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2,476,738

SOLDERLESS BLADE FOR PLUG CAPS

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FIG. 1

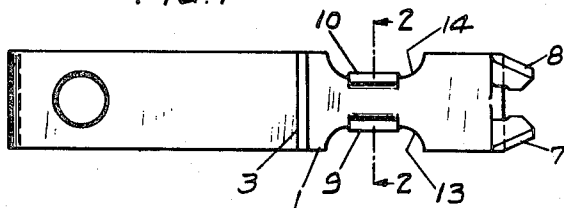


FIG. 2



FIG. 3

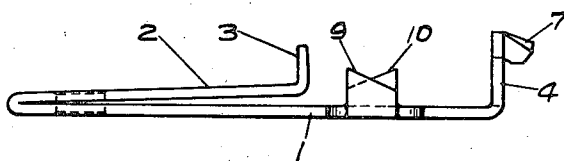


FIG. 4

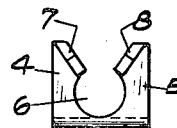


FIG. 5

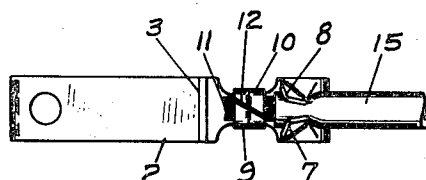
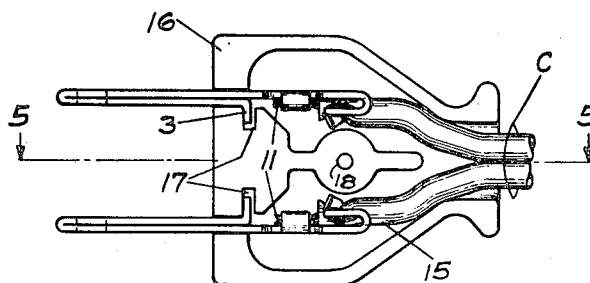


FIG. 6



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SOLDERLESS BLADE FOR PLUG CAPS

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2 Claims. (Cl. 173—361)

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This invention relates to a contact blade for electrical plug caps used for making circuit connections with the usual socket or house outlets.

It is the object of my invention to provide a plug cap blade that will receive and hold a conductor securely thereto without having to solder the conductor per se to the blade.

A further object of my invention is to provide a sort of a blade, so constructed that it will not only grip the conductor per se securely, but also grip the insulation of the conductor so that a pull on the conductor, which is many times done in pulling the plug out of a receptacle or socket outlet, without stripping the insulation from the conductor and leaving the same in a bare condition. By having the conductor per se, as well as its insulation both securely gripped, a much stronger and better union is made between the entire conductor and the blade.

A further object of my invention is to provide a blade which does not require the conductor per se to be soldered thereto in order to get a good electrical joint.

A further object is to provide a solderless blade which can be quickly and securely assembled in a plug cap.

Other advantages will be apparent to one familiar with these devices from a reading of the specification taken from the annexed drawing, wherein Figure 1 is a plan view of the blade on a much enlarged scale, approximately 3 to 1, with portions thereof formed ready to receive the conductor.

Figure 2 is a view on the line 2—2 of Figure 1.

Figure 3 is a side view of Figure 1.

Figure 4 is an end view of Figure 3.

Figure 5 is a view on the line 5—5 of Figure 6 on an enlarged scale of a working model, the scale being approximately 2 to 1, but without the plug.

Figure 6 is a plan view showing a pair of blades with conductors attached thereto and seated in one-half of the plug cap.

In the drawings wherein like numbers refer to corresponding parts, 1 is a contact blade having an end 2 bent back toward the opposite end of the blade. The free end of the blade portion 2 has an end or a ledge 3 formed substantially at right angles thereto, so as to act as a stop or positioning member for the blade when installed in a plug cap, as shown in Figure 6. The blade portion 2, is preferably formed so as to have spring action as the blade is forced into a socket.

The other end of the blade 1, has an end 4 with spaced portions 4 and 5 initially formed as

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shown in Figure 3 with an opening 6 to receive an insulated conductor. The portions 4 and 5 have fingers 7 and 8 respectively which are adapted to be bent on diagonal lines or at acute angles with respect to the axis of the conductor so as to grip the insulation of the conductor 15, as shown in Figure 5, after the parts 7 and 8 are forced toward each other over the insulation at the same time that the portions 4 and 5 are bent inwardly, as shown in Figure 6.

Between the end portions 4 and 5, and the ledge 3, there is located on opposite sides of the blade, a pair of lugs 9 and 10. These lugs have their free edges formed on diagonals, so that when they are bent over and forced downwardly onto the bare conductor 11, which is shown as made up of small wires to give flexibility, these diagonals substantially meet on line 12.

It will be noted that the metal of the blade, which is of suitable current conducting material such as hard brass having good wearing properties, is cut out on opposite sides 13 and 14, so as to provide the proper length of lugs to completely encompass the bare conductor.

After the conductors of cable C have been attached to the blade 1 as described, they are assembled with a plug cap 16 which has recesses 17 therein to receive the ledges 3 of the blade as shown in figure 6, where one-half of a plug cap is shown, the two halves being held together by a screw going through hole 18. Instead of using a two-piece cap, as illustrated in Figure 6, a pair of plug members assembled, as shown in Figure 5, may be laid into a suitable mold and the cap material forced around the assembled conductors and blades.

From what has been said, it is seen that if a user takes hold of the conductor to pull the plug cap out of its socket, as is frequently done, practically all of the strain in the conductor is taken up by the portions 4 and 5, and the fingers 7 and 8 putting little or no strain on the electrical joint formed between lugs 9 and 10.

It is to be understood that certain of the details may be varied somewhat without deviating from the spirit of my invention and scope of impending claims.

Having thus described my invention, what I claim is:

1. A solderless blade for an electrical plug cap comprising, a one piece strip of suitable material having its opposite ends bent over toward each other to form a two part slidable plug contact portion, one of said contact parts being longer than the other and terminating in a bent over end

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divided so as to receive an insulated electrical conductor therebetween, each division having a finger at its end initially extending at an acute angle inwardly toward the other as well as toward the conductor and adapted to be forced into the insulation of the conductor on opposite sides of a diameter thereof, the shorter of said two contact portions having means at its end for assisting in locating the blade in the plug cap, a pair of oppositely spaced lugs on the longer of said blade portions positioned adjacent said locating means, the lugs having their free edges formed diagonally in opposite directions so when they are bent over the bare conductor end, their edges will substantially meet and form a gripping closure around said conductor end.

2. A solderless blade for an electrical plug cap comprising, a one piece strip of suitable metal having its opposite ends bent over toward each other to form a two part slidable plug contact portion, one of said contact parts extending beyond the other part and terminating in a bent over end projection before assembly with a conductor in a direction which will intercept a plane extending from the shorter of said two parts, this bent over end consisting of two portions spaced so as to receive the outer insulation of an electrical conductor therebetween, each of said spaced portions terminating in a finger projecting outwardly at an angle to the plane of said portion, said spaced portions being adapted to be forced downwardly and toward the plug contact portions while the said fingers are adapted to be

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simultaneously forced downwardly and inwardly toward each other into gripping position over the insulation of the conductor, said extending contact part, having cut-away sections on opposite sides adjacent the end of the other of said two plug contact portions, said cut-away sections forming lugs having their free edges cut on diagonals whereby when these lugs are forced over the bared end of the conductor they will substantially meet and form a gripping enclosure around the conductor end.

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