Oct. 6, 1936. M. LEMOS 2,056,790

FUSE

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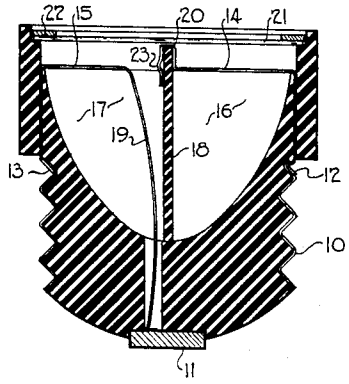


FIG. 1

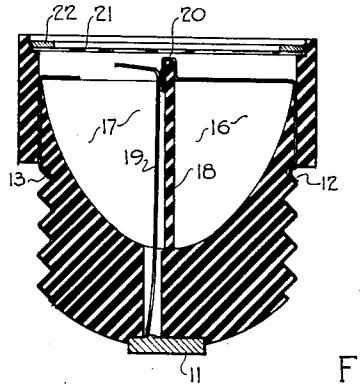


FIG. 2

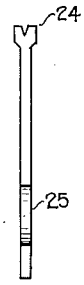


FIG. 4

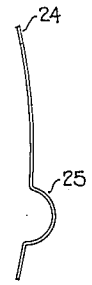


FIG. 5

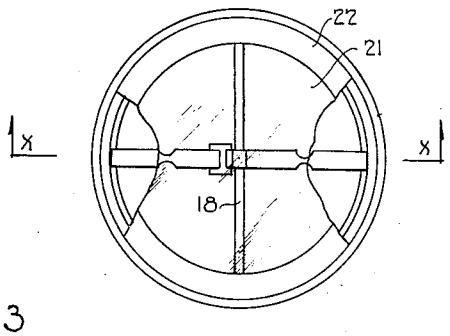


FIG. 3

INVENTOR.
MANUEL LEMOS.

BY

Peter W. Boesey.
ATTORNEY.

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FUSE

Manuel Lemos, New York, N. Y.

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4 Claims. (Cl. 200—126)

The present invention relates to new and useful improvements in fuses, and it has for its object to provide a device of a double acting capacity and automatic in operation.

Thus, when in this device a fuse-link, due to an overload of current, or for other reasons, is broken or "burned out", a second fuse-link, embodied in the same fuse, will automatically get into action and thus serve to prevent the great inconvenience of a broken current or circuit.

It will thus be noted that by inspecting the fuse from time to time, it should never be necessary to suffer the inconvenience of a broken circuit on account of a burned out fuse, as there will always be a second fuse-link to carry on the work, whenever the first fuse-link for any reason has been put out of commission.

As the construction of my device is comparatively simple the cost of manufacturing should be proportionately low.

With the above and other objects in view, this invention consists of the novel features of construction, combination and arrangement of parts hereinafter fully described, claimed and illustrated in the accompanying drawing forming part of this application, and in which similar characters of reference indicate corresponding parts in all views, and in which:—

Figure 1 is a transverse sectional view of my device, taken on the line x—x in Figure 3.

Figure 2 is a similar view, showing the device in operation, after one fuse-link has been broken,

Figure 3 is a top plan view of the double acting fuse device, with part of the same removed.

Figure 4 is a side elevational view of a central member, constituting part of a fuse-link; while

Figure 5 is an edge view of said central member.

Referring more particularly to the drawing, 10 indicates a fuse of a rather conventional type, adapted to be inserted into the commonly used socket. The fuse is provided with a transparent cover 21, secured to said fuse by means of an annular member 22 of any suitable material.

The fuse has the usual contact points, 11 at the bottom, and 12 on the side thereof, in addition to another point of contact 13 upon the other side, and substantially opposite the contact point 12. In said fuse is arranged a double fuse-link system, each of these fuse-links, 14 and 15, being connected to the contact points 12 and 13, respectively.

The present fuse comprises two compartments 16 and 17, as shown; but the principles of the device may as well be applied to three or four compartments, if desired. The two compartments are formed by means of a partition, or wall, 18.

One of the fuse-links 15, which is connected through the outer wall of the fuse to the contact point 13, is in turn at its other end connected to a central link, or member 19, the latter being of a springy characteristic, so that when the fuse-link 15 is broken or "burned out", the said member 19 will automatically swing over towards the center wall 18 and thereby make a new contact with the second fuse-link 14, which latter has its one end bent over said wall, as shown at 20, and projecting just enough from said wall, as shown at 23, to effect a secure contact with the upper end of the member 19, when the latter, as formerly described, swings towards said wall; the other end of the fuse-link is in turn connected to the contact point 12, while the member 19 connects with the contact point 11.

Thus, it will appear obvious that, when the circuit is broken by one of the fuse-links becoming incapacitated, the other fuse-link will automatically take up the duty of establishing a new contact, thereby securing an unbroken circuit.

While the fuse-link 15 and the central member 19 may very well be made in one integral piece with a certain amount of springiness imparted to the member, or the section constituting the member, 19, the latter has in Figure 4 been illustrated as having a comparatively large bifurcated top portion 24, adapted to receive therein one end of the fuse-link 15, which latter may be connected to said bifurcated top portion in any suitable manner, as by soldering.

The relative arrangement as to connection of the said fuse-link 15 and the member 19, as thus described, would be to the effect that when said link breaks, such break will normally occur at the juncture of the two parts, which condition in some measure will facilitate the rapid movement of the member 19 towards the wall 18 and the contact point 23.

The said bifurcated portion will in like manner be especially suitable for contacting said latter point.

In Figure 5, the member 19 has been constructed with a bend or curvature 25 for the purpose of imparting springiness to the said member.

It is obvious that changes may be made in the form, construction and arrangement of the several parts, as shown and described, within the scope of the appended claims, without departing from the spirit of the invention, and I do not therefore wish to limit myself to the exact con-

struction and arrangement shown and described herein.

What I claim as new, and desire to secure by Letters Patent of the United States, is:—

1. A device for maintaining automatically an unbroken fuse-connection in an electric circuit, and comprising a somewhat cylindrically shaped hollow member, a partition formed in said member dividing the latter into two compartments, an electric contact point at the bottom of said member, and two contact points upon the side thereof, fuse-links disposed within said member, one in each compartment, one of said fuse-links being connected to one of the side contact points, the other fuse-link being connected to the opposite side contact point and the bottom contact point, said latter fuse-link consisting of a horizontal and a vertical portion, said latter portion being of a springy characteristic adapted to bring said portion into immediate contact with the first said fuse-link upon the occurrence of a break of the second fuse-link, and means arranged upon the first said fuse-link to establish the contact of the latter with said vertical portion.

2. In a device of the class described, a fuse having two compartments, a partition in said fuse for forming the latter, said fuse having a contact point at its lower end and two separate contact points upon the side thereof, a fuse-link having one end thereof connected to one of the side contact points and the other end bent over the top of the partition and clamped on to the latter, said fuse-link being formed with a bend upon the part of the latter clamped onto the partition, said bend projecting towards the opposite wall of the fuse proper, a second fuse-link comprising a horizontal and a vertical section, the horizontal section being connected to the other contact point upon the side of the fuse, and the vertical section to the contact point at the bottom thereof, said vertical portion being of a springiness adapted to throw the upper part thereof in to contact with the bend formed upon the first said fuse-link, when the horizontal section of the second fuse-link is broken, or "burned out".

3. In a device of the class described, a fuse having two compartments, a partition in said fuse for forming the latter, said fuse having a contact point at its lower end and two separate contact points upon the side thereof, a fuse-link having one end thereof connected to one of the side contact points and the other end bent over the top of the partition and clamped on to the latter, said fuse-link being formed with a bend upon the part of the latter clamped on to the partition, said bend projecting towards the opposite wall of the fuse proper, a second fuse-link comprising a horizontal and a vertical section joined together, and a bifurcated portion at the top of said vertical section for attaining said junction, the horizontal section being connected to the other contact point upon the side of the fuse, and the vertical section to the contact point at the bottom thereof, said vertical section being of a springiness adapted to throw the upper part thereof in to contact with the bend formed upon the first fuse-link, when the horizontal section of the second fuse-link is broken, or "burned out".

4. In a device of the class described, a fuse having two compartments, a partition in said fuse for forming the latter, said fuse having a contact point at its lower end and two separate contact points upon the side thereof, a fuse-link having one end thereof connected to one of the side contact points and the other end bent over the top of the partition and clamped on to the latter, said fuse-link being formed with a bend upon the part of the latter clamped on to the partition, said bend projecting towards the opposite wall of the fuse proper, a second fuse-link comprising a horizontal and a vertical section, the horizontal section being connected to the other contact point upon the side of the fuse, and the vertical section to the contact point at the bottom thereof, said vertical section being formed with a curvature near the bottom thereof, whereby to impart springiness to said section for throwing the upper part thereof in to contact with the bend formed upon the first said fuse-link, when the horizontal section of the second fuse-link is broken, or "burned out".

MANUEL LEMOS.