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His Attorney.
The present invention relates to polarized attachment plugs which have one standard contact blade and one oversized blade so that the plug can be inserted in only one way into a polarized outlet.

In ordinary residential wiring, the service entrance cable includes either three wires delivering 115/230 volts or two wires corresponding to the middle wire and one of the two outside wires and delivering 115 volts only. The middle wire of the three wire system is usually grounded and is known as the neutral wire. The purpose of grounding is to promote safety both from electrical shock and from fire hazards. In a typical two wire general purpose branch circuit, one wire is black (hot) and the other wire is white (neutral). The black wire is the wire which should be connected to the brass-colored terminal of the switches, outlets, sockets, fuse boxes and to the black wires on pull chain fixtures.

The white (neutral or ground) wire, also called the continuous wire, is grounded at the service entrance switch and it connects to the silver or light-colored terminal on all outlets, sockets, fuse boxes, etc. Hence, the white wire is a grounded conductor and a polarized outlet is one having a specific contact connected to the white grounded conductor. Accordingly, the polarized plug is one having a specific blade attachable to the specific contact of the polarized outlet. For example, the polarized plug has one standard-width blade and one wide blade and, similarly, the polarized outlet has one standard-slot and one wide slot. The present invention has been adopted principally for portable TV receivers.

To be effective, the polarized plug must be part of a power supply cord attached to the receiver, and the chassis in turn is grounded to the polarized conductor of the cordset.

The principal object of the present invention is to provide a polarized attachment plug with an extra wide blade that is obtained by coining the edges of the blade after the plug body is molded.

A further object of the present invention is to provide an improved polarized attachment plug which is made by first finishing the plug as a standard parallel-bladed plug and then attaching one blade to a coinage operation to increase its width for use as a polarized plug.

The present invention is of particular advantage to the manufacturer of the cordset because no change need be made in the molding equipment for molding the plug body onto the end of the cord. By this means it is possible to mold standard attachment blades which are crimped to the bare ends of a pair of conductors of an electrical cord. Complete new molds would not be necessary if one of these standard blades were replaced by a polarized blade. This difficulty is circumvented by finishing the attachment plug as a standard parallel-bladed plug and then subjecting one blade of the plug to a coinage operation by coining its edges to increase the width of the blade and thus form a polarized plug.

My invention will be better understood from the following description taken in connection with the accompanying drawing and its scope will be pointed out in the appended claims.

FIGURE 1 is an isometric view showing a typical polarized duplex convenience outlet with a faceplate attached thereto, and a polarized attachment plug embodying the present invention.

FIGURE 2 is a side view of the polarized blade of the attachment plug in FIGURE 1 showing the side edges of the blade coined to increase its width.

FIGURE 3 is a second embodiment of the polarized blade of FIGURE 2.

FIGURE 4 is another embodiment of the polarized plug of the present invention.

FIGURE 5 is a front view of the parallel blades of the polarized plug of FIGURE 1.

Referring in detail to the drawing and in particular to FIGURE 1, 10 represents a polarized duplex outlet having a wide slot 11 and a standard-width slot 12 for receiving the polarized attachment plug 13. For several years now, the Underwriters' Laboratories have required all wall-mounted convenience outlets to be polarized outlets. A standard faceplate 14 is fastened over the outlet 16 by means of a single screw fastener 15.

Turning now to a consideration of the polarized attachment plug 13, it includes a pair of contact blades 16 and 17 that are crimped to the bare ends of the two conductors 18 and 19 of the electric cord 20 in the well-known manner. The contact blade 16 is a standard-width blade that has a maximum width of 0.250 inch. The polarized blade 17 has a free end of extra width which is 0.312 inch maximum. Accordingly, the polarized plug 13 can only be inserted into a polarized outlet in one way, and the polarized blade 17 cannot fit into a standard-width slot such as 12.

Attention is now directed to FIGURES 2 and 5 of the drawing for a better understanding of the polarized blade 17. As shown in FIGURE 5, both blades 16 and 17 are formed of thin strip material which is double-drawn back onto itself to provide a double ply construction. A locating opening 21 is formed near the free end of both blades, as is standard practice in the industry. Originally, both blades 16 and 17 are made identical, and their terminal ends are crimped to the bare ends of their conductors 18 and 19 and the cord 20. Then the blades are fitted into the cavity of the mold and the plug body is molded onto the cord to form a finished non-polarized molded plug. A die is then used to coin the edges as at 22 on opposite sides of the opening 21 so as to increase the width of blade 17 to conform to the U.L. requirements for the width of a polarized attachment blade. The coined section 22 is of such length that it is not possible to angle the blade 17 into the standard-width slot 12 of the polarized outlet 16.

FIGURE 3 shows a modification of the polarized blade, identified here as element 25, which has been found most useful on solid blade constructions. This polarized blade 25 has a pair of pinch-out tabs 26 on each side of the blade in the area of the opening 21.

FIGURE 4 shows a modification of the polarized blade 25 of FIGURE 3, namely, the addition of pinch-out tabs 27 in the shank of the blade on opposite edges thereof to prevent angling of the blade in the slot of the outlet if such were found to be a problem.

Having described above my invention of a novel method of manufacturing a polarized attachment plug with coined edges for the polarized blade, it will be readily apparent to those skilled in this art that this method creates quite a saving in tooling cost in avoiding the replacement of the dies of the molding equipment.

Further modifications of this invention will occur to those skilled in this art and it is to be understood, therefore, that this invention is not limited to the particular embodiments disclosed but that it is intended to cover all modifications within the true spirit and scope of this invention.

What I claim as new and desire to secure by Letters Patent of the United States is:

1. A polarized attachment plug comprising a plug

2. FIGURE 2 is a side view of the polarized blade of the attachment plug in FIGURE 1 showing the side edges of the blade coined to increase its width.

3. FIGURE 3 is a second embodiment of the polarized blade of FIGURE 2.

4. FIGURE 4 is another embodiment of the polarized plug of the present invention.

5. FIGURE 5 is a front view of the parallel blades of the polarized plug of FIGURE 1.

6. FIGURE 6 is a side view of the polarized blade of the attachment plug in FIGURE 1 showing the side edges of the blade coined to increase its width.

7. FIGURE 7 is a second embodiment of the polarized blade of FIGURE 2.

8. FIGURE 8 is another embodiment of the polarized plug of the present invention.

9. FIGURE 9 is a front view of the parallel blades of the polarized plug of FIGURE 1.

10. FIGURE 10 is a side view of the polarized blade of the attachment plug in FIGURE 1 showing the side edges of the blade coined to increase its width.
body and a pair of dissimilar contact blades, a first one of said blades having uninterrupted side edges extending outwardly from said plug body, a second one of said blades generally similar to said first blade but having coined projections formed on the side edges thereof adjacent the outer end, said projections having a thickness less than the thickness of the side edges on which they are formed and providing an increased width between their outer extremities thereby to provide a plug which may only be inserted into a polarized outlet in a predetermined manner, and additional coined projections formed on the side edges of the shank of said second blade to reduce the angling of the plug in the polarized outlet.

2. A polarized attachment plug comprising a plug body and a pair of dissimilar contact blades, one of said blades having coined projections extending from the sides of said one blade adjacent the free end thereof, said projections being formed as pinch-out tabs to increase the width of said one blade so that said one blade may only be inserted into a polarized outlet in a predetermined manner, and additional pinch-out tabs formed on the sides of the shank of said one blade to reduce the angling of said plug in a receiving outlet.

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