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ATTACHMENT PLUG CAP

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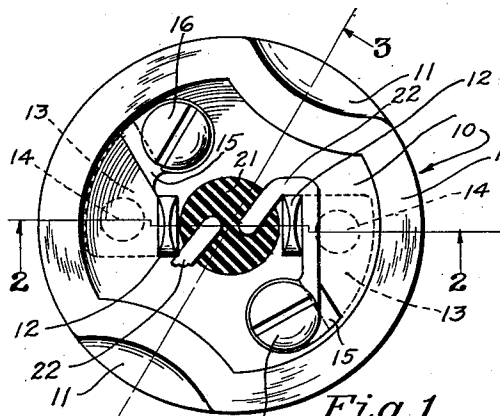


Fig. 1

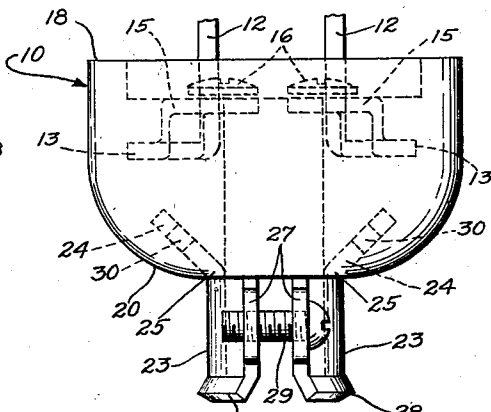


Fig. 4

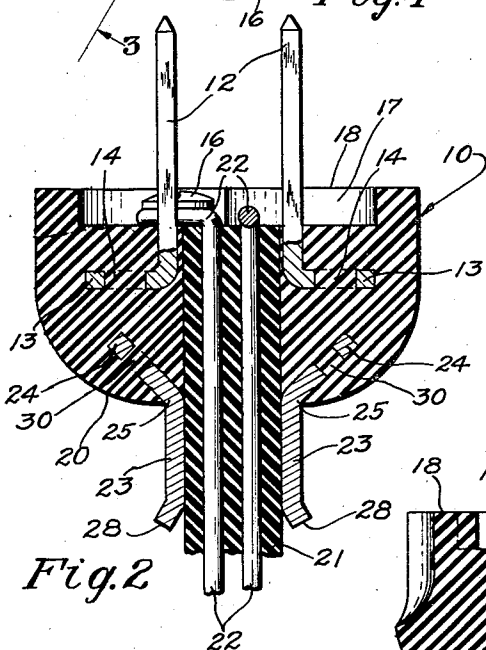


Fig. 2

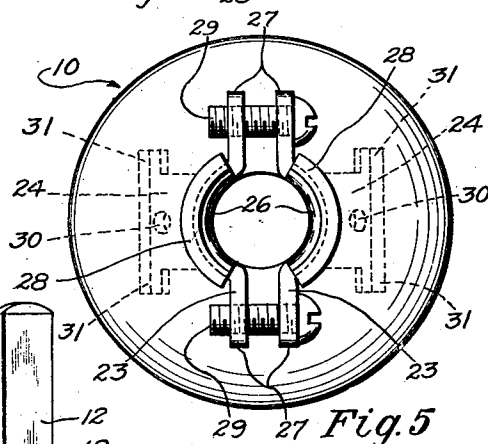


Fig. 5

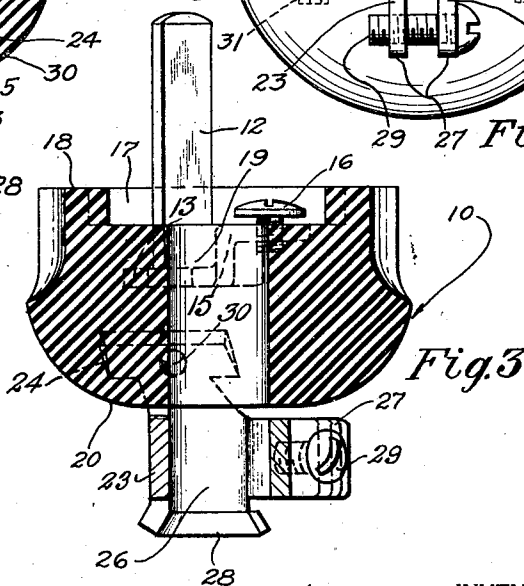


Fig. 3

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ATTACHMENT PLUG CAP

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Application February 1, 1933, Serial No. 654,568

9 Claims. (Cl. 173—322)

This invention relates to new and useful improvements in electrical attachment plug caps, and has for an object to provide a cap formed of resilient yieldable material such as live rubber.

A further object of this invention is to provide a plug cap having a cord gripping means affixed thereto which means will serve to relieve the lead wire connections of a large part or all of the strain incident to the removal of the cap from a receptacle or the like.

Another object is to provide a plug cap which is especially adaptable for use in places where it is apt to receive abuse, or rough or careless handling, such as in garages, factories or the like.

Yet another object is to provide a plug cap having a cord gripping means applied or secured thereto by moulding a portion of said means into the body of the cap whereby the means is applied or secured to the cap without the use of extra parts and therefore at little expense.

With the foregoing and other objects in view this invention comprises the combinations, arrangements and construction of parts set forth, disclosed and claimed in the following specification taken in connections with the accompanying drawing.

In the drawing:

Fig. 1 is a plan view of a plug cap embodying this invention, the view being taken from the inside or contact side of the cap;

Fig. 2 is a cross sectional view substantially on the line 2—2 of Fig. 1;

Fig. 3 is a cross sectional view on the line 3—3 of Fig. 1;

Fig. 4 is a side elevation of the cap; and

Fig. 5 is a plan view of the cap looking toward the end opposite to that of Fig. 1.

This application is a continuation in part of my prior application Serial No. 398,963 filed October 11, 1929.

There is shown at 10 a plug cap body made of resilient or live rubber and this body is preferably formed with a pair of depressions 11 on its opposite sides to allow a person's fingers to get a better grip on the cap when removing it from a receptacle. Anchored in the cap are a pair of contact blades 12, each blade having a base 13 provided with an opening 14 to allow the material of the cap to enter and hold the blade more securely. Projecting from the base 13 of each contact is a flange 15 having a threaded opening to receive a lead wire connecting screw 16. The body is preferably recessed as shown at 17 in its inner side 18 and the binding screws are in this recess. An opening 19 is formed in the cap from the outer side 20 to the inner side 18 to receive a cord or cable 21 bearing the lead wires 22.

Moulded into the cap and projecting from the outer side 20 are a pair of cord gripping members 23, preferably of metal, these members being secured in the body by means of their anchoring bases 24 which may be bent and shaped as shown so as to be secured therein as firmly as possible. The members 23 are secured to their bases 24 by somewhat narrower connecting strips 25, and members 23 each comprise a substantially semi-circular portion 26, preferably having substantially the same radius as opening 19, and each having a pair of straight side wings 27 and a flared outer edge 28. The side wings 27 of the respective members extend in opposite directions and the members are so arranged that the side wings of one member face those of the other member and through these opposing side wings extend screws 29 threaded into tapped openings in the side wings. The screws 29 are adapted to be tightened to draw the members 23 toward one another.

As moulded into the cap the members 23 are so arranged that the inner surfaces of their curved portions 26 substantially register with the edges of the opening 19 through the body. After moulding the body is vulcanized the desired amount to give it the proper strength and resiliency. The bases 24 of the cord gripping members 23 are preferably arranged at an incline as shown so that they are firmly embedded in the material of the body and these bases are also preferably provided with openings 30 for the material of the body to enter and give a better grip. Additionally, the bases may be provided with laterally extending lugs or projections 31 whereby the bases are more firmly embedded in the material of the body 10.

In operation with the screws 29 loosened, the members 23 may yield laterally owing to the fact that their bases 24 are embedded in the resilient body 10. The cable 21 may be passed through the opening 19 in the cap, the flared edges 28 assisting in guiding the cable therethrough, whereupon the lead wires 22 may be connected with contacts 12 by means of the binding screws 16. The screws 29 may now be tightened to draw the members 23 toward one another, the resiliency and yielding character of the body 10 permitting this, and the members 23 will thereby be caused to grip the cable 21 between them and hold it securely and firmly in place, serving to prevent the lead wires 22 being pulled away from their connections at 16 by a pull or jerk on cord cable 21. The wings 27 and depressions 11 both serve as hand grips when plugging in or removing the cap 10.

It will be obvious that a cap embodying this invention will be particularly useful about garages and factories or the like where it is apt to receive abuse and careless handling. Due to the

resiliency of the material of which it is made, such as rubber, it will not break if dropped on the usual cement floor, and if the cap is pulled by the cord, as may often be done when it is desired to remove it from the receptacle, the lead wires will not separate from the contacts, but the cord grip members 23 being tightly engaged with the cord will remove the strain from the lead wires and transmit it to the cap 10 and thus cause the contacts 12 to be withdrawn as desired.

Thus it will be apparent that this invention provides an improved cap which is not apt to be broken by rough or careless handling and which when the screws 29 are tightened will so grip the lead wire cable that little or no strain will be placed on the lead wire connections in removing the cap from a receptacle, even though the cap be jerked out by the cord and then allowed to fall on the hard floor. It will be noted that since the bases 24 of the gripping members are anchored or secured by molding said bases into the body of the cap no additional parts are required for mounting the gripping members on the cap. Further, the cap need not be of any one configuration since the only requirement is that there be enough material in the cap to anchor the gripping member. Owing to the fact that the material of the cap is of live rubber or the like the gripping members may be moved relatively so as to cause them to tightly clamp a lead wire cord between them and remove all strain from the lead wire connections.

Having thus set forth the nature of my invention, what I claim is:

1. An attachment plug cap comprising a body formed of resilient rubber, contact blades carried by said body and projecting from one side thereof, said body having an opening therethrough for lead wires, separable cord gripping members embedded and independently anchored in said resilient body on opposite sides of said opening and projecting from the side of the body opposite that from which the contact blades project, said gripping members being shiftable relatively toward and from a cord in said opening due to the resiliency of said body, and means to force said members toward one another to cause them to grip a lead wire cord between them.

2. An attachment plug cap comprising a body of yieldable resilient material, contact blades moulded therein to project from one side of said body, said body having a cord opening formed therethrough, separate complementary cord gripping members imbedded and independently anchored in the body on opposite sides of the opening and having their inner walls substantially aligned with the opening in the body, said gripping members being shiftable relatively to and from a cord in said opening due to the resiliency of said body, and means to force said members toward one another to cause them to grip a lead wire cord between them.

3. In an attachment plug cap, a body of yieldable resilient material, contacts anchored in said material, said body having a cord opening therein for a cord leading to the contacts, cord gripping means comprising separate members imbedded and independently anchored in said material, said members being placed on opposite sides of said opening, said gripping members shiftable relatively to and from a cord in the opening due to the resiliency of said body, and means to force said members toward one another and cause them to grip a lead wire cord between them.

4. In an attachment plug cap, a body of yieldable resilient material, contacts anchored in said material, said body having a cord opening therein for a cord leading to the contacts, cord gripping means comprising separate members imbedded and independently anchored in said material, said members being placed on opposite sides of said opening, said members comprising a pair of complementary substantially semi-circular members and wings projecting from the sides of said members, said members shiftable relatively to and from a cord in the opening due to the resiliency of said body, and means passing through said wings to force said members toward one another and have them grip a lead wire cord between them.

5. In a device of the character described, a body of live rubber having an opening therein for a lead cord, separate cord gripping members imbedded and independently anchored in the body and projecting from the body on opposite sides of said opening, said gripping members being shiftable relatively to and from a cord in the opening due to the yielding of the body, and means for forcing said members toward each other to clamp them on a lead cord.

6. In an attachment plug cap, a body of resilient material, contact blades anchored in said material to project from said body, said body having a cord opening therethrough, cord gripping means comprising separate members independently anchored in said material, said members being placed on opposite sides of said opening, said members comprising a pair of complementary substantially semi-circular members movable independently of each other by yielding action of the resilient body material, and wings projecting from the sides of said members.

7. In an attachment plug cap, a body of resilient material, contact blades anchored in said material to project from said body, said body having a cord opening therethrough, cord gripping means comprising separate members independently anchored in said material, said members being placed on opposite sides of said opening, said members comprising a pair of complementary substantially semi-circular members and wings projecting from the sides of said members, said members being movable relatively to each other by yielding action of the resilient body material, and the outer sides of said members being flared.

8. An attachment plug cap comprising a body of resilient material, contacts moulded therein to project from one side of the body, said body having an opening therein for lead wires, means for connecting said wires to the contacts, and separate complementary cord gripping members independently permanently anchored in the body so as to project therefrom on the opposite side from the contacts, and adapted to grip the cord on opposite sides thereof, said gripping members being capable of being moved toward and from the cord because of yielding action of the body.

9. An attachment plug cap comprising a body of resilient material, contact blades anchored in the material to project from the body, said body having a cord opening therein, means for securing leads in the cord to the contacts, and separate rigid cord gripping members permanently independently anchored in the material of the body on opposite sides of the opening and permitted to move toward and from the cord by yielding action of the body material.

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