

March 26, 1935.

H. J. L. FRANK

1,995,386

RANGE RECEPTACLE

Filed March 19, 1934

2 Sheets-Sheet 1

Fig. 1

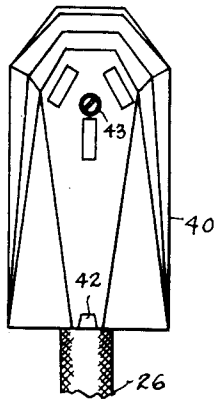


Fig. 2

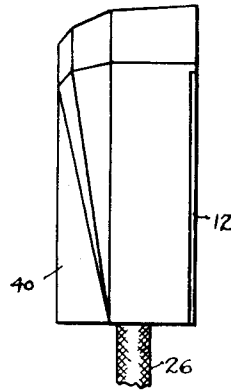


Fig. 3

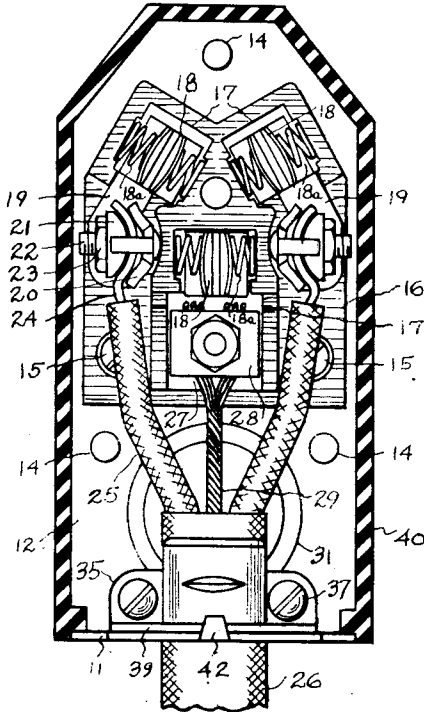
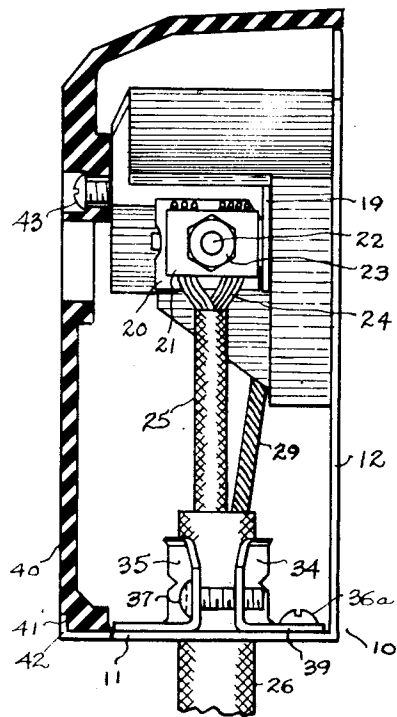


Fig. 4



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2 Sheets-Sheet 2

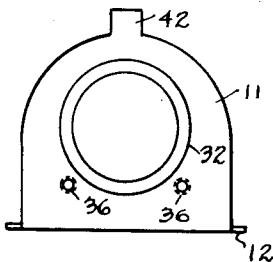
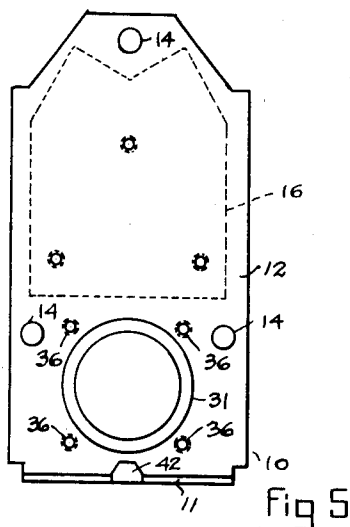


Fig 6

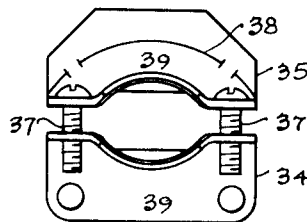


Fig 7

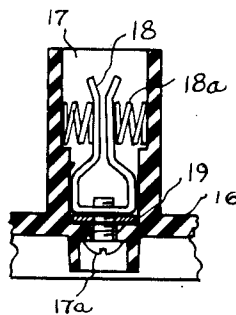


Fig 8

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UNITED STATES PATENT OFFICE

1,995,386

RANGE RECEPTACLE

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Application March 19, 1934, Serial No. 716,341

8 Claims. (Cl. 247—15)

This invention relates to electrical receptacles. The principal object of the present invention is to provide an electrical receptacle which is superior to existing receptacles in ease of manufacture, ornamental appearance, ease of installation, and electrical perfection.

Electrical receptacles of the class under consideration, particularly known as range receptacles, generally include an insulation base, an insulation top, contacts and connections on the base, and a tubular cable fitting at the hole through which the cable enters the receptacle, there being a cable clamp for anchoring the cable to the receptacle. This invention provides a receptacle which is superior to those heretofore known in many respects, outlined as follows:

In known receptacles, the insulation sections meet in a line remote from the baseboard or wall against which the receptacle is mounted, which meeting line is unsightly and permits the entrance of dust and moisture into the receptacle. In my construction, the receptacle cover goes all the way to the baseboard and there is no exposed meeting line between sections.

Further, in known receptacles, the base is a large one piece body of insulation, expensive to make, assemble, and stock. In my construction, the base is of metal, and has on it a small contact and connection body which can be pre-equipped with contacts, etc., and mounted on the metal bracket forming part of the base. The body is so shaped that the cable terminals can readily be connected thereto, without difficulty.

Further, in known receptacles, only one hole is provided for cable entrance, and therefore no choice as to direction of cable entrance is afforded the installing electrician. In my construction, due to the fact that two concealed walls of the receptacle are of metal, entrance through either wall and in either of two directions is afforded, by the provision of selectable knockouts in these metal walls.

Further, the construction of my receptacle is such that there is furnished therewithin a large clear space which permits the use of a cable clamp within the receptacle, thus dispensing with the tubular fitting commonly used. The clamp I use is in itself novel, and is so constructed that it seals the cable entrance opening.

Further, my receptacle is so constructed that a single screw may be utilized to hold in assembly the three major parts thereof, namely, the cover, the contact, and connection block, and the metal bracket.

Other objects of the invention will presently

be understood upon reference to the following detailed description of the embodiment shown in the appended drawings. In these drawings:

Figs. 1 and 2 are small scale front and side elevational views of the receptacle, with a portion of cable attached;

Figs. 3 and 4 are full scale similar views, but with the covers cut away or in section;

Figs. 5 and 6 are intermediate scale front and bottom plan views of the metal bracket of the receptacle;

Fig. 7 shows the cable clamp of the receptacle;

Fig. 8 is a sectional view of a socket in a body part of the receptacle.

Referring to the drawings, it will be seen that the receptacle generally comprises an L shaped metal bracket 10 having a base 11 and a back 12, the latter being provided with clear holes 14 through which may be passed screws for mounting the bracket against a surface, probably a wall of a room, at or near a base board. Disposed against the back part of the bracket and held thereon by screws 15 tapping into tapped holes of the bracket back 12 is a contact and connection body 16 of molded insulation formed with a base, and with walls providing forwardly projecting sockets 17, in each of which is secured, by a screw 17a a double jaw contact 18, whose jaws are urged towards each other by coiled springs 18a.

Two of the three contacts have integral extending plates 19 provided with bent up channelled portions 20 forming stationary contact plates of solderless connectors of the type shown in application Serial No. 685,818, filed August 19, 1933, which has matured into Pat. No. 1,954,587, April 10, 1934. Cooperating with the parts 20 are curved contact plates 21 traversed by bolts 22 upon whose free ends are nuts 23, these parts cooperating in a manner expressed in that application. These solderless connectors anchor the bared terminal strands 24 of conductors 25 of a cable 26 and connect them to the contact 18.

The remaining contact 18 is provided with a channelled plate 27 with which cooperates a curved contact plate 28 similar to the contact plates 21 to form a similar solderless connector for anchoring bared terminal strands of a conductor 29 forming part of the cable 26 and for connecting them to the corresponding contact 18.

The cable 26 may be passed through either one of two double knockouts 31, 32, initially provided in the bracket, the desired one of the knockouts being punched through in the usual fashion. From this it will be seen that the cable can be

passed through the base 11 or through the back 12 of the bracket 10 for connection to the contact and connection body 16, the direction of entrance being left to the choice of the installing electrician.

Surrounding the cable where it passes through the bracket 10 and within the receptacle is a cable clamp comprising an anchored part 34 and a floating part 35. The anchored part 34 of the cable clamp is provided with a set of holes which may be aligned with one of the three sets of tapped holes 36 provided in the bracket, and through these aligned holes are passed screws 36a which thread into the tapped holes 36 of the bracket and secure the anchored part of the cable clamp to the bracket. The two parts 34-35 are held together by adjusting screws 37 which may be manipulated to move the cable clamp parts towards or from each other to accommodate the cable clamp to the size of cable that is to be introduced into the receptacle through the bracket.

It will be observed that the floating part 35 is provided with a score line 38 which permits a portion of the floating part to be broken off in the event a large size cable is introduced into the receptacle, in which case the floating part would have a portion projecting so far beyond the removed knockout that this portion would be in the way and would prevent proper assembly of the receptacle.

It will also be observed that the flanges 39 of the cable clamps, namely those parts of the cable clamp parts which abut the utilized surface of the bracket, are large enough to cover and seal the knockout that is removed or punched through when a cable is to be passed therethrough. Accordingly, the use of the cable clamp shown eliminates the necessity of using additional exterior fittings to close and seal the receptacle at the point where the cable enters it.

Covering the bracket entirely and thus concealing all of the interior of the receptacle is a scoop shaped cover 40 having an open back which receives the back 12 of the bracket and an open base which receives the base 11 of the bracket to cooperate therewith and thus form a complete closure for the receptacle. The cover has a recess 41 at its lower front edge for the reception of a lug 42 struck up from the base 11 of the bracket and this lug cooperates with the cover to assist in holding the cover in place on the bracket. A screw 43 passes through the cover and also through the contact and connection body 16 to hold the cover and the connection body in place, the screw threading into a tapped hole 44 in the back 12 of the bracket. The cover sides and top are formed to extend to the surface against which the receptacle is mounted and the cover forms a complete seal and closure for the receptacle which is unbroken, because the cover walls extend to the surfaces.

Now having described an embodiment of the invention, reference will be had to the following claims for a determination of the scope of the invention.

What I claim is:

1. A receptacle comprising an L shaped plate-like metal bracket having a base part and a back part, and having mounting holes in the back part, whereby it may be mounted against a surface by screws whose heads are in front of the back part, a contact and connection body of insulation separate and independent of the bracket and of less area than and supported on the back part

of the bracket, and knockouts in the back and base, clear of the body, for permitting passage of conductors whose terminals are connected to said body through either part of said bracket.

2. A receptacle comprising an L shaped plate-like metal bracket having a base part and a back part, and having mounting holes in the back part, whereby it may be mounted against a surface by screws whose heads are in front of the back part, a contact and connection body of insulation separate and independent of the bracket and of less area than and supported on the back part of the bracket, and knockouts in the back and base, clear of the body, for permitting passage of conductors whose terminals are connected to said body through either part of said bracket, and a scoop shaped cover having a front, sides, a top, an open back and an open base, closed by the bracket when in assembly therewith to form a closed receptacle, the front of the cover having slots through which plug prongs may be passed therethrough and into the body.

3. A receptacle comprising an L shaped plate-like metal bracket having a base part and a back part, and having mounting holes in the back part, whereby it may be mounted against a surface by screws whose heads are in front of the back part, a contact and connection body of insulation separate and independent of the bracket and of less area than and supported on the back part of the bracket, and knockouts in the back and base, clear of the body, for permitting passage of conductors whose terminals are connected to said body through either part of said bracket, and a scoop shaped cover having a front, sides, a top, an open back and an open base, closed by the bracket when in assembly therewith to form a closed receptacle, the front of the cover having slots through which plug prongs may be passed therethrough and into the body, the side walls of the cover extending to the surface against which the receptacle is disposed when mounted.

4. A receptacle comprising an L shaped plate-like metal bracket having a base part and a back part, and having mounting holes in the back part, whereby it may be mounted against a surface by screws whose heads are in front of the back part, a contact and connection body of insulation separate and independent of the bracket and of less area than and supported on the back part of the bracket, and knockouts in the back and base, clear of the body, for permitting passage of conductors whose terminals are connected to said body through either part of said bracket, and a scoop shaped cover having a front, sides, a top, an open back and an open base, closed by the bracket when in assembly therewith to form a closed receptacle, the front of the cover having slots through which plug prongs may be passed therethrough and into the body, the body being contained within the receptacle.

5. A receptacle comprising an L-shaped plate-like metal bracket having a horizontal base part and a vertical back part, and having mounting holes in the back part whereby it may be mounted against a surface by screws whose heads are in front of the back part, a contact and connection body of insulation, separate and independent of and of less vertical area than the back part of the bracket and supported on the back part of the bracket, clear of said holes, and having at least one prong-receiving contact slot open to the front of the body, and having a clamp type cable terminal connector for each contact of the body, with each connector being open towards the base so as

to be accessible for insertion of a conductor terminal thereto in a vertical direction and from below the body, the clamping part of each connector moving horizontally for clamping, and knockouts in the back and base, below and clear of the body, for permitting passage of a conductor whose terminal is to be disposed in the connector through either part of said bracket.

6. A receptacle comprising an L-shaped plate-like metal bracket having a horizontal base part and a vertical back part, and having mounting holes in the back part whereby it may be mounted against a surface by screws whose heads are in front of the back part, a contact and connection body of insulation, separate and independent of and of less vertical area than the back part of the bracket and supported on the back part of the bracket, clear of said holes, and having at least one prong-receiving contact slot open to the front of the body, and having a clamp type cable terminal connector for each contact of the body, with each connector being open towards the base so as to be accessible for insertion of a conductor terminal thereto in a vertical direction and from below the body, the clamping part of each connector moving horizontally for clamping, and knockouts in the back and base, below and clear of the body, for permitting passage of a conductor whose terminal is to be disposed in the connector through either part of said bracket, and a scoop-shaped cover having a front, sides, a top, an open back, and an open base, closed by said bracket when in assembly therewith to form a closed receptacle, the front of the cover having an opening aligned with the slot of the body for permitting a plug prong to be thrust into said slot.

7. A receptacle comprising an L-shaped plate-like metal bracket having a horizontal base part and a vertical back part, and having mounting holes in the back part whereby it may be mounted against a surface by screws whose heads are in front of the back part, a contact and connection body of insulation, separate and independent of and of less vertical area than the back part of the bracket and supported on the back part of the bracket, clear of said holes, and having at least one prong-receiving contact slot open to the front of the body, and having a clamp type cable terminal connector for each contact of the body, with

each connector being open towards the base so as to be accessible for insertion of a conductor terminal thereto in a vertical direction and from below the body, the clamping part of each connector moving horizontally for clamping, and knockouts in the back and base, below and clear of the body, for permitting passage of a conductor whose terminal is to be disposed in the connector through either part of said bracket, and a scoop-shaped cover having a front, sides, a top, an open back, and an open base, closed by said bracket when in assembly therewith to form a closed receptacle, the front of the cover having an opening aligned with the slot of the body for permitting a plug prong to be thrust into said slot, the cover being secured to the bracket, by a screw passing through the cover and having its head in front of the front wall of the cover.

8. A receptacle comprising an L-shaped plate-like metal bracket having a horizontal base part and a vertical back part, and having mounting holes in the back part whereby it may be mounted against a surface by screws whose heads are in front of the back part, a contact and connection body of insulation, separate and independent of and of less vertical area than the back part of the bracket and supported on the back part of the bracket, clear of said holes, and having at least one prong-receiving contact slot open to the front of the body, and having a clamp type cable terminal connector for each contact of the body, with each connector being open towards the base so as to be accessible for insertion of a conductor terminal thereto in a vertical direction and from below the body, the clamping part of each connector moving horizontally for clamping, and knockouts in the back and base, below and clear of the body, for permitting passage of a conductor whose terminal is to be disposed in the connector through either part of said bracket, and a scoop-shaped cover having a front, sides, a top, an open back, and an open base, closed by said bracket when in assembly therewith to form a closed receptacle, the front of the cover having an opening aligned with the slot of the body for permitting a plug prong to be thrust into said slot, the side walls of the cover extending to the surface against which the receptacle is disposed when mounted.

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