

No. 890,770.

PATENTED JUNE 16, 1908.

H. HUBBELL.

FIXED POLARITY SEPARABLE ATTACHMENT PLUG.

APPLICATION FILED SEPT. 5, 1907.

Fig. 1.

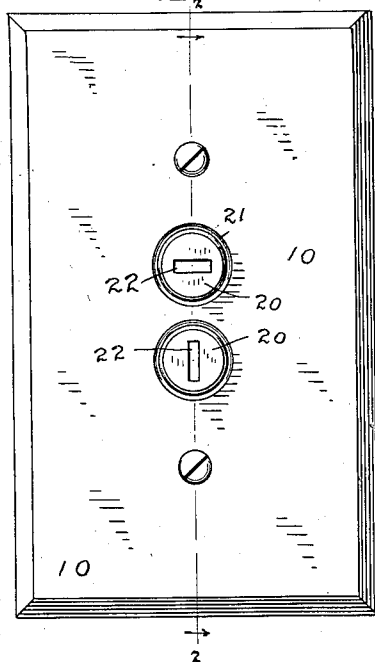


Fig. 2.

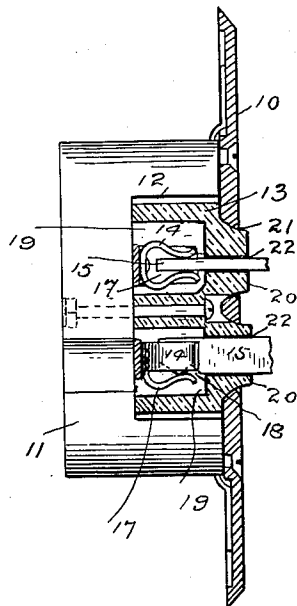


Fig. 3.

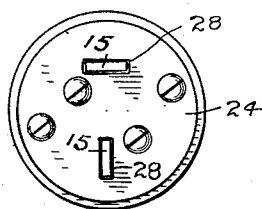


Fig. 4.

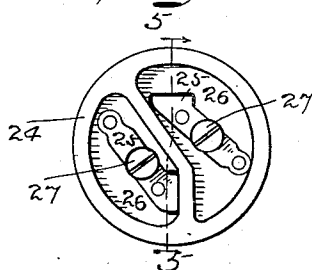


Fig. 5.

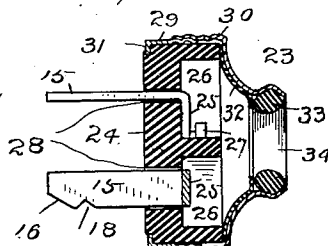


Fig. 7.

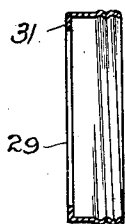


Fig. 6.

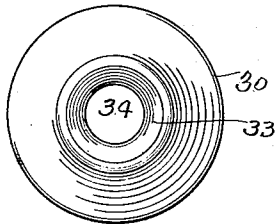
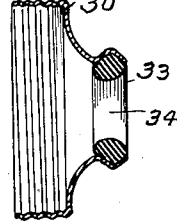


Fig. 8.



Witnesses:

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UNITED STATES PATENT OFFICE.

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FIXED-POLARITY SEPARABLE ATTACHMENT-PLUG.

No. 890,770.

Specification of Letters Patent.

Patented June 16, 1908.

Application filed September 5, 1907. Serial No. 391,455.

To all whom it may concern:

Be it known that I, HARVEY HUBBELL, a citizen of the United States, residing at Bridgeport, county of Fairfield, State of Connecticut, have invented a new and useful Fixed-Polarity Separable Attachment-Plug, of which the following is a specification.

This invention relates to the type of electrical attachment plugs commonly known as separable attachment plugs.

It is one of the objects of the present invention to provide an attachment plug of this type especially adapted for high potential electrical service which shall be so constructed that the parts can be attached in one way only, thereby fixing the polarity and preventing reversal of the current.

Another feature of the invention is that the cap comprises essentially a porcelain block provided with a recess for the wiring so that the possibility of loose ends of wire remaining exposed is wholly avoided, that the porcelain block of the cap is inclosed in a two-part metal covering and that the knife blade contacts pass through slots in the block.

Other features of the invention consist in special details of construction which will be hereinafter specifically set forth and then pointed out in the claims hereunto appended.

In the accompanying drawing forming a part of this specification, Figure 1 is an elevation of my novel attachment plug with the cap removed; Fig. 2 a section of the face plate and the covering block on the line 2—2 in Fig. 1, looking in the direction of the arrows, the knife blade contacts being shown as in engagement with the contact plates and locking springs; Fig. 3 an inverted view of the cap detached; Fig. 4 a top plan view of the cap with the cover removed; Fig. 5 a section of the cap with the cover in place on the line 5—5 in Fig. 4, looking in the direction of the arrows; Fig. 6 a plan view of the cap complete; Fig. 7 a section of the lower part of the cap detached; and Fig. 8 is a section of the upper part of the cap detached.

10 indicates the face plate which is attached to a porcelain base, indicated by 11. The base is provided with a transverse recess 12 which receives a covering block 13 also made of porcelain.

14 indicates contact plates arranged in pairs which receive between them and closely engage knife blade contacts 15 which project from the cap. The knife blade contacts are

provided with beveled ends 16 to engage locking springs 17 and with recesses 18 which are engaged by the locking springs to lock the cap in place. The contact plates and locking springs are secured to the base and lie in recesses 19 in the under side of the covering block which is itself secured to the base. The top of the covering block is provided with bosses 20 which project through holes 21 in the face plate and are provided with slots 22 through which the knife blade contacts upon the cap must pass in order to engage the contact plates and locking springs. It should be noted that the knife blade contacts and slots 22 respectively lie at an angle to each other and that the contact plates and locking springs upon the base are placed in such a position as to be engaged by knife blade contacts lying at an angle to each other. This is in order to prevent the engagement of the knife blade contacts and contact plates except in one position and thus to insure fixed polarity and prevent the possibility of a reversal of the current, which is an important feature especially in high potential electrical service.

23 indicates the cap as a whole. This cap comprises a block 24 made from porcelain and a metallic cover therefor, which I will presently describe.

25 indicates the base plates of the knife blade contacts which lie in recesses 26 in block 24, the base plates being shown as secured to the block by the binding screws 27.

28 indicates slots in block 24 lying at an angle to each other through which the knife blade contacts pass, thus thoroughly insulating them and preventing the possibility of arcing or sparking as there can be no possible engagement of the knife blade contacts with the contact plates until the knife blade contacts have been passed through slots 22 in bosses 20 on the covering block and are in actual engagement with the contact plates. The cover for the cap comprises two metal parts indicated respectively by 29 and 30. Part 29 receives block 24 and is provided with an inwardly turned flange 31 at its outer end upon which the block rests, the block being shown as provided with a corresponding groove in its outer face to receive the flange. At the inner end of part 29 is a screw thread which is engaged by a corresponding thread on part 30, said part 30 preferably inclosing the inner edge of part 29, as shown. The outer end of part 30 is preferably reduced

in diameter and said part may be given substantially the configuration of an ordinary porcelain cap.

32 denotes an insulating lining in part 30, and 33 an insulating ring secured in the opening 34 through which the wires (not shown) enter the cap. An important advantage of this construction is that while the wires are as perfectly insulated as if the cap was made of porcelain, the attachment of the wires is wholly concealed. The wires enter the caps at opening 34 and are attached to the binding screws which engage base plates 25 in the recesses in porcelain block 24, the loose ends of wire being thus completely covered and insulated.

The operation in use is simply the engagement and disengagement of the knife blade contacts projecting from the cap with the contact plates and locking springs lying in recesses 19 in covering block 13. As the knife blade contacts and the corresponding contact plates and locking springs are placed at an angle to each other, it follows that this engagement can be made in one position only of the parts, thus fixing the polarity.

Having thus described my invention I claim:

1. In an attachment plug, the combination with contact plates arranged in pairs, said pairs being placed at an angle to each other, and a covering block having recesses to receive the contact plates and slots at an angle to each other leading into said recesses, of a cap comprising a block having recesses and slots leading into said recesses, base plates in the recesses and knife blade contacts extending through the slots, and a two-part cover for the block having an opening for wires and covering the attachment of the wires to the base plates.

2. A cap for attachment plugs comprising a porcelain block having recesses in its inner face and slots leading into said recesses, base plates secured in said recesses and having

knife blade contacts extending through the slots, binding screws in the base plates and a two-part cover for the block having an opening for the wires and covering the attachment of the wires to the binding screws.

3. A cap for attachment plugs comprising a porcelain block having recesses in its inner face and slots leading into said recesses and lying at an angle to each other, for the purpose set forth, base plates secured in said recesses and having knife blade contacts extending through the slots, binding screws in the base plates and a two-part cover for the block having an opening for the wires and covering the attachment of the wires to the binding screws.

4. A cap for attachment plugs comprising a porcelain block having recesses in its inner face and slots leading into said recesses, base plates secured in said recesses and having knife blade contacts extending through the slots, binding screws in the base plates and a cover for the block consisting of two parts, one of said parts receiving the block and having an inwardly-turned flange against which the block rests, and a screw thread at its inner end, and the other part being correspondingly threaded to engage the first mentioned part and having an opening for the wires, an insulating lining and an insulating ring in said opening.

5. A cap for attachment plugs comprising a porcelain block having knife blade contacts extending therefrom and binding screws, and a two-part metallic cover for said block, one of said parts engaging the other part externally and having an opening through which the wires pass, and an insulating ring in said opening.

In testimony whereof I affix my signature, in presence of two witnesses.

HARVEY HUBBELL.

Witnesses:

A. M. WOOSTER,
S. W. ATHERTON.