Jan. 25, 1938. G. B. BENANDER 2,106,588

ELECTRIC RECEPTACLE

Filed June 8, 1934

Fig. 1.

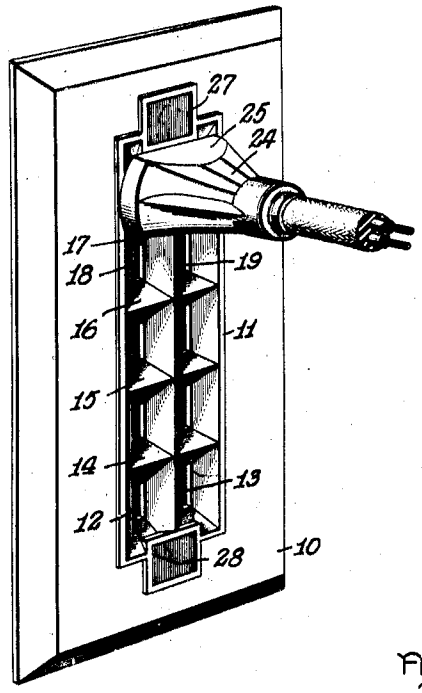


Fig. 2.

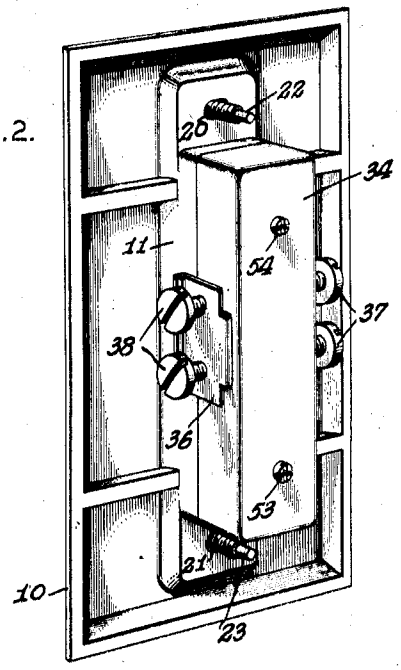


Fig. 5.

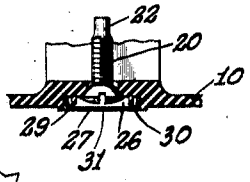


Fig. 3.

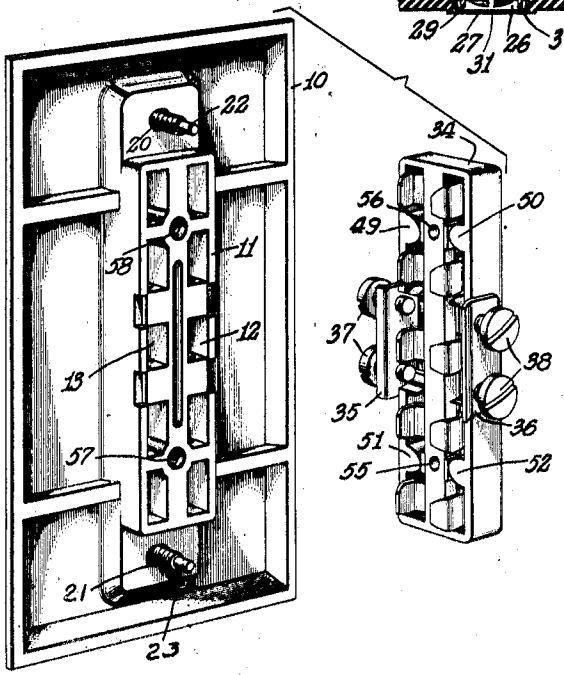
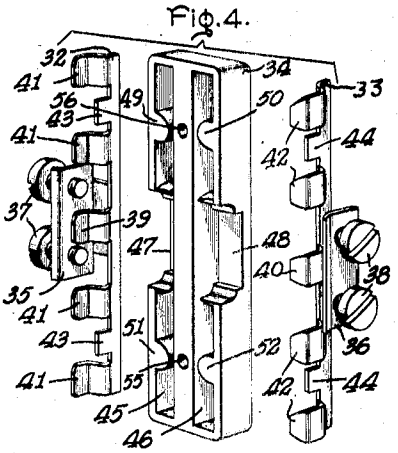


Fig. 4.



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His Attorney.

Patented Jan. 25, 1938

2,106,588

UNITED STATES PATENT OFFICE

2,106,588

ELECTRIC RECEPTACLE

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Application June 8, 1934, Serial No. 729,606

2 Claims. (Cl. 173—330)

My invention relates to an electric receptacle. More particularly it relates to a form of receptacle especially adapted for use as a wall convenience outlet for receiving as many as five plugs simultaneously, which plugs may be attached to electric irons, fans, lights, vacuum cleaners and the like.

It is an object of my invention to provide a receptacle adapted for use as a convenience outlet which has a plurality of outlets and may receive a maximum of five plugs. It is a further object of my invention to provide a receptacle of the type described in which the grounded mounting screws are effectively protected from possibility of contact with the contacts or a frayed wire connected thereto.

A further object of my invention is to provide a receptacle of the type described which will be extremely compact so that ample space will be left in the outlet box to facilitate making the necessary connections.

Another object of my invention is to provide a receptacle of the type described which may be easily and economically manufactured and in which the insulating parts are sufficiently simple in design that they may be molded with a minimum of expense.

What I consider to be novel and my invention will be better understood by reference to the following specification and appended claims when considered in connection with the accompanying drawing in which Fig. 1 is a perspective front view of an electric receptacle embodying my invention; Fig. 2 is a perspective rear view of the receptacle shown in Fig. 1; Fig. 3 is a perspective rear view of the receptacle shown in Fig. 1, the rear body member being removed; Fig. 4 is an exploded view of the rear body member and the contact members carried thereby; and Fig. 5 is a detail view of my improved protective means for the mounting screw.

Referring to the drawing, 10 indicates the face plate for my improved receptacle which in the preferred form of my invention is molded from insulating material. In this preferred form of my invention the face plate includes as an integral part a housing member 11 which, as best shown in Fig. 3, extends rearwardly of the main part of the face plate. The housing member 11 is provided with two longitudinal slots 12 and 13 which extend substantially the full length of member 11. Barriers 14, 15, 16 and 17 are placed across the slots 12 and 13 so as to form a series of aligned pairs of openings such as 18 and 19 which register with contact springs mounted behind them as hereinafter described. Holes 20 and 21 are provided adjacent the ends of the face plate 10 and are adapted to receive screws 22 and 23 which secure the face plate to an outlet box. It will be seen that my improved form of face plate construction facilitates the provision of a receptacle which has a face plate of the usual peripheral dimensions and which may be attached to an outlet box and yet may accommodate as many as five plugs simultaneously. A plug 24 is shown in Fig. 1 attached to the receptacle in the usual manner. It will be noted that the plug 24 is provided with flat sides such as 25 in order that the maximum number of plugs may be used. While many of the present plugs are so large that only two of the outlets could be utilized simultaneously, there are many other plugs somewhat smaller with which at least three of the outlets could be utilized simultaneously.

Since such a large number of contact terminals are provided some of them are necessarily in close proximity to the mounting screws 22 and 23 which are ordinarily grounded. For that reason special care must be taken in order that there shall be no possibility that a stray conductor may bridge the grounded screws and the contacts. I prefer to protect these mounting screws by the construction best shown in Fig. 5. The hole 20 for the screw 22 ends in a recess 26 in the exterior surface of face plate 10. A similar recess is provided for the head of screw 23. This recess is covered by a closure member 27, a similar closure member 28 being provided for the screw 23. The closure member is preferably a U-shaped resilient metallic strip as shown. Grooves 29 and 30 may be provided along the sides of recess 26 and the legs of the U-shaped member 27 inserted in these grooves so that they resiliently engage the walls of recess 26 and hold the closure member 27 firmly in place. The closure member 27 is preferably provided with an insulating covering 31 which may be a coat of suitable insulating paint. The construction shown also provides a more pleasing appearance than would be had with exposed screws.

In order to reduce the number of parts as much as possible, I prefer to use only two conducting plates 32 and 33 which are slidably mounted in body member 34 which is preferably made of molded insulating material. The conducting plates 32 and 33 are provided with terminal members 35 and 36 respectively which extend laterally from the plates as best shown in Fig. 4. Terminal members 35 and 36 are provided with

screws 37 and 38 respectively to which the electrical conductors may be attached in the usual manner. Opposite the terminal members 35 and 36 respectively the conducting plates are provided with lateral projecting contact springs 39 and 40. In addition two contact springs 41 and 42 are placed on each side of the center contact springs on conducting plates 32 and 33 respectively. Intermediate these last named pairs of contact springs I have provided positioning projections 43 and 44 on contact plates 32 and 33 respectively. Body member 34 is provided with two parallel longitudinal recesses 45 and 46. The exterior side walls of these recesses are provided with openings 47 and 48 which are designed to accommodate terminal members 37 and 38. Body member 34 is also provided with positioning lugs 49, 50, 51 and 52 which project from the side walls into the adjacent recess. In the preferred form of my invention as illustrated the conductor plate and its associated spring contacts and terminal member are stamped from a single piece of sheet metal.

When the receptacle illustrated is assembled, conductor plates 32 and 33 are slid into recesses 45 and 46 in body member 34, the terminal members 35 and 36 projecting laterally beyond the walls of the body member as shown in Fig. 3. Positioning lugs 49, 50, 51 and 52 on body member 34 engage the positioning projections 43 and 44 on conductor plates 32 and 33 respectively in order to prevent lateral movement of the latter. The positioning projections 43 and 44 are also so proportioned that their ends bear against housing member 11 adjacent holes 57 and 58 thus holding the conductor plates 32 and 33 firmly seated in body member 34. After the conductor plates have been mounted in the body member as described the body member 34 is attached to the housing member 11 of face plate 18 by screws 53 and 54 which pass through holes 55 and 56 in body member 34 and engage threaded holes 57 and 58 respectively in housing member 11. When the body member 34 is thus properly positioned with respect to the housing member 11 by screws 53 and 54 the contact springs 41 and 42 register with the corresponding openings in the face plate such as the pair of openings 18 and 19 previously described. It will be seen that when the receptacle is thus assembled the terminal members 35 and 36 which project laterally beyond the sides of body member 34 are clamped between such body member and housing member 11, thus holding conductor plates 32 and 33 firmly in place. By this construction I have provided a receptacle which is extremely compact and which permits of the provision of a large number of outlets and hence connection to a large number of different devices but which may, however, be mounted in the usual outlet box.

While I have described my invention as embodied in a concrete form in accordance with the patent statutes, it should be understood that I do not limit my invention thereto since various modifications thereof will suggest themselves to those skilled in the art without departing from the spirit of my invention, the scope of which is set forth in the annexed claims.

What I claim as new and desire to secure by Letters Patent of the United States, is:

1. In a receptacle, a body member of insulating material having a pair of parallel longitudinal recesses in the top face thereof, a conducting plate mounted edgewise in each of said recesses and held thereby against lateral displacement, a terminal member on each of said plates, a plurality of contact springs on each of said plates projecting above the same, a face plate secured to the top face of said body member including a rectangular insulating member provided with a pair of longitudinal slots registering with said pair of recesses and a series of transverse barriers across said slots defining a series of openings registering with said contact springs, and interengaging portions on said conducting plates and said face plate whereby the conducting plates are clamped in said recesses.

2. In a receptacle, a body member of insulating material having a pair of parallel longitudinal recesses in the top face thereof, a conducting plate mounted edgewise in each of said recesses and held thereby against lateral displacement, a terminal member on each of said plates, a plurality of contact springs on each of said plates projecting above the same, and a relatively flat rectangular face plate of insulating material secured to said body member, said face plate including an integral housing member extending rearwardly thereof, said housing member being provided with a pair of longitudinal slots registering with said recesses and a series of transverse barriers across said slots defining a series of openings registering with said contact springs.

GEORGE B. BENANDER.