Aug. 19, 1941. J. CENTRELLA 2,253,015

ELECTRICAL PLUG

Filed Oct. 6, 1938

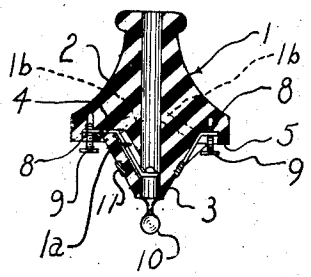


Fig. 1.

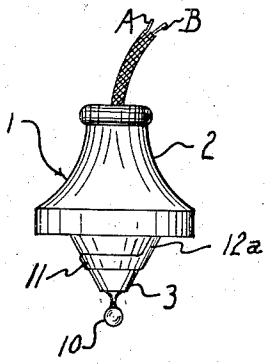


Fig. 2.

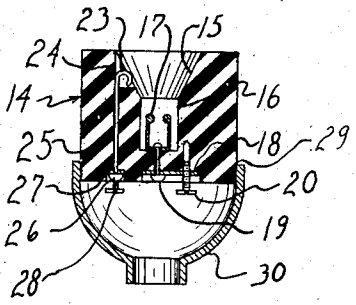


Fig. 3.

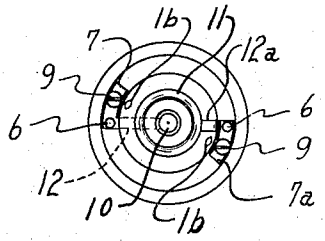


Fig. 4.

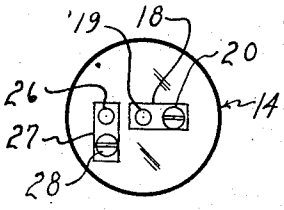


Fig. 5.

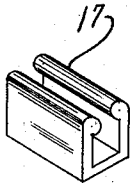


Fig. 6.

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ELECTRICAL PLUG

Joseph Centrella, Bristol, Conn.

Application October 6, 1938, Serial No. 233,542

1 Claim. (Cl. 173—361)

This invention relates to new and useful improvements in electric receptacle and plug assemblies or combinations as designed for installation in houses, stores and the like, and one of the main objects of the invention is to provide a combination of this kind wherein the plug may be instantly inserted in operative position within the receptacle, even in the dark, without having to turn and twist the plug to position it rightly for insertion in the receptacle.

Another object is to provide a combination receptacle and plug wherein the plug has a constantly rotatable connection within the receptacle, so that twists and kinks in connecting cords may be easily taken out by merely rotating the plug in the right direction, and this without opening the electric circuit during the process.

Still another object is to provide in combination, a wall outlet or receptacle having a conical socket with spaced terminals, one at the inner end or apex of the conical socket and the other medially located upon one wall of the socket, and a complemental plug including a conical portion adapted to fit nicely into the socket of the receptacle and having at its apex and medially around the wall thereof contacts adapted and positioned to co-act with the terminals of the socket for completing or closing an electrical circuit, when the plug is inserted fully into the said socket.

With the foregoing and other objects and advantages in view, the invention resides in the novel construction and arrangement of parts as hereinafter set forth and explained, reference being had to the accompanying drawing as showing a preferred embodiment of the invention for the purpose of illustrating the structure and mode of operation:

Figure 1 is a longitudinal section of the attachment plug.

Figure 2 is a side elevation of the attachment plug, showing a short length of service cord operatively connected thereto.

Figure 3 is a longitudinal section through the wall outlet or receptacle, the same being shown here however as provided with a bracket or holder or cap for facilitating its employment or use in certain situations.

Figure 4 is a plan view of the attachment plug, the connections being shown in dotted lines.

Figure 5 is a bottom view of the outlet or receptacle.

Figure 6 is an enlarged detail of the contact clip for the inner end of the socket of the receptacle.

In carrying out this invention I provide a conical attachment plug which is represented generally at 1, the same being made of any suitable insulation material such as "Bakelite", hard rubber or the like, and including the conical gripping element or knob 2 and the conical plug proper 3 having the offset annular and recessed ledge or shoulder 4 extended therearound and the rim 5 depended therefrom. Secured to the recessed surface 4 by the rivets 6 are the insulated contact plates 7 and 7a having the threaded apertures 8 for the reception of the binding screws 9. A globular terminal 10 is mounted in the apex, or rather forms the apex of the plug 1, and a flat terminal ring 11 embraces the conical wall of the plug intermediately of the apex and base of the plug, the plane of the band of the ring being conical to conform to the surface of the plug and the ring being seated into the said surface which is recessed for the purpose as shown, as means for holding the ring in place. Extension links or connections 12 and 12a electrically connect the terminals 10 and 11 with the plates 7 and 7a respectively, the link 12 being led to the plate 7 through a duct 1a formed in the plug for that purpose. A duct 1b is also formed at each side of the base of the plug for leading the service wires A and B to the binding screws 9.

The outlet receptacle is represented generally at 14 and is formed with a conical recess or socket 15 complemental to the plug 3. An oblong niche 16 is formed at the inner end or apex of the socket 15 for the reception of a U-shaped clip contact 17, and a binding plate or terminal plate 18 is mounted within a recess at the outer surface of the end of the receptacle, as shown, this plate being riveted at 19 to the inwardly disposed contact clip 17. A binding screw 20 is passed through the plate 18, and to which binding screw one of the taps or feeders from the main lines (not shown) is secured. The said clip contact 17 is designed and adapted to receive and engage between the two lips thereof, which lips are outstanding in a spaced relation, the spear headed terminal 10 as the plug is thrust into the socket, thereby closing the circuit at this side. A looped spring contact element 23 is located within a niche 24 formed in the wall of the conical socket, the leg 25 of this contact being extended through the body of the element and riveted at 26 to the binding plate or terminal plate 27 at the outer surface of this end of the receptacle, and within a recess as shown. A

binding screw 28 is threadedly seated through the plate 27.

The receptacle 14 may be mounted in a wall in any conventional manner (such wall being not here shown), and the inner end of the receptacle unit may be threaded as shown at 29 for the attachment of a cap, bracket or holder 30, for facilitating the use of the device in various conventional ways in addition to its use as a wall outlet.

In use and operation as the plug 1 is thrust into the receptacle 14, the terminals at the apexes of the elements contact one another at the same time that the band or ring terminal 11 contacts the looped end of the terminal 23, whereby the circuit is closed at both sides simultaneously. The plug 1 may be rotated for untwisting service lines, without opening the circuit, and while I have herein shown and described specific structural features of the invention, it is understood that I may vary same in minor details, not departing however from the spirit of the invention as defined in the appended claim.

I claim:

A plug for rotatable connection in a receptacle, the plug having a body of insulation provided with a shoulder, a conical portion on said body projecting from said shoulder, said body having a bore extending therethrough in line with the apex of said portion, a substantially globular contact having a part extending therefrom fitted in and closing the apex end of said bore, a ring contact surrounding said conical portion in spaced relation to the substantially globular contact, contact plates on said shoulder, extension links from the substantially globular contact and ring contact to the contact plates, said conical portion having a duct in which one of the extension links passes in spaced relation to the contact ring, said conical portion having ducts above said substantially globular contact extending from the bore to the contact plates so that conductors may be connected to the contact plates.

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