Sept. 22, 1936. G. B. BENANDER 2,055,329

ELECTRICAL CONNECTER

Filed Sept. 6, 1935

Fig. 1.

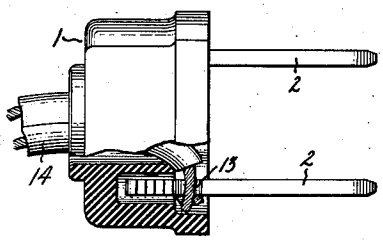


Fig. 2.

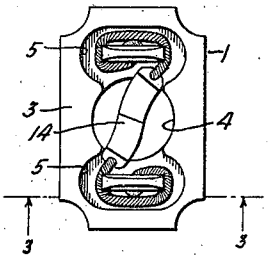


Fig. 3.

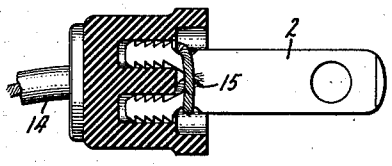


Fig. 4.

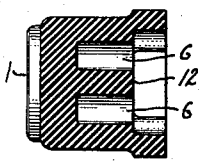
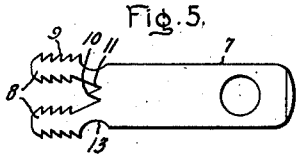


Fig. 5.



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UNITED STATES PATENT OFFICE

2,055,329

ELECTRICAL CONNECTER

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Application September 6, 1935, Serial No. 39,415

8 Claims. (Cl. 173—361)

The present invention relates to electrical connecters of the type having an insulating body and a metal terminal which is forced into the body and frictionally held therein.

The object of my invention is to provide an electrical connecter of this type having an improved arrangement for attaching a conductor to the terminal. For a consideration of what I believe to be novel and my invention attention is directed to the accompanying description and the claims appended thereto.

In the accompanying drawing, Fig. 1 is a side elevation partly in section of an attachment plug cap embodying my invention; Fig. 2 is an end elevation of the attachment plug cap; Fig. 3 is a sectional view taken on line 3—3 of Fig. 2; Fig. 4 is a sectional view of the body of the attachment plug cap taken on line 3—3 of Fig. 2; and Fig. 5 is a side elevation of one of the terminal blades of the attachment plug cap.

For convenience, my invention is illustrated as applied to an attachment plug cap comprising a body or cap 1 of suitable insulating material such as molded artificial resin, and a pair of terminal blades 2 which project from the face 3 of the cap. The cap is provided with a central conductor receiving opening 4 which extends longitudinally through the cap. On the face 3 of the cap on opposite sides of the opening 4 are two shallow recesses 5 from the bottom of each of which extend two parallel holes or cavities 6.

The terminal blade 2 which is made from a flat piece of metal is provided at one end with a contact engaging portion 7 and at the other end with a pair of prongs 8 which are adapted to be forced into the cavities 6 in the cap. Along the edges of the prongs 8 are teeth 9 which are inclined away from the ends of the prongs. Between the prongs 8 is a serrated portion comprising a tooth 10 and notches 11. When the prongs 8 of the terminal blade are forced into the openings 6, the tooth 10 is closely adjacent the surface 12 between the openings 6 and as shown in Fig. 3, a conductor is clamped between the tooth 10 and the surface 12 when the blade is in this position. On the outer sides of the blade opposite tooth 10 are notches 13.

In the assembly of the attachment plug cap, the ends of a conductor cable 14 are stripped and passed through the conductor receiving opening 4 in the cap. The free end 15 of one of the stripped conductors is then placed along one face of the terminal blade 2 facing the contact engaging portion 7 of the terminal blade and the remainder of the conductor is extended between the prongs 8 to the opposite face of the blade. While holding the free end of the conductor against the face of the blade, the conductor is drawn tightly against the serrated portion between the prongs 8, making good electrical contact with the tooth 10 and the notches 11, and the blade is then twisted through an arc of 180 degrees and the conductor guided into notches 13 in the sides of the blade. As shown in Figs. 1, 2 and 3, the conductor is now wrapped over the free end 15 of the conductor and thereby holds the free end of the conductor in place against the face of the blade. The notches 13 assist in holding the conductor in place. The prongs 8 are now forced into the cavities 6 so that the blade occupies the position shown in Fig. 3. When the blade is in this position, the teeth tightly engage the walls of the cavities 6 and frictionally hold the terminal blade in place. Due to the inclination of the teeth the force required to insert the prongs of the blade in the cavities 6 is less than the force required to remove the prongs from the cavities. The prongs are therefore tightly held in the cavities. In this position the conductor is clamped between the surface 12 of the cap and the teeth 10 and notches 11 on the blade. The conductor is therefore firmly held in good electrical contact with the blade. During the assembly, the conductor is not subjected to the force required to force the prongs of the blade into the cavities 6 and there is therefore no danger of breaking the conductor during the assembly. The notches 13 assist in holding the conductor in place during and after assembly. In the assembled portion, the stripped portion of the conductors lie within the recesses 5. Due to the wrapping of the conductor about the free end of the conductor, a pull on the conductor cable 14, such as might be used to disconnect the attachment plug cap from a receptacle, tends to wrap the conductor more tightly around the free ends 15 of the conductor, and thereby prevents this force from reaching the portion of the conductor clamped between the blade and the surface 12 of the cap.

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

1. An electrical connecter comprising a body of insulating material, a terminal having a pair of prongs adapted to be forced into said body and frictionally held therein, said terminal having a surface between said prongs which is adjacent said body when the prongs are forced into said body, and a conductor between said prongs, said conductor being clamped between said surface

and said body when the prongs are forced into place.

2. An electrical connecter comprising a body of insulating material having a pair of cavities therein and having a surface between said cavities, a terminal having a pair of prongs adapted to be forced into said cavities and frictionally held therein, said terminal having a surface between said prongs adjacent said first surface when the prongs are forced into place, and a conductor between said prongs, said conductor being clamped between said surfaces when the prongs are forced into place.

3. An electrical connecter comprising a body of insulating material having a pair of spaced cavities therein, a terminal having a pair of prongs adapted to be forced into said cavities and frictionally held therein, said terminal having a toothed surface between said prongs which is adjacent said body when the terminal is forced into place, and a conductor between said prongs, said conductor being clamped between said surface and said body when the prongs are forced into place.

4. An electrical connecter comprising a body of insulating material, a terminal blade having a prong adapted to be forced into said body and frictionally held therein, said blade having a notch adjacent said prong, said notch being adjacent said body when the prong is forced into place, and a conductor having its free end on a face of said blade and extending therefrom through said notch, around said blade, and over said free end, said conductor being clamped in said notch when the prong is forced into place.

5. An electrical connecter comprising a body of insulating material, a terminal having a pair of prongs adapted to be forced into said body and frictionally held therein, and a conductor having its free end on a face of said terminal and extending therefrom between said prongs, around said terminal, and over said free end, said conductor being clamped to said terminal when the prongs are forced into said body.

6. An electrical connecter comprising a body of insulating material, a terminal having a pair of prongs adapted to be forced into said body and frictionally held therein, said terminal having a surface between said prongs which is adjacent said body when the prongs are forced into said body, and a conductor having its free end on a face of said terminal and extending therefrom between said prongs, around said terminal, and over said free end, said conductor being clamped between said surface and said body when the prongs are forced into place.

7. An electrical connecter comprising a body of insulating material having a pair of cavities therein and having a surface between said cavities, a terminal having a pair of prongs adapted to be forced into said cavities and frictionally held therein, said terminal having a surface between said prongs adjacent said first surface when the prongs are forced into place, and a conductor having its free end on a face of said terminal and extending therefrom between said prongs, around said terminal, and over said free end, said conductor being clamped between said surfaces when the prongs are forced into place.

8. An attachment plug cap comprising a body of insulating material having a longitudinal conductor receiving opening therein and a pair of spaced cavities adjacent said opening, a terminal blade having a pair of prongs adapted to be forced into said cavities and frictionally held therein, a conductor having its free end on a surface of said blade and extending therefrom between said prongs, around said blade, over said free end, and through said conductor receiving opening, said conductor being clamped to said blade when the prongs are forced into place.

GEORGE B. BENANDER.