April 17, 1934. R. A. OHLSON 1,955,251

HOLDER FOR CARTRIDGE TYPE FUSES AND THE LIKE

Filed June 17, 1933

Fig. 1.

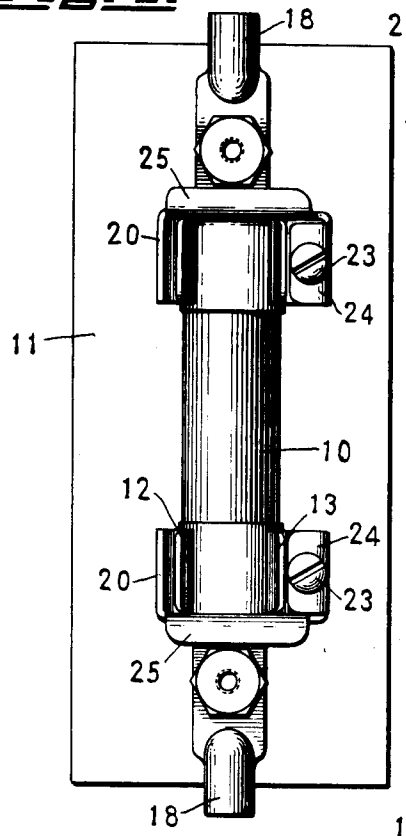


Fig. 6.

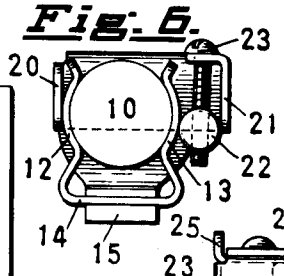


Fig. 2.

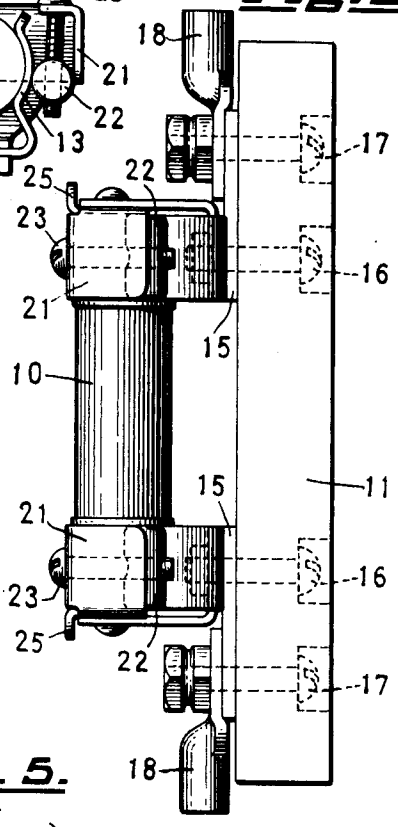


Fig. 3.

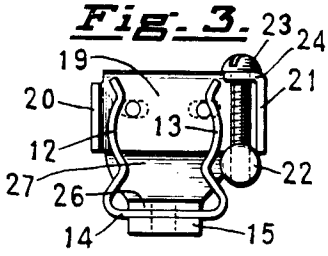


Fig. 5.

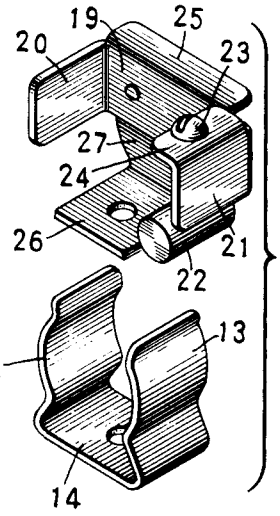


Fig. 4.

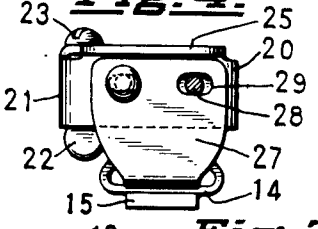


Fig. 8.

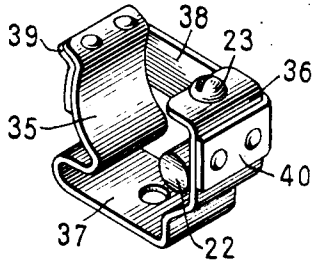
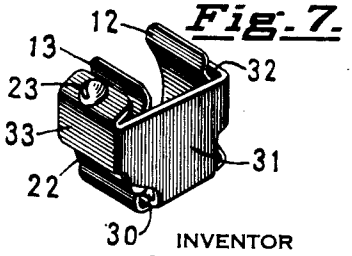


Fig. 7.



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HOLDER FOR CARTRIDGE TYPE FUSES AND THE LIKE

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Application June 17, 1933, Serial No. 676,260

4 Claims. (Cl. 200—134)

My invention relates to means for detachably supporting electrical devices such as fuses and relays of the type having cylindrical ends.

It has been customary to provide what are frequently termed spring clips or jaws which are mounted upon a suitable support and adapted to resiliently grip the contact ends of the fuse. These clips being resilient make it possible to insert the fuse by simply pressing the contact ends of the fuse into position in the clips and the fuse may be removed by simply pulling it out. While this construction is satisfactory for many purposes the electrical connection effected by such a construction is frequently defective. The clips become coated with dust and oxides and frequently become weakened either through electrical heat or distortion in manipulating the fuses. Such constructions also permit the fuses to be accidentally removed.

One object of my invention is to provide a construction of this general character having many of the advantages of the usual spring clips but in which the electrical connection is much more positive and effective.

Another object is to provide a construction of this character from which the fuse can not be accidentally removed.

Another object is to provide a clamping means supplementary to the usual spring clips which can readily be made effective or easily released when so desired without the use of tools other than a screw driver.

Another object is to provide clamping attachment which can be applied to standard fuse clips without special adaptation.

The broad idea of my invention may be applied in a number of ways although in each case I provide spring clips for receiving the contact ends of the fuse and an auxiliary clamp adapted to be made effective or released by the use of an ordinary screw driver. This auxiliary or clamping device may be made as an integral part of the fuse clip structure or formed separately and suitably applied, as herein set forth.

Fig. 1 is a front view of a construction having two holders for the opposite contact ends of a fuse or relay.

Fig. 2 is a side view of the same.

Fig. 3 is an end view showing one of the holding and clamping devices viewed from the inside.

Fig. 4 is a similar outside end view with a part shown in section.

Fig. 5 is an exploded perspective view showing a conventional type of spring clip with the coacting clamping means.

Fig. 6 is a view similar to Fig. 3 but showing a fuse clamped in position.

Fig. 7 is a perspective view showing a modified form of construction.

Fig. 8 is a perspective view showing another modified form of construction.

The cartridge type device 10 may represent a fuse or relay of any suitable character having conductive end caps as usual. Such protective devices are usually mounted on an insulated base 11. Each end of the fuse is adapted to be supported in a clip consisting of spring jaws 12 and 13 which are integral with a cross piece 14 and adapted to be secured to a plate 15 and to the base 11 by a bolt or screw 16. These plates 15 are usually also additionally secured by a screw or bolt 17 which also serves to secure the circuit terminal 18. All of the foregoing being of conventional type, they need not be described in detail.

In the form shown in Figs. 3 to 6 I provide a reinforcing yoke consisting of a cross bar 19 with flanges 20 and 21, which extend alongside of the jaws 12 and 13, respectively. A wedging member 22 is supported by a screw 23 which passes freely through a flange 24 so that by tightening the screw 23 the member 22 may be drawn up between the jaw 13 and the flange 21 from the position shown in Fig. 3 to the position shown in Fig. 6.

The upper part of the cross bar 19 may be reinforced by a flange 25 and the cross bar may be supported by a bracket whose foot 26 is clamped by the screw 16. The upright portion 27 of the bracket supports two guide members such as 28, which may be in the form of rivets whose shanks pass through slots 29 in the upright 27. Sufficient freedom is left to permit the cross bar 19 to slide transversely of the upright so that it can automatically adjust itself in position as the clamping member 22 is tightened by the action of the screw 23.

When the parts are in the position shown in Fig. 3 it is obvious that the fuse can be readily placed in position between the spring jaws of the clip in the usual manner and removed in the usual manner when desired. When the fuse is in position, as shown in Fig. 6, the wedging member 22 can be drawn up by the screw 23 so as to draw the parts into close contact with considerable pressure, thus making it impossible to withdraw the fuse from the jaws while the wedging member is in the position shown in Fig. 6.

In the form shown in Fig. 7 the bracket has the foot 30 and the upright 31 which constitutes the cross bar with which the flanges 32 and 33

are integral. The clamping member 22 and the screw 23 are operated in the same manner as in the form first described.

In the form shown in Fig. 3 the supporting bracket is omitted and the clip is specially formed having spring jaws 35 and 36 connected by the bottom plate 37. The upper ends of the spring jaws are connected by a cross bar 38 whose ends 39 and 40 embrace the outer ends of the spring jaws and may be welded or riveted or otherwise suitably secured thereto. The wedging member 22 and screw 23 are constructed and operated in a manner similar to the ones previously described.

I claim:

1. A fuse holder including spring clips and means for clamping them onto the contact ends of a fuse, said means including a cross bar having projecting flanges for loosely embracing the contact ends of the clips, a wedging member, and screw means for forcing said wedging member between one of the clip members and one of the flanges on the cross bar.

2. A fuse holder including a contact clip having a pair of uprights, at least one of which uprights is adapted to receive the contact end of a fuse, a yoke having a cross bar and projecting side arms, said arms being secured to said uprights, and a wedging member interposed between the uprights and provided with screw means for drawing it into forcible contact with the contact end of a fuse.

3. A holder for a cartridge type fuse including a spring contact clip having arcuate jaws, a cross bar having two oppositely disposed arms for loosely embracing the free ends of said clip, a wedging member and screw means for forcing said wedging member between one of the arcuate jaws of said clip and one of the said arms to clamp the contact end of a fuse between the jaws of the contact clip and to clamp the jaws of the clip between the two oppositely disposed arms.

4. A holder for a cartridge type fuse including a spring contact clip having arcuate jaws, a laterally movable cross bar associated with said clip and having a projecting arm at each of its opposite ends for loosely embracing the free ends of said clip, a wedging member and screw means for forcing said wedging member between one of the arcuate jaws of said clip and one of the said arms.

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