

H. HUBBELL.
 CONVERTIBLE CAP FOR ATTACHMENT PLUGS.
 APPLICATION FILED DEC. 17, 1917.

1,275,693.

Patented Aug. 13, 1918.

Fig. 1

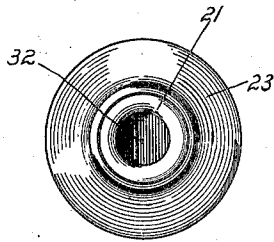


Fig. 4

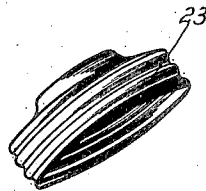


Fig. 2

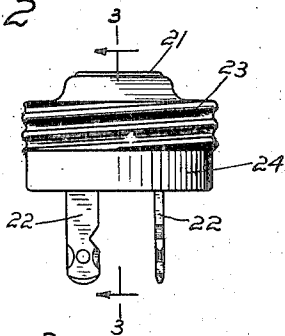


Fig. 5

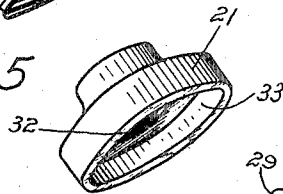


Fig. 6

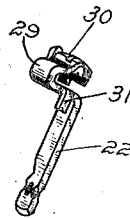


Fig. 3

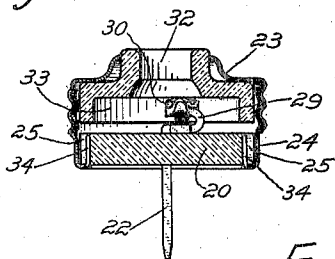


Fig. 7

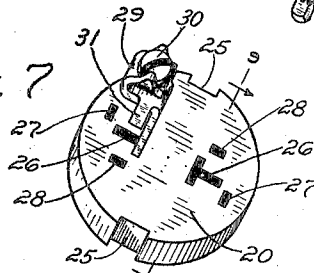


Fig. 8

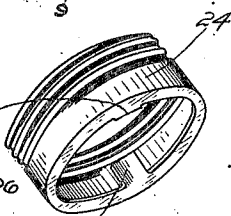


Fig. 9

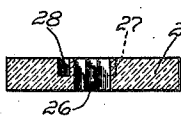


Fig. 14

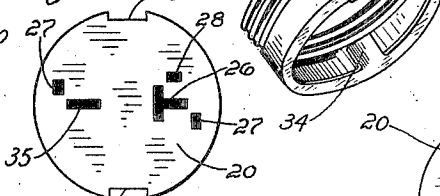


Fig. 10

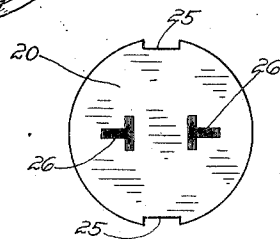


Fig. 11

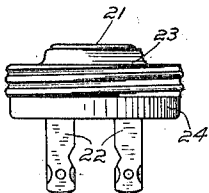


Fig. 12

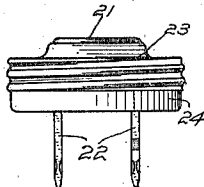
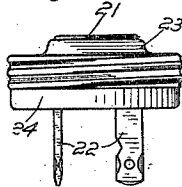


Fig. 13



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CONVERTIBLE CAP FOR ATTACHMENT-PLUGS.

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Specification of Letters Patent.

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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 an Improvement in Convertible Caps for Attachment-Plugs, of which the following is a specification.

This invention has for its object to provide a cap for attachment plugs (and receptacles as well) which shall be so constructed that one or both of the contact blades may be readily removed and shifted from one position to another, so as to adapt the cap for use in connection with attachment plugs having alined blade receiving slots, or polarizing blade receiving slots, and where both of the contact blades are made shiftable the cap is adapted for use in connection with attachment plugs having either alined, or polarizing, or parallel blade receiving slots, the cap being readily convertible from one type of cap to another.

With these and other objects in view, I have devised the novel attachment plug cap which I will now describe, the operative parts consisting of six members only, two of which are duplicates, and all of which are simple and inexpensive to produce.

In the accompanying drawing forming a part of this specification,

Figure 1 is a plan view of my novel convertible plug cap,

Fig. 2 a side elevation thereof,

Fig. 3 a section on the line 3—3 in Fig. 2, looking in the direction of the arrows,

Figs. 4, 5, 6, 7 and 8 are perspective views, showing the several members disassembled,

Fig. 9 is a section of the blade carrying block on the line 9—9 in Fig. 7, looking in the direction of the arrows,

Fig. 10 an inverted plan view of the blade carrying block,

Figs. 11, 12 and 13 side elevations of my novel convertible plug cap showing, respectively, the contact blades in the alined, the parallel and the polarizing positions, and

Fig. 14 is a plan view of a blade carrying block which provides for two changes only, that is from the alined to the polarizing arrangement of one blade or vice versa.

20 denotes the blade carrying block, 21 the covering block, both of which are made of

insulating material, 22 the shiftable contact blades and 23 and 24 the shell members which are provided with inter-engaging 55 rolled threads.

The blade carrying block is a moderately thick disk of insulating material which in the preferred form is provided with two diametrically placed combination or T-slots 60 26, contiguous to each T-slot with recesses 27 and 28, and in its edge with recesses 25.

The contact blades are detachable from the block and are provided with suitable heads 29, each carrying a binding screw 30, 65 and with retaining lugs 31 adapted to engage recesses 27 or 28 in the blade carrying block.

The covering block, made of insulating material, is provided with a central hole 70 32 through which the electrical conductors, not shown, pass, and with a recess 33.

Shell member 23 is shaped to correspond with and inclose the covering block, and shell member 24 is shaped to correspond 75 with and inclose the blade carrying block and is furthermore provided with lugs 34, which are adapted to be received in recesses 25 in the edge of the blade carrying block. Each shell member is provided with a screw 80 thread adapted to engage the other.

In assembling, the contact blades are passed through the T-slots and the lugs 31 on the heads thereof are placed in engagement either with recesses 27 or 28, as will be 85 more fully explained. The blade carrying block, with the contact blades in place, is then seated in shell member 24 as clearly shown in Fig. 3, lugs 34 on the shell member being received in recesses 25 in the block. 90

The covering block is then placed over the heads of the contact blades, said heads and the binding screws lying in recess 33 in the block, and then shell member 23 is placed 95 over the covering block and one or both of the shell members rotated relatively to the other to cause engagement of the respective threads. The shell members when in engagement cause the covering block to bear upon the heads of the contact blades and 100 back up said blades so that they will not yield when pushed through the slots of an attachment plug and into engagement with the plug contacts, not shown, and the en-

engagement of the lugs on shell member 24 with the recesses in the edge of the blade carrying block, prevent any movement of said block, relatively to the shell members.

5 The heads of the combination or T-slots are toward each other. For convenience in description, I will refer to the head portions of the T-slots as the transverse arms of said slots, and the portions of said slots
10 at right angles to the transverse portions, as the diametrical arms of said slots. In the alined arrangement of the contact blades, said blades lie in the diametrical portions of the T-slots and the lugs 31 on the heads
15 of the blades are in engagement with recesses 27 in the blade carrying block. In the parallel arrangement of the contact blades, the blades lie in the transverse arms of the T-slot and the lugs 31 are in engage-
20 ment with recesses 28 in the blade carrying block. This engagement of the lugs on the heads of the contact blades with the recesses in the blade carrying block acts to hold the contact blades securely in place,
25 renders any twisting of the blades practically impossible and insures correct alinement of the blades at all times. In the polarizing arrangement of the contact blades, one blade lies in the diametrical portion of
30 the corresponding T-slot with its lug 31 in engagement with a recess 27 in the blade carrying block and the other contact blade lies in the transverse portion of the corresponding T-slot with its lug 31 in a recess
35 28 in the blade carrying block. In assembling, it is just as easy to set the contact blades for one type of cap as for another. To convert the cap from one type to another, the shell members are separated, the
40 covering block removed and one or both of the contact blades are removed, given a quarter turn, as may be required, to produce the required type of cap, and inserted in the T-slot again. Detachment of the elec-
45 trical conductors from the binding screws is wholly unnecessary, and to change from one type of cap to another when the cap is in use, requires less time than it takes to describe the operation. Supposing the contact
50 blades are in the alined position, to change to the parallel position, both blades would be removed from the diametrical arms of the T-slots and inserted in the transverse arms. To change from parallel to alined, the con-
55 tact blades would be removed from the transverse arms of the T-slots and inserted in the diametrical arms. To change from either the alined or the parallel arrangement, to the polarizing arrangement, one
60 contact blade only has to be changed. If in the alined position, it would be changed to the transverse position, and vice versa.

The form illustrated in Fig. 14 differs only, in that the parallel arrangement of

the contact blades is not provided for. One 65 combination or T-slot is provided as before and in lieu of the other T-slot, I provide a diametrically placed I-slot 35, which will receive a contact blade in the alined position only, and in connection with this slot I pro- 70 vide a lug receiving recess 27, lug receiving recess 28 of the other form being dispensed with. In fact so far as this form of the invention is concerned, the alined blade need not be removable at all, but may be perma- 75 nently secured in place, the object of the invention being attained by making the other blade shiftable from the alined to the polarizing position, or vice versa.

Having thus described my invention, I 80 claim:—

1. In a convertible cap for attachment plugs, the combination of an insulating block having slots with diametrical and transverse arms and recesses contiguous thereto, and 85 shiftable contact blades each adapted to engage either arm of a T-slot and having a lug adapted to engage one of the recesses when seated in either arm of a slot.

2. A convertible cap for attachment plugs 90 comprising a blade carrying block having T-slots, recesses contiguous to the T-slots and recesses in its edge, shiftable contact blades each adapted to engage either arm of a T-slot and provided with a head having 95 a lug adapted to engage one of the contiguous recesses, a covering block engaging the heads of the contact blades, a shell member adapted to inclose the blade carrying block and having lugs engaging the edge 100 recesses, and another shell member inclosing the covering block and having threaded engagement with the first mentioned shell member.

3. In a convertible cap for attachment 105 plugs, the combination of shiftable contact blades having heads provided with retaining lugs, a blade carrying block having T-slots placed diametrically with the transverse arms of said slots toward each other, said 110 blade carrying block having contiguous to each T-slot a recess adapted to receive the retaining lug when a contact blade is in the diametrical arm of the T-slot and another recess adapted to receive the retaining lug 115 when the contact blade is in the transverse arm of the T-slot.

4. In a convertible cap for attachment 120 plugs, the combination of a blade carrying block having T-slots and recesses contiguous thereto, shiftable contact blades adapted to engage either arm of the T-slots and having heads provided with retaining lugs each adapted to engage a recess when the contact blade is in either the diametrical or the 125 transverse arm of the T-slot, a covering block adapted to engage the heads of the contact blades, and shell members inclosing

the blocks and having threaded engagement with each other.

5 In a convertible cap for attachment plugs, the combination of an insulating block having an alined contact blade and a slot with diametrical and transverse arms and recesses contiguous thereto, and a shift-

able contact blade adapted to engage either arm of said slot and having a lug adapted to engage one of the recesses when seated 10 in either arm of the slot.

In testimony whereof I affix my signature.

HARVEY HUBBELL.