

April 13, 1943.

F. A. HIGNUTT

2,316,163

ATTACHMENT PLUG

Filed June 20, 1940

Fig. 1.

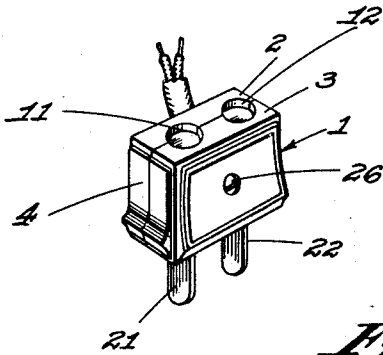


Fig. 2.

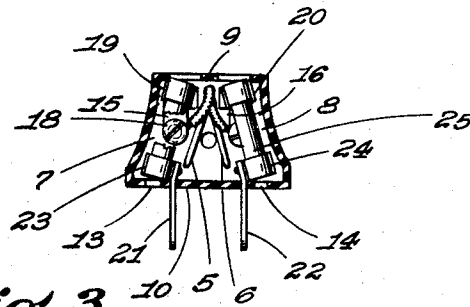


Fig. 3.

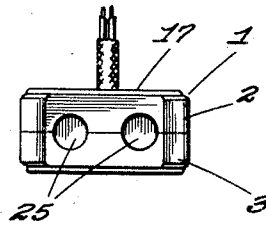
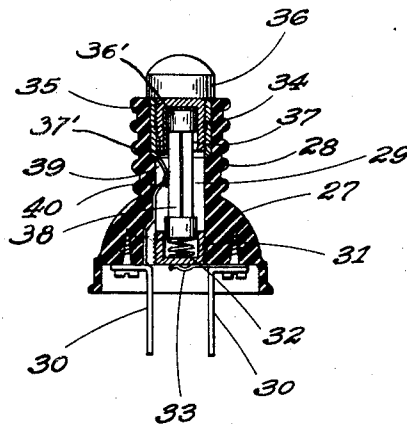


Fig. 4.



Inventor
Frank A. Hignutt

By *Lacey, Lacey,* Attorneys

UNITED STATES PATENT OFFICE

2,316,163

ATTACHMENT PLUG

Frank A. Hignutt, Port Norris, N. J.

Application June 20, 1940, Serial No. 341,574

1 Claim. (Cl. 200—115.5)

This invention relates to an improved attachment plug and has, for one of its principal objects, to provide a device of this character which will make use of a pair of fuses, which will be connected between the prongs and the attaching cable for protecting both the appliance or device with which the cable is connected and the electric service line from injury or fire due to short circuit.

Another object of the invention is to provide an attachment plug of such construction that the fuses employed may be quickly installed or removed.

A further object of the invention is to provide an attachment plug which may be attached to an appliance cable with the utmost facility.

A still further object of the invention is to provide a device of this nature employing a shell comprising a pair of mating sections, said shell enclosing all of the parts of the device and said sections being held in place by a single screw.

And a still further object of the invention is to provide an attachment plug which, in a modified embodiment, employs but one fuse.

Still other objects of the invention, not specifically mentioned hereinbefore, will become apparent during the course of the following description.

In the drawing:

Figure 1 is a perspective view of my improved attachment plug.

Figure 2 is a side elevation of the device, one of the sections of the shell being removed,

Figure 3 is a top plan view, and

Figure 4 is a vertical sectional view showing a modified embodiment of the invention.

Referring now more particularly to the accompanying drawing, wherein similar numerals of reference designate similar parts throughout the various views, the numeral 1 indicates the body or shell of my improved attachment plug. The body or shell 1 is of substantially polygonal contour and comprises mating hollow sections 2 and 3. The corresponding end walls of the mating sections are slightly curved, as shown at 4, to cooperate with the curved surfaces of the thumb and forefinger, for permitting ready insertion and withdrawal of the plug. Formed in each of the mating sections are partitions 5 and 6 which define halves of fuse compartments. In other words, when the sections 2 and 3 are disposed in operative position, the corresponding partitions 5 and 6 will be presented edge to edge for defining the fuse receiving compartments, which compartments are designated at 7 and 8 for the pur-

pose of clarity. The sections 2 and 3 are each formed with top and bottom walls 9 and 10 which cooperate for defining top and bottom walls for the body. The top wall of each section is formed with a pair of semi-circular openings, which openings cooperate for defining relatively large circular openings 11 and 12. Similarly formed, relatively small openings 13 and 14 are disposed in the bottom wall 10 of each of the sections. The purpose of the openings 11, 12, 13 and 14 will be brought out in more detail hereinafter.

As shown particularly in Figure 2 of the drawing, the section 2 of the body 1 has a pair of terminal plates 15 and 16 mounted therein, said terminal plates being mounted on the side wall of the section, said side wall being shown at 17. Screwed into the terminal plates, at their corresponding lower ends, are terminal screws 18. At the corresponding upper ends of the terminal plates, there are mounted fuse clips 19 and 20, said fuse clips, as seen in Figure 2, being disposed near the openings in the top wall 9 and being disposed obliquely with respect to the vertical.

My improved attachment plug includes a pair of contact prongs 21 and 22, said prongs extending through the bottom wall 10 of each of the sections and being adapted for engagement in a conventional service outlet. Mounted on the prongs 21 and 22, within the body 1, are, respectively, fuse clips 23 and 24, said fuse clips being in alignment with the fuse clips 19 and 20, respectively. The fuse clips 23 and 24 are disposed adjacent the openings 13 and 14 and are located a sufficient distance from the clips 19 and 20 so that fuses, within the body, will have their caps in engagement with the clips. In other words, a pair of fuses will be carried in the body and each of said fuses will have upper and lower caps in engagement with upper and lower fuse clips. Although the fuses are of conventional design, they are indicated at 25 for sake of convenience.

It is thought that the manner of using my improved attachment plug will be understood after a reading of the foregoing. However, a brief statement on the subject is not thought to be out of order.

When placing the device in operation, the ends of the attachment cable are secured under the screws 18 and the sections 2 and 3 are then clamped together by means of a screw 26, said screw extending through said section 3 into the section 2, medially of its width and height. A pair of fuses are inserted through the openings in the top wall, said openings being defined by the

mating semi-circular openings 11 and 12, and said fuses are pushed downwardly in the compartments 7 and 8 to the extent that their upper and lower caps are engaged, respectively, in the upper and lower fuse clips. The device is then ready for use. In actual use, the prongs 21 and 22 will, of course, be engaged in the openings of a service outlet, in a conventional manner. In the event that there should be a short circuit in the attachment cable or in the appliance to which the cable is connected, one or the other of the fuses in the body 1 will blow. It is, of course, possible that both of said fuses will blow, thus protecting the appliance and the electric service line from fire or other disturbance. After repair has been made to the appliance or service line, and it is desired to render the plug again ready for service, it is only necessary to insert a pointed object through the opening 13 and/or 14 to engage the corresponding lower ends of the fuse or fuses 25. Upward movement by the pointed object will displace the fuses upwardly through the openings in the top wall. Ready removal and replacement of these fuses may then be effected.

In Figure 4 of the drawing, I have shown a modified embodiment of the invention. In this embodiment, the numeral 27 indicates a body which is of circular shape and which includes a ribbed handle portion 28, said handle portion being formed with an axial bore 29 which extends throughout the length of said body. Prongs 30 are carried by the body at its lower end and are engageable in the openings of a conventional service outlet.

The lower end portion of the bore 29 is threaded to receive a contact socket 31 in which is mounted a contact spring 32. A contact plate 33 connects the socket with one of the prongs 30.

The upper end of the bore 29 is recessed to receive a sleeve 34, said sleeve being internally threaded and normally having screwed therein

the externally threaded shank 35 of a cap 36. The cap 36 which is formed of suitable insulating material is counter-bored, as shown at 37, to receive the upper end of a fuse 38. Fitted within the counter-bored portion of the cap 36 and bearing against the adjacent end of the fuse 38 is a substantially L-shaped contact member 36' having a U-shaped extension 37' which passes around the lower edge of the shank and contacts with the sleeve 34. The end portions of the attachment cable are indicated at 39 and 40 and are connected, respectively, to the sleeve 34 and the remaining prong 30.

In the event that a fuse is blown, due to a short circuit or overloading, it is only necessary to unscrew the cap 36 carrying the L-shaped member 36' and remove the fuse 37. The new fuse may, of course, be quickly substituted.

With the exception of the fact that but one fuse is employed, this embodiment operates in a manner identical with that of the preferred form. Further description is believed unnecessary.

Having thus described the invention, what is claimed as new is:

25 A device of the class described comprising a body having a handle portion provided with a longitudinal bore, a socket fitted in the lower end of the bore, a contact spring in the socket, a threaded contact sleeve in the upper portion of the bore, a cap engaging the threads on the sleeve and having its inner portion provided with a central recess, a substantially L-shaped contact member fitting within the recess and provided with a substantially U-shaped extension fitting over the inner end of the cap at said recess and disposed in contact with the sleeve, and a fuse having one end thereof in engagement with the L-shaped member and its other end engaging the contact spring.

FRANK A. HIGNUTT.