J. G. PETERSON.

ELECTRICAL ATTACHMENT PLUG.

APPLICATION FILED JUNE 12, 1919.

1,425,049. Patented Aug. 8, 1922.

Fig. 1.

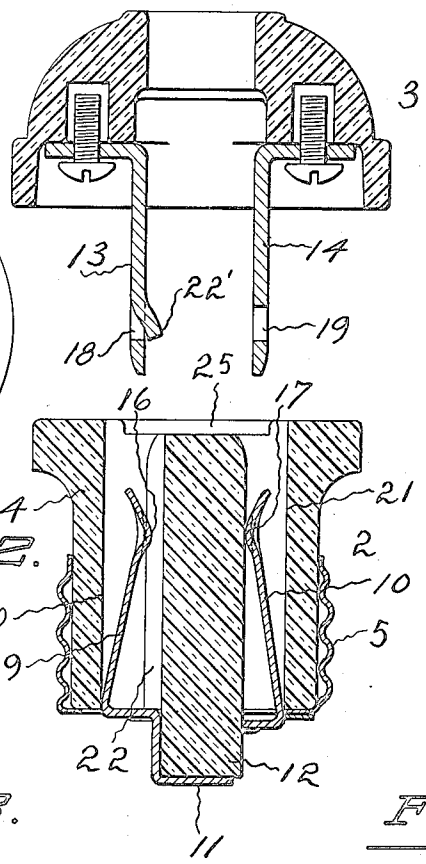


Fig. 5.

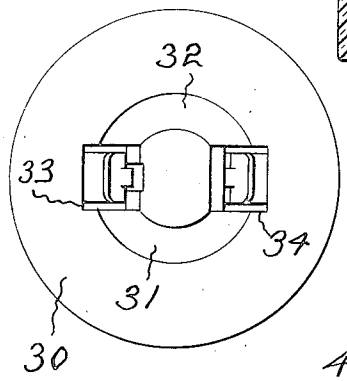


Fig. 2.

Fig. 3.

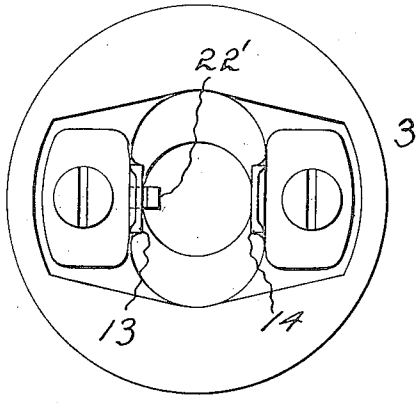
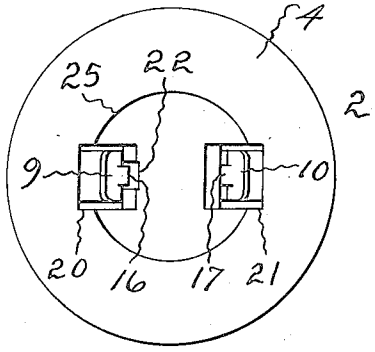


Fig. 4.



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ELECTRICAL ATTACHMENT PLUG.

1,425,049. Specification of Letters Patent. Patented Aug. 8, 1922.

Application filed June 12, 1919. Serial No. 303,612.

To all whom it may concern:

Be it known that I, JOHANN G. PETERSON, a citizen of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Electrical Attachment Plugs, of which the following is a specification.

This invention relates to electrical attachment plugs. The invention has among its objects the provision in an article of the kind set forth, of simple means by which the cap may be connected to the base of the plug, in a predetermined manner, thus especially adapting the article to function as a fixed polarity plug. This cap, as will be understood, is detachably associable with the base of the plug. In the light, it is not always a difficult matter to properly connect such a cap with its base, but in the dark and under like conditions, it is. I provide as another and equally important feature of the invention, means by which the cap can be properly and operatively connected with the base in a ready and easy manner, in the dark as well as in the light.

In the drawings accompanying and forming part of the present specification I have shown in detail certain advantageous forms of embodiment of the invention, which to enable those skilled in the art to practice the same will be set forth fully in the following description. Obviously, I am not restricted to this particular showing; I may in fact depart therefrom in several particulars within the scope of the invention defined by the claims following said description.

Referring to said drawings:

Fig. 1 is a vertical central sectional view of the cap.

Fig. 2 is a like view of the base.

Figs. 3 and 4 are inside face views of the cap and the base.

Fig. 5 is a view corresponding to Fig. 4, of a modification.

Like characters refer to like parts throughout the several views.

The attachment plug comprises a base and a cap, such for instance as those denoted in a general way by 2 and 3 respectively in Figs. 1 to 4 inclusive, which I will first describe in detail. Subsequently, I will discuss that one of the several modifications which I have selected for illustration in Fig. 5.

The parts 2 and 3 are as is usual, detachably associable. The so-called "extension cord", is as is customary, directly connected with the cap 3. The base 2 involves in its make up a body or core as 4, of some insulating material, for instance, porcelain or composition, and it receives around it the base shell 5, which constitutes a conductor, and which, as a consequence, may be made of suitable metal. Said body or core 4, as shown, has the longitudinally extending passages or openings 20 and 21, which as shown, extend the complete length of the body. These passages or openings 20 and 21 are adapted as shown, to receive contact members as 9 and 10. The contact member 10 is connected at one end electrically with the shell 5, while the base or corresponding end of the contact 9 has a disk 11 constituting an extension thereof, and which overlies the integral projection or stud 12 of the body or core 4, the disk 11 being adapted to cooperate with the central end contact of a socket, while the shell 5 cooperates with the shell of said socket. As shown, the plug is adapted for operative connection with the well known Edison socket, but this may not always be necessary. As a matter of fact, the foregoing is a somewhat concise description of a plug which I have been using for some time and which in itself is not patentable in the present case. The invention, as will be understood, is usable in connection with a plug such as I have described, or in conjunction with one of some other kind. As will be inferred, one of the fundamental motives I have in view is the provision of means by which the proper polarity connection may be made between a cap as 3 and a base as 2, each having pairs of contacts. The contacts 9 and 10 of the body have been somewhat briefly described, yet sufficiently to understand their functioning. The cap 3 has fastened to it the contacts 13 and 14, both of metal or other conducting material as usual, and having outstanding bases rigidly connected in some suitable way to the cap. The use of contacts as 13 and 14 upon a cap as 3 is also not broadly new with me in the present case. The contact 13, it will be understood,

is intended to cooperate with the contact 9, while the contact 14 is intended to cooperate with the contact 10, when the cap member 3 is operatively connected with the base member 2.

As will be evident, one of the primary aims is to insure the proper pole relation of contacts of the base and the cap of the plug. The contacts 9 and 10 are shown as converged outwardly and near their free ends furnished with bosses as 16 and 17 which are adapted as represented to enter slots as 18 and 19 in the contacts 13 and 14 near the free ends thereof, when proper mechanical and electrical connection is made. As shown, the contacts 9 and 10 are situated in the passages as 20 and 21 extending longitudinally of the base member 2 and obviously formed directly in the insulating body or core 4 thereof, these passages or slots 20, as shown, being disposed the complete length of said body or core and the contacts 9 and 10 being situated within them. As shown, the slot or passage 20 is in effect of a different form from the slot or passage 21, and this may be secured in different ways as by furnishing said slot or passage 20 with a lateral offset as 22 on the inner wall thereof and practically centrally thereof, in view of which circumstance, said slot or passage 20 is of a shape somewhat different from the cooperating slot or passage 21, the contacts 13 and 14 being shaped to cooperate with the respective passages. That is to say, the contact 13 cannot be introduced into the passage 21 because there is a stop as 22′ on said contact 13 to prevent this result. This stop 22′ can be formed as shown by punching the stock from the slot or opening 18 inwardly so that there will be formed on the inner side of the contact 13 a well-defined stop or tongue which precludes positively the entrance of the contact 13 into the passage or slot 21. The contact 13, therefore, must necessarily be introduced into the passage 20 in order to make proper electrical connection, and mechanical too for that matter. It will, therefore, be clear that by the introduction of the contact 13 into the slot or passage 20, and the simultaneous introduction of the contact 14 into the slot or passage 21, and the relative approach of the parts 2 and 3, proper mechanical and electrical junction can be obtained. While the passages or slots 20 and 21 are of such character that they insure the proper connection of a special cap with the base, yet, these slots or passages permit the correct connection mechanically and electrically at any time of a standard cap. This is a very important feature as will be evident. It is more or less common to provide in an attachment plug, a base and a cap, there being intervening means of such a nature as to insure the correct pole connection of the two elements. With this old base element, however, a standard cap cannot be connected therewith.

In what is known as the "upper" end of the body or core 4, I have shown a counterbore 25. This also appears in Fig. 2. The wall of the counterbore, or circular cavity or depression 25, intersects the outer ends of the passages 20 and 21, and the diameter of said counterbore is a little greater than the outside distance between the contacts 13 and 14. In the dark, therefore, it is not necessary for one to feel for the passages or slots 21, because the free ends of the contacts 13 and 14 can be introduced into the counterbore 25 and if the slots or passages 20 and 21 be not encountered, the parts 2 and 3 can be relatively turned so that the contacts 13 and 14 can be introduced into the proper passages 20 and 21 respectively. This is an exceedingly simple way to assure proper pole connection.

I can accomplish the result mentioned in a manner other than that which I have referred to somewhat in detail. In Fig. 5 for instance, I show a modification of this feature. In this case the upper end or face of the body or core 30 has in it, the two practically semicircular cavities 31 and 32. The inner walls of these cavities terminate practically at the inner corners at the passages 33 and 34 exact counterparts of the passages 20 and 21 respectively. The outer walls of these two cavities intersect the end walls of the slots or passages 33 and 34 practically centrally thereof.

What I claim is:

An electrical attachment plug consisting of a base and a cap, the base comprising an insulating body having longitudinal passages, only one of said passages being provided with a longitudinal offset portion, resilient contacts seated in said passages each of said contacts being provided with a projection at its free end, the said cap comprising contacts each provided with slots which cooperate with said projections to give a locking effect between the cap and base, the material from the slot of one of said cap contacts being formed into a spur which enters the said offset in the said passage of the base to give a polarized connection.

In testimony whereof I affix my signature in the presence of witness.

JOHANN G. PETERSON.

Witness:

GERTRUDE C. NITKIN.