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M. MEDLIN

2,406,154

FUSED ELECTRICAL PLUG

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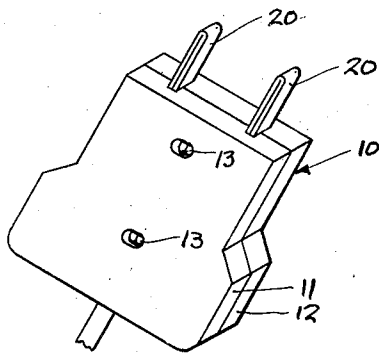


FIG. 1

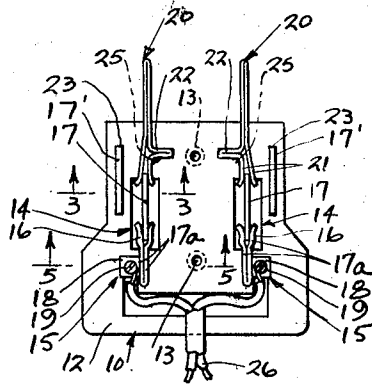


FIG. 2

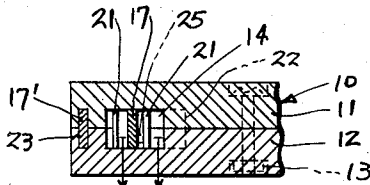


FIG. 3

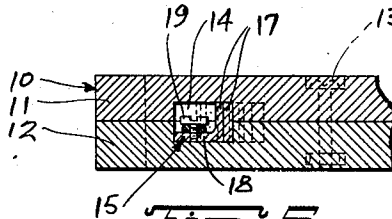


FIG. 4

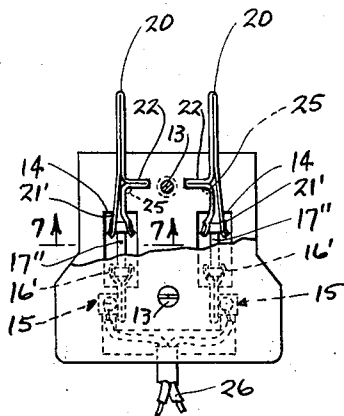


FIG. 5

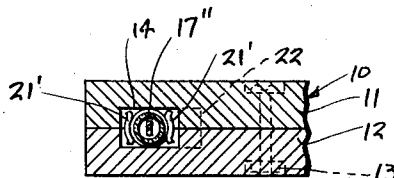


FIG. 6

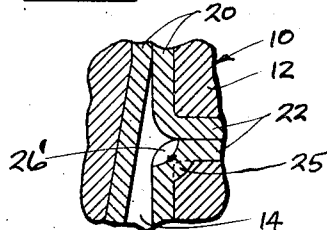


FIG. 7

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UNITED STATES PATENT OFFICE

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FUSED ELECTRICAL PLUG

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3 Claims. (Cl. 200—115.5)

1

This invention relates to new and useful improvements in electric plugs.

The invention proposes a new and improved electric plug which is provided with a fuse or fuses to act as an individual fuse for an electric object such as a lamp, electric toaster or the like, connected with the plug. Heretofore, it was customary to construct commercial electric plugs without fuses and to depend upon a main fuse for protection. However when a short circuit occurred in any one of the objects associated with the main fuse which caused the main fuse to blow, it often required great skill to detect just where the short was located. The short could be in a lamp, or electric wire, or other object, and yet be of such a nature that it is relatively difficult to detect. With the improved electric plug only a restricted portion of the house circuit, or other protected circuit, will be interrupted when a short develops, and one of the fused electric plugs has its fuse blown.

More specifically, the invention proposes an improved fused electric plug which is characterized by a sectional casing of insulation material having its sections releasably connected together and having recesses formed between their contacting faces. It is proposed to provide terminals for electric leads, mounted within said recesses and provided with clips for receiving and holding one of the ends of the fuses. It is also proposed to provide prongs for engagement into an electric connector, and also mounted within said recesses and spaced from said terminals and provided with clips for receiving and holding the other ends of said fuses. It is contemplated that the fuses shall be in the nature of fusible strips, or the standard fuse capsules may be mounted between said clips.

It is another object of the invention to so construct the sectional casing that the recesses extend into each of the sections thereof.

The invention also proposes a certain simple and efficient construction of the terminals and the prongs used in the fused electric plug.

Another object of the invention is the construction of a device as mentioned which is simple and durable and which may be manufactured and sold at a reasonable cost.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawing, and to the appended claims in which the various novel features of the invention are more particularly set forth.

2

In the accompanying drawing forming a material part of this disclosure:

Fig. 1 is a perspective view of an electric plug constructed in accordance with this invention.

Fig. 2 is an elevational view of the electric plug shown in Fig. 1 with a section of the casing removed to disclose interior parts.

Fig. 3 is a fragmentary enlarged sectional view of the electric plug shown in Figs. 1 and 2, this section being as though taken on the line 3—3 of Fig. 1.

Fig. 4 is a fragmentary enlarged sectional view taken on the line 4—4 of Fig. 3.

Fig. 5 is a fragmentary enlarged sectional view of the electric plug shown in Fig. 1, this view being as though taken on the line 5—5 of Fig. 2.

Fig. 6 is an elevational view of an electric plug constructed in accordance with a modified form of this invention, a portion of the sectional casing being broken away to disclose interior parts.

Fig. 7 is a fragmentary enlarged vertical sectional view of the electric plug shown in Fig. 6, this view being as though taken on the line 7—7 of Fig. 6.

The fused electric plug, in accordance with that form of the invention disclosed in Figs. 1—5 inclusive, includes a sectional casing 10 of insulation material having its sections 11 and 12 releasably connected together with bolts and nuts 13. Recesses 14 are formed between the contacting faces of the sections 11 and 12.

Terminals 15 for electric leads are mounted within portions of the recesses 14. The terminals 15 are provided with clips 16 for receiving and holding one of the ends of the fuses 17. Each terminal 15 is formed from metallic sheet material. Each terminal 15 includes a strip portion bent upon itself forming adjacent arms 17a. The ends of these arms 17a are slightly flared for forming clip portions or clips 16. One of the arms 17a is provided with a base lug 18 engaged by a terminal screw 19 beneath which the ends of the leads 26 are clamped.

Prongs 20 for engaging an electrical connector are mounted within other portions of said recesses 14 and project from one of the ends of the casing 10. The inner ends of the prongs 20 are spaced from the terminals 15 and are provided with clips 21 for receiving and holding the other ends of the fuses 17. Each prong 20 is formed from a metal strip which is bent upon itself to form adjacent arms, the free ends of which are formed into clip portions or clips 21. One of the arms of each prong 20 is formed with a laterally offset portion 22 engaging within

3

complementary portions of the recesses 14. These offset portions 22 serve to hold the prongs 20 from coming out of the casing 10.

The recesses 14 of the sections 11 and 12 are of equal depths, and are shaped or fashioned to hold the prongs 20 and the terminals 15 centrally between the casing sections. The fuses 17 are in the nature of fuse strips which are merely placed between the clip portions 16 and 21. The sections 11 and 12 of the casing 10 are also formed with recesses 23 in which extra fuse strips 17' are normally stored. When the fuses 17 blow, the electric plug may be re-fused by using the fuse strips 17'.

The prongs 20 are resiliently maintained in one of the sections of the casing 10, namely the section 12, by small projecting portions 25 formed in one of the corners between the offset portion 22 and the adjacent arm of the prong, and engage complementary recessed portions 26' formed in the section 12, half way down the recess 14 thereof. Each recess 14 has a central enlarged portion at the area where the fuses 17 are located, forming a space with facilitates engagement and disengagement of the fuses, and which also forms an air space useful when the fuses blow.

The fuses 17 may be removed, and then the clip portions 21 of the prongs 20 may be pressed together so as to move the projecting portions 25 out of the recessed portions 26' which frees the prongs 20 so that they may be removed.

In Figs. 6 and 7 a modified form of the invention is disclosed which is very similar to the prior form, distinguishing merely in the fact that the terminals 15 are provided with clip portions 16' and the prongs 20 are provided with complementary clip portions 21', which clip portions are adapted to engage and hold fuses 17''. These fuses 17'' are of the capsule type.

In other respects this form of the invention is identical to the previous form and like parts are identified by like reference numerals.

While I have illustrated and described the preferred embodiments of my invention, it is to be understood that I do not limit myself to the precise constructions herein disclosed and the right is reserved to all changes and modifications coming within the scope of the invention as defined in the appended claims.

Having thus described my invention, what I claim as new and desire to secure by United States Letters Patent is:

1. In a fused electrical plug, a sectional casing of insulation material having its sections releasably connected together and having recesses formed between their contacting faces, clips for

4

holding one of the ends of fuses mounted upon and within the recesses of one of said sections, and prongs for engaging an electric connector mounted upon and within the recesses of said section, each of said prongs comprising a metal strip bent upon itself and having its ends within said section and separated and formed into clip portions for holding the other end of one of said fuses, and one of the arms of each prong having an offset portion engaging complementary portions of said recesses for holding the prongs from coming out.

2. In a fused electrical plug, a sectional casing of insulation material having its sections releasably connected together and having recesses formed between their contacting faces, clips for holding one of the ends of fuses mounted upon and within the recesses of one of said sections, and prongs for engaging an electric connector mounted upon and within the recesses of said section, each of said prongs comprising a metal strip bent upon itself and having its ends within said section and separated and formed into clip portions for holding the other end of one of said fuses, one of the arms of each prong having an offset portion engaging complementary portions of said recesses for holding the prongs from coming out, and each prong having a small projecting portion engaging a complementary recessed portion of said recesses for holding the prong on said section of said casing.

3. In a fused electrical plug, a sectional casing of insulation material having its sections releasably connected together and having recesses formed between their contacting faces, clips for holding one of the ends of fuses mounted upon and within the recesses of one of said sections, and prongs for engaging an electric connector mounted upon and within the recesses of said section, each of said prongs comprising a metal strip bent upon itself and having its ends within said section and separated and formed into clip portions for holding the other end of one of said fuses, one of the arms of each prong having an offset portion engaging complementary portions of said recesses for holding the prongs, from coming out, and each prong having a small projecting portion engaging a complementary recessed portion of said recesses for holding the prong on said section of said casing, said small projecting portion being located near the clip end of the prong so as to be disengageable from the complementary recessed portion when the arms of the clip end of the prong are pressed together.

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