Jan. 27, 1953 S. H. MELNICK ET AL 2,627,001

FUSED CONNECTING ATTACHMENT

Filed May 11, 1950

Fig. 2

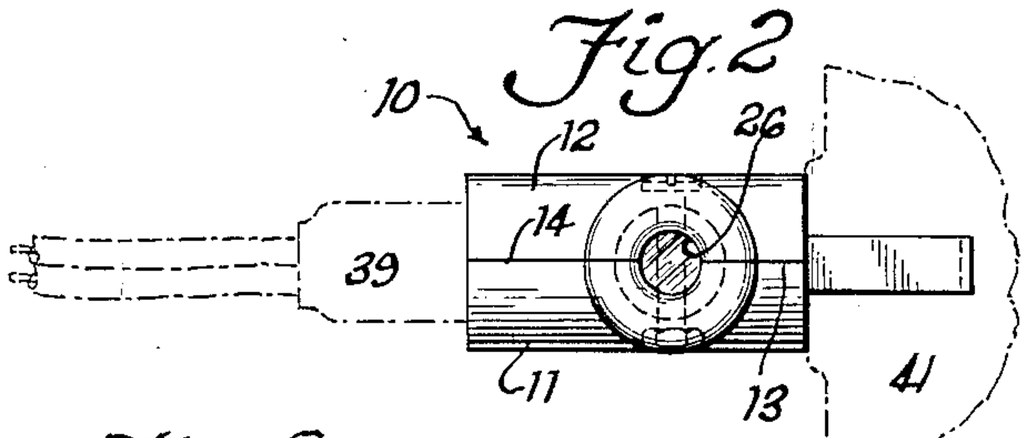


Fig. 5

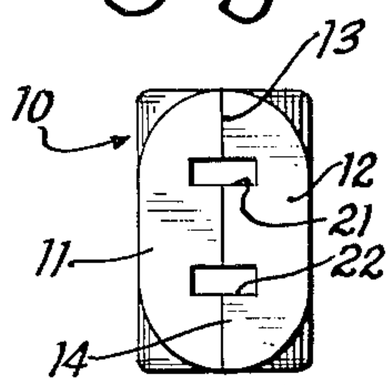


Fig. 1

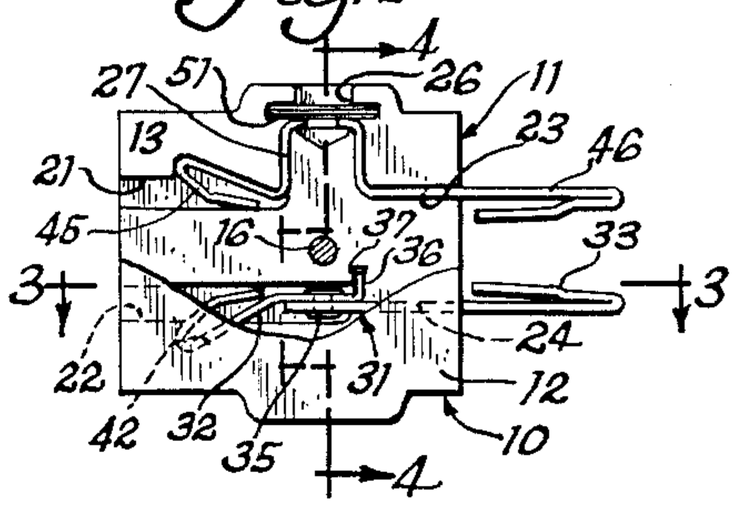


Fig. 6

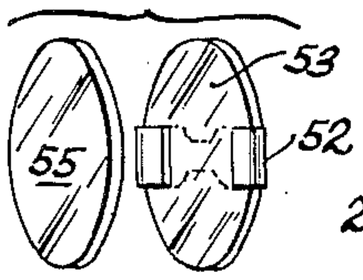
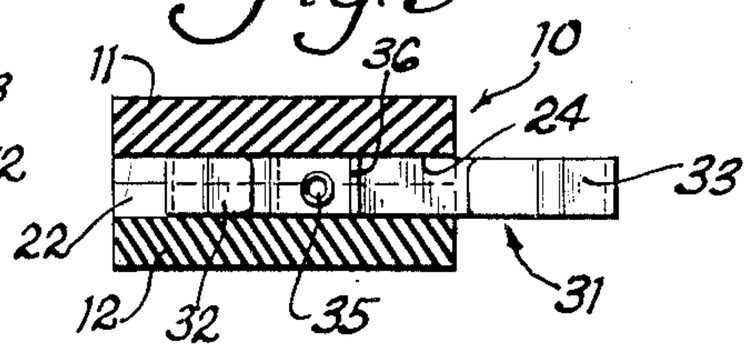


Fig. 3



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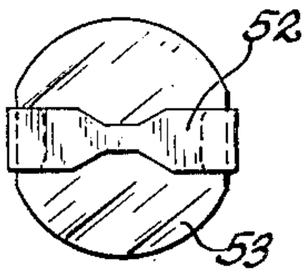
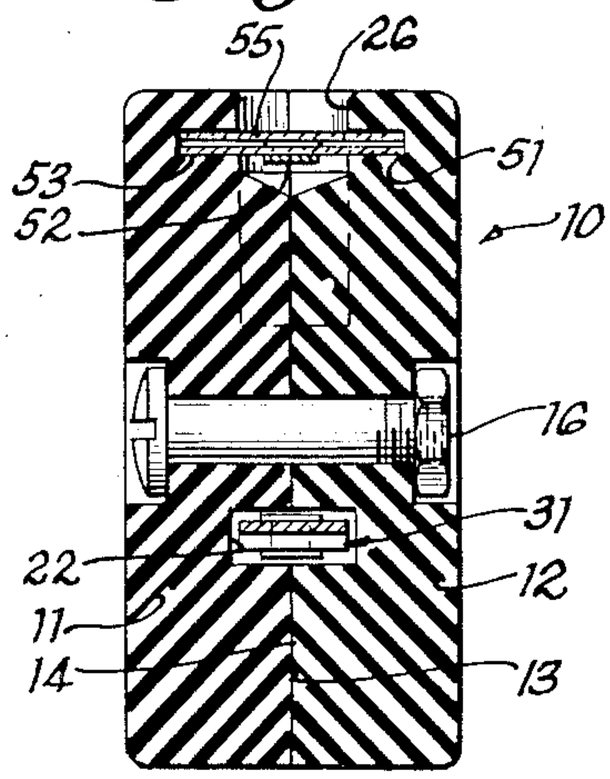


Fig. 4



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Patented Jan. 27, 1953

2,627,001

UNITED STATES PATENT OFFICE

2,627,001

FUSED CONNECTING ATTACHMENT

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Application May 11, 1950, Serial No. 161,426

1 Claim. (Cl. 200—115.5)

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This invention relates to a fuse device for use intermediate the cord plug of an electrical appliance, e. g. a toaster, waffle iron, etc., and the wall receptacle, for individual protection of the appliance involved.

Such devices are well known, and have been disclosed in various forms. However those devices with which we are familiar have been complex, and therefore expensive, and have been arranged for replacement of the fusible element. It will be recognized that devices of this character would presumably find sole use in the home for the principal reason that upon overloading of a circuit by a particular appliance, the fuse in the main switch box need not be exchanged. Not only does the average householder have inherent fear of working on live electrical equipment, but most often is so untrained technically as to feel obliged to call in a skilled electrician for a task as inconsequential as replacing a blown fuse.

Moreover it will be recognized that the great increase in electrical appliances in the home has not been accompanied by a corresponding revision in the electrical circuits for those homes already built. Consequently there has been a marked tendency toward overloading of circuits, together with a high incidence of blown fuses.

For the foregoing reasons it becomes highly desirable to provide a fuse device adapted to protect an individual appliance as well as the fuse in the associated circuit in the remotely positioned main box. Furthermore a device for such use must, in order to find ready acceptance, be inexpensive, inconspicuous, and made to sell for not more than a few cents over the price of the conventional screw type plug fuse. Additionally such device must present no hazard to the person or to the premises when blown.

Accordingly the object of our invention is the provision of a fuse device of the character indicated which shall be inexpensive, reliable in operation, compact, of light weight and non-hazardous to person or property.

In the drawing which shows a preferred embodiment:

Fig. 1 shows a side elevational view of a fuse device in accordance with the invention;

Fig. 2 shows a plan elevational view of the same;

Fig. 3 shows a cross section taken along the line 3—3 of Fig. 1;

Fig. 4 shows a cross section taken along the line 4—4 of Fig. 1;

Fig. 5 shows an end elevational view in the direction of the female end of the device;

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Fig. 6 shows a composite view of the fuse link, its mounting and window; and

Fig. 7 shows a detail view of the fuse link and mounting.

Turning now to the drawing the invention device comprises a body 10 composed of two similar juxtaposed halves 11 and 12 preferably of plastic composition, the adjoining respective faces being designated at 13 and 14. A bolt 16 passing through apertures 17—17 serves to secure the halves 11 and 12 together, although, if preferred, the body may be of one piece construction. At one end of the device (termed the "left" end) the faces 13 and 14 are provided with recesses together defining a pair of rectangular apertures 21 and 22, and at the other end (termed the "right" end) the faces 13 and 14 are provided with slots together defining another pair of similar apertures 23 and 24. Opening into the top side of the halves 11 and 12 jointly and centered on the meeting faces thereof is a blind aperture 26. Aperture 21, toward its inner end is reduced in size and continues as a substantially zigzag channel 27 in communication with aperture 26. Aperture 23 likewise continues in a zigzag manner also to meet the aperture 26. Apertures 22 and 24 are in communication at substantially the longitudinal mid-point of the body.

Supported within the apertures 22 and 24 is a member 31 including a female contact part 32 and a male contact part or prong 33 overlapped, and secured by a rivet 35, the inner end of the part 32 being offset into a lug 36 engaged in a slot 37 to assist in retaining member 31 longitudinally. Part 32 is intended to be engaged by one of the prongs of an appliance cord plug 39 and is therefore somewhat resilient, such engagement and subsequent disengagement being facilitated by folding back the end of part 32 as shown. It will be noted that aperture 22 is provided with a suitable pocket 42 for accommodating the part 32. On the other hand prong 33 is adapted to be thrust into one of the apertures of a wall receptacle 41 and is therefore of some rigidity. Due to the varying degrees of stiffness of the parts 32 and 33, the same may be of different dimensions or of different materials, or both. Hence the overlapping riveted joint at their meeting ends. As shown prongs 33 are shaped to provide easy insertion and withdrawal with respect to receptacle 41.

The other female contact member 45 is similar to part 32 except that the same terminates inwardly in the aperture 26 and for a purpose to appear. The other male contact member 46 is

similar to the part 24 except that it too terminates inwardly in the aperture 26. Longitudinal retention of members 45 and 46 is provided by the transversely positioned parts thereof. Aperture 21 is provided with a pocket serving the same function as the pocket 42.

Extending peripherally of the aperture 26 is a recess 51 (Fig. 4) adapted to receive the fusible element 52 and its associated mounting and window. These latter are preferably of sheet mica and circular in form, the lower disc 53 carrying the element 52, the ends of which are folded over the edge of the disc for support, and the disposition of the parts being such that the inward determinations of the members 45 and 46 are in abutment with the ends of the fusible element whereby to complete the circuit through the device.

Serving as a window and to further secure the fusible element is the other disc 55, overlying the folded over ends of the element. By making the discs 53 and 55 a snug fit in the recess 51 both axially and diametrically the union of the two halves of the body will suffice to preserve operative relation of the discs and the fusible element, and to form a reliable electrical junction between the element and the members 45 and 46. It will be noted that the short longitudinally positioned inward ends of the members 45 and 46 are bent slightly outwardly to apply pressure to the fuse link for more reliable electrical connection therewith. Window 55 permits inspection of the element 52 to determine whether it has in fact opened the circuit, when such event has been assumed to have occurred, while protecting against fire hazard.

If desired, the fuse link, in that form of the invention shown and described, may be replaced. However, in the interests of the user it is proposed that the entire device be manufactured with expendability in view. As one feature of the latter the body may be fabricated as a one-piece structure, and in which case no replacement of the fusible element would be contemplated.

While we have shown particular embodiments of our invention, it will be understood, of course, that we do not wish to be limited thereto since many modifications may be made, and we therefore contemplate by the appended claim to cover any such modifications as fall within the true spirit and scope of our invention.

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

An appliance fuse of the class described comprising a body, including a pair of abutting parts and securing means therefor, a prong supported within the body and in part protruding beyond one end of said body, a companion prong supported within the body and in part protruding beyond said end of the body, said prongs being adapted for insertion in an electrical receptacle, a resilient member supported within said body and united with and forming an extension of said companion prong, a second resilient member supported within said body, said resilient members being adapted for electrical contact with male elements of an apliance plug, said first prong and first member being deformed laterally and mutually parallelly to provide a pair of spaced apart contact surfaces, a fusible element positioned in electrical contact therewith to complete a circuit through said first prong and first member, a pair of insulating plates positioned with said fusible element therebetween, at least one of said plates being transparent for revealing the fusible element and said transparent plate being disposed to the exterior of the body, each said body part having opposed recesses for receiving said prongs, members, plates and fusible element, said united prong and member having a lateral projection and said body parts having a recess for receiving said projection to retain said prong and member longitudinally with respect to said body.

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