June 2, 1925.

1,540,008

C. L. HOPKINS

ELECTRICAL CONNECTER

Original Filed June 2, 1922

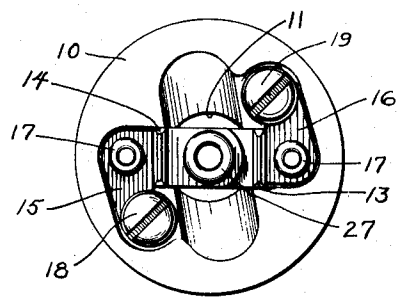


Fig. 2

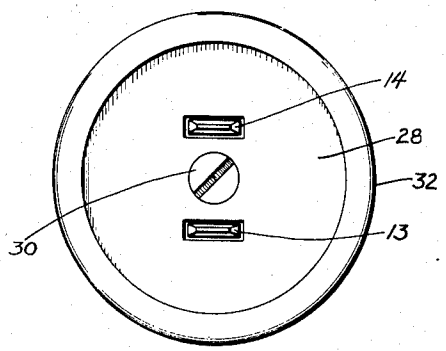


Fig. 3

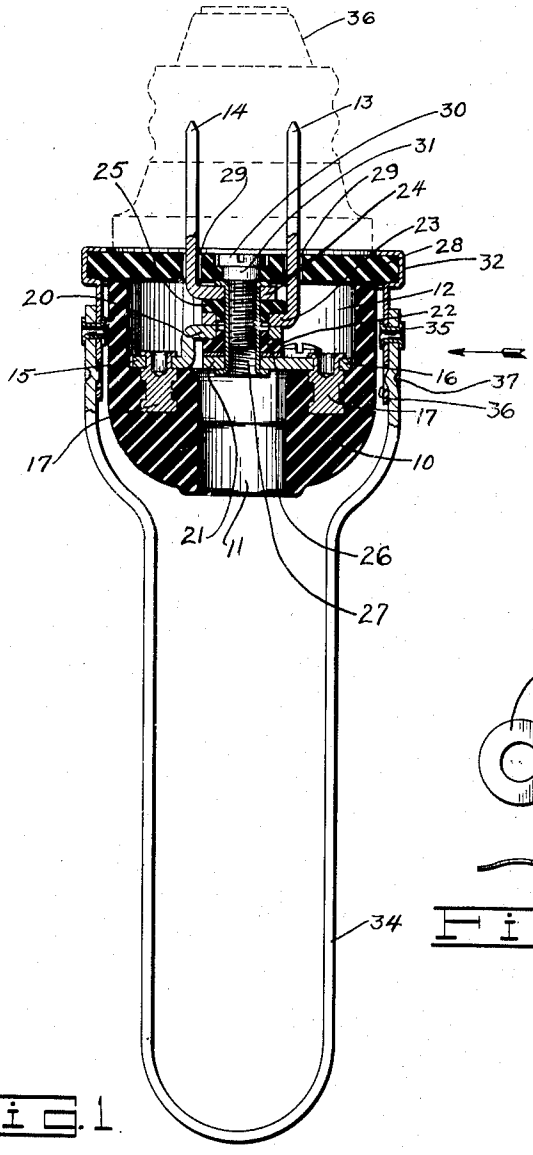


Fig. 1

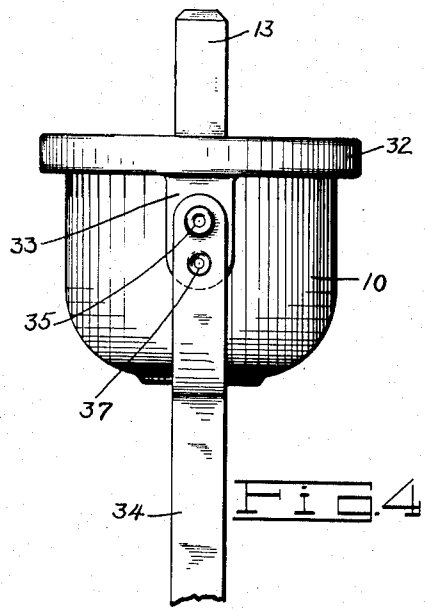


Fig. 4

Fig. 5

Fig. 6

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UNITED STATES PATENT OFFICE.

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ELECTRICAL CONNECTER.

Application filed June 2, 1922, Serial No. 565,359. Renewed November 6, 1924.

To all whom it may concern:

Be it known that I, CHARLES L. HOPKINS, a citizen of the United States, residing at River Forest, in the county of Cook and State of Illinois, have invented new and useful Improvements in Electrical Connecters, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawing, forming a part of this specification.

My invention relates to electrical connecters and more particularly to swivel attachment plug caps for use with standard separable attachment plugs and which may be used in connection with adapters, receptacles, etc.

One of the objects of my invention is to provide a swivel attachment plug cap which may be adapted for use with the standard attachment plug and by means of which the attachment plug may be screwed into the receptacle without twisting the conducting members.

Another object of my invention is to provide a swivel attachment plug cap for use with any ordinary separable attachment plug and provided with an extension handle whereby the attachment plug may be inserted in places which are difficult of access, without twisting the electrical conductors.

Another object of my invention is to provide an attachment plug cap which will be easy to assemble, efficient and durable in use, and cheap to manufacture.

Further objects will appear from the detailed description to follow and from the appended claims.

In the drawings in which an embodiment of my invention is shown:

Figure 1 is a vertical longitudinal section through an attachment plug cap, the body or receptacle part of a standard separable attachment plug being shown in connection therewith by dotted lines;

Fig. 2 is a top plan view of the base of the attachment plug cap with the swiveling disc and handle removed and the blades and other parts in operative position;

Fig. 3 is a top plan view of the attachment plug cap;

Fig. 4 is a side elevation of the cap taken in the direction of the arrow in Fig. 1; and,

Fig. 5 is a plan view and Fig. 6, a side view of the spring washer.

Referring now to the drawings in detail, in my invention as illustrated, I provide a base 10 corresponding to the ordinary attachment plug cap base and provided with an opening 11 therethrough to receive the conducting members. The upper part of the base is provided with an opening 12 in which the connecter blades 13 and 14 are secured in electrical connection with the binding plates 15 and 16 respectively. The binding plates 15 and 16 are secured to the base 10 by means of the hollow rivets 17 molded into the base 10, and are provided with the binding screws 18 and 19. The binding plates 15 and 16 are provided with the overlapping portions 20 and 21 respectively. These overlapping portions are separated and insulated from each other by means of the insulating washer 22. The blades 13 and 14 are also provided with the overlapping portions 23 and 24 respectively, these overlapping portions being separated from each other by means of the insulating washer 25, the overlapping portion 23 of the blade 13 and the overlapping portion 20 of the binding plate 15 being in electrical contact as shown in Fig. 1.

A spring washer 26 is inserted between the binder plate 16 and the insulating washer 22 and all of these superposed parts are secured together by means of the threaded eyelet 27, the insulating washers 22 and 25 also serving to insulate the blade 13 and the binder-plate 15 from the threaded eyelet 27 as illustrated in Fig. 1, the eyelet 27 being tightened sufficiently to secure all of the parts in movable relation with each other, the spring washer 26 serving to hold the members securely in frictional and electrical contact.

An insulating disc 28 is provided having openings 29 therethrough through which the contact blades 13 and 14 extend. The insulating disc 28 is rotatably mounted on the base by means of the shouldered screw 30, which is screwed into the threaded eyelet 27, the shoulder 31 being tightened against the threaded eyelet, thus locking the screw securely in place and allowing for the free rotation of the insulating disc 28. A sheet metal ring 32 is secured to the insulating disc 28 and is provided with the downwardly extending ears 33 on which a U-shaped handle 34 is pivotally mounted by means of the eyelets 35. The ears 33 are also provided with holes 36, the handle 34 being formed at 37 to engage the edges of these openings for

the purpose of holding the handle in impositive longitudinal relation with the cap.

In use, the conducting wires are inserted through the hole 11 in the base 10 and secured to the binding plates by means of the binding screws 18 and 19; the blades 13 and 14 may then be inserted in the receptacle portion of any ordinary separable attachment plug as illustrated at 36 by dotted lines; the plug may then be inserted in a deep shade or any receptacle which would be difficult of access with the ordinary plug.

It will be noted that in the construction as illustrated, the insulating member 28 may be rotated by means of the handle 34, the disc in turn rotating the blades 13 and 14 around the axis of the attachment plug cap, and the plug 36 carried by the blades 13 and 14 may be easily screwed into or out of the receptacle, the pivoted handle may then be moved to any desired angular position, so that it will not interfere with the free movement of the electrical conductors during use.

While I have shown but one form of my invention it is obvious that it may be embodied in other forms as covered and defined by the appended claims.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent of the United States is—

1. An attachment plug cap comprising an insulating base having an opening therein, overlapping binding plates mounted in said opening and insulated from each other, conducting blades mounted for free rotation on said overlapping portions and insulated from each other, each of said conducting blades being electrically connected to its corresponding binding plate, and a freely rotatable insulating member mounted on said overlapping plates for rotating said blades.

2. A cap for electrical connecters comprising an insulating base, conducting blades rotatably mounted on said base, and means for rotating said blades comprising an extension handle supported on said base.

3. An attachment plug cap comprising an insulating base, an insulating member mounted for free rotation on one end of said base, conducting blades rotatably mounted on said base and extending through said insulating member to be rotated therewith, and means for rotating said insulating member, said means extending beyond the opposite end of said base.

4. A cap for electrical connecters comprising a base having conducting blades mounted thereon to be inserted in a receptacle, means for securing electrical connecters in electrical connection with said blades, and means for rotating said blades about the axis of said cap comprising an extension handle rotatably mounted on said cap.

5. An attachment plug cap comprising an insulating base, binding plates on said base, conducting blades rotatably supported on said binding plates, an insulating member rotatably secured on said binding plates to rotate said blades, and an extension handle secured to said insulating member to rotate said insulating member and said blades.

6. A cap for electrical connecters comprising an insulating base, conducting blades rotatably mounted on said base, a pivoted extension handle supported on said base to rotate said blades, and means for holding said handle impositively in longitudinal relation to said base.

7. In an electrical connecter the combination of a base having binding plates thereon; electrical conducting blades mounted for free rotation with relation to said base, means electrically connecting each of said blades with its corresponding binding plate, an insulating disc rotatably mounted on said binding plates to rotate said blades, and a pivoted extension handle secured to said disc to rotate it.

8. A separable attachment plug cap comprising contact blades for engaging the contacts of the receptacle portion of a plug, and wiring terminals for said blades swiveled with respect to said blades about an axis extending longitudinally of the blades, whereby the blades and receptacle portion of the plug can be screwed into a socket without twisting the wires secured to said wiring terminals.

9. A separable attachment plug cap comprising contact blades for engaging the contacts of a receptacle portion of a plug, wiring terminals for said blades, and an insulating base on which said wiring terminals and contact blades are mounted, said cap having means providing for relative swiveling between said contact blades and wiring terminals about an axis extending longitudinally of the blades, whereby the blades and receptacle portion of the plug can be screwed into a socket without twisting the wires secured to said wiring terminals.

10. A separable attachment plug cap comprising contact blades for engaging the contacts of a receptacle portion of a plug, wiring terminals for said contact blades, and an insulating base on which said wiring terminals are mounted, said blades being swiveled with respect to said insulating base about an axis extending longitudinally of the blades, whereby the blades and receptacle portion of the plug can be screwed into a socket without twisting the wires secured to said wiring terminals.

11. A separable attachment plug cap comprising contact blades for engaging the contacts of the receptacle portion of a plug, wiring terminals for said blades swiveled with respect to said blades, and an exten-

sion handle provided with means whereby said blades may be given a swiveling movement with respect to said wiring terminals, whereby said blades and receptacle portion of the plug can be screwed into a socket without twisting the wires secured to said wiring terminals.

12. A separable attachment plug comprising a screw-threaded body portion for screwing into a socket, and a cap having contact blades for engaging the contacts of said body portion, and wiring terminals for said blades swiveled with respect to said blades whereby the blades and body portion of the plug can be swiveled with respect to said wiring terminals, whereby the body portion of the plug can be screwed into a socket without twisting the wires secured to said wiring terminals.

In witness whereof, I have hereunto subscribed my name.

CHARLES L. HOPKINS.