Dec. 6, 1932. B. C. WEBSTER 1,890,350

STRAIN RELIEF FITTING

Filed Feb. 4, 1931

Fig. 1.

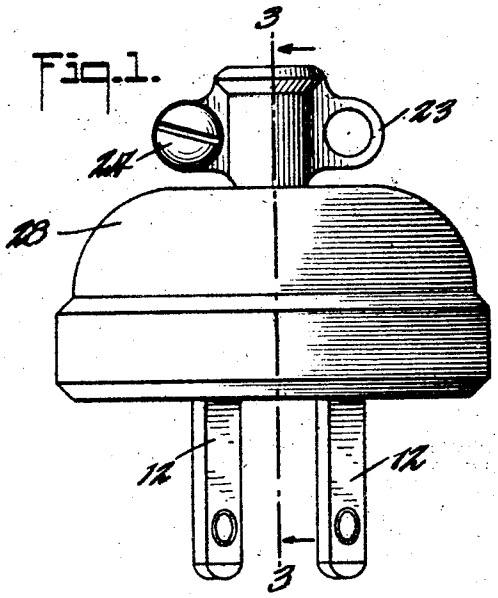


Fig. 2.

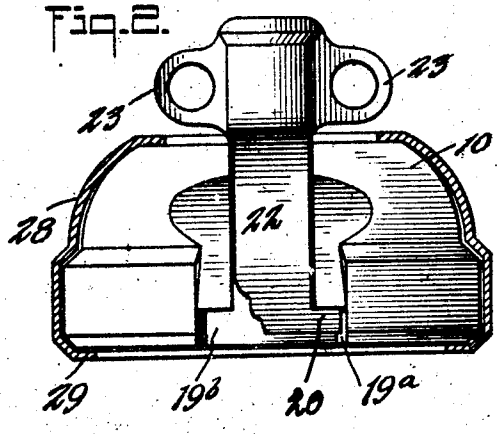
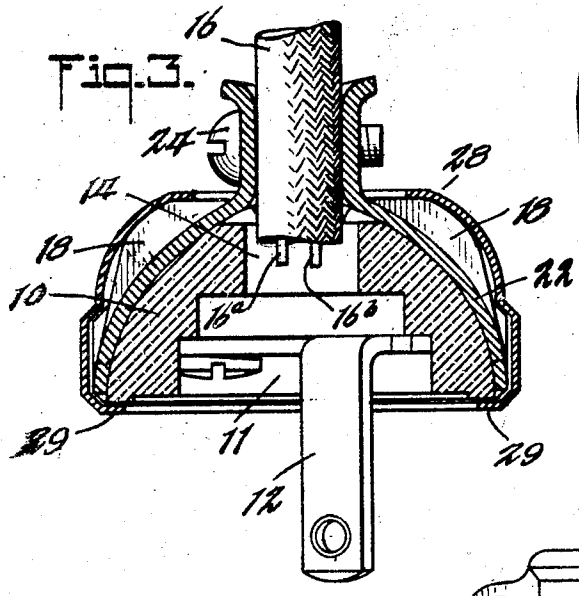


Fig. 3.



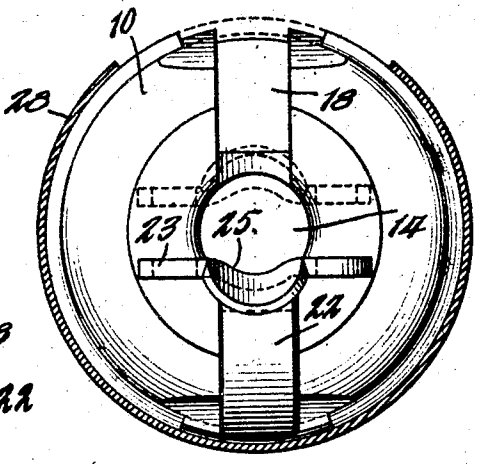
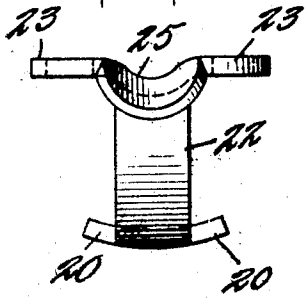


Fig. 4.

Fig. 5.



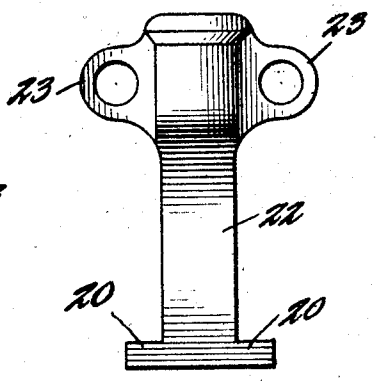


Fig. 6.

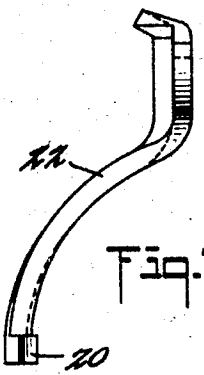


Fig. 7.

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Patented Dec. 6, 1932 1,890,350

UNITED STATES PATENT OFFICE

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STRAIN RELIEF FITTING

Application filed February 4, 1931. Serial No. 513,445.

This invention relates to electric fittings for relieving the strain of the conducting cable upon the contacts of an electric connector. The invention is particularly useful in connection with attachment plugs, rosettes, socket caps and the like.

It is an object of my invention to make an electric connector with a strain relief fitting composed of a few easily made parts and thus to simplify and reduce the expense of manufacture of this type of electric device. Another object is to make an electric connector with strain relief members which engage directly with the insulating portion of the connector whereby the construction as a whole is more sturdy than heretofore. Other objects and advantages will be noted as my invention is described in connection with the accompanying drawing.

In the drawing:—

Fig. 1 is an elevation view of my invention as applied to an attachment plug.

Fig. 2 is a view similar to Fig. 1 but with the casing or cover of the plug shown in section.

Fig. 3 is an elevation section view of the plug shown in Fig. 1 with the section taken on line 3—3 of Fig. 1.

Fig. 4 is a plan view, partly in section, of the plug shown in Fig. 1 with one of the strain relief members removed.

Figs. 5, 6 and 7 are detailed plan and elevation views of one of the strain relief members used in my invention.

Referring to the drawing, the invention is shown, by way of example, when used with an attachment plug which comprises an insulating body 10 which as shown is approximately in the form of a spherical segment of two bases, but obviously this body may be of any convenient form. The larger base, which may be termed the contact face of the insulating body 10, is recessed as at 11 to accommodate the conventional prong contacts 12 as in the attachment plugs of the prior art. The insulating body 10 is centrally bored as at 14 to permit the passage of an insulated electric cable 16 in which are the feed wires 16*a*, 16*b* for connection to the prong contacts of the plug. At diametrically opposed points on the outside surface of the insulating body are cut channels 18 which run from the smaller or upper base of the insulating body (see Figs. 2 and 3) directly down its outside surface to its contact face. These channels follow a substantially circular path as shown in Fig. 3, and they widen out abruptly adjacent the contact face, forming recesses 19*a*, 19*b*, in which lie feet 20 which extend laterally from one end of each of identical strain relief members 22. These strain relief members 22 are made of stamped sheet metal and are curved to follow the circumferentially arcuate curvature of the channels 18. The other end portion of each of the members 22 is formed into a cable gripping jaw 25 standing up perpendicularly to the top of the plug adjacent the bore 14, when the member is lying in the channel 18. Laterally extending from these end portions are apertured arms 23, through the apertures of which screws 24 pass whereby to clamp these jaws to the cable 16. Encasing the insulating body and the portions of the strain relief members which lie in the channels 18 is a metallic cover or armor casing 28 which fits around the insulating body. The casing is opened at its top to permit the passage therethrough of the jaws of the strain relief members and the casing is open at its bottom to permit the passage of the prong contacts 12 of the plug. A flange 29 on the casing is turned over parallel to the contact face of the insulating body so as to hold the body within the casing and at the same time to hold the members 22 with their feet 20 seated in the recesses 19*a*, 19*b*, this by reason of the inner periphery of the casing lying adjacent the feet 20.

From the foregoing it will be seen that when the plug is assembled, the strain relief members 22 are placed in the channels 18 with the feet 20 lying in the lateral recesses 19*a*, 19*b*. Then the casing 28 is fitted over the insulating body and the flange 29 is turned over thereby holding the parts together. When it is desired to connect the plug to an electric cable, the cable is passed between the jaws of the strain relief members, and through the aperture 14 so that the conductors 16*a*, 16*b*, may be connected to the

prong contacts 12. Then the binding screws 24 are tightened causing the jaws of the strain relief members to grip the cable. Now any pull on the cable will be transmitted to the strain relief members and through them directly to the insulating body since the feet 20 engage with the sides of the recesses, 19*a*, 19*b*.

Although I have shown my invention as applied to an attachment plug it will be understood that the invention is not limited to this use. Obviously it may be readily applied to electric connector devices generally.

Various changes in form within the scope of my invention will occur to those skilled in the art, therefore I do not limit myself to the exact form of the parts as shown.

I claim:—

1. An electric fitting comprising an insulating body having diametrically opposed channels in the surface thereof, said channels having lateral recesses, strain relief members lying in said channels and having laterally extending feet lying in said recesses, said strain relief members also having jaws adapted to grip an electric cable, and a cover encasing said insulating body and holding said strain relief members thereon.

2. An electric fitting comprising an insulating body having diametrically opposed channels in the surface thereof, said channels having lateral recesses, strain relief members lying in said channels and having laterally extending feet lying in said recesses, said strain relief members also having jaws adapted to grip an electric cable, and a cover encasing said insulating body and holding said strain relief members thereon, said cover being provided with an inwardly turned flange to hold said cover and insulating body together.

3. An electric fitting comprising an insulating body having diametrically opposed curved channels on the surface thereof, strain relief members having portions curved complementally to said channels and lying therein, said channels having lateral recesses and said strain relief members having feet in said recesses and a cover encasing said insulating body and holding said feet in said recesses.

4. An electric fitting comprising an insulating body having diametrically opposed curved channels on the surface thereof, strain relief members having portions curved complementally to said channels and lying therein, said channels having lateral recesses and said strain relief members having feet in said recesses, and a cover encasing said insulating body and holding said feet in said recesses, said cover having an inwardly turned flange lying parallel to and engaging the bottom of said insulating body.

5. An electric fitting comprising an insulating body having diametrically opposed channels in the surface thereof, said channels being curved substantially along the circumference of a circle and having lateral recesses, strain relief members lying in said channels and having laterally extending feet lying in said recesses, said strain relief members also having jaws adapted to grip an electric cable, and a cover encasing said insulating body and holding said strain relief members thereon.

6. An electric fitting comprising an insulating body having recesses in the surface thereof, strain relief members having portions at one end adapted to grip an electric cable and having extensions at their other ends engaging in said recesses and transmitting the stress imposed upon said strain relief members by the cable directly to the insulating body, and a cover encasing said insulating body and holding said strain relief members in said recesses.

In testimony whereof I have signed my name to this specification.

BENJAMIN C. WEBSTER.