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B. J. SEURYNCK

2,404,407

ELECTRIC FUSE CONNECTION PLUG

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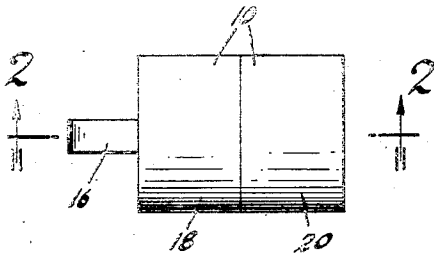


Fig. 1

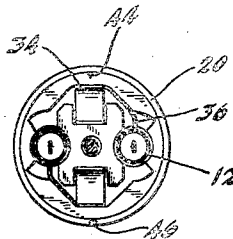


Fig. 4

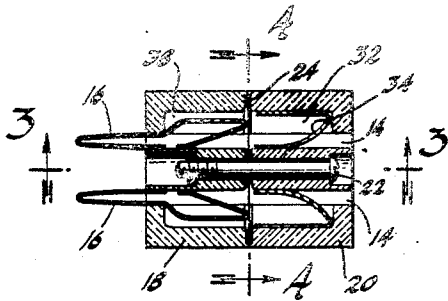


Fig. 2

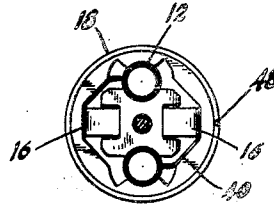


Fig. 5

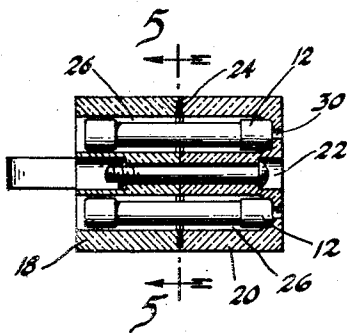


Fig. 3



Fig. 6



Fig. 7

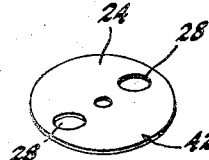


Fig. 8

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ELECTRIC FUSE CONNECTION PLUG

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4 Claims. (Cl. 200—115.5)

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An object is to provide an improved electric connection plug fitted with suitable conventional blowout fuses, which plug may be readily attached to a conventional fitting at the end of an extension cord or plugged into a conventional outlet socket adapted to receive an extension cord, to interpose a fused connection in any extension leading to an electric appliance such as a radio or other device. Such a plug is to prevent injury to the appliance by excessive current passing therethrough as through a short arising therein.

A further object is to provide an electric connection plug containing fuse elements which plug is simple, inexpensive and adapted to be readily plugged into a line between an extension cord and a plug outlet such as a wall outlet.

More particularly, an object is to provide an improved electric fused connection plug having at one end the conventional pair of female sockets and having at the opposite end, the conventional pair of male prongs receivable within conventional female sockets, and which plug contains two suitable blow-out fuses, which fuses may be of any desired resistance and which plug may be inserted in a line by anyone capable of plugging an extension cord into a wall socket.

More specifically, this improved plug consists of two complementary insulation body end sections. These end sections are connected together end to end and are similarly interiorly cored out. A pair of blow-out fuses are housed within these end sections and bridge the joint therebetween. One end section is provided with the conventional pair of female socket openings to receive the conventional spring male prongs of an electric connection. The other end section is provided with a pair of conventional contact male prongs. The two fuses within the section form an electrical contact with the two male contact prongs of the one end section and are provided with means which establish an electrical contact with contact prongs received within the two female sockets of the other end section. Preferably, a pair of electrical contact elements are disposed within each end section, one for each fuse to establish the electrical contacts through the fuses.

Other objects, advantages and meritorious features will more fully appear from the following description, appended claims, and accompanying drawing wherein:

Figure 1 is a side elevation of my improved connection plug,

Fig. 2 is a cross sectional view taken on line 2—2 of Fig. 1,

Fig. 3 is a cross sectional view taken on line 3—3 of Fig. 2,

Fig. 4 is a cross sectional view taken on line 4—4 of Fig. 2,

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Fig. 5 is a cross sectional view taken on line 5—5 of Fig. 3,

Fig. 6 is a perspective of one of the male contact prongs,

Fig. 7 is a perspective of one of the contact prongs associated with the female socket, and

Fig. 8 is a perspective of the insulation disc interposed between two end sections.

The electrical connection plug herein described comprises a body 10 of suitable insulation material which contains within its interior a pair of fuses 12. One end of the body is provided with a pair of female socket openings 14 adapted to receive a pair of contact prongs to make an electrical contact with the two fuses. The other end of the body is provided with a pair of outwardly projecting contact prongs 16 which form within the body an electrical contact with the two fuses. The plug is therefore adapted to be plugged into the conventional wall socket opening or to be plugged on to any conventional extension cord provided with contact prongs. It is therefore adapted to be interposed in any extension cord line leading to an electrical appliance.

Preferably, the insulation body consists of two end sections of insulation material identified as 18 and 20. These two end sections are similarly interiorly cored out as shown in Figs. 2 to 5. These end sections are adapted to be secured together in end-abutting relationship by means of a bolt 22 or in any other suitable manner. There is interposed between the abutting ends of the two sections an insulation disc 24 which disc seats within registered annular recesses formed in the walls of the two sections as shown.

The two sections are interiorly cored out to provide a pair of registering fuse receiving openings 26 within which are disposed the fuses 12 as shown in Figure 3. These fuses bridge the joint between the abutting ends of the two sections extending through openings 28 in the disc 24. The opening 26 in one end section extends through its outer end as a full size opening to permit insertion or removal of the fuse. The opening 26 in the other end section extends through its outer end as a reduced aperture 30 to permit of insertion of a match stick or the like to eject the fuse.

The end section provided with the socket openings 14 has each socket opening interiorly enlarged within the section as at 32 to receive the spring contact element 34 shown in detail in Figure 7. This spring contact element is so constructed and arranged within the section as to form an electrical contact with a contact prong received within the socket opening 14. This contact element 34 is provided with an extension 36 which forms an electrical contact with a portion of a fuse within the section as shown in Fig. 4.

The other end section which carries the male

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contact prongs 16 is also interiorly cored out at 33 to seat the inner ends of these two contact prongs 16 as shown in Figure 2. Each contact prong 16 has an arm 40 which forms an electrical contact with a fuse 12 as shown in Figure 5. The insulation disc 24 prevents any direct contact between the contact elements 16 and 34 shown in Figures 6 and 7 and disposed within the two end sections as appears in Figure 2.

In order to properly position the disc, it may be provided with a notch 42 and one of the end sections may be provided with a detent 44 as shown in Figure 4 so that the apertures in the disc will register properly with the fuse cavities in the end sections. In order that the two sections may be properly brought into registration, the side wall of one section may be provided with a recess 46 and the side wall of the other section may be provided with a tit 48 adapted to be received within said recess as shown in Figs. 4 and 5.

It is apparent that when the two end sections are connected together the plug is adapted to have one end plugged into a conventional socket opening and through its other end to receive the prongs of an electrical connection and that the electrical circuit through the plug must pass through the two fuses.

What I claim is:

1. An electric connection plug comprising an insulation body formed of two end sections secured together in end-abutting relationship, said two sections provided with a pair of complementary registering fuse receiving openings extending through both ends, a pair of fuses positioned within said openings bridging the joint between the abutting end sections, an insulation disc interposed between said end sections provided with openings registering with the fuse receiving openings, said two sections each provided with a pair of contact element receiving openings extending through both ends and terminating as to one section in female socket openings through its outer end, a pair of spring contact elements disposed one within each contact element receiving opening in one end section to form an electrical contact with a contact prong received therein and having a part forming an electrical contact with one fuse within the end section, a pair of spring contact elements disposed one within each contact element receiving opening in the other end section and having a part forming an electrical contact with one fuse within the end section and terminating in a spring contact prong projecting outwardly beyond the outer end of the end section.

2. An electric connection plug comprising an insulation body consisting of two end sections secured together in end-abutting relationship, said two sections provided with a pair of complementary registering fuse cavities, a pair of fuses received within said cavities bridging the joint between the abutting end sections, one end section provided with a pair of female socket openings through its outer end, each socket opening terminating in a recess having an entrance thereinto through the inner end face of the end section, a spring contact element receivable within each recess through the inner face entrance and establishing an electrical connection with a

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contact prong received within the socket opening, said spring contact having an arm extending laterally within the end section and forming contact with one fuse within the end section, the other end section provided with a pair of spring contact receiving recesses each having an entrance through the inner face of the section to receive therein a spring contact element, and an opening through the outer end face of the section, a spring contact element receivable within each recess having a male contact prong projecting outwardly beyond the outer end of the section and having a laterally extending spring contact arm establishing an electrical connection between the prong and one fuse within the section.

3. An electric connection plug comprising an insulation body formed of two end sections secured together in end-abutting relationship, said two sections provided with a pair of complementary registering fuse cavities, a pair of fuses received within said cavities bridging the joint between the abutting end sections, one end section provided with a pair of female socket cavities having openings through the outer end of the section, a resilient spring contact element disposed within each socket cavity within the end section to make electrical connection with a prong contact received within the socket, said spring contact having a laterally extending part forming an electrical contact with one fuse within said end section, the other end section provided with a pair of resilient spring contact elements each having a male contact prong projecting outwardly beyond the outer end of the section, each spring contact element having a laterally extending part forming an electrical contact with one fuse within said end section, the two resilient spring contacts within each end section being offset circumferentially the fuses within the sections and disposed largely within the same transverse plane as the fuses.

4. An electric connection plug comprising an insulation body formed of two end sections secured together in end abutting relationship, said two sections exhibiting a pair of complementary registering fuse cavities, a pair of blow-out fuses positioned within said cavities bridging the joint between the abutting end sections, said two sections also exhibiting a pair of complementary registering spring contact receiving cavities offset circumferentially the fuse cavities and having openings through the outer ends of the end sections, a pair of spring contact elements received within the contact receiving cavities of one section, each element having an arm extending circumferentially and forming an electrical connection with that portion of a fuse within said section and also having a part adapted to engage a contact prong received within the cavity through the opening in the outer end of the section, a second pair of spring contact elements received within the contact receiving cavities of the other section, each of said elements having an arm portion extending circumferentially and forming an electrical connection with that portion of a fuse within said section and having a prong portion projecting through and beyond the outer end of the end section.

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