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TWO PART STRAIN RELIEF CLAMP

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TWO-PART STRAIN RELIEF CLAMP

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My invention relates to electric connectors and includes the type of connector which carries a socket, as well as the type which carries prongs, for making an electrical contact to an electrical receptacle or outlet.

It is an objet of my invention to provide an electrical connector with a clamp to prevent any strain upon the cord or cable carrying the conductors from being transmitted to the electrical contacts to which the conductors are connected.

Another object of my invention is to provide a metal disc which is attached or embedded to the rubber connector plug which provides the anchorage for the cable clamp.

Another object of my invention is to provide an electric connector with a clamp which clamp may be attached to an anchor disc rapidly and easily.

Another object of my invention is to provide a cord clamp and an anchoring disc which are complementary to one another but which are complete of themselves and which require no tools to assemble.

Still another object of my invention is to provide a clamp which will assure the firm retention of the cable or cord passing through it by means of the compression of the clamp and also, in addition the extra securing effect resulting from the dimpling in the clamp which provides two high pressure points which prevents twisting of the cord or slippage.

Still another object of the invention is to provide a clamping device which will prevent misalignment by being sufficiently adjustable of the clamping assembly for such misalignment which might otherwise result.

Another object of my invention is to provide a plug type which will also allow for the quick and easy removal of the anchor plate which secures the clamp to the plug housing.

Still another object of the invention is to provide a clamp assembly directly into the rubber housing of the electrical plug and providing for its firm retention in the rubber housing and also, further providing by means of a recession in the rubber housing into which part of the clamp assembly projects, for any torque which might be exerted when adjusting the clamp, and thereby preventing the rotation of the clamp assembly in the rubber plug housing.

Other objects of my invention are to provide an improved device of the character described, that is easily and economically produced, which is sturdy in construction, and which is highly efficient in operation.

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With the above and related objects in view, my invention consists in the details of construction and combination of parts, as will be more fully understood from the following description, when read in conjunction with the accompanying drawing in which:

Fig. 1 is a side elevational view of an electrical connector embodying my invention.

Fig. 2 is a view of the connector as seen along the line 2—2 of Fig. 1.

Fig. 3 is a view of the connector as seen along the line 3—3 of Fig. 1.

Fig. 4 is a sectional view taken along the line 4—4 of Fig. 2.

Fig. 5 is a side elevational view of another type of electrical connector embodying my invention.

Fig. 6 is an end view as seen along the line 6—6 of Fig. 5.

Fig. 7 is an end view as seen along the line 7—7 of Fig. 5

Fig. 8 is a sectional view as taken along the line 8—8 of Fig. 6.

Fig. 9 is a fragmentary sectional view of the housing alone.

Fig. 10 is an end view as seen along the line 10—10 of Fig. 9.

Fig. 11 is an end view as seen along the line 11—11 of of Fig. 9.

Fig. 12 is a sectional view as taken along the line 12—12 of Fig. 11.

Fig. 13 is a perspective view of the electrical cord clamp and the anchoring disc.

Referring now in detail to the drawing wherein similar reference characters refer to similar parts I show an electric plug which is adapted to connect a pair of electrical conductors to a complementary receptacle. The plug comprises a body, generally designated as A, which is of suitable insulating material. At one end of the body A is a disc 10 to which a pair of plug prongs 12, 12 are attached. At the other end of the housing is an inner recess 14 into which recess the outer edge of a disc, generally designated as B, interfits. In other words, the disc B is locked to the housing A by engaging the housing recess 14. The disc B has a central opening 16 through which a cord 18 passes and a pair of slots 19, 19 which are longer than they are wide. Each of the slots is adapted to receive a T-shaped hook on one end of a clamp, generally designated as C. The T-shaped hook has a stem and a head attached to said stem. It is to be noted that the head goes under the under side of the disc B when the hook locks upon the disc. The clamp

C has two identical parts each of which engage a part of the conductor 18. The clamp or strap C is a thin stamped metal piece having a curved central portion 22 with a slight indentation 24 therein so that the cord will not slip. A threaded screw opening or tapped bore 26 is to receive a threaded screw 28 and an elongated opening 30 is to the other side of the curved central portion 24.

It is to be seen that in assembling the unit about a conductor 18 the wires in the conductor are stripped and attached to the prongs 12, 12 the complementary clamps or straps C are locked into the disc by virtue of the complementary tongue or T-shaped end 20 and the opening 9. The tongue 20 cannot be pulled from the opening when the strap surrounds the cord 18 and then a screw 28 is pushed through a slot 30 in one strap and screwed into the tapped bore 26 in the second strap; since two screws are used a tight grip is formed. The tongue and opening 19 have sufficient play to be self-adjusting, that is to say if the cord is not in the exact center the clamps may be moved.

It is to be particularly noted that the disc B and its clamps C, C are prevented from rotating with respect to the housing by virtue of the T-shaped tongue 20 engaging a small narrow recess 32 in the housing A. The recess 32 enables the tongue 20 to be located therein but it prevents the tongue from moving too far. If the disc and clamp could turn completely around then the conductors might be sheared from the terminals to which they are attached.

In Fig. 4 I show a modification of my invention wherein the disc B1 is clamped permanently to the housing A1.

Although my invention has been described in detail, such description is intended as being illustrative rather than limiting, since the invention may be variously embodied, and the scope of the invention is to be determined as claimed.

I claim as my invention:

1. In an electrical connector comprising a cylindrical insulating body having an inner bore, a disc attached to said body, said disc having a pair of elongated apertures therein, a pair of detachable straps, each strap having a stem and head forming a T-shaped tongue therein, each of said tongues of each strap being disposed with its stem within one of said apertures, and its head engaging the under side of the disc and said pair of straps being adapted to clamp about an electric cord to relieve the strain imposed thereon.

2. The subject matter of claim 1, said body having a pair of recesses therein which are located beneath the disc recesses, and the T-shaped tongues being adapted to interfit with said body recesses to prevent relative rotary movement of said body and said disc.

JACOB SCHMIER.

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