Dec. 11, 1934. A. ABRAMSON 1,983,725

CURRENT TAPPING DEVICE

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Fig. 1.

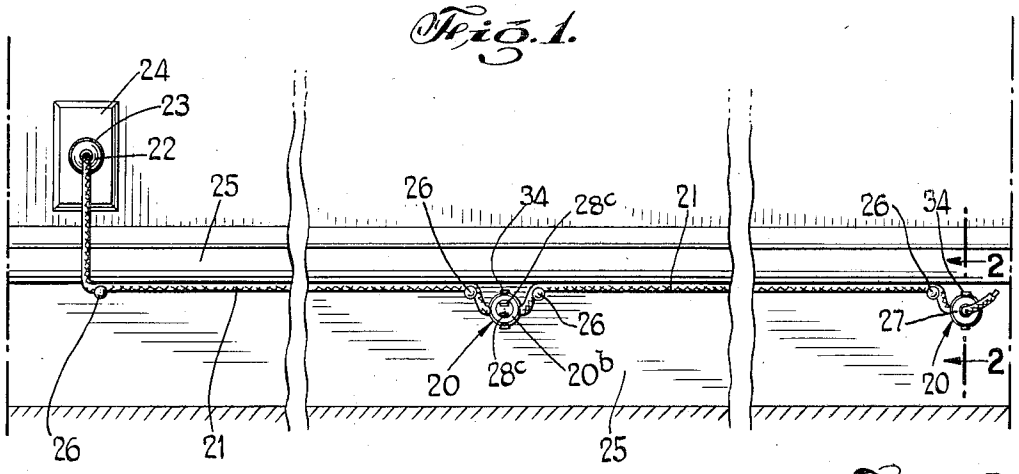


Fig. 2.

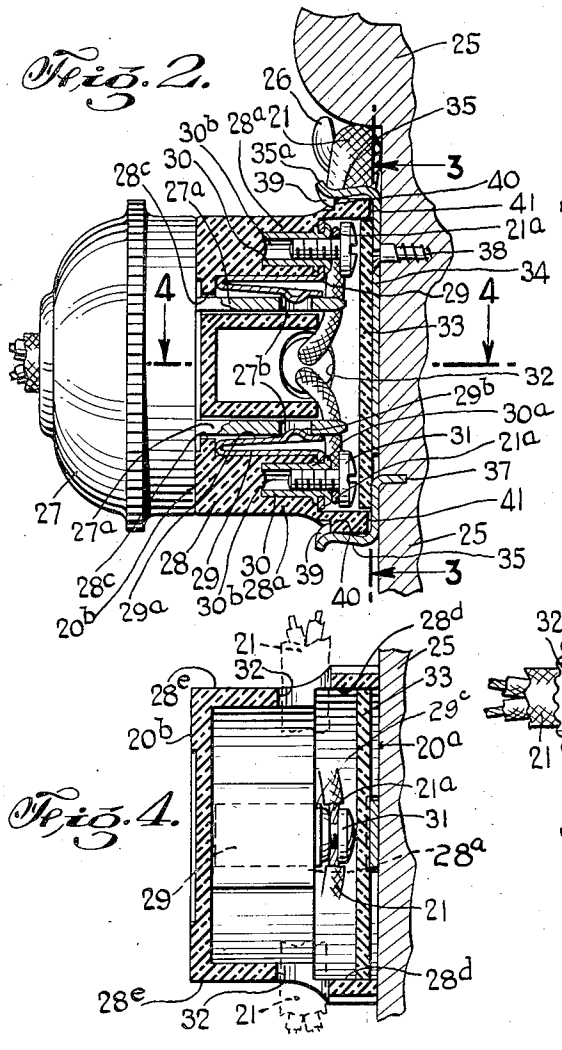


Fig. 3.

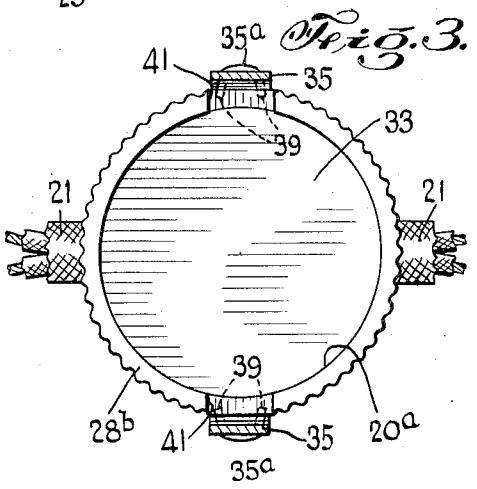
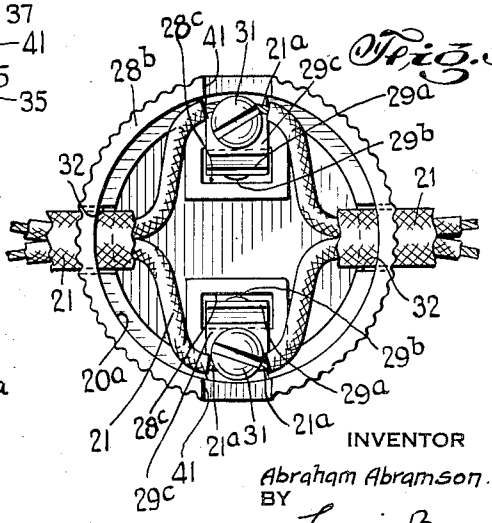


Fig. 4.

Fig. 5.



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Fig. 6.

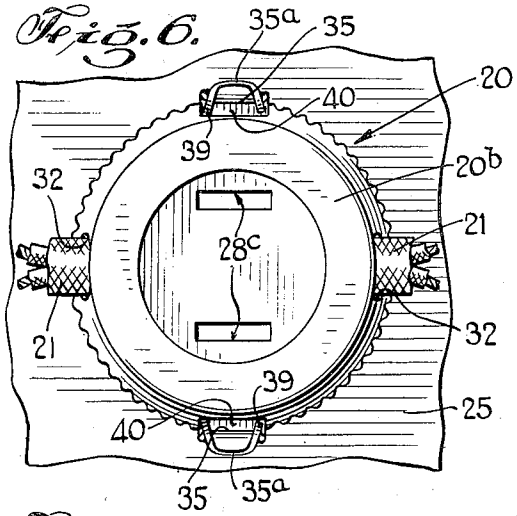


Fig. 7.

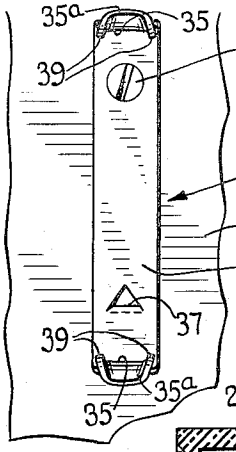


Fig. 10.

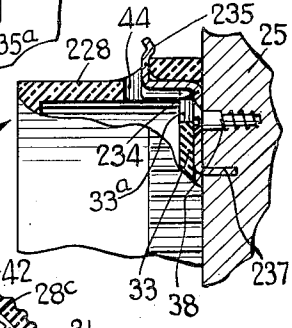


Fig. 8.

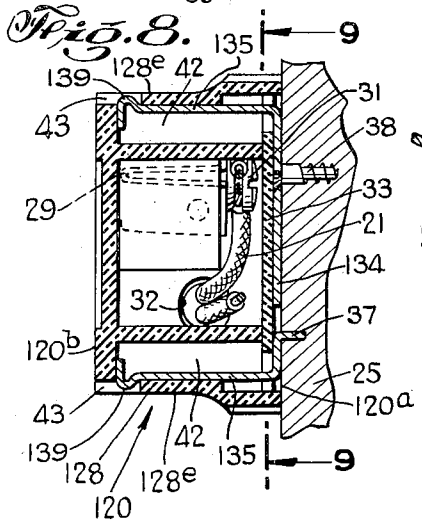


Fig. 9.

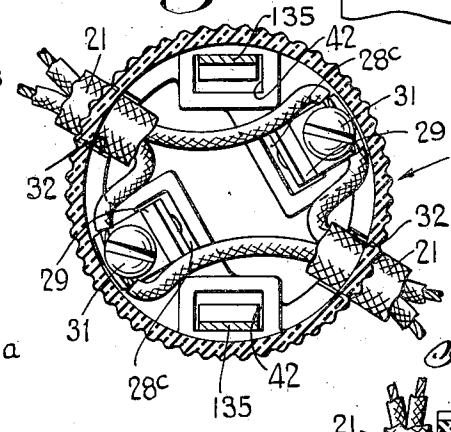


Fig. 11.

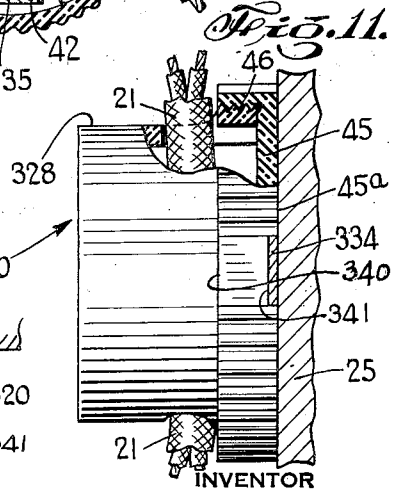
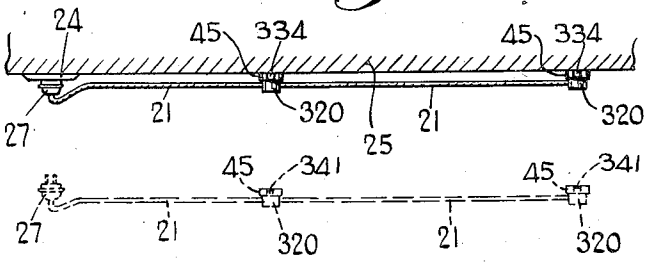


Fig. 12.



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CURRENT TAPPING DEVICE

Abraham Abramson, New York, N. Y.

Application July 21, 1932, Serial No. 623,732

11 Claims. (Cl. 173—338)

This invention relates to electric fittings, and more particularly is directed to the so-called "current-tapping" or outlet receptacle devices, such as used in wiring installations for connecting a plurality of branch decorative lighting outfits in parallel circuit, and for providing outlet receptacles to detachably connect portable appliances to exposed feeder conductors.

Among the objects of the invention is to provide electric fittings of the character described comprising few and simple parts which shall be cheap to manufacture yet form a rugged structure, which shall be neat in appearance, easy to install, and practical and efficient to a high degree in use.

Other objects of this invention will in part be obvious and in part hereinafter pointed out.

The invention accordingly consists in the features of construction, combinations of elements and arrangement of parts which will be exemplified in the constructions hereinafter described and of which the scope of application will be indicated in the following claims.

In the accompanying drawings, in which is shown various possible illustrative embodiments of this invention:

Fig. 1 is a front elevational view showing the improved electric current-tapping fitting incorporated in an exposed feed circuit.

Fig. 2 is an enlarged cross-sectional view of the improved fitting taken on lines 2—2 in Fig. 1.

Figs. 3 and 4 are cross-sectional views taken on lines 3—3 and 4—4, respectively, in Fig. 2.

Fig. 5 is a bottom or rear view of the improved fitting with the back plate removed showing the interior wiring.

Fig. 6 is a top or front view of the improved electric fitting demountably secured in position.

Fig. 7 is a front elevational view of the attachment clip showing the fitting removed therefrom.

Fig. 8 is a cross-sectional view of a modified form of the invention showing clips extending through the body of the fitting.

Fig. 9 is a cross-sectional view taken on lines 9—9 in Fig. 8.

Fig. 10 is a fragmentary side elevational view, partly broken away, showing the interior construction of a further modified form of attachment clip for demountably securing the fitting.

Fig. 11 is a side elevational view of still another modified form of the invention, partly broken away to show the interior and exterior assemblage, and

Fig. 12 is a top elevational view of a portable, current-tapping exposed feeder circuit showing in dotted lines the circuit demounted from its attached position.

Referring in detail to the drawings, 20 denotes a current-tapping fitting embodying the invention. As shown in Fig. 1, two of such fittings are shown electrically connected in circuit with an exposed insulated conductor feed wire 21, the latter being terminated at one end by a conventional cap-plug 22. Said cap-plug 22 connects to a suitable supply source, such as provided by the receptacle outlet 23 at the flush plate 24 positioned above the baseboard 25. If desired, the feed wire 21 may be fastened to the baseboard 25 in any suitable manner, as by means of nails 26. Each of the fittings 20 are spaced at a suitable distance from the flush plate outlet receptacle 23 to serve as additional outlet receptacles to which the cap-plugs 27 of cords extending from portable appliances, such as electric lamps, vacuum cleaners, decorative lighting outfits, radios, etc. may be quickly connected in circuit through the fittings 20 in the well understood manner.

The current-tapping fitting 20 preferably comprises a one-piece body portion 28 of any suitable shape and is formed of insulating material, such as porcelain, pheno-condensate products or the like moldable substances. As here shown, the body portion 28 is cylindrical and has the spaced current-carrying members 29 mounted therein in any suitable manner as by means of eyelet rivets 30 embedded in ledges 28*a*. The latter are positioned on diametrically opposite portions of the inner side of the wall of said body portion 28 inwardly from the peripheral rim 28*b* of the bottom or rear side 20*a* of the fitting 20, as is clearly shown in Fig. 2.

The current carrying members 29 may comprise spring contacts extending into a pair of spaced parallelly aligned socket openings 28*c* provided in the body portion 28. Said openings 28*c* project down from the top or front side 20*b* of the fitting 20, opposite the bottom or rear side 20*a*. The current-carrying spring contacts 29 are each seated on a projecting end 30*a* of an eyelet rivet 30, and are anchored in place by upsetting a portion of said rivet ends 30*a* extending through the contact 29 so as to rigidly secure said contacts 29 on the ledge 28*a* as is clearly shown in Fig. 2.

Threaded axially, passages 30*b* extend through the rivets 30 and binding post screws 31 engage therein for securing bare wire ends 21*a* of the conductor feed wire 21 to the spring contacts 29

and rivets 30. Each spring contact 29 has one end 29*a* bent back on itself which is adapted to resiliently engage terminal blades 27*a* of a cap-plug 27 extending from an electric appliance inserted into the socket openings 28*c*. Said spring contact ends 29*a* are formed with protuberances 29*b* for engaging the usual perforations 27*b* provided in the blade terminals 27*a* to form a spring releasable interlockment, as is clearly shown in Fig. 2. The end 29*c* of the spring contact 29 opposite the end 29*a* is bent and reaches under the head of the screw 31 so that the latter when tightened, electrically and mechanically unite the current-carrying spring contact 29 and rivets 30 with the bared portion 21*a* of the conductor feeder 21 to form a rugged, efficient structure, as is clearly shown in Figs. 2, 4 and 5.

Openings or passages 32 are provided in the side walls of the body 28 above the rim 28*b* to allow extending the conductor feed wire 21 therethrough. To produce a simple and cheaply constructed fitting 20, the body portion 28 is structurally formed to permit easy molding thereof. To this end, the rim 28*b* about the rear side 20*a* may be made larger in diameter than the body portion extending down from the top side 20*b* above said rim, to form a projecting rim-band, the inner wall 28*d* of the rim-band preferably aligning with the outer wall portion 28*e*, as is clearly shown in Figs. 2 and 4. Thus in molding the body portion 28, the mold may have a core-pin (not shown) extending up into the bottom side 20*a* and terminating in a form to produce the opening or passage 32 yet leave the rim-band 28*b* continuous so as to prevent the wire 21 from interfering with the seating of the bottom or rear side 20*a* against the surface of the baseboard 25. If desired, the outer surface of said rim-band may be knurled to serve as a finger gripping means.

To insure the current-carrying parts 29 and their connection against accidental short circuit or grounding, an insulating plate 33 is fitted in the body portion 28 to provide a closure for the bottom or rear side 20*a*.

A novel form of means for mounting the fittings 20 to a supporting structure, such as the baseboard 25, is provided which includes the clip 34. Said clip may be made of resilient strip material formed with upturned spring gripping ends 35. The intermediate portion 36 of said clip between the ends 35 is flat to provide a firm abutment against the baseboard 25. Said intermediate clip portion 36 may be provided with any suitable form of fastening means, such as piercing prong 37 and screw 38 as is clearly shown in Figs. 2 and 10. Where one or more prongs 37 are used the clip 35 is simply nailed to the baseboard, the prong being made sufficiently long to retain the clip firmly in position. Screw 38 is applied in the usual manner. As desired, either prongs, screws or a combination thereof may be used for securing the clip to the baseboard 25. The spring gripping means 35 are preferably made with an outward flare as at 35*a*, to facilitate the coupling of the fitting 20 to the clip 34. Just inwardly of said flared portion 35*a*, the ends 35 are formed with projections 39 which are adapted to engage ledges 40 provided on the rim-band 28*a*, as is clearly shown in Figs. 2, 3 and 6.

In order to leave the bottom or rear side 20*a* level for seating evenly against a support or baseboard 25, the rim-band 28*a* is recessed as at 41 sufficiently to receive the clip portion 36.

In using the invention, the current-tapping fittings 20 are connected to the conductor feed wire 21 at desired spaced distances apart and one end of the wire 21 provided with a cap-plug 22 for connecting into the flush plate outlet 23. The clips 34 are then mounted on the baseboard at said desired distances apart and the wired fittings 20 are engaged in the clips 34 by simply pressing the fitting 20 into the clip 34 until the projections 39 on the spring end 35 engage the ledges 40. The nails 26 may then be inserted to retain the conductor feed wire 21 neatly in place. After the cap-plug 22 is connected to the power source outlet receptacle 23, any portable appliance provided with a cap-plug 27 may be connected in circuit in the well understood manner of inserting the prong terminals 27*a* into the openings 28*a*, as is clearly shown in Figs. 1 and 2. The wire 21 passes either through or into the fitting and has bare portions 21*a* thereof connected to the current-carrying parts 29 through connection with the binding post screw 31, as is clearly shown in Figs. 2 and 4.

In the drawings and description given above, it is seen that the fittings 20 are simple and compact in construction and are readily installed to provide convenient current tapping circuit. The fittings 20 are retained against accidental rotation on the baseboard 25 by the engagement of the clip 34 in the recesses 41 of the fitting. Said fittings are readily attached and installed, or demounted and removed through the coupling or uncoupling thereof with the clips 34.

In Figs. 8 and 9, a modified construction of the invention is shown. The parts of the fittings 120 here shown are similar to those of the fittings 20 described above with the exception that spaced passages 42 are provided within the body portion 128. Said passages 42 extend in from the bottom or rear side 120*a* and terminate just short of the top or front side 120*b*. Depressions 43 are molded in the side wall 128*e* of the body 128 adjacent the top side 120*b*, said depressions being extended to form a communication between the inner end of the passages 42 and the exterior side 128*e*.

With this construction of fitting 120, a clip 134 is provided having elongated spring ends 135 which fit into and through the passages 42. Said spring ends 135 terminate in projections 139 which enter said depressions 43 thus forming a releasable enlockment for coupling the fitting 20 to the clip 134 and against the baseboard 25. In this modification, the clip 134 is housed within the body 128. The fitting 120 is wired in the same manner as described above for the fitting 20 and may be mounted by simply inserting the spring gripping ends 135 in the passages 42 until the projections 139 enter the depressions 43 coupling the clip 134 to the fitting 120. To remove the fitting 120, the projections 139 are simply pressed inwardly and the fitting 120 pulled away from the baseboard 25.

Fig. 10 shows a further modification of the invention. Here the fitting 220 has the body portion 228 thereof constructed similarly to the body portion 28 of the fitting 20 with the exception that the side wall of the body portion 228 is provided with one or more through openings or passages 44 in addition to the openings 32 for receiving the conductor feed wire 21, the openings 32 being shown in Figs. 2, 4, 5 and 6, but not in Fig. 10. This passage 44 is adapted to

receive an outwardly flared spring end 235 which extends from a clip 234, the latter being formed with the piercing prong 237 and having fastening screw 38. Said clip 234 although having but a single spring end 235 nevertheless firmly secures the fitting 220 to the baseboard 25. The fitting 220 as is seen from Fig. 10 can be readily removed or remounted by simply inserting the end 235 of the clip 234 into the passage 44 for engaging the clip end 235 on the rim of the passage 44 or withdrawing the same by pressing said clip end back into the passage 44. The insulating plate 33 is cut away at 33*a* to provide clearance for the clip end 235 for facilitating said mounting or removal. It is to be understood that the clip 234 if desired, may be formed with spaced spring ends 235 in which case said ends would co-operate with openings 44 in the body portion 228 positioned diametrically opposite with respect to each other.

In Fig. 11 is shown still another modification of the invention. Here the fitting 320 may have its body portion 328 constructed like the body portion of the fittings 20 or 120 or 220, with the exception that the insulating plate 33 is replaced by a screw cover 45 threaded onto the outside wall of the rim-band as at 46. The outer surface 45*a* of said cover has a recess 341 formed therein for receiving the intermediate portion of a clip 334. The spring ends of said clip engage said fitting on ledges 340 for retaining the fitting to the baseboard 25.

Fittings 320 will be found particularly useful in wiring installations which may be selectively utilized as outlet receptacles attached to a baseboard as shown, or as a portable extension cord detached from the baseboard, as illustrated in dotted lines in Fig. 12. When the circuit formed with the fittings 320 are detached from the supporting structure or baseboard 25, the cover 45 forms a substantial closure making the fitting safe and adapted to withstand rough usage to which portables are usually subjected.

From the drawings and description given above, it is seen that the fittings 20, 120, 220 and 320 are simple and compact in construction and provide in a wiring installation, current-tapping means from a single electric power outlet for a plurality of portable circuits conveniently positioned. Said fittings thus form an installation that is firmly and readily mounted to a support, yet can be easily removed or replaced for use as a portable extension.

It will thus be seen that there is provided means whereby the several objects of this invention are achieved and which are well adapted to meet the conditions of practical use.

As various possible embodiments might be made of the above invention, and as various changes might be made in the embodiments above set forth, it is to be understood that all matter herein set forth or shown in the accompanying drawings is to be interpreted as illustrative and not in a limiting sense.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. A device of the character described comprising a member having a projecting portion, means for attaching said member to a support, an outlet receptacle having an insulated body and spaced socket openings extending therein from a front side of said body, current carrying parts fitted into the body from a rear side thereof and housed in said socket openings, said body adjacent the rear side having a rim formed with a recess to receive said attachment means, and means formed on said body between said front and rear side and adjacent the latter for engaging the projecting portion to firmly mount the receptacle to the support.

2. A device of the character described comprising a member having means for attaching thereof to a support, spring gripping means extending from said member, an electric outlet receptacle having an insulated body, said body having spaced socket openings extending therein from a front side thereof, current carrying parts housed in said socket openings, a cover plate fitted into said body forming a closure for a rear side of said fitting opposite said front side, said body adjacent said plate having a rim formed with a recess to receive said member, and a ledge on said body portion for engaging with said gripping means to firmly mount the receptacle to the support.

3. A device of the character described comprising a member, means for attaching said member to a support, a spring gripping means extending from said member, an electric outlet receptacle having a body formed with a passage to permit the extension of said gripping means therethrough, and means on said body for engaging said projecting means to firmly mount the receptacle on the support.

4. A device of the character described comprising an electric outlet receptacle having an insulated body formed with spaced socket openings extending therein from a front side thereof, current carrying parts fitted into the body from a rear side thereof, said body adjacent said rear side formed with a rim band, an opening in said body inwardly of said band to permit the passage of conductor wires for connecting with said current carrying parts, a member, means for attaching said member to a support and means extending from said member and for releasably engaging the exterior portion of said body above said band for firmly mounting the receptacle to the support, said band formed with a recess to receive said member.

5. A device of the character described comprising an attachment member having a projecting portion, a support, means for securing said member to the support, an outlet receptacle having an insulated body and spaced socket openings extending therein from a front side of said body, current carrying parts fitted into the body from a rear side thereof and housed in said socket openings, said parts being totally enclosed within said body, and outwardly extending means formed on said body between said front and rear side for engaging the projecting portion to firmly mount the receptacle to extend wholly beyond the support, said projecting portion extending beyond the ends of the current-carrying parts.

6. A device of the character described comprising an attachment member, a support, means for securing said member to the support, spring gripping means extending from said member, an electric outlet receptacle having an insulated body, said body portion having spaced socket openings extending therein from a front side thereof, current carrying parts housed in said socket openings, a cover plate fitted to said body forming a closure for a rear side of said fitting opposite said front side, said parts being totally enclosed within said body, and outwardly extending means on said body for engaging said gripping ends to firmly mount the receptacle to extend

wholly beyond the support, said spring gripping means extending beyond the ends of the current-carrying parts.

7. A device of the character described comprising an electric outlet receptacle having an insulated body formed with spaced socket openings extending therein from a front side thereof, current carrying parts housed in said socket openings, said parts being totally enclosed within said body, a cover plate mounted on said body to form a closure for a rear side of the body opposite said front side, an opening in said body between said sides to permit passage of conductor wires for connecting with said current carrying parts, an attachment member, a support, means for securing said member to the support, and spring gripping means extending from said member releasably engaging with said receptacle for firmly mounting the latter to project wholly beyond the support, said spring gripping means extending beyond the ends of the current-carrying parts.

8. A device of the character described comprising an electric outlet receptacle having an insulated body formed with spaced socket openings extending therein from a front side thereof, current carrying parts fitted into the body from a rear side thereof, said parts being totally enclosed within said body, said body adjacent said rear side formed with a rim band, an opening in said body inwardly of said band to permit passage of conductor wires for connecting with said current carrying parts, an attachment member, a support, means for securing said member to the support, and means extending from said member for releasably engaging said body above said band for firmly mounting the receptacle to extend wholly beyond the support, the means for releasably engaging said body extending beyond the ends of the current-carrying parts.

9. A portable wiring device of the character described comprising flexible conductor wires terminated by a cap plug, an outlet receptacle having an insulated body and spaced socket opening extending therein from a front side of said body, current carrying parts fitted into the body from a rear side thereof and housed in said socket openings, said current carrying parts connected with the conductor wires, a cover plate fitted to said body forming a closure for said rear side, said parts being totally enclosed within said receptacle, an attachment member, a support, means for securing the member to the support, and spring gripping means extending from said member for releasably engaging the receptacle constructed and arranged so that the device may selectively be mounted to extend wholly beyond the support, said spring gripping means extending along said casing beyond the ends of said current-carrying parts, or detached from said member for use independent thereof.

10. A device of the character described comprising an electric outlet receptacle having an insulating casing totally enclosing current-carrying parts adapted to connect an electric appliance and the like to a power source, said receptacle having a rim band extending outwardly about one end thereof, a support, and an attachment member having means for securing to the support including means cooperative with said band to form a detachable coupling for firmly mounting the receptacle to project wholly beyond the support, portions of the current-carrying parts being located closer to said support than parts of said cooperating means engaging said band.

11. A portable wiring device of the character described comprising flexible conductor wires terminated by a cap plug and an outlet receptacle for tapping the conductor wire circuit, said receptacle having current-carrying parts housed in an insulating body, said body formed with a rim band, attachment member, a support, means for attaching said member to the support, and means extending from said member for releasably engaging the band of said body constructed and arranged so that the device may selectively be mounted to extend wholly beyond the support with said band engaging means located beyond the ends of said current-carrying parts or detached from said member for use independent thereof.

ABRAHAM ABRAMSON.