Dec. 2, 1924. 1,517,684

A. C. RECKER

PUSH TYPE FLUSH RECEPTACLE FOR ELECTRIC INSTALLATION

Filed July 2, 1920

Fig. 1.

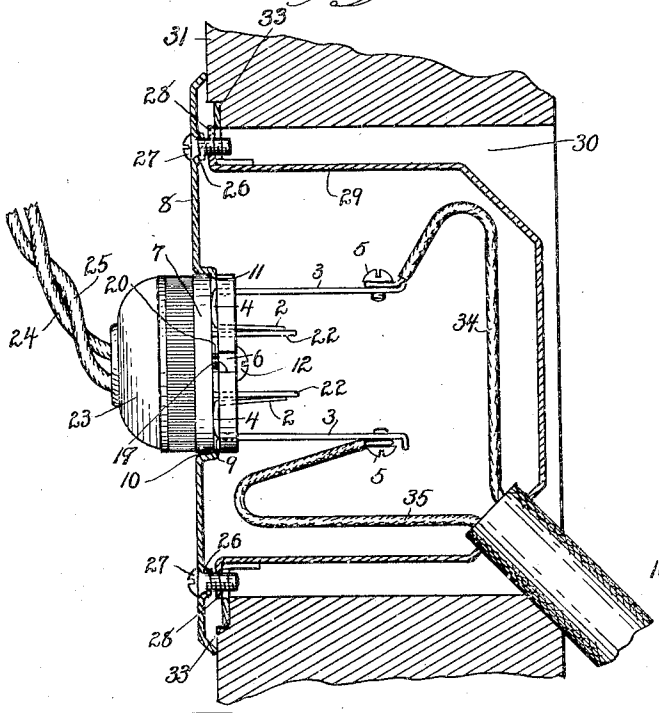


Fig. 4.

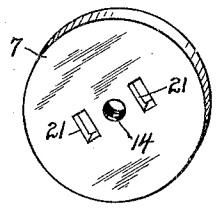


Fig. 5.

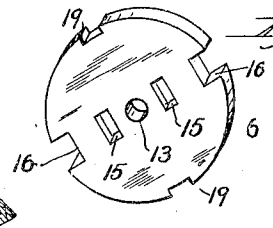


Fig. 6.

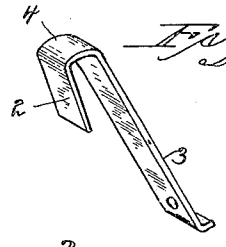


Fig. 2.

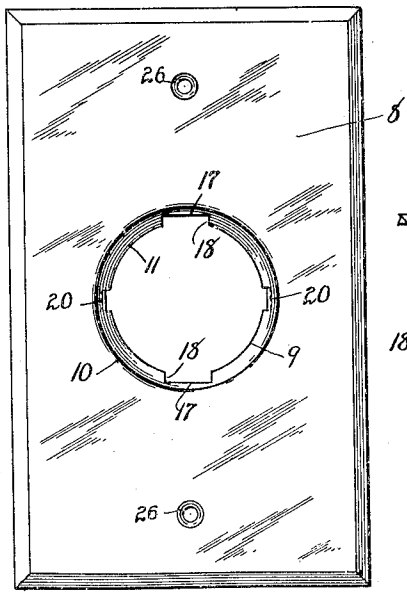
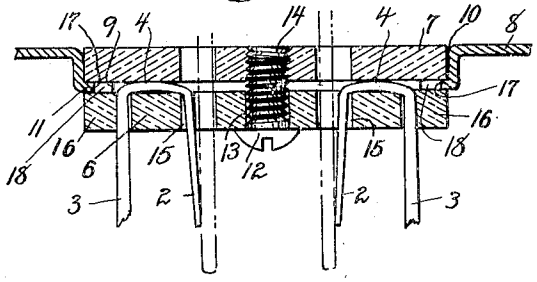


Fig. 3.



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UNITED STATES PATENT OFFICE.

ADOLPH C. RECKER, OF OAKVILLE, CONNECTICUT, ASSIGNOR TO THE CHASE COMPANIES INC., OF WATERBURY, CONNECTICUT, A CORPORATION.

PUSH-TYPE FLUSH RECEPTACLE FOR ELECTRIC INSTALLATION.

Application filed July 2, 1920. Serial No. 393,591.

To all whom it may concern:

Be it known that I, ADOLPH C. RECKER, a citizen of the United States, residing at Oakville, in the county of Litchfield and State of Connecticut, have invented a new and useful Improvement in Push-Type Flush Receptacles for Electric Installation; and I do hereby declare the following, when taken in connection with the accompanying drawings and the characters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this application, and represent, in—

Fig. 1 a view partly in horizontal section and partly in plan of a push-type flush receptacle embodying my invention, as installed.

Fig. 2 a detached view in elevation of the receptacle-plate.

Fig. 3 a broken view thereof on an enlarged scale, in horizontal section, showing the positioning and supporting of the two one-piece spring-contact and wiring-terminal or current-carrying parts between the insulating-members.

Fig. 4 a perspective view of the outer insulating-member.

Fig. 5 a corresponding view of the inner insulating-member.

Fig. 6 a detached perspective view of one of the two one-piece spring-contact and wiring-terminal parts.

My invention relates to an improved push-type flush receptacle for electric installation, the object being to simplify, cheapen, and reduce the weight as well as to improve the convenience of devices of this character by producing, as it were, a receptacle-plate unit comprising the plate, the spring-contacts and the wiring-terminals, which are insulated from the plate and from each other.

With these ends in view, my invention consists in a receptacle-plate, two current-carrying parts each comprising a spring-contact a wiring-terminal, and a reach connecting the same, and means whereby the said parts are mounted in the said plate and insulated therefrom and from each other being gripped and positioned by their reaches.

My invention further consists in a receptacle-plate formed with an opening, two insulating-members applied to the opposite sides of the said plate over the opening therein, and two current-carrying parts each comprising a spring-contact a wiring-terminal and a reach connecting the same located between the said members in which they are insulated from each other and from the plate being gripped and positioned by their reaches.

My invention further consists, as a new article of manufacture, in a spring-contact and wiring-terminal made from a single piece of metal graded in thickness and bent into U-shaped or bowed form.

My invention further consists in certain details of construction as will be hereinafter described and pointed out in the claims.

In carrying out my invention, as herein shown, I employ two, one-piece, complementary, current-carrying parts or elements, each comprising a spring-contact 2 and a wiring-terminal 3, each of the said parts being produced from a graded strip of metal sufficiently reduced in thickness at one end to provide the required resiliency in the spring-contact. This strip of metal is bent into the form of a U, having arms of unequal length, the spring-contact 2 of the U being shorter than the wiring-terminal arm 3. By preference, the reach 4 or that portion of the strip metal joining the two arms 2 and 3 is shaped in the form of a bow. The wiring-terminal 3 carries a binding-screw 5 of usual form.

As herein shown, the two one-piece metal parts above described are gripped between complementary inner and outer disk-shaped clamping-members 6 and 7 made of porcelain or other insulating material. It is not essential that the members 6 and 7 be disk-shaped, though so shown and described, as they might be given other forms without departing from my invention. These insulating-members are applied to the opposite faces of a mounting-plate 8 over a circular opening 9 formed therein at the bottom of a circular recess 10 located in the outer face of the plate and substantially corresponding in depth to the thickness of the outer member 7 so that the outer face of the same when in position, will be substantially flush with the outer face of the plate. In the bottom of the recess 10, the metal of the plate is bent inwardly to form an annular bearing-flange 11 located in a plane parallel

with the plane of the plate, this flange being gripped between the edges of the adjacent faces of the insulating-members 6 and 7, as shown in Fig. 3. The said members are drawn together by means of a screw 12 passed from rear to front through a screw-hole 13 in the center of the inner member 6 and entered into a threaded screw-hole 14 in the center of the outer member 7.

To adapt the members 6 and 7 to receive the two one-piece contact and terminal parts aforesaid, the inner member 6 is formed on opposite sides of its screw-hole with two oblong service-openings 15 through which the spring-contacts 2 pass from front to rear and with two assembling-notches 16 arranged in line with the screw-hole 13 and openings 15, and located in the opposite edges of the said member for the passage through it from front to rear of the wiring-terminals 3, these notches 16 being considerably deeper than the thickness of the wiring-terminals so as to insulate them from the bottom walls 17 of clearance-notches 18 formed in the flange 11 of the plate 8. The insulating-member 6 is formed in its edges with oppositely located positioning-notches 19 for the reception of fingers 20 formed upon the flange 11 and provided to prevent the said inner member from rotating. The outer member 7 is formed on opposite sides of its screw-hole 14 with service-openings 21 which register with the complementary service-openings 15 in the inner member 6 and provide for the reception of the contact fingers 22 of the push-plug 23 carrying the service-wires 24 and 25.

The two one-piece metal parts, after having their spring-contacts and wiring-terminals passed through the service-openings 15 and the notches 16 of the inner insulating-member 6, have their bowed portions 4 subjected to pressure by the drawing action of the screw 12, whereby enough pressure is exerted upon the said bowed portions to spring the same sufficiently to cause the spring-contacts 2 and wiring-terminals 3 to spread apart. This results in holding them firmly in place and gives added tension to the spring-contacts 2, which are thus deflected toward each other and therefore into the paths of the contact-fingers 22 of the push-plug 23.

The mounting plate 8, as shown, is furnished with counter-sunk screw-holes 26 located on opposite sides of its opening 9 and receiving screws 27 which pass through ears 28 at the ends of the outlet- or service-box 29, which is located in a recess 30 formed for its reception in the wall 31 to which the outlet-box is secured by screws passing through brackets 33 fastened to the outlet-box by the screws. Service-wires 34 and 35 lead from the binding-screws 5 of the wiring-terminals into the service-cable 36.

It will be seen from the foregoing that under my invention, the spring-contacts and contact-terminals are organized with the receptacle-plate in which they are insulated from each other and from it by means of insulating-members taking the place of the large and clumsy blocks of porcelain heretofore commonly used for this purpose and organized not with the receptacle-plate but with the outlet-box. The receptacle-plate, the spring-contacts and wiring-terminals, and the two insulating-members are organized as a unitary structure and adapted to be handled as such. This construction occupies a relatively small portion of the outlet- or service-box, leaving the same open for easy attention to the service-wires and to the accommodation thereof, if they are cut off unduly long.

I claim:

1. A push-type flush receptacle for electric installation, having a mounting-plate, two one-piece metal parts, each comprising a spring-contact, a wiring-terminal parallel therewith, and a transverse reach connecting the same, insulating-members in which the said parts are gripped by their reaches and insulated from the said plate and from each other, and means whereby the said insulating-members are mounted upon the said plate, the said plate, contacts, insulating-members and mounting-means forming a unitary structure.

2. A push-type flush receptacle for electric installation, having a mounting plate, a pair of one-piece metal parts, each comprising a spring-contact, a wiring-terminal parallel therewith, and a transverse reach connecting the same, two insulating-members gripping the interposed reaches of the said parts, which are insulted from each other and from the plate by the said members, and means for mounting the said insulating-members on the said plate.

3. A push-type flush receptacle for electric installation, having a mounting-plate, two one-piece metal parts, each comprising a spring-contact, a wiring-terminal, and a reach connecting the same, two insulating-members applied to the plate on opposite sides thereof and adapted to receive the reaches of the said parts between them, and to insulate the same from the plate and from each other, and means for mounting the said members on the said plate.

4. A push-type flush receptacle for electric installation, having a mounting-plate formed with an opening, two one-piece metal parts, each comprising a spring-contact, a wiring-terminal, and a reach connecting the same, insulating-members applied to the said plate on opposite sides of the said opening, and adapted to receive the reaches of the said one-piece metal parts between them, whereby the said parts are gripped and held

and insulated from each other and from the plate, and means for fastening the said insulating-members together.

5. A push-type flush receptacle for electric installation, having a mounting-plate formed with an opening, with a recess surrounding the same, and with a flange located at the bottom of the said recess, two insulating-members respectively located on the opposite faces of the said plate, one of them being positioned in the said recess, means for drawing the said members together against the opposite faces of the said flange, whereby they are held in place, and two one-piece metal parts, each comprising a spring-contact, a wiring-terminal and a reach connecting the same, the said parts being gripped by their said reaches between the said members in which they are insulated from each other and from the plate.

6. A push-type flush receptacle for electric installation, having mounting-plate, two insulating-members applied to the opposite faces thereof, the outer member having service-openings and the inner member having service- and assembling-openings, and two U-shaped metal parts each comprising a spring-contact and a wiring-terminal interposed between the said members, and passing from front to rear through the openings in the said inner member and insulated from each other and from the plate by the said members.

7. A push-type flush receptacle for electric installation, having a mounting-plate formed with an opening and set inward around the same to produce a concentric recess and an annular bearing-flange located at the bottom thereof in a plane parallel with the plane of the plate, two disk-shaped insulating members of which the outer member is located in the said recess, means passing through the said members for holding them together on opposite sides of the said flange, and two one-piece metal parts, each comprising a spring-contact, a wiring-terminal and a reach connecting the same, the said parts being passed from front to rear through the inner member and having their reaches interposed between the said members, whereby they are gripped and held in place, and insulated from each other and the plate.

8. As a new article of manufacture, a one-piece current-carrying part for push-type flush receptacles, the said part consisting of a single strip of metal bent into U-form to produce a spring-contact, a wiring-terminal, and a bow joining the same, the said terminal being longer than the said contact, the said terminal, bow and contact being graded in thickness, and the said bow being adapted to be directly sprung to give resilience to the contact.

In testimony whereof, I have signed this specification in the presence of two subscribing witnesses.

ADOLPH C. RECKER.

Witnesses:
JOHN S. NEAGLE,
W. S. GLISPIN.