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ELECTRICAL OUTLET HAVING INSULATION PIERCING MEANS
FOR CONTACTING THE CONDUCTOR OF AN ELECTRIC CORD

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This invention relates to electrical outlets. It is an object of the present invention to provide an electrical outlet including a plastic housing into which is press fitted by a wedging action a plastic core which receives therewithin longitudinally the electrical cord and wherein conductor members are positioned on the core and include piercing contact points which pass inwardly through the cord to penetrate the conductors in the electrical cord, the piercing contact points being further urged into engagement with the electrical cord by the wedging action of the housing.

It is still another object of the present invention to provide an electrical outlet of the above type which includes a plurality of outlets so as to make contact for two sets of wires for a continuation to another outlet.

Other objects of the invention are to provide an electrical outlet bearing the above objects in mind which is of simple construction, has a minimum number of parts, is easy to use, and efficient in operation.

For other objects and a better understanding of the invention, reference may be had to the following detailed description taken in connection with the accompanying drawings, in which:

Figure 1 is a perspective view of a preferred embodiment of the present invention;

Fig. 2 is a longitudinal sectional view thereof taken along the line 2—2 of Fig. 1;

Fig. 3 is a transverse sectional view thereof taken along the line 3—3 of Fig. 2; and

Fig. 4 is an exploded perspective view shown partly broken away of the parts comprising the invention.

Referring now more in detail to the drawing, 10 represents an elongated core of substantially square cross section formed of plastic having a transverse central mounting opening 11 therethrough, substantially as illustrated.

The core member 10 at one end is integrally formed with the laterally extending flange 12 having the oppositely disposed rectangular cutouts 13, the core 10 having an inwardly extending bore 14 extending inwardly from one end through flange 12 and elongated laterally, as shown in Fig. 4. The bore 14 terminates short of the transverse bore 11 (Fig. 2). The core member 10 at the other end thereof is integrally formed with a second flange 15 of greater width and thickness than flange 12 and furthermore, the opposite sides 16 of the core member converge towards the flange 12 for a purpose which will hereinafter become clear. The sides and inner face of the flange 15 are provided with the rectangular recesses 17 which are aligned longitudinally with the slots 18 and flange 12. The core 10 is provided with a second inwardly extending bore 18 which extends inwardly through the flange 15 and terminates short of the transverse mounting opening 11.

The opposite sides 16 of the core 10 are integrally formed with the rectangular ridges 19 having the diagonally opposed corner cutouts 20 and which communicate with lateral bores 21 which extend into the bores 14, 18, (Fig. 3).

A pair of resilient strips of conductive material indicated generally at 22 are provided including the central portions 23. Each of the strips 22 at the opposite ends thereof is provided with a pair of inwardly extending slots which define the central terminal portions 24 and the outer portions 25, the outer portions 25 being bent inwardly and terminating in end portions parallel to the central portions 24 and spaced inwardly therefrom. It will be noted that the ridges 19 are of sufficient width to support the central terminal portions 24 while not underlying the outer portions 25 to permit the latter to be bent inwardly. The central terminal portions 24 on opposite sides are formed with the inwardly struck contact points 26 which are adapted to pass inwardly through cutouts 20 and bores 21 and into the bores 18 and 14 whereby to embed themselves in the conductors 27 of the electrical cord elements 28.

A plastic housing indicated generally at 29 is provided of substantially rectangular cross section open at one end and integrally formed at the other with an end closure 30 having an elongated opening 31 adapted to be aligned with the bore 14 of the core member when the latter is inserted within the housing (Fig. 1). The side walls 32 of the housing are provided with a countersunk opening 33 adapted to be aligned with the transverse opening 11 in the core to facilitate the insertion therethrough of a mounting screw 34 whereby the device may be suitably mounted upon a wall 35 or the like. The inner faces of the sides 32 converge toward the slot 31 and effect a wedging action upon the contact points 26 as the core and contact elements are inserted within the housing 29 through the open end thereof whereby to further embed the contact points in the conductors 27 of the electrical cord elements 28.

The side wall 32 having the countersunk opening 33 is also provided at each end with laterally spaced slots 34' which are aligned with the spaces intermediate the outer portions 25 and the central portions 24 (Fig. 2) whereby to permit the insertion through the housing therethrough of the male elements 35 of a male plug indicated generally at 36.

The sharp contact points 26 will pierce the insulation 28 and make sure contact with the conductors therewithin, the contact or piercing action being further augmented by the wedging of the sides of the housing 29 as the core is inserted therewithin.

In operation, the insulated cords 28 are inserted into the bores 14, 18 and the resilient conductors 22 are then placed in position on the ridges 19 to permit the contact points 26 to pierce the insulation. The assembly is then pushed through the open end of the housing 29, the sloping inner sides of the housing by a wedging action further piercing the insulation and securing the contact points 26 in operative position. It will be noted that the device has two piercing contacts on each side and can make contact with two sets of wires 28 for a continuation to another outlet. After the core is inserted within the housing the mounting screw 34 is then brought into position to secure the assembly.

While various changes may be made in the detail construction, such changes shall be within the spirit and scope of the present invention as defined by the appended claims.

Having thus set forth and disclosed the nature of my invention, what is claimed is:

1. An electrical outlet comprising an elongated core member of insulation material, a pair of oppositely disposed resilient conductors adapted to be positioned on opposite sides of said core member, position means for said resilient members, said core having inwardly extending bores from the opposite ends thereof, said core member having transverse bores communicating with said inwardly extending bores at opposite ends thereof, said
3 transverse bores being provided on opposite sides, contact points struck inwardly from said resilient conductors passing through said transverse bores and into said inwardly extending bores, and a housing of insulation material closed at one end and having an opening therethrough adapted to receive the electrical cord, said core at the other end thereof being enlarged whereby to form a closure for the other end of said housing, said housing on one side thereof at opposite ends having laterally aligned slots communicating with said resilient contact members and adapted to receive therethrough the dual elements of a male plug.

2. An electrical outlet according to claim 1, each of said resilient contact members comprising a substantially rectangular strip having a pair of laterally spaced slits extending inwardly from the opposite ends thereof to define central terminal portions and outer terminal portions on each side thereof, said outer terminal portions being bent inwardly and terminating in end portions substantially parallel to said central portions and inwardly spaced therefrom, said contact points being inwardly struck from said central portions intermediate the ends thereof, said positioning means comprising elongated ridges on opposite sides of said core adapted to support said central portions while permitting the inward bending of said outer portions, each of said ridges at diagonally opposite corners having cutout portions communicating with said transverse bores.

3. An electrical outlet according to claim 2, said second enlargements being of less width than said first enlargement, the sides of said bore converging toward said second enlargements whereby to form a wedging action with said housing the inner faces of said housing adjacent said converging sides converging towards the closed end thereof.

4. An electrical outlet according to claim 3, said inwardly extending bores terminating short of the midpoint of said bore, said core having a transverse bore therethrough, said housing having a countersunk opening at one side aligned with said transverse bore and a second opening aligned therewith whereby to receive a mounting screw therethrough when said core is positioned within said housing.

5. An electrical outlet according to claim 4, said first enlargement having cutouts on the sides and inner faces thereof receiving the ends of said central portions.

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