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APPLIANCE PLUG

Filed Jan. 14, 1926

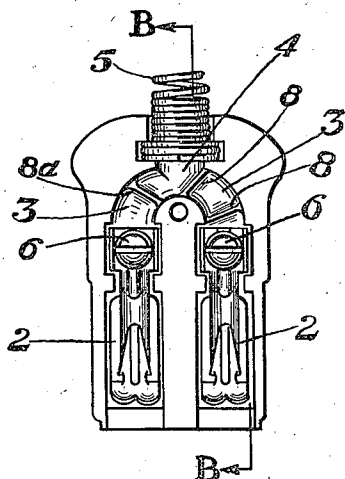


Fig. 6

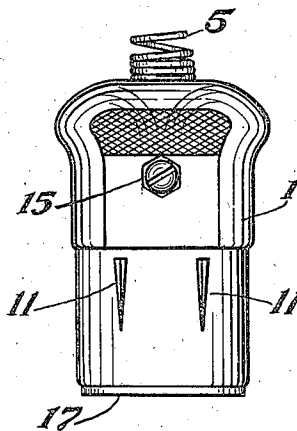


Fig. 5

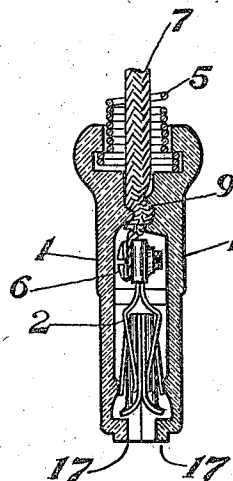


Fig. 7

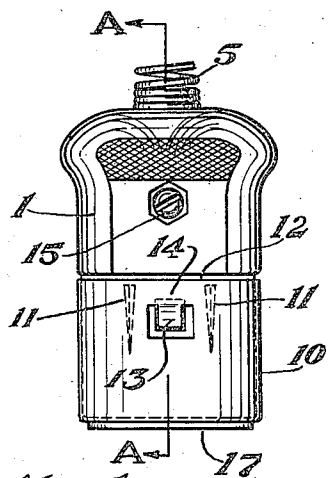


Fig. 1

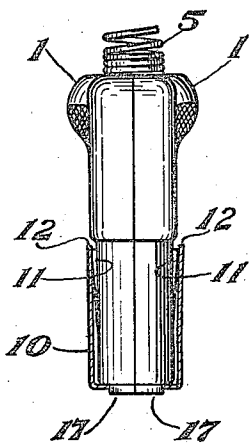


Fig. 3

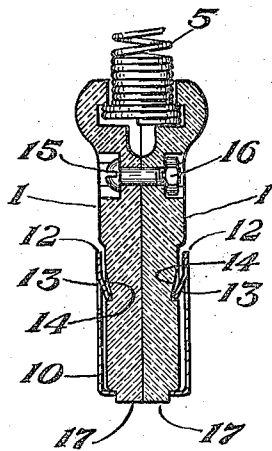


Fig. 4

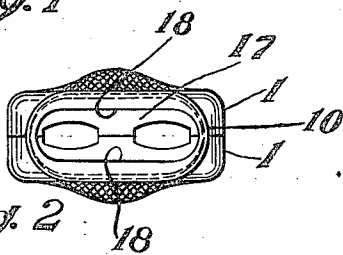


Fig. 2

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APPLIANCE PLUG.

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This improvement and invention relates to electrical wiring devices and pertains to those particular devices for connecting portable electrical appliances such as sad irons, percolators, toasters, etc., to the main supply outlet by means of a flexible conductor.

This invention has for its object to provide a connecting plug that is simple and which will withstand severe service in use.

A further object is to provide a plug that will be as strong as an all metal structure and at the same time have a low thermal conductivity at the portion which is gripped by the operator when removing it from the appliance.

A further object is to provide a device which can be economically made on a production basis.

Appliance plugs as generally made are liable to breakage if subjected to any abuse such as dropping on floors, swinging from the cord and knocking against furniture and like objects. Those made of metal are dangerous to the operator as they get very hot when used with sad irons, and unless great care is taken severe burns are liable to occur.

To overcome these common faults I provide the structure described herein and which will be easily understood by those versed in the art from an examination of the specifications and drawings; in which

Figure 1 is an exterior plan view of the plug.

Figure 2 is an end elevation.

Figure 3 is a side elevation with the armor shell or ferrule in section.

Figure 4 is a cross section taken along line "AA" on Figure 1.

Figure 5 is an exterior plan view with the armor shell removed.

Figure 6 is a plan view of one half of the casing showing the contact members in place.

Figure 7 is a section taken along line "BB" on Figure 6, except that a conductor has been added to the contact.

In carrying out my invention I employ a case comprising companion parts which are exact duplicates of each other and are shown as 1—1. These parts are made from a heat resisting insulating material which has a relatively low thermal conductivity.

The inner cavities of these casings are so arranged that they receive and maintain in

position contact members 2—2, which grip the terminal pins of the translating device. Channels 3—3 connect the terminal cavities with a central opening 4 and into which a guard spring 5 is fitted. It is very desirable that the lead wires to which the contact members 2—2 are connected be held by the casing so as to take any pulling strain from the binding screws 6 which might be exerted in removing the plug from the iron should the operator pull the wire instead of gripping the plug for removal.

In order to flexibly grip the wire 7, I provide the channels 3 with barriers 8—8^a. These barriers are disposed in such a manner that they are in between each other when the casings are together. That is, when two like case members are placed together the barriers 8—8 on one half span the barrier 8^a of the other half. This gives the wire a sharp bend as shown at 9 in Figure 7; thus making it extremely difficult to transmit any tension to the binding screw end of the wire by a pull on the end outside of the case.

In order to protect the lower end of the plug from injury due to dropping or knocking it against other objects, I provide a metal sheath or ferrule 10. This ferrule not only acts as a protective element but serves to hold the lower ends of the casings 1—1 together.

As it is an inherent fault of moulded insulation not to shrink equally in all pieces processed at various times some means of take-up or adjustment is necessary to provide a tight assembly of the case members 1—1 and the ferrule 10. To care for this condition, I provide darts or shear ridges 11—11 on the casings 1—1. The cross section of these darts or ridges is very small and is readily sheared by a sharp edge of metal, such as is produced by the trimming of the ferrule 10 in the finishing operation. The proportioning of the case members 1—1 is such that at no time is the overall thickness of the two halves greater or as great as the inside dimension of ferrule 10, across the corresponding axis. However, the darts 11—11 are raised above the surface of the casing sufficiently to be of a greater overall dimension than the inside dimension of the ferrule.

As the insulating material can be readily cut by the edges 12—12 of the ferrule 10 at this point, the assembling of the armor (ferrule 10) to the casing automatically sizes the

overall thickness of the casing with the resulting close fitting of the associated parts.

As there is apt to be some general shrinkage of the cases 1—1 after the parts have been in use some time the friction between the darts and the ferrule is of doubtful value in preventing the ferrule from coming off; therefore I provide tongues 13—13 cut from the ferrule to engage in the depressions 14—14 of the cases 1—1. The upper portions of the cases 1—1 are held together in the usual manner by a screw 15 and a nut 16.

To prevent short circuiting of the translating device by the ferrule 10 coming into contact with prongs on the translating device the insulation or case members 1—1 protrude thru the lower opening of the ferrule 10. This protrusion is shown at 17—17 and the contour of the ferrule cut out is shown at 18.

Having described my invention, I claim:—

1. An appliance plug casing comprising a pair of insulating halves and an armoring ferrule, said ferrule being held in fixed relationship with said insulating halves by means of ridges of small cross section moulded on the outer faces of said insulating halves engaging the inner faces of said ferrule, and spring clips on said ferrule engaging recesses in said insulating halves.

2. A plug having its end provided with shearable ribs; and a ferrule on said end shearably engaging said ribs.

3. A plug having its end provided with ribs pointing toward the adjacent end of the

plug; and a ferrule on said end provided with a cutting edge for shearing said ribs.

4. A longitudinally split plug having the outer faces of its end provided with ribs pointing toward the adjacent end of the plug; and a ferrule on said end provided with a cutting edge for shearing said ribs.

5. In a heater plug of the class described comprising a pair of dielectric complements, raised shearable projections on said complements and an armoring ferrule for holding said complements together, said ferrule having a cutting edge for shearing said projections when the ferrule is forced on the said complements.

6. A plug of elongated transverse section comprising a reduced end; the outer side faces of said reduced end being provided with duplicate pyramid shaped ribs pointing toward the adjacent end face of the plug; and a ferrule on said reduced end provided with an inner cutting edge for shearing said ribs, the pointed end of the ribs shearing most easily, the wide end of the rib offering more resistance to shearing and forcing the cutting edge away from the side face of the reduced ends, whereby the cutting edge shears off the rib to a tight wedging fit irrespective of unavoidable variations in the size of the reduced ends and ribs during manufacture.

Signed by me this 7th day of January, 1926, at Newark, New Jersey.

JOHN B. DOWNING.