arrangement is the fact that the end portions of the yoke can not be pulled out of or sprung from the receptacle owing to the fact that a portion of the yoke is engaged in the T-slot 48 of the cover. This engagement also assists in holding the cover in position.

Having thus described the invention, what is claimed is:

1. An outlet receptacle including a body adapted to receive contacts, a cover to close said body and hold the contacts therein, a mounting yoke or bridge about said body, and said cover having a recess into which said yoke enters to prevent the yoke from being pulled out of the receptacle.

2. An outlet receptacle including a body adapted to receive contacts, a cover to close said body and hold the contacts therein, a mounting yoke or bridge about said body, and said cover having a T-shaped recesss into which said yoke enters to prevent the yoke from being pulled out of the body.

3. An outlet receptacle including a body portion open at its upper or front side, a rib extending across said body portion between the walls thereof and dividing the same internally, lugs at each side of said rib and further dividing the body, a cover section for said body, a rib on the under side of said cover and adapted when the cover is on the body to be in line with the rib in the body and held between the lugs within the body to prevent lateral displacement of the cover section.

4. An outlet receptacle including a body portion open at its front side, a rib extending across said body portion and dividing the same internally, said body including enlargements on opposite sides of said rib and extending outwardly of the free edge thereof to provide a recess between said enlargements in alignment with the rib, a cover section for said body, a rib on the inner side of said cover extending into the recess in line with the rib on the body to interlock the

cover with the body, and means for securing said cover and body together.

5. An outlet receptacle including a body portion open at its front side, a rib extending across said body and dividing the same internally, said rib enlarged intermediate its ends, spaced lugs disposed about said enlarged portion of the rib and extending above the same, a cover for said body, a rib on the inner side of said cover, said rib on the inner side of the cover having an enlarged portion intermediate its ends, said cover when in position on the body adapted to have its rib disposed above the rib of the body and between the spaced lugs, and said enlarged portion of the cover rib being disposed above the enlarged portion of the body rib and between said lugs.

6. An outlet receptacle including a body of insulating material having recesses adapted to receive contacts, a cover to close one side of said recesses, a mounting yoke extending along the body and having forwardly extending portions at the ends of the body, and interlocking means on the cover and the forwardly extending portions to secure these portions to the cover.

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