

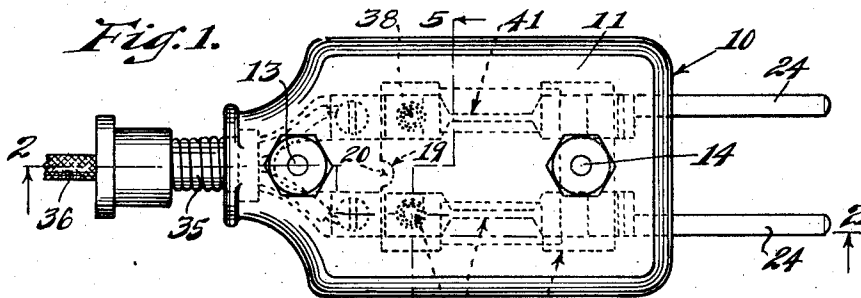
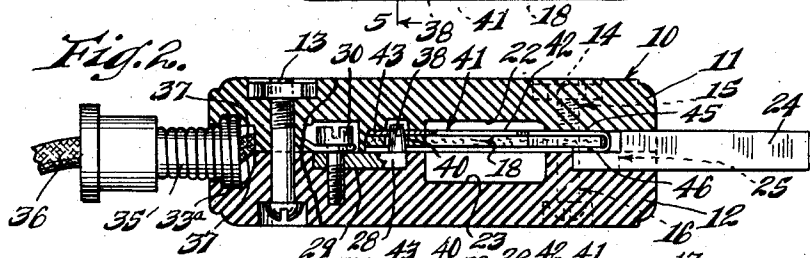
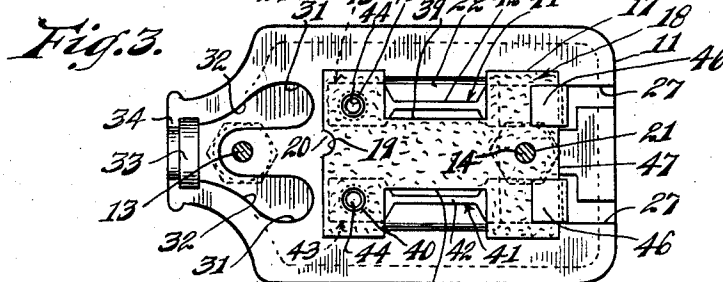
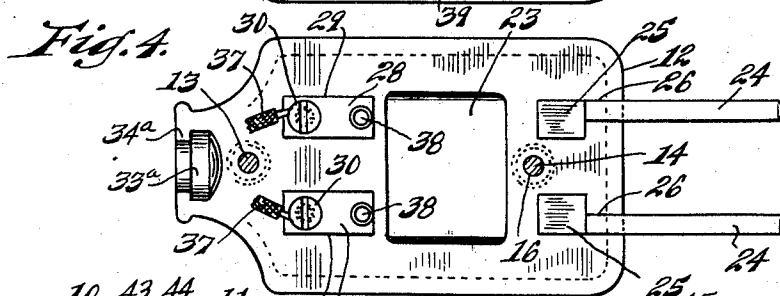
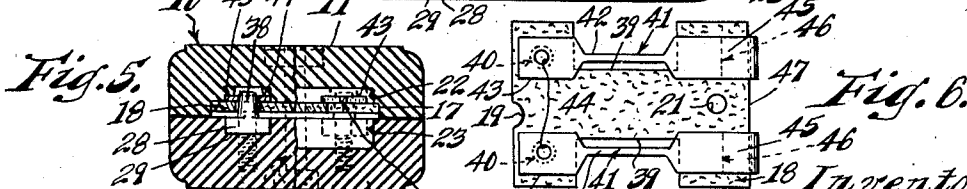
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ELECTRICAL CONNECTOR

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ELECTRICAL CONNECTOR

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9 Claims. (Cl. 200—115.5)

This invention relates to electrical connectors and more especially to fuse plugs for appliances and combined connectors and fuse plugs.

An object of the invention is to provide a simple, practical, and inexpensive device of the character described.

Another object is to provide a device of the character described wherein an individual attachment cord circuit of an appliance may be fused.

Another object is to provide a device of the character described wherein a plurality of appliance cord circuits may be individually fused separately from each other.

Other objects and advantages will appear and be brought out more fully in the following specification, reference being had to the accompanying drawing, wherein:

Fig. 1 is a plan view of a fuse plug embodying our invention;

Fig. 2 is a longitudinal section taken along the line 2—2 of Fig. 1;

Fig. 3 is a view of the upper member and fuse block shown in Fig. 2;

Fig. 4 is a similar view of the lower member;

Fig. 5 is a sectional view taken along the line 5—5 of Fig. 1; and

Fig. 6 is a separate view illustrating the fuse block.

Referring more particularly to the drawing, we show an appliance plug 10 of the well known type having a pair of complementary and separable members, of which, for convenience in description, the member 11 may be considered the upper member and 12 the lower member, which members are secured together by bolts 13 and 14, the latter extending through aperture 15 in member 11 and aperture 16 in member 12. Member 11 is provided with a recess 17 adapted to accommodate or seat a substantially rectangular fibre or insulation fuse plate 18 which is provided with a notch 19 adapted to engage a bead 20 on member 11 for properly locating the fuse block in member 11, which is further accomplished by an aperture 21 in plate 18, through which bolt 14 passes. Members 11 and 12 are provided with registering opposed cavities 22 and 23 respectively, which together form a chamber in which can occur the blowing of the fuse elements, as will be apparent more fully hereinafter. The plug 10 is provided with the usual contact prongs 24 having recessed or thinner flat contact portions 25 and located in recesses 26 and 27 in the members 11 and 12 respectively. A pair of terminals 28 are located in recesses 29 in member 12 and

secured therein by screws 30, member 11 having enlarged recesses 31 to accommodate the heads of screws 30. Recesses 31 merge with a pair of channels 32, and the latter with a semi-circular groove 33 and a shoulder 34, which, together with a similar groove and shoulder 33a and 34a respectively in member 12, form a securing means for the usual spring guard 35, through which passes the usual electric cord 36 with its pair of conducting wires 37 which are secured to terminals 28 by screws 30. Terminals 28 are each provided with a face-wise extending tapered contact pin or lateral stud 38.

The fuse plate 18 is provided with a pair of cut-out portions 39 which are adapted to register with cavities 22 and 23 and has a pair of apertures 40 which are adapted to register with pins 38, but are somewhat larger than the same. A pair of fuse links 41 are attached to plate 18 and each consists of a fusible strip portion 42, a strap portion 43 having an aperture 44 adapted to receive pin 38 and make contact therewith, and a strap portion 45 having a reverse bent contact portion 46 adapted for contact with contact portions 25 of prongs 24, the strap portions 45 being bent around the edge 47 of plate 18.

The operation of my invention should be obvious from the foregoing description, it being apparent that the fuse plate 18 is readily detachable and replaceable merely by the removal of bolts 13 and 14, it being unnecessary to effect any other wire or terminal connections. Cavities 22 and 23 adequately provide an explosion chamber for the blowing of the fuses without danger to anything which may be in the vicinity of the plug. The fusible strip portions 42 in case of blowing will fall through the cut outs 39 into the chamber provided by cavities 22 and 23 when melted so that the sparks will be extinguished without making any contact with the terminals or contact prongs or fragments of strips of the fuse links 41. Further, it will be apparent that the fusible elements 41 can be so selected as to protect the particular appliance with which the plug is to be associated, such that an overload or short circuit occurring in the appliance, one of these fuse elements will blow and not affect any of the other circuits in the home, office, or other place where the same may be used.

While we have illustrated and described the preferred form of construction for carrying our invention into effect, these are capable of variation and modification without departing from the spirit of the invention. We, therefore, do not wish to be limited to the precise details of con-

struction set forth, but desire to avail ourselves of such variations and modifications as come within the scope of the appended claims.

Having thus described our invention, what we claim as new and desire to secure by Letters Patent is:

1. A device of the character described comprising a plug having a pair of relatively flat separable members secured together in compressed relationship, contact prongs secured between said members by said compression, cord terminals secured between said members, a fuse element parallel to said prongs and terminals and secured between said members adapted to effect interconnecting contact between said prongs and terminals by said compression, said fuse element adapted to be removed laterally when said members are separated, said terminals having laterally facewise extending studs and said fuse element having apertures adapted for interfitting connection therewith when said members are compressed.

2. A combined electrical connector and fuse plug for appliances comprising a pair of flat separable members having opposed recesses at one end having reduced portions communicating with said end and having lateral enlargements parallel thereto, contact prongs having flat contact portions parallel thereto positioned in said recesses and enlargements thereof, cord terminals secured between said members and having facewise extending lateral studs, and a fuse element having apertures receiving said studs and enlarged contact portions engaging the flattened portions of the prongs when the members are secured together with the opposed faces thereof against the fuse elements, terminals and prongs to clamp the same in position.

3. A device of the character described comprising a plug having separable members contact prongs engaged in recesses in the opposed faces of the members and having lateral enlarged contact portions also received in co-acting recesses in the members, said members having registering opposed cavities at their central portions, cord terminals secured in opposed recesses in said members in line with said prongs and having lateral studs at their inner ends, and a detachable fuse element secured between said members adapted to interconnect said prongs and terminals, said fuse element including a fuse plate and having apertures receiving the studs and side cut-outs adjacent the cavities, and a pair of fuse links mounted on the studs and bridging the cut-outs of the plate at the concavities, said links having fusible portions and ends bent over the end of the plate to engage the contact portions of the prongs when the members are clamped together.

4. A device of the character described comprising a plug having separable members, said members having opposed cavities intermediately and opposed recesses adjacent the ends thereof and communicating with said ends, contact prongs engaged in certain of said recesses and having lateral contact portions to hold said prongs against displacement when the members are connected, connecting means for clamping said members together, one member having a bead, cord terminals secured between said members in the other recesses and having retaining means connected to one member, and a detachable fuse element secured between said members and adapted to interconnect said prongs and terminals, said fuse element comprising a fuse plate of insulat-

ing material having a notch receiving the bead and an opening for receiving at least one of said clamping means to position the plate and having side cut-outs over the concavities, and fusible strips having inter-engagement with the cord terminals and having their opposite ends bent over the plate to engage the contact portions of the prongs.

5. A device of the character described comprising a plug having a pair of separable members secured together in compressed relationship, contact prongs wholly secured between said members by said compression, cord terminals secured between said members a fuse element parallel to said prongs and terminals and secured between said members to effect interconnecting contact between said prongs and terminals, said terminals having lateral studs and said fuse element having apertures adapted to receive said studs when said members are secured together, said separable members having co-acting recesses with lateral extensions in the same plane at their inner ends, said prongs having flat contact portions of reduced thickness at their inner ends in the extensions of the recesses forming seats for the fuse element.

6. A device of the character described comprising a plug having separable members, contact prongs engaged in recesses in the opposite faces of the members and having lateral enlarged contact portions received between the members, said members having registering opposed cavities at their central portions, cord terminals secured in opposed recesses in said members in line with said prongs, a detachable fuse element secured between said members adapted to interconnect said prongs and terminals; said fuse element including an insulation fuse plate having edge cut outs, and a pair of fuse links mounted on the plate and bridging the cut outs at the cavities, said links having fusible portions and portions to engage the contact portions of the prongs and the terminals when the members are clamped together.

7. A device of the character described comprising a plug having separable members, said members having opposed cavities intermediately and opposed recesses, contact prongs engaged in certain of said recesses and having lateral contact portions to hold said prongs against displacement when the members are connected, connecting means for clamping said members together, cord terminals secured between said members in the other recesses and having retaining means connected to one member, and a detachable fuse element secured between said members and adapted to interconnect said prongs and terminals, said fuse element comprising a fuse plate of insulating material having a notch receiving a member and an opening for receiving at least one of said connecting means to position the plate and having side cut-outs over the cavities, and fusible strips having inter-engagement with the cord terminals and having their opposite ends bent over the plate to engage the contact portions of the prongs.

8. An electrical wire plug connector comprising separable members suitably connected having contact prongs and cord terminals, and fuse elements connected therebetween, said plug members having registering cavities in their inner faces spanned by the fuse elements, to form an explosion chamber and container for melted fuses when blown, an insulation fuse plate seated in

one member between the members and having recesses across which the fuse elements extend, one of said members and the fuse plate having a coengaging projection and recess off center, the
5 terminals having interconnection with the fuse plate and the fuse plate receiving the connecting means of the separable members therethrough and the contact portions of the prongs having recesses in which the adjacent ends of the fuse
10 plate and fuse elements seat.

9. In an electrical wire plug connector having spaced contact prongs and terminals, a fuse element comprising an insulation fuse plate adapted to be fitted and entirely enclosed between the

sections of the plug connector and having cut-outs in the opposite edges thereof and positioning means between the separable members of the plug connector for mounting in one position only, and fuse links having fusable strip portions and
5 strap portions anchored on one side of the fuse plate spanning the cut outs to engage the terminals of the connector, one end only of each fuse link being extended to the corresponding reverse side of the plate to form contact portions
10 to engage the contact prongs.

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