

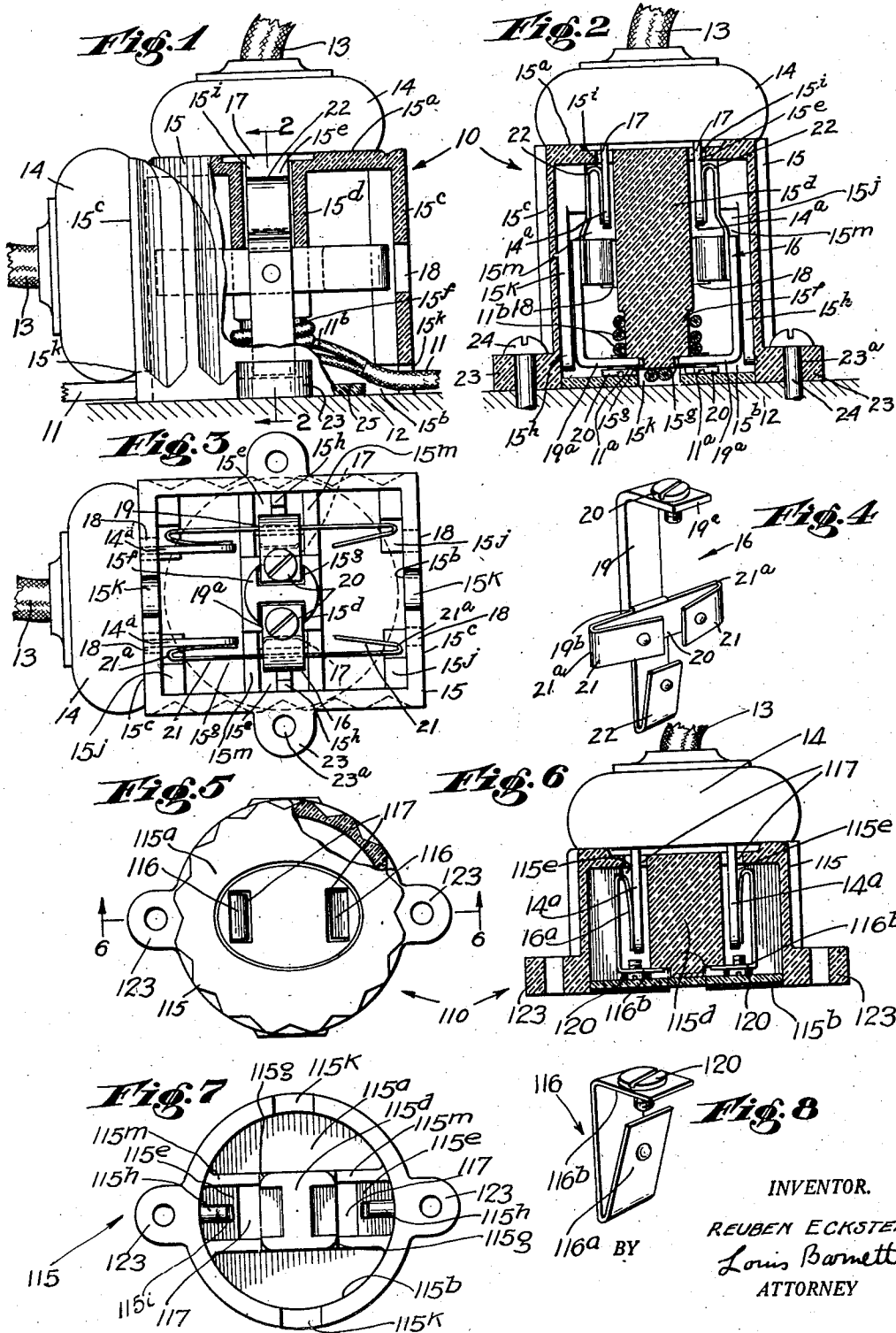
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ELECTRIC CURRENT TAPPING DEVICE

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ELECTRIC CURRENT TAPPING DEVICE

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This invention relates to electric fittings and more particularly to circuit connector devices such as used in portable circuits as for example for connecting a plurality of decorative lighting outfits in parallel circuit and for providing one or more outlet receptacles for detachably tapping exposed feed conductors.

One object of the invention is to provide an improved electric current tap fitting of the character described having quick and easy means for detachably connecting one or more portable circuits to exposed feed conductors.

Another object of the invention is to provide a novelly constructed fitting 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 feature 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 drawing, in which is shown various possible illustrative embodiments of this invention,

Fig. 1 is a front elevational view of a multiple outlet receptacle, partly in section to expose the interior, connected in circuit embodying the invention.

Fig. 2 is a cross sectional view taken on lines 2—2 in Fig. 1.

Fig. 3 is a bottom plan view of the improved fitting shown in Figs. 1 and 2 with the bottom closure and the feed conductor wires removed, showing the current carrying parts in place.

Fig. 4 is a perspective view of one of the current carrying parts shown in Figs. 1, 2 and 3.

Fig. 5 is a top plan view of an improved single outlet receptacle fitting shown partly

broken away to expose the interior construction, embodying the invention.

Fig. 6 is a sectional view taken on lines 6—6 in Fig. 5.

Fig. 7 is a bottom plan view of the casing of the improved fitting shown in Fig. 6 with the bottom closure removed; and

Fig. 8 is a perspective view of one of the current parts shown in Figs. 5 and 6.

Referring in detail to the drawing, 10 denotes a multiple outlet receptacle fitting embodying the invention electrically connected to expose insulated conductor feed wires 11 and mounted on a suitable support 12, said fitting providing a quick detachable means for tapping said wires 11 to one or more branch circuits 13 through conventional cap plugs 14 of portable appliance or decorative lighting outfits (not shown).

The fitting 10 is seen to comprise a suitable insulating casing or housing 15 preferably made in a single piece of a molded material such as a pheno-condensate or the like substance and a pair of identically constructed current carrying members 16 fitting in said casing as shown in Figs. 1 to 3, inclusive.

The casing 15 may form a tubular structure having a closed top wall 15a, and an open bottom end 15b. The oppositely disposed side walls 15c of said casing 15 are flat and there projects from the top wall centrally through said housing structure a stanchion 15d. On either side of the stanchion 15d, said casing has formed therein pockets 15e positioned in cross-relation with respect to the side walls 15c (see Fig. 3). Each pocket has a passage opening 17 extending through the top wall 15a, said openings being spaced to receive the blades or prongs 14a of the cap plugs 14 for contacting the latter to the current carrying members 16. The side walls 15c are also perforated with spaced passage openings which communicate with the interior of the casing for contacting cap plug blades 14a inserted therein with the members 16 as is clearly shown in Figs. 2 and 3.

Each current carrying member 16 may comprise a relatively stiff L-shaped terminal piece 19 having a binding screw 20 threaded into the reflexed end 19a, and a T-shaped

spring contact structure 20 firmly secured to the other end 19b of said terminal piece 19. Said T-shaped contact structure may be made of flat resilient material having a cross strip forming with the ends thereof inwardly bent to provide oppositely extending spring contacts 21 and an inwardly bent strip forming a spring contact 22 outwardly extending from the end 19b.

The free end of the stanchion 15f adjacent the open casing side 15b has spaced recesses 15g to receive the ends 19a of the member 16 and the spring contacts 22 are adapted to be housed in the pockets 15e having side walls 15m for registering with the opening 17 whereby cap plug prongs 14a when inserted in said openings 17 electrically connect with the contacts 22. Side and end abutment ribs 15k and 15i, respectively, may be provided for reinforcing the casing and bracing the members 16. See Figs. 2 and 3.

The fold ends 21a of the cross spring contacts 21 may be supported on abutments 15j projecting from the inner wall of the casing to register said contacts with the opening 18 in the opposite side wall 15c of the casing. Thus three separate outlet receptacles are provided, one on the closed top casing wall 15a and one each on the side walls 15c.

The outer shell structure of the casing 15 may be suitably fluted to reduce to a minimum the amount of material required and to give the fitting an ornamental appearance.

To provide a convenient means for mounting the fitting 10 to the support 12, lugs 23 may be provided to extend outwardly from casing 15 preferably spaced from the flat side wall 15c. Said lugs 23 are perforated as at 23a for receiving attachment nails or screws 24.

To use the fitting 10, the current carrying members 16 are fitted into the casing 10, the conductor feed wires 11 are stripped at the point where the fitting 10 is to be mounted, the bare portion 11a of each wire 11 is secured to one of the binding screws 20. Through grooves 15k provided in the flat casing side walls 15c adjacent the open end 15b of the casing the conductor wires 11 are passed between the casing and the support 12. An insulating cover plate 25 may then be set into said open casing end 15b so as to shield the current carrying member 16 from being accidentally short circuited.

If desired the stanchion end 15f inwardly from the recess 15g may be made with curved cross-section about which the insulated portion 11b of each of the wires 11 adjacent stripped portion 11a is wound to serve as a strain relief for the binding screw connections as shown in Figs. 1 and 2.

A modified form of the invention is shown in Figs. 5, 6, 7 and 8. Here the fitting 110 forms but a single outlet receptacle and is seen to comprise a casing 115 of molded in-

sulating material forming a tubular structure closed at the top end 115a and open at the bottom end 115b like the casing 15 described above. The exterior side of the casing may be fluted and the top end 115a alone is provided with spaced passage openings 117 communicating with pockets 115e for receiving the terminal blades 14a of a plug cap 14, said blades 14a as shown in Fig. 6 being adapted to contact with the bent spring end 116a of the current carrying member 116. The end 116b of member 116 opposite the spring end 116a forms an angular base into which is threaded the binding screw 120. Integral lug 123 for mounting the fitting 110 may be extended from opposite sides of the casing 115 adjacent the casing, open end 115b and recesses 115k are provided to permit the passage of conductor wires 11 to and from the interior of the casing. Extending through the interior of the casing 115 from the top end 115a thereof, there is a stanchion 115d. The latter like stanchion 15d of the casing 15 being solid throughout forms a substantial reinforcement for the fitting and may have its free end 115g rounded to provide a strain relief for the connection of the wires 11 to the current carrying members.

In the casing pockets 115e having side walls 115m, a side and end abutment bracing ribs 115k and 115i, respectively, may be provided as shown in Fig. 7.

The fitting 110 is assembled and used in the same manner as described above for the fitting 10, said fitting 110 being simpler, cheaper and providing but a single tapping outlet.

It should be noted that the casings of said fitting 10 and 110 require a minimum of material yet form a relatively strong, rugged structure of neat, attractive appearance.

It will thus be seen that there are provided devices in which 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 embodiment above set forth, it is to be understood that all matters herein set forth or shown in the accompanying drawing are 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. An electric circuit tap fitting comprising a one-piece relatively thin-walled shell structure closed at one end and open at the other, said closed end having spaced openings communicating with the interior of said structure adapted to receive terminal blades of a conventional cap plug, current carrying members fitted into said structure in register with said openings for contacting with

said plug blades, a stanchion integrally formed to extend centrally through said structure, and means on the casing and stanchion for retaining the current carrying members in fitted position, said stanchion having a recessed peripheral portion adjacent one end thereof formed to serve as a strain relief adapted to engage with flexible conductor wires.

2. An electric circuit tap fitting comprising a one-piece shell structure closed at one end and open at the other, said closed end having spaced openings communicating with the interior of said structure adapted to receive terminal blades of a cap plug, the side walls of said shell also having spaced openings to receive terminal blades of another cap plug, a stanchion integrally formed with said closed end extending within said shell centrally thereof, said shell having longitudinal and transverse projections on opposite interior side walls, and current carrying members fitted into said structure in register with said openings for contacting with said plug blades, said current carrying members having longitudinal and transverse contact members bearing on said longitudinal and transverse projections, said current carrying members also having portions engaging said stanchion for releasably retaining said current carrying members in fitted position within said shell.

3. An electric circuit tap fitting comprising a one-piece shell structure closed at one end and open at the other, said closed end having spaced openings communicating with the interior of said structure adapted to receive terminal blades of a cap plug, the side walls of said shell also having spaced openings to receive terminal blades of another cap plug, a stanchion integrally formed with said closed end extending within said shell centrally thereof, said shell having longitudinal and transverse projections on opposite interior side walls, and current carrying members fitted into said structure in register with said openings for contacting with said plug blades, said current carrying members having longitudinal and transverse contact members bearing on said longitudinal and transverse projections, said current carrying members having reflexed portions engaging said stanchion for releasably retaining said current carrying members in fitted position and said reflexed portions provided with binding screws for attaching wire terminals thereto.

In testimony whereof I affix my signature.
REUBEN ECKSTEIN.