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1,983,281

GRIP ATTACHMENT FOR FUSE CLIPS

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Fig. 1.

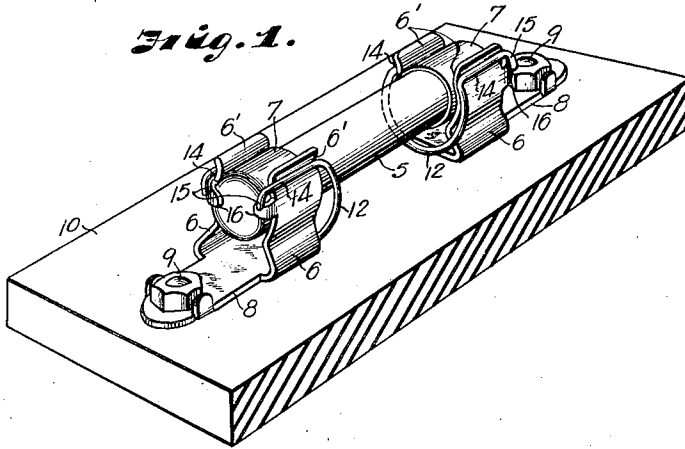


Fig. 3.

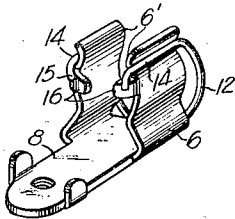


Fig. 4.

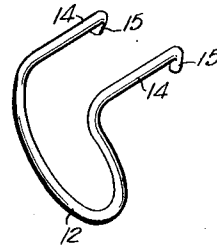
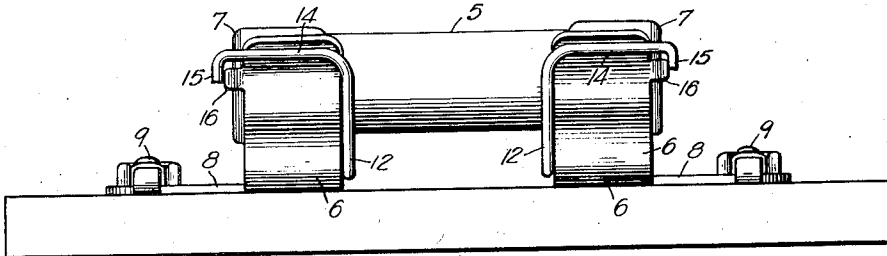


Fig. 2.



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GRIP ATTACHMENT FOR FUSE CLIPS

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4 Claims. (Cl. 200—134)

The present invention relates to fuse gripping devices or holders, and aims to provide an improved holder construction for insuring efficient electrical contact between the arms of the holder and the fuse held thereby, as well as effecting other economies due to the novel features of the invention.

Accordingly, we have devised an improved construction of this character in which a spring element is employed as an accessory element applied to the arms of the clip or holder in such a manner as to actuate said arms into firm and effective engagement with the ferrule element of the fuse.

It is also an object of the invention to provide a spring element of such form as to be readily applied, and as readily removed from the fuse clip for rendering the device interchangeable from one clip to another of the same type, the spring element being furthermore so assembled with relation to the clip arm as to interfere in no way with the mounting or replacement of the fuses.

With these general objects in view, the invention will now be described with reference to the accompanying drawing illustrating a fuse grip or holder of standard construction, equipped with the improved feature of this invention, after which those features and combinations deemed to be novel will be particularly set forth and claimed.

In the drawing—

Figure 1 is a perspective view illustrating a portion of a fuse block provided with fuse clips having the improved feature of this invention applied thereto;

Figure 2 is a side elevation;

Figure 3 is a perspective view of one of the fuse clip members with the improved spring element applied thereto, and the fuse being omitted; and

Figure 4 is an enlarged perspective view of the spring element removed from the clip.

Referring now to the drawing in detail, this illustrates the improved feature of our invention applied to a standard form of fuse holder or gripping device, wherein each end of the fuse 5 is engaged by a fuse clip which comprises a pair of spaced arms 6 for clamping engagement with opposite sides of one of the ferrules 7 of the fuse; these arms are shown integral with a base plate portion 8 having one end thereof secured by means of a screw or binding post 9 to the fuse base plate or block 10, as shown in Figures 1 and 2.

Frequently the clip construction just described becomes inefficient for making the proper electrical connection with the fuse, due to loss of resiliency of the arms 6 or otherwise failing to effect proper firm engagement with the ferrule 7, or with sufficient pressure to maintain continuous and efficient contact with the ferrule. Accordingly, the present invention provides a spring element in the form of an accessory adapted to be readily applied to the arms 6 of the clip in such a way as to actuate these arms yieldingly toward each other for producing the proper contacting pressure between the ferrule and the inner faces of the arms 6. This spring element comprises a short section of spring wire of suitable gage, which is bent to provide an approximately circular yoke portion 12 for spanning the distance between the arms 6 of the clip, and terminating in a pair of parallel fingers 14 adapted to be engaged with the concave faces on the outer sides of the terminal portions of the arms 6 which are curved toward each other as indicated at 6' in Figure 3; these fingers 14 are furthermore formed with hook terminals 15 bent in a direction to form latching elements or means for retaining engagement with the returned lugs 16 on the sides of the arms 6 at the points where these engage the outer end of the ferrule 7, as illustrated in Figures 1 and 2.

It will thus be seen that the spring element is of such a construction as to be engaged with the upper portions of the clip arms 6 where the spring pressure, as produced by the spring yoke 12, is most effectively applied for actuating the arms 6 into efficient contacting engagement with the ferrule 7 of the fuse; again, the formation of the fingers 14 with the hook terminals 15 provides an efficient retaining means cooperating with the fingers 14 (which are seated in the concave outer faces of the arms 6) to hold the spring element in its proper operative position. Moreover, the form of the spring element, with its yoke 12 located in an out of the way position (that is, between each pair of fuse clips, and encircling the body of the fuse between it and the base block 10) offers no hindrance or obstruction of any sort to the manipulation of the fuses, either for mounting or replacement of the same in the manner usually followed.

It will therefore be seen that the present invention provides an efficient and yet extremely simple and inexpensive construction for the purposes in view. Such an improved element of construction in relation to fuse gripping devices of the type described affords decided advantages.

It eliminates the difficult and costly replacement of worn-out fuse clips, by the simple application of the spring devices in the relation illustrated by the drawing herein. It furthermore saves fuses as well as current, by the elimination of the arcing and the heating of the points between the fuse contacts, by virtue of the proper contacting pressure being maintained between the holder and the fuse ferrule at all times, by the spring gripping action of the improved device. The improved element is moreover almost negligible in its cost, and requires no tools of any sort for its proper installation. Again, it is easily removable, due to the detachable character of the construction, and may be readily interchanged from one fuse gripping device to another. It is also apparent that the device detracts in no way from the slightly appearance of the rest of the construction, and offers no interference whatever with the operation of mounting or replacement of the fuses.

While we have illustrated and described what we now regard as the preferred mode of practicing the invention, we desire to be understood as expressly reserving the right to make whatever changes or modifications may fairly fall within the scope of the appended claims.

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

1. A fuse holding device comprising a clip formed with a pair of yielding arms having terminals curving toward each other, and a detachable spring element comprising a yoke portion terminating in parallel spaced fingers removably seated in the concave outer faces of said clip terminals and thereby substantially prevented from any canting movement while operating to actuate said arms into yielding en-

gagement with the fuse, the ends of said fingers being formed with hooks in detachable retaining engagement with the edges of said arms.

2. A fuse holding device comprising a clip formed with a pair of yielding arms having terminals curving toward each other, and a spring element comprising a yoke portion looping the space beneath the fuse and terminating in spaced fingers detachably engaging said clip terminals traversing the outer faces thereof for actuating said arms into yielding engagement with the fuse and including latching elements operative by detachable engagement with said clip arms to prevent casual disengagement of said fingers from said arms.

3. A fuse holding device comprising a pair of yielding arms for engagement with opposite sides of the fuse, a detachable spring element comprising a yoke portion looping the space beneath the fuse and formed with a pair of spaced fingers removably engaging the outer sides of said arms for actuating the latter into yielding clamping engagement with the fuse, and hooks formed on the ends of said fingers for detachable retaining engagement with the side edges of said arms.

4. A fuse holding device comprising a clip formed with a pair of yielding arms having terminals curving toward each other, and a readily detachable and demountable spring element comprising a yoke portion spanning the space between said clip arms and terminating in parallel spaced fingers removably seated in the concave outer faces of said clip terminals and thereby substantially prevented from any canting movement while operating to actuate said arms into yielding engagement with the fuse.

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