April 13, 1948. H. A. ABRAHAM 2,439,708

ELECTRIC OUTLET

Filed March 10, 1947

FIG. 1

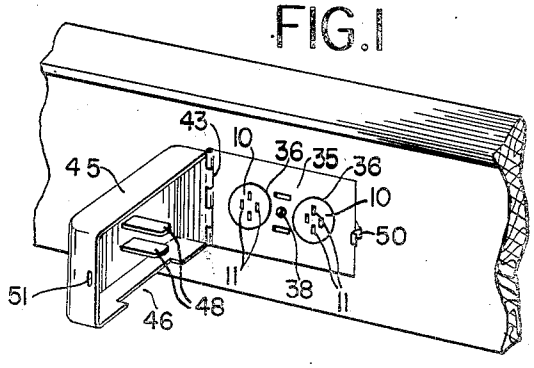


FIG. 4

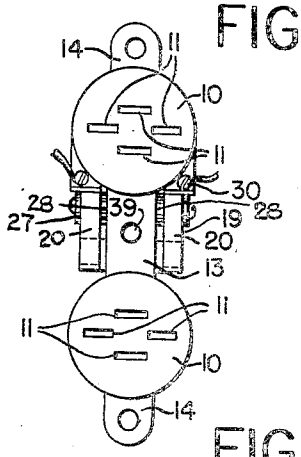


FIG. 2

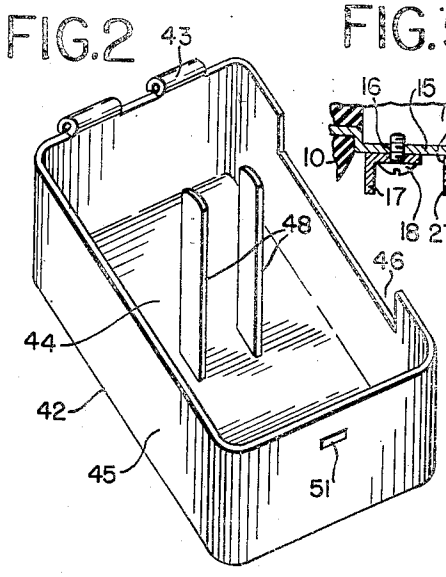


FIG. 5

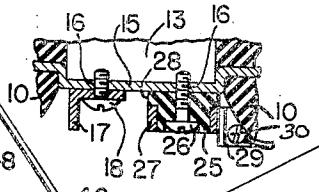


FIG. 3

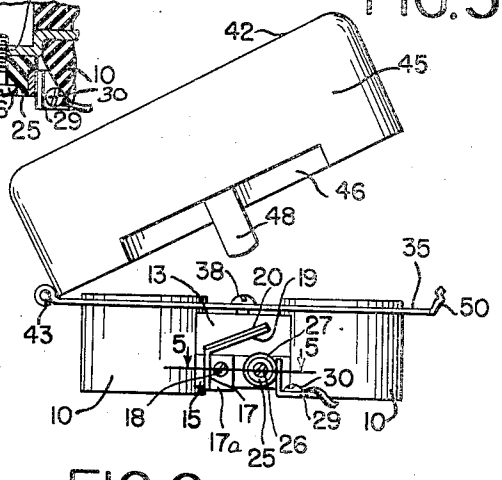


FIG. 6

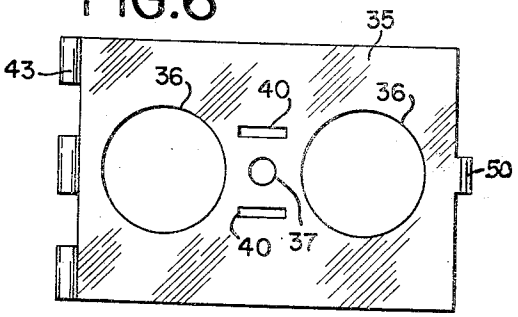
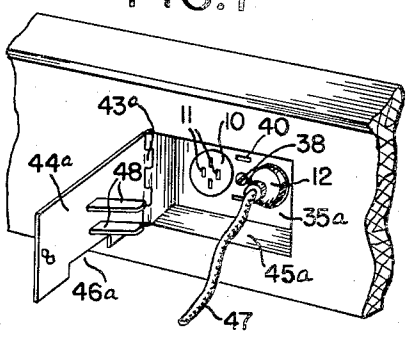


FIG. 7



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ELECTRIC OUTLET

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6 Claims. (Cl. 200—50)

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This invention relates to electric outlets, and more particularly to an outlet, for domestic use in connection with the customary pronged plugs, which will be free from the likelihood of shock or other injury to the user.

It is the principal object of the present invention to provide an electric outlet which will be protected in such a manner as to prevent shocks or other injuries to small children to whom the outlets now in use have a particular attractiveness.

It is a further object of the present invention to provide an electric outlet which will be adequately protected from the likelihood of shocks or other injuries to the user, and which includes a movable protective portion which, in a protective position, permits the use of the outlet in the customary manner and, in other positions, renders the outlet safe and proof against the insertion of metallic objects and other undesired objects.

It is a further object of the present invention to provide suitable structure for converting electric outlets of the types now in use to outlets which will be protected and shockproof, and particularly free from likelihood of injury to children.

It is a further object of the present invention to provide suitable apparatus capable of being used with electric outlets now available or capable of installation in outlets specially constructed for the purpose, which will be free from likelihood of shock or other injury to the user.

Other objects and advantageous features of the invention will be apparent from the specification and claims.

The nature and characteristic features of the invention will be more readily understood from the following description, taken in connection with the accompanying drawings forming part hereof, in which:

Figure 1 is a view in perspective showing a shock proof electric outlet in accordance with the present invention applied to a baseboard;

Fig. 2 is a view in perspective showing the inside of the cover portion;

Fig. 3 is a side elevational view of the socket and protective cover removed from the terminal box;

Fig. 4 is a plan view showing the outlet removed from the terminal box and with the wall plate removed;

Fig. 5 is a fragmentary sectional view, enlarged, and taken approximately on the line 5—5 of Fig. 3;

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Fig. 6 is a front elevational view of a plate employed in connection with the invention; and

Fig. 7 is a view in perspective of a modified form of the invention showing a different character of protective cover.

It should, of course, be understood that the description and drawings herein are illustrative merely, and that various modifications and changes may be made in the structure disclosed without departing from the spirit of the invention.

Referring now more particularly to the drawings, a pair of socket body portions 10 is provided of insulating material with pairs of openings 11 for the insertion of the prongs (not shown) of a conventional pronged plug 12. The socket body portions 10 are separated by a central spacer portion 13 of any desired character and of insulating material, and the assembly consisting of the pair of socket body portions 10, and the spacer portion 13 is provided with the customary brackets 14 for mounting in the terminal box (not shown).

The central spacer portion 13 is provided, along each side thereof, with a conductor strip 15, each of which is connected in the usual manner to related ones of the pairs of openings 11 in the socket body portions 10. Each conductor strip 15 is provided, in the customary manner, with a pair of spaced internally threaded openings 16 of the kind in which a pair of studs (not shown) are now customarily provided for the connection of the lead wires in the terminal box. In place of these studs, one of the openings 16 is adapted to have a spring strip 17 secured thereto by a stud 18, with an underlying positioning tongue 17a, the spring strip 17 having an inclined spring arm 19 and the upper face of the arm 19 being provided with a cover strip 20 of insulating material.

At the other opening 16, an insulated ring 25 is secured, preferably by means of a stud 26. The insulating ring 25 is adapted to have a conductor ring 27 on a portion of the exterior surface thereof, the conductor ring 27 being insulated from the conductor strip 15 by a rim portion 28 which is provided on the insulating ring 25. Each conductor ring 27 preferably has a conductor arm 29 secured thereto and extending therefrom for the connection by means of a stud 30 of one of the lead wires.

A cover plate 35 for the terminal box (not shown) is provided which preferably takes the form of a substantially flat plate adapted to be disposed in the same plane as the wall or base-

board. The plate 35 has spaced openings 36 through which the outer surfaces of the socket body portions 10 are accessible, a central opening 37 through which a screw 38 is adapted to extend into engagement in an internally threaded hole 39 in the spacer portion 13. The cover plate 35 is also provided with a pair of spaced parallel slots 40 extending therethrough for purposes to be explained.

A cover box 42 is provided hingedly connected to the cover plate 35 by means of a hinge 43. The cover box 42 has an outer wall portion 44 and side wall portions 45. At one of the side wall portions 45 and preferably at the bottom a slot 46 is provided through which one or more cords 47 attached to a pronged plug 12 is adapted to extend. The wall portion 44 of the cover box 42 has a pair of spaced arms 48 secured thereto and extending therefrom. The cover box 42 and the arms 48 may, if desired, be made of insulating material.

A spring latch 50 is provided on the cover plate 35 for engagement with a locking groove 51 on the exterior of the wall portion 45 of the cover box 42.

In the form of the invention illustrated in Fig. 7, the side wall portions 45*a* are formed so as to lie within the baseboard or wall and permanently connected to the cover plate 35*a*. The wall portion 44*a* is hingedly connected with respect to the side wall portions 45*a* by a hinge 43*a*, is made so as to be flush with the baseboard or wall, is provided with a slot 46*a*, but in all other substantial respects, the structure is the same as that shown in Figs. 1 to 6, inclusive.

The manner of use of the outlets in accordance with the present invention will now be pointed out.

In the position shown in the drawings, the outlets are illustrated in the safety or deenergized condition. When it is desired to use the outlets, one or more pronged plugs 12 are inserted with their prongs in the openings 11 of the socket body portions 10. The cords 47 of the plugs 12 are not energized by the mere insertion of the plugs 12.

The cover box 42, or the wall portion 44*a*, is then swung about the hinge 43, or the hinge 43*a*, to bring it to closed position. As this is effected, the arms 48 enter the slots 40 and engage with the outer faces of the spring arms 19 and move the spring arms 19 so that in such closed position the spring arms 19 are in engagement with the conductor rings 27. With the spring arms 19 in engagement with the conductor rings 27, the sockets are energized and the cords 47 of the inserted plugs 12 are likewise energized.

It will be noted that the sockets are energized only when the cover box 42 or the wall portion 44*a* is in closed position. Since the openings 11 in the socket body portions 10 are only accessible when the cover box 42 or the plate 44*a* is in the open position, at which time the outlets are deenergized, any attempt to insert metallic objects into the openings will not result in any shock or other injury in the manner which is possible with outlets now in use, and adequate protection of children from these hazards is thus provided.

I claim:

1. In an electric outlet, a receptacle having a body portion with openings for the reception of a pronged plug, a cover for said receptacle, said body portion having a conductor strip extending to one of said openings, a conductor member, a resilient member normally out of contact with said conductor member, one of said members being electrically connected to said conductor strip and the other being insulated therefrom and having a lead wire connection, and an actuating member carried by said cover for positioning said resilient member in engagement with said conductor member in the closed position of said cover.

2. In an electric outlet, a receptacle having a body portion with openings for the reception of a pronged plug, a cover movably mounted with respect to said receptacle, said body portion having a conductor strip extending to one of said openings, a conductor member, a resilient member normally out of contact with said conductor member, one of said members being electrically connected to said conductor strip and the other being insulated therefrom and having a lead wire connection, and an actuating member carried by said cover for positioning said resilient member in contact with said conductor member in the closed position of said cover.

3. In an electric outlet, a receptacle having a body portion with openings for the reception of a pronged plug, a cover hingedly mounted with respect to said receptacle, said body portion having a conductor strip extending to one of said openings, a conductor member, a resilient member normally out of contact with said conductor member, said members being carried by said conductor strip, one of said members being electrically connected to said conductor strip and the other being insulated therefrom and having a lead wire connection, and projecting members carried by said cover for positioning said resilient member in engagement with said conductor member in the closed position of said cover.

4. In an electric outlet, a receptacle having a body portion with openings for the reception of a pronged plug, a cover member for said receptacle, said body portion having a plurality of electrically insulated conductor strips, each extending to one of said openings, conductor members associated with each of said conductor strips, a resilient member associated with each of said conductor members and normally out of contact with said conductor members, one of said members being electrically connected to said conductor strip and the other being insulated therefrom, and actuating members carried by said cover for positioning said resilient members in engagement with said conductor members in the closed position of said cover.

5. In an electric outlet, a receptacle having a body portion with openings for the reception of a plurality of pronged plugs, a cover hingedly mounted with respect to said receptacle, said body portion having a plurality of conductor strips each extending to one of the openings for each plug, conductor members associated with each of said conductor strips, a resilient member associated with each of said conductor members and normally out of contact with said conductor members, one of said members being electrically connected to said conductor strip and the other being insulated therefrom, and actuating members carried by said cover for positioning said resilient members in engagement with said conductor members in the closed position of said cover.

6. In an electric outlet, a receptacle having a body portion with openings for the reception of a plurality of pronged plugs, a cover hingedly mounted with respect to said receptacle, said body portion having a plurality of conductor

strips each extending to one of the openings for each plug, a conductor member associated with each of said conductor strips and electrically insulated therefrom and having a lead wire connection, a resilient member associated with each of said conductor members and normally out of contact with said conductor members, said resilient member being electrically connected to said conductor strip, and actuating members carried by said cover for positioning said resilient members in engagement with said conductor members in the closed position of said cover.

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