Dec. 27, 1938. R. A. KEDDY ET AL 2,141,790

PLUG CAP

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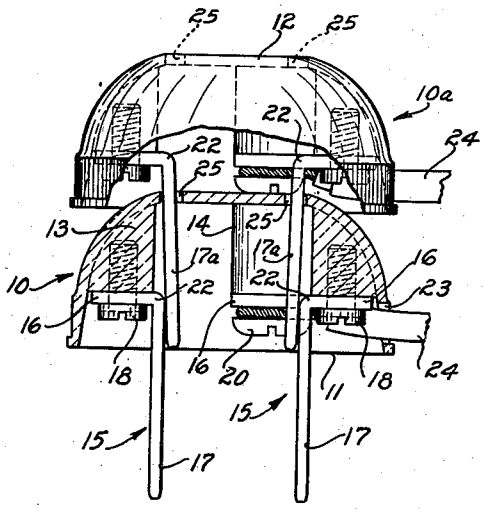


FIG. 1

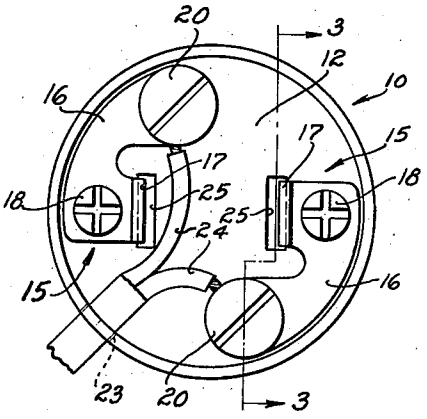


FIG. 2

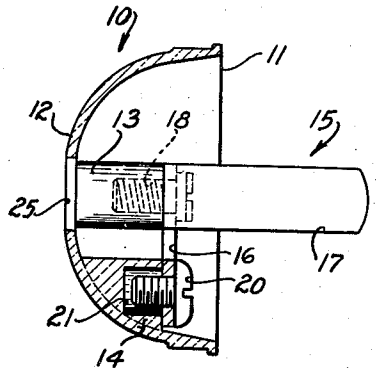


FIG. 3

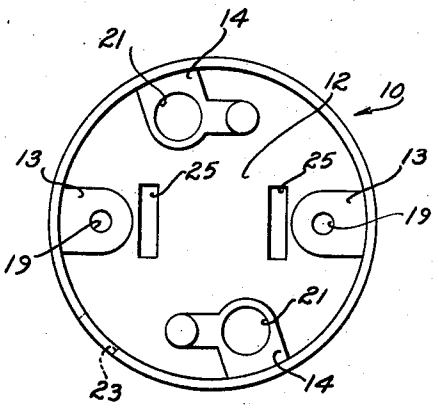


FIG. 4

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PLUG CAP

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2 Claims. (Cl. 173—334)

This invention relates to new and useful improvements in electrical apparatus and has particular relation to electrical plug caps.

An object of the invention is to provide a plug cap so constructed that a plurality of such caps may be easily and quickly connected one with another in such manner that from a single outlet current may be supplied to a number of different electrical devices.

Other objects and advantages will become apparent from a consideration of the following detailed description taken in connection with the accompanying drawing wherein a satisfactory embodiment of the invention is shown. However, it is to be understood that the invention is not limited to the details disclosed but includes all such variations and modifications as fall within the spirit of the invention and the scope of the appended claims.

In the drawing:—

Fig. 1 is a view partly in elevation and partly in section and showing a pair of the plug caps of the invention connected together for the supplying of current from a single outlet to a pair of electrically operated devices (not shown);

Fig. 2 is an elevational view looking into the open side or end of the plug cap of the invention;

Fig. 3 is a sectional view taken as along the line 3—3 of Fig. 2; and

Fig. 4 is an elevational view looking into the open end of the body or shell of the improved cap, the contacts being omitted.

Referring in detail to the drawing our improved plug cap includes a body or shell generally designated 10 formed as by moulding or the like and made of any suitable electrical insulating material. Preferably the body 10 is of "Bakelite" or some similar rather rigid material. The body has an open end 11 and at its opposite end includes a wall 12.

Within the body 10 and spaced slightly inwardly from the open end 11 thereof are support members 13 and 14 preferably formed with the body and also of electrical insulating material. These support members 13 and 14 are spaced from one another circumferentially of the body and also cross-wise thereof whereby the central body portion is clear and open from the inner side of wall 12 to the open end 11.

One support member 13 together with one support member 14 forms a pair and each pair of such members mounts a contact means as will appear. The outer ends of the support members or the ends thereof toward the open side 11 of the body are flat whereby to comprise shoulders on which the contacts, generally designated 15, are mounted. One contact is mounted on each pair of the support members and each contact includes a mounting portion 16 and an outwardly extending contact blade 17.

Securing means 18 pass through the mounting portions 16 adjacent to the blades 17 and are threaded or the like into suitable openings or recesses 19 formed in the support members 13. Mounting portions 16 also carry binding posts 20 which when threaded through the mounting portions are free to move in the openings 21 provided in the support members 14.

It is noted that the blades 17 are at the inner sides of the support members 13 and yet are spaced apart, the central portion of the body being open from the inner side of the thin end wall 12. Blades 17 are approximately at right angles to the mounting portions 16 of the contacts and the inner portions of the blades and the mounting portions 16 are connected by a curve 22 shown best in Fig. 1. The curve 22 of the respective contacts 15 are located at the inner surfaces of the supports or support members 13.

In one side wall toward the open end 11 the body 10 is provided with an opening 23 for the entrance of lead wires 24 to be connected with the binding posts 20. Opening 23 is located between member 13 of one pair of support members and member 14 of the other pair thereof and preferably is close to the open end of the body and outwardly with respect to the shoulders or front faces of the support members.

The outer surface of body 10 is curved back from the open end thereof so that on its outer surface the body is somewhat in the nature of a hemisphere although its rear wall 12 is flat and provided with a pair of contact blade entrance slots 25. Such slots are located to have their edges at each side of the plane of the opposed faces of the pair of contact blades 17. In other words the slots 25 are in alignment with the curved portions 22 of the contacts 15 and the respective slots are so located that the blades of a second cap on being inserted through the slots will engage the curved portions 22 and be deflected or sprung toward one another as shown by blades 17a in Fig. 1.

In said figure a second cap designated 10a carries the blades 17a and is mounted on cap 10 and such blades 17a of the second cap are in contact with the blades 17 of cap 10. To connect the caps the blades 17a of cap 10a are inserted through the slots 25 of cap 10 and as blades 17a engage the curved surfaces 22 they are deflected

toward one another (as they normally have the same spacing as blades 17) and thus the inserted blades are caused to press or rub against the blades of the cap 10.

The fastening means 18 are so located that the blades 17 will not be displaced by the action described as such fastening means are located adjacent the points where any strain will be applied. The cap being open in its central portion inwardly from the inner surface of wall 12 it will be apparent that each time blades are inserted through slots 25 there will be a wiping action between the inserted blades and the blades into engagement with which they are inserted and that enough force must be exerted to spring or cause deflection of the inserted blades from their normal positions whereby a good contact is insured and further this tight engagement will prevent casual separation of the caps.

Blades 17 are of such length with respect to the construction and configuration of the cap that when two caps are connected as in Fig. 1 the inserted blades will not project beyond the open end of the cap into which they have been inserted. Otherwise they may engage the cover plate of the receptacle into which the blades of the first cap have been inserted and cause movement of the first cap away from the receptacle. When a second cap is connected with a first cap as in Fig. 1 the action of the blades of the second cap tends to spread the blades of the first cap and thus lock them in engagement with the contacts of any receptacle into which such blades may have been inserted.

Opening 23 being located as above set forth it will be apparent that the lead wires of one cap will not interfere with the connecting to said cap of a second cap. Also with the described arrangement the wires may be kept close to the base board or the like mounting the receptacle with which the cap may be connected.

From the foregoing description it will be understood that any desired number of the caps 10 may be connected with one another. In each case the inserted blades of a cap will have a forced fit with the blades of the cap into which they have been inserted whereby a good electrical contact is insured and whereby casual separation of the caps is prevented.

Obviously a single cap may be used whereby but one lamp or other device is to be connected with an outlet. In such instance the cap of the invention is to be used in the manner of an ordinary or standard cap and differs therefrom only by the inclusion of the contact blade entrance slots 25.

Having thus set forth the nature of our invention, what we claim is:—

1. An attachment plug cap comprising a body of insulating material open at one end, supports formed in said body at each side of the center thereof and presenting shoulders facing the open end of the body, contacts including mounting portions arranged against said shoulders, each of said contacts including a blade extending outwardly through the open end of the body, said blades spaced apart and arranged at opposite sides of the center of the body, means rigidly securing the contact mounting portions against said shoulders in the vicinity of said blades, a binding post associated with each of said mounting portions in spaced relation to said securing means, said body having an opening through a side wall thereof laterally of and toward the open end of the body from said supports for the passage of wires to said binding posts, said body having a pair of spaced entrance slots in its other end for the insertion of the blades of another plug cap, said mounting portions and their blades so located with respect to said entrance slots that as the blades of another plug cap are inserted through said entrance slots they engage the opposed faces of the first mentioned blades and are sprung toward one another as the inserting movement continues, said body at the end having such entrance slots comprising a thin wall, and said body centrally open from the inner side of said wall to permit of such springing of the inserted blades toward one another.

2. An attachment plug cap comprising a body of insulating material having an open end, contacts mounted in said body and including blades projecting through the open end thereof, a binding post on each of said contacts, said body having an opening through a side wall thereof for the passage of wires leading to said binding posts, said body having a pair of spaced entrance slots in its other end for the insertion of the blades of another plug cap, said first mentioned blades so located with respect to said entrance slots that as the blades of the other cap are inserted through said entrance slots such inserted blades engage the opposed surfaces of the first mentioned blades and are sprung toward one another as the inserting movement continues, said body at its end having said entrance slots comprising a thin wall, said body centrally open from the inner side of said wall to permit of such springing of the inserted blades toward one another, and said first mentioned blades of such lengths that on complete insertion of them through the slots of another cap the inserted blades will not project through the open end of the cap into which they have been inserted.

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