Dec. 6, 1938. W. R. YOUNG 2,139,535

ELECTRICAL CONNECTER

Filed Jan. 25, 1936

Fig. 1.

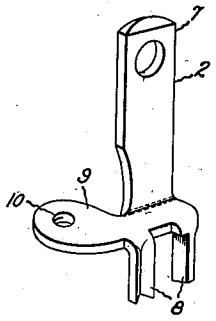


Fig. 2.

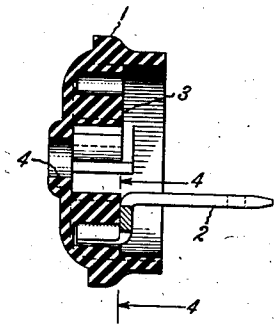


Fig. 3.

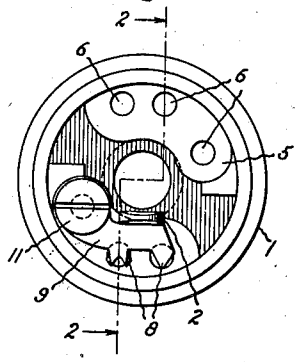
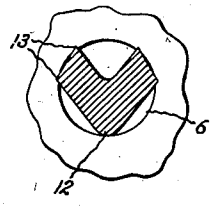


Fig. 4.



Inventor:
William R. Young,
by Harry E. Dunham
His Attorney.

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ELECTRICAL CONNECTER

William R. Young, Fairfield, Conn., assignor to General Electric Company, a corporation of New York

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6 Claims. (Cl. 173—361)

The present invention relates to electrical connecters of the type having a body of insulating material 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 securing the terminal to the body, and for a consideration of what I believe to be novel and my invention attention is directed to the following description and the claims appended thereto.

In the accompanying drawing, Fig. 1 is a perspective view of a metal terminal used in a connecter embodying my invention; Fig. 2 is a sectional elevation on line 2—2 of Fig. 3 showing one of the terminals in place; Fig. 3 is an end elevation of the connecter shown in Fig. 2; and Fig. 4 is an enlarged fragmentary view taken on line 4—4 of Fig. 2.

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 are two bosses 5 each having three cylindrical cavities 6 molded therein.

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 two of the cavities 6 in one of the bosses 5 of the cap. The terminal blade is provided with an ear 9 which extends over the third cavity 6 when the prongs are forced into the other two cavities. The ear 9 is provided with a threaded hole 10 into which is threaded a terminal screw 11 for attaching a conductor to the terminal blade. The cavity below the threaded hole 10 provides a clearance hole for the terminal screw.

The prongs 8 are V-shaped as shown in Figs. 1, 3, and 4, and when the prongs are forced into the cavities 6 the prongs contact the cavities at the edges of the prongs and at the point 12 of the V. As clearly shown in Fig. 4, the sharp cornered edges 13 on the prongs cut into the sides of the cavities and are in tight engagement with the cavities. The tightness of engagement of the edges of the prongs with the cavities is increased by the force exerted on the point of the V which tends to force the edges of the prongs laterally into engagement with the side walls of the cavities. The section of the prongs, which may be described as curved or arch-shaped, is such that compressive forces exerted on the edges of the prongs tend to flex the portions of the prongs intermediate the edges. This means that when the prongs are in place, the resilience of the prongs tends to keep the edges of the prongs in tight engagement with the cavities. Also the resilience of the prongs limits the force between the prongs and the cavities and thereby prevents breaking the side walls of the cavities as the prongs are inserted. Another advantage of this prong construction is that the prongs contact the cavities along three points and thereby are more accurately centered in the cavities. The centering of the terminal blades is further assisted by the fact that the V's of the prongs on each terminal face in opposite directions. From another aspect, the V's of the prongs face opposite sides of a center line connecting the cavities 6. With this construction the edges of the prongs need not be serrated and at the same time the prongs may be so firmly held in the cavities that the molded material will break if the prongs are pulled from the cavities.

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 having a cavity therein, a terminal having a prong forced into said cavity and frictionally held therein, said prong being of substantially arched section and contacting the cavity at its edges and at only one point intermediate its edges, the sides of the arch on either side of said point being flexed by the pressure exerted on its edges whereby the edges will be forced into tight engagement with the cavity.

2. An electrical connecter comprising a body of insulating material having a pair of cavities therein, a terminal having a pair of prongs forced into said cavities and frictionally held therein, said prongs being of arched section with the arches facing in opposite directions, each of said prongs contacting its cavity at its edges and at a point intermediate its edges, the sides of the arch on either side of said point being flexed by the pressure exerted on its edges whereby the edges are forced into tight engagement with the cavity.

3. An electrical connecter comprising a body of insulating material having a cavity therein, a terminal having a prong forced into said cavity and frictionally held therein, said prong being of V-shaped section and engaging said cavity at the point of the V and at the edges of the prong

and the sides of the V being flexed by the pressure exerted on its edges whereby the edges are forced into tight engagement with the cavity.

4. An electrical connecter comprising a body of insulating material having a pair of cavities therein, a terminal having a pair of prongs forced into said cavities and frictionally held therein, said prongs being of V-shaped section with the points of the V's facing in opposite directions and each of said prongs engaging its cavity at its edges and at the point of the V and the sides of the V being flexed by the pressure exerted on its edges whereby the edges are forced into tight engagement with the cavity.

5. An electrical connecter comprising a body of insulating material having a pair of cavities therein, a terminal having a pair of prongs forced into said cavities and frictionally held therein, said prongs being of arched section with the arches facing opposite sides of a center line connecting the cavities, each of said prongs contacting its cavity at its edges and at a point intermediate its edges whereby the edges are forced into tight engagement with the cavity.

6. An electrical connecter comprising a body of insulating material having a pair of cavities therein, a terminal having a pair of prongs forced into said cavities and frictionally held therein, said prongs being of V-shaped section with the points of the V's facing opposite sides of a center line connecting the cavities and each of said prongs engaging its cavity at its edges and at the point of the V.

WILLIAM R. YOUNG.