Dec. 12, 1933. R. OPPENHEIM 1,939,361

ELECTRIC CONNECTION PARTICULARLY APPLICABLE TO JUNCTION BOXES

Filed Sept. 16, 1930

Fig.1.

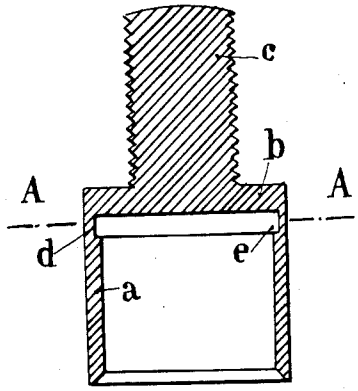


Fig.2.

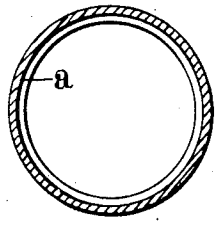


Fig.3.

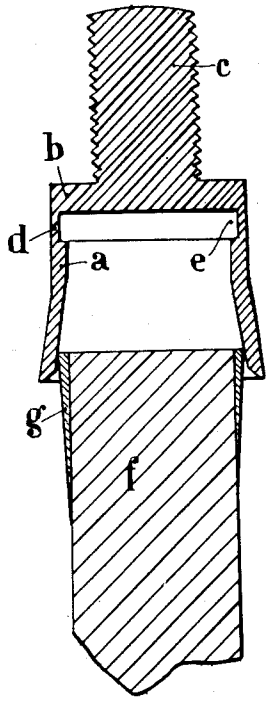


Fig.4.

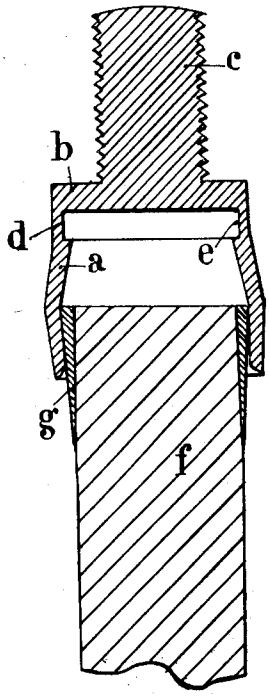
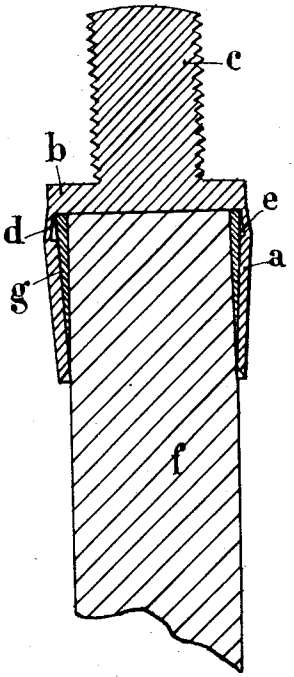


Fig.5.



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ELECTRIC CONNECTION PARTICULARLY APPLICABLE TO JUNCTION BOXES

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Application September 16, 1930, Serial No. 482,204, and in France November 12, 1929

2 Claims. (Cl. 173—353)

The present invention relates to connection devices and junctions for elements traversed by electric current, one of which elements presents a cylindrical extremity, the connection devices being particularly applicable to junction boxes for electric resistances.

The invention is essentially characterized by the fact that the said cylindrical extremity of resistance or other element is encased in a kind of cap, the wall of which is interiorly grooved and thereby narrowed adjacent to the bottom, which permits this wall to open elastically when the cylindrical member is forcibly inserted therein and of locking the same firmly thereby assuring a very good contact.

The main object of my invention is to provide a connection device or junction member for electric cable ends and the like, which is readily applied in a simple and direct manner, and which then remains securely in permanent contact and position.

In order to describe the invention more clearly, in the attached drawing there has been represented by way of example only a form of execution of the object of the invention applied to an electric resistance.

In the accompanying drawing forming part hereof:

Figure 1 is an axial section of the connection made according to my invention.

Figure 2 is a transverse section following the line A—A of Figure 1.

Figures 3 to 5 show successive phases of embedding the resistance in the connection device of Figs. 1 and 2.

As may be seen from the drawing, the junction or connection device is constituted by a conducting cap comprising a cylindrical socket or wall *a*, and a base *b*. In the example represented, the base bears a screw-threaded tail *c*, but it could be provided with any other means providing for attachment to a thread, cable or conductor of any kind.

The base of the cylindrical part is reduced at *d*, as represented, for example by grooving and increasing the interior diameter of the aperture at this point, and forming a notch or groove *e*.

This member is forced on the resistance *f* by pressure. The diameter of the resistance is slightly greater than the inner diameter of the part *a*. This latter therefore opens first of all as shown by Figure 3.

When the resistance begins to advance into the socket more deeply, the wall *a* thereof takes the form represented in Figure 4, and when it is in position, the elements of the connection have taken the position indicated in Figure 5. In other words, a bulging effect is passed down along the socket wall.

It is found that, with the new device, the edge of the socket *a* does not yield and applies itself very closely on the resistance; the resistance *f* may be thoroughly embedded in the chamber, which would not be possible if the notch or groove *e* were not provided. Moreover, the foot of this recess does not rend or split, which almost inevitably happens without the presence of the groove at *d*.

It will hence be understood that this temporary attenuation or deformation of the walling to a certain extent renders the member *a* independent of the bottom. The member *a* thus forms a ring which tapers or bulges gradually over its entire height and is applied exactly throughout its entire extent on the resistance.

Consequently, the locking is very secure, the adherence is complete and the electric contact obtained is excellent.

Finally, the member *a*, *b* may be adapted to fit resistances whose diameters vary to a fairly large extent, which is a great advantage in use.

It is advantageous to coat the resistance with metal, as indicated at *g*, for example with copper, or with any other material capable of facilitating the slip and of improving the contact.

It is not indispensable that the cylindrical end *f* of the resistance should be circular; it may be of polygonal or any other section.

The particular embodiments of the invention mentioned above are only given by way of example, the forms, dimensions, materials employed and all detail arrangements may be changed without altering the principle of the invention.

Having now fully described my invention, I claim:—

1. An electric connection including the combination, with a conductor having a bare end, of an open end socket of conductive material said socket being normally of slightly less diameter than the end of the conductor and having a deformable wall provided with an integral bottom and adapted to be directly forced upon and envelop the end of said conductor in order to make good electric contact with the same, the socket exteriorly of the bottom having means for making exterior connections while the interior of the bottom serves as a stop against the end of said conductor, and means rendering a portion of said socket wall more yielding and adapted to receive the end of the conductor including a reduced portion upon said

wall formed by an interior groove therein adjacent to the bottom of the socket, whereby to provide for attenuation of the entire wall and thereby provide a firm grip upon said conductor while preventing deformation of the bottom of the socket during deformation of said wall.

2. An electric connection including the combination with a conductor having a bare end of an open ended socket including an integral bottom and an annular skirt portion of deformable conductive metal said skirt portion being normally of less diameter than the end of the conductor to be received in the socket and provided adjacent the said bottom with an interior groove, whereby to provide for attenuation of the entire skirt portion and a firm grip upon said conductor while preventing deformation of the bottom of the socket during deformation of said skirt portion.

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