

June 15, 1937.

G. H. GLADE, JR

2,083,836

ELECTRICAL CONDUCTOR TERMINAL DEVICE

Filed June 12, 1934

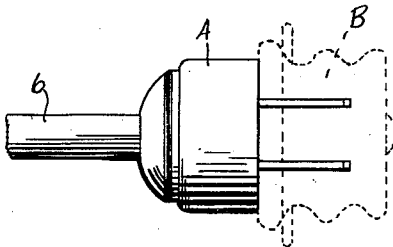


Fig. 1.

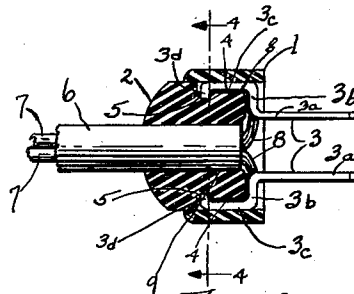


Fig. 2.

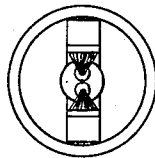


Fig. 3.

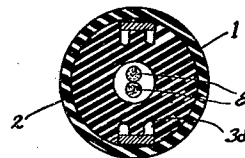


Fig. 4.

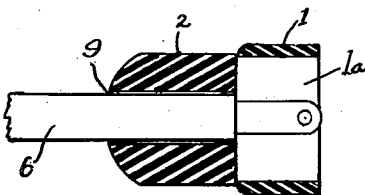


Fig. 5.

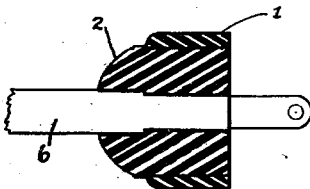


Fig. 6.

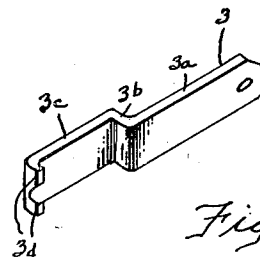


Fig. 7.

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2,083,836

ELECTRICAL CONDUCTOR TERMINAL
DEVICE

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Application June 12, 1934, Serial No. 730,354

2 Claims. (Cl. 173-361)

My invention relates to electrical conductor terminal devices, particularly such as are used in making connections for various utility devices such as floor lamps, washing machines, toasters and the like, and to method of making same.

One of the objects of the invention is to provide a simple, practical and advantageous device of the class specified.

Another object of the invention is to secure simplicity and cheapness of construction and also efficiency and durability in service.

Another object of the invention is to secure a practical and advantageous device of the class specified which may be made and provide a satisfactory and efficient construction, without the aid of either screws or solder or the like.

Another object of the invention is to provide a device which will have very few parts and therefore will involve but little expense.

Another object of the invention is to provide a device which may be quickly and readily assembled in a simple and expeditious manner without the use of special tools or apparatus.

Another object of the invention is to provide an advantageous and effective method of making devices of the character set forth.

Other objects of the invention will appear and be pointed out hereinafter.

The invention of this application relates to and to some extent is an improvement over the invention of my earlier application, Serial No. 383,526, filed August 5, 1929, for Electrical conductor terminal cap, which issued January 22, 1935 as Patent 1,988,725.

In the accompanying drawing:

Fig. 1 is a side elevation of a terminal connector or plug device embodying my present invention, the figure also showing in dotted lines and diagrammatically a socket member with which the plug device is adapted to co-operate;

Fig. 2 is a longitudinal section of the device;

Fig. 3 is an end elevation of the device as shown in Fig. 1;

Fig. 4 is a cross-section taken on the line 4-4 in Fig. 2;

Fig. 5 is a longitudinal section of the device in process of assembly;

Fig. 6 is a similar cross-section of the device as shown in Fig. 5 after being assembled; and

Fig. 7 is a perspective view of a detail of construction.

Referring to the drawing, I show a conductor terminal or plug A involving an outer shell or

shell or collet 1 fits closely around the inner member or core 2, as shown in Figs. 2 and 6.

The device also involves contact blades 3-3 which project from one end of the device, as shown in Figs. 1 and 2, so as to permit them to enter sockets in a co-operating socket member B (Fig. 1). These blades preferably have portions 3^a which are adapted to extend outwardly from the end of the device so as to permit entry into the recesses of the socket member B, and also preferably have transverse portions 3^b-3^b and longitudinally extending portions 3^c provided with inwardly extending bifurcated ends or feet 3^d, as shown in Figs. 2 and 7.

The transverse portions 3^b are to extend along and fit against the outer transverse end of the inner member or core 2, and the longitudinal portions 3^c are preferably to extend lengthwise between collet 1 and core 2, and the feet 3^d are to extend inwardly to engage the inner member 2, the core 2 being preferably provided with recesses 4-4 into which the portions 3^c-3^c may fit, and being also preferably provided with inwardly extending recesses 5-5 at the ends of said recesses 4-4 so as to receive the inwardly extending portions or feet 3^d. In this way the blade members 3 may be fitted and held in position in the recesses in the core 2 between said core 2 and collet 1.

A cable 6, having insulated conductors 7-7 containing connecting or lead-in wires 8-8, is positioned in a central aperture 9 in core 2, said cable member 6 being extended into the core 2 preferably at the end of the device opposite the end from which the contact blades 3-3 extend. The insulated conductors 7-7 are extended from the inner end of cable 6 and the wires 8-8 are bared of insulation and preferably placed in position lengthwise of the portions 3^c of the contact blades 3, said bared wires 8 preferably being interposed between portions 3^c of blades 3 and the inner wall surface of collet 1, as shown in Figs. 2, 3 and 4. In this way the cable with its conductors and wires may be held in position and the said wires held in contact with inner end portions of blades 3 so as to make good and firm electrical contact between said lead-in wires and contact blades.

The outer shell or collet 1 is preferably fitted very closely and tightly upon the inner member or core 2, so tightly in fact that the core 2, contact blades 3 and lead-in wires 8 will be held firmly in position and against separation in ordinary service.

While this tight fit may be accomplished in different ways, as a preferred arrangement and matter of particular and specific improvement, I accomplish the result in this way. The collet 1 is made with a smooth interior surface 1^a (Fig. 5) and is made with a bore or opening somewhat smaller than the core 2, as shown in Fig. 5 and said collet 1 is driven on the core 2 so that a very tight driving fit is made, core 2 being somewhat compressed and possibly collet 1 being somewhat expanded, but the result being that the two are caused to fit very tightly together and thereby hold the collet with blades 3 and lead-in wires firmly in position, as shown in Fig. 2 and previously explained, and against removal in ordinary service.

Furthermore, the driving fit of collet 1 upon core 2 compresses the latter so as to cause it to grip cable 6 and hold the same in position and against removal in ordinary service. This is shown in Figs. 5 and 6. In Fig. 5, cable 6 is shown in the central aperture 9 of core 2, with somewhat of a space between cable 6 and core 2, the space possibly being exaggerated for purposes of illustration.

In Fig. 6, the device is shown with a collet 1 driven on core 2 and the latter so compressed as to contract central opening 9 of core 2 and cause core 2 to contact with and firmly grip cable 6, as shown in Fig. 6. In this way the cable 6 will be held firmly in position against removal in ordinary service and, at the same time, core 2, blades 3 and wires 8 will be securely maintained in position, as previously explained.

Thus, by the simple operations of placing the cable 6, wires 8, blades 3 in their proper place in core 2 and then driving collet 1 over the latter, the entire device may be quickly assembled with all parts in proper position and all contacts made, and the whole assembly so tightly fitted together as to secure the proper electrical connections and also to hold all parts in proper relation and prevent separation or removal of any of the same in ordinary service.

While the collet 1 and core 2 may be made of various proper materials, I preferably make collet 1 of hard rubber, fiber or the like, and preferably make core 2 of semi-hard rubber. These mate-

rials I find afford effective insulation and lend themselves readily to effective and satisfactory assembly in the manner set forth.

It will be understood that changes and modifications may be made without departing from the spirit of the invention.

What I claim is:

1. A device of the class specified having a body comprising an inner member and an encircling outer member, contact blades arranged in holes or recesses in said body, said outer member having a bore somewhat smaller than the exterior of the inner member so that when said outer and inner members are assembled in proper relation, the inner member is sufficiently compressed to hold said blades firmly in position and secure them against removal in ordinary service, and connecting wires extended lengthwise of portions of said blades and held firmly in position and in proper contact with the blades by the compressive stress on the inner member when the outer member is in position, said inner member having a bore for a cable and being adapted to be compressed by the application of the outer member to said inner member sufficiently to contract said bore and cause the inner member to firmly grip said cable and hold it against removal in ordinary service.

2. A device of the class specified comprising an outer collet and an inner core, contact blades having portions located between the collet and core, the bore of the collet being somewhat smaller than the exterior of the core but sufficiently large to permit the collet to be driven over the core, said core and blades being held firmly in position and secured against removal by the driving fit of the collet over the core, and connecting wires having portions of their length extended along portions of the contact blades and held in proper contact and against removal by the driving fit of the collet over the core, said core having a bore containing portions of said wires, said bore being sufficiently large to permit the ready insertion of said wires therein, and being adapted to be compressed to contact and grip said wires and hold same against removal by the driving fit of the collet over the core.

GEORGE H. GLADE, JR.