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(56) Documents cited  
**GB 1164131**                      **GB 0418918**  
**GB 0916765**

(58) Field of search  
**H2G**

(54) Fuse holder

(57) A fuse holder, especially for panel mounting, which comprises a moulded box having a base portion 10 and an end hinged lid 12, a cartridge fuse holding means on the interior of the lid which includes blade contact 30, and finger contacts (38, Figure 3) mounted within a moulded terminal cover 34, the lid completing a circuit through a fitted fuse by engagement of the blade contact 30, and finger contacts into the finger contacts. Resilient legs 48 on the outside of the base portion enable the fuse holder to be snap fitted into an apertured panel, locating the panel between said legs and a rim 16 on the base portion. The lid 12 has a latching element 18 which latches to said rim 16 when the lid is fully closed, and an adjacent finger grip 20 facilitating opening. Side skirts 46 on the lid interior shield the blade contacts during opening until contact disengagement has been achieved.

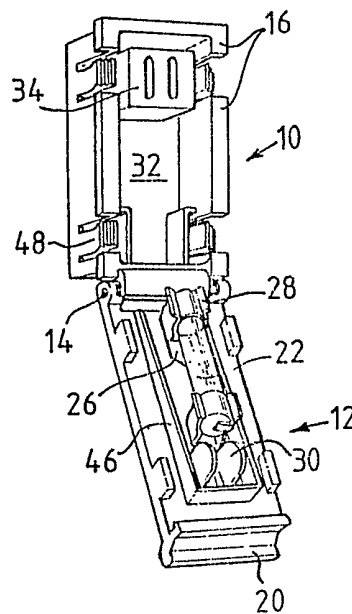


Fig.1

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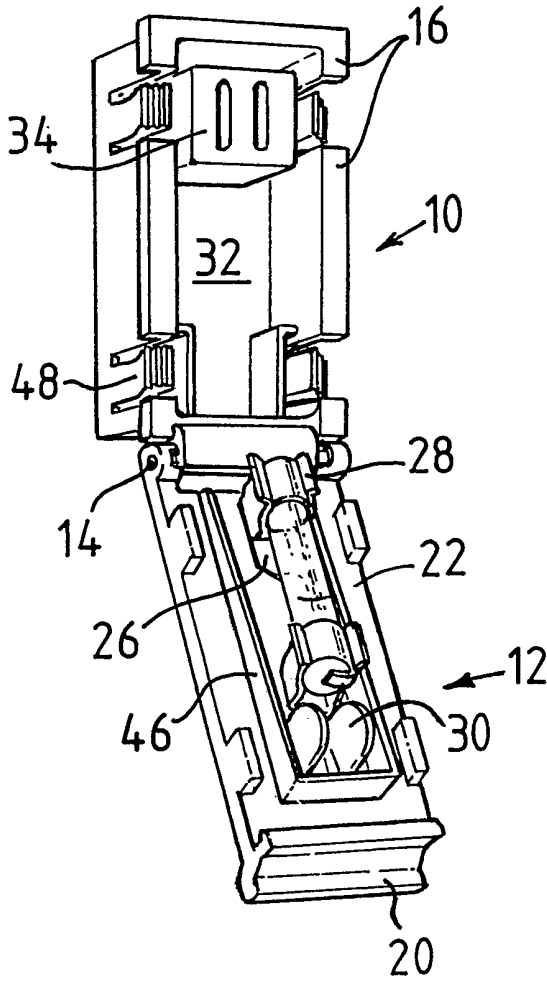


Fig.1

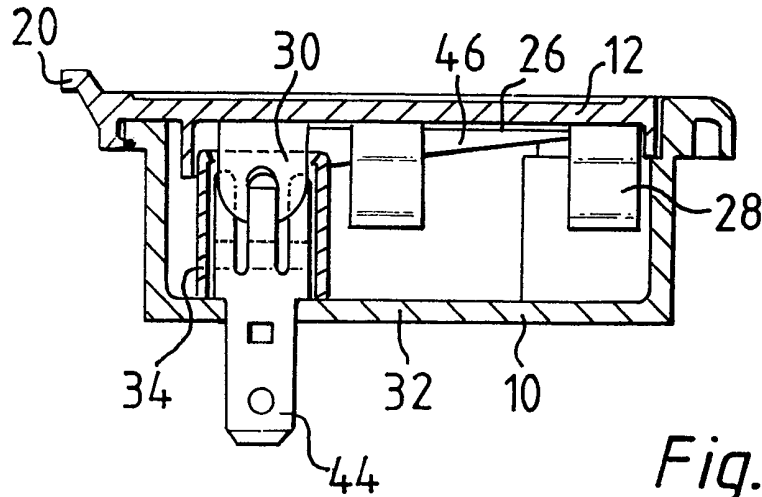


Fig. 2

Fig. 3

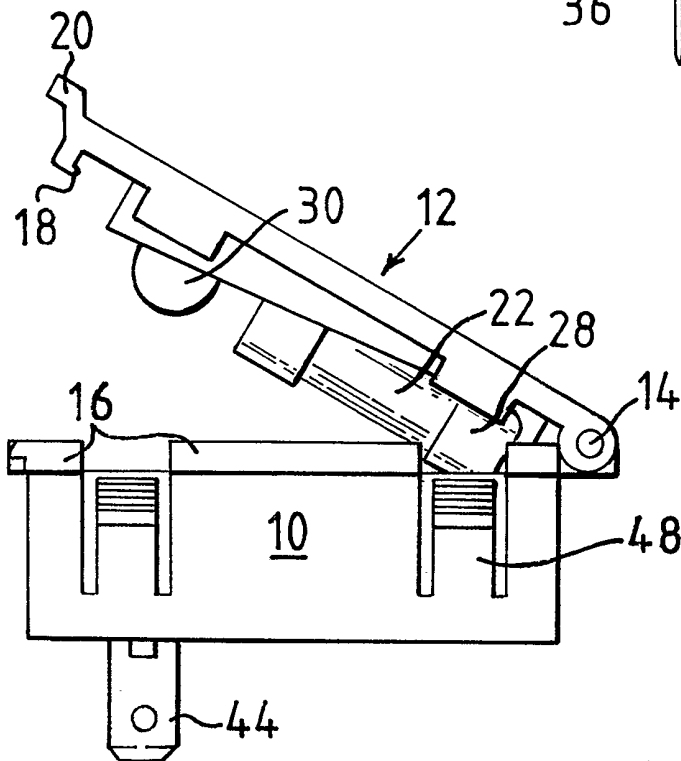
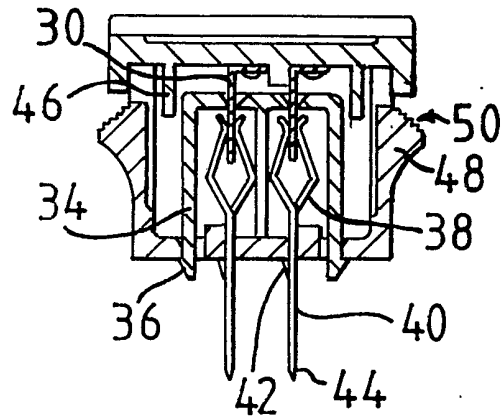


Fig. 4

## SPECIFICATION

**Improvements in fuse holders**5 *Field of the invention*

This invention relates to a fuse holder, more particularly but not exclusively a fuse holder for panel mounting.

10 *Background to the invention*

Panel mounting fuse holders are known wherein an open-ended box, which may be tubular or rectangular, clips into position in a panel aperture and a fuse carrier fits into the box through its open end. The known arrangements are in general relatively complex, and have the disadvantage of creating a substantial projection on both sides of the panel.

20 *Object of the invention*

It is an object of the invention to provide an improved fuse holder capable of avoiding the disadvantages of the known arrangements.

25 *The invention*

The fuse holder according to the invention comprises a box having a base portion and an end hinged lid, means on the inside of the lid for receiving a fuse link in a plane parallel to and adjacent said lid, said means including parts which at a position on the lid remote from the hinge connect with blade contacts projecting from the lid in a direction for entering the base portion when the lid is closed and finger contacts mounted within the base of the box and connecting through a wall thereof to external terminations, the arrangement being such that, when the lid is closed, the blade contacts on the lid electrically and mechanically engage with the finger contacts and, during an initial part of the opening movement of the hinged lid, the engagement between the blade and finger contacts is broken.

In a preferred arrangement, a right rectangular box is moulded of insulating plastics material with a hinged lid clipping to pivot pins moulded integrally with the base portion. The lid latches to a rim on the base portion and has an edge finger grip to facilitate opening.

The interior of the lid has heat swaged to it clips for locating a cartridge fuse, said clips being integrally formed with blade contacts extending perpendicularly to the plane of the lid.

The base portion carries on its interior finger contacts snap fitted thereto within a terminal cover, also snap fitted. The finger contacts project to the outside of the bottom wall of the base position, possibly at an angle, to constitute external terminations. When the lid is closed, the blade contacts engage into the finger contacts to complete an electrical circuit through a fuse fitted to the clips on the interior of the lid. When the lid is opened for access to the fuse, the engagement between the contacts is broken during the initial part of the opening movement. Skirts along the sides of the lid interior shield the blade contacts during

said opening movement until contact disengagement has been achieved.

The arrangement has the advantage over the prior art of simplicity of construction and of presenting a relatively low profile on both sides of a panel having an aperture into which the fuse holder may be snap fitted by means of moulded resilient elements formed externally on the side walls of the base portion. However, the fuse holder of this invention is also useful for mounting upon a flat base plate instead of being fitted into an apertured panel.

*Description of drawings*

A practical arrangement of fuse holder in accordance with the convention is shown in the accompanying drawings, in which:-

*Figure 1* is a perspective view of the fuse holder, when open;

*Figure 2* is a longitudinal cross-section through the holder, when closed;

*Figure 3* is a transverse cross-section through the holder, when closed; and

*Figure 4* is a side elevated view of the holder, when partly open.

*Description of practical embodiment*

The illustrated fuse holder comprises a right rectangular box moulded in insulating plastics material. The box has a base portion 10 and a hinged lid 12 which clips on to integrally moulded pivot pins 14 on the base portion. The lid 12 can thus hinge open from one end edge of the base portion 10, which has a rim 16 beneath which latches a latching element 18 formed at the end of the lid remote from the hinge. An adjacently formed finger grip 20 on the lid facilitates opening of the said lid from its fully closed position.

Electrically conducting members for locating a standard integral fuse, eg 22, are heat swaged to the interior of the lid. These members each comprise a conducting strip 26, integrally formed with a fuse clip 28 and a blade contact 30 which projects away from the lid, into the box interior when the lid is closed. The blade contacts 30 are located towards the end of the lid remote from the hinge 14.

The base portion 10 of the box has an apertured bottom wall 32 into which snap fits a separately moulded terminal cover 34 equipped with barbs 36. Within the terminal cover, finger contacts 38 have stems 40 which snap fit through the bottom wall 32 to be retained by barbs 42. On the outside of the bottom wall, the stems 40 constitute external terminations 44 from the fuse holder.

When the lid is closed, the blade contacts 30 engage into finger contacts 38, making efficient mechanical and electrical contact therewith. During the initial part of the opening movement of the lid, the blade contacts disengage from the finger contacts, and the blade contacts 30 are shrouded from accidental contact by the user prior to disengagement by skirts 46 provided along the sides of the lid 12 on the interior thereof.

The illustrated fuse holder is adapted for panel

mounting by snap fitting into an aperture in a panel. For this purpose, the side walls of the base portion 10 are integrally formed with resilient mounting legs 48 the end faces 50 of which will  
 5 snap fit behind the panel at the edge region thereof around the aperture, locating the said edge region between the end faces 50 and the rim 16 of the base portion 10. The end faces 50 are stepped to facilitate fitting of the fuse holder to panels of  
 10 differing thicknesses.

It will be understood, however, that the fuse holder of this invention is not restricted to the provision of means enabling snap fitting to an apertured panel.

15 Various modifications of the illustrated and the above described arrangement are possible within the scope of the appended claims, especially in respect of the form and positional arrangement of the blade contacts and finger contacts, the parts  
 20 associated therewith, and the latch and finger grip on the lid.

#### CLAIMS

25 1. A fuse holder comprising a box having a base portion and an end hinged lid, means on the inside of the lid for receiving a fuse link in a plane parallel to and adjacent said lid, said means including parts which at a position on the lid remote  
 30 from the hinge connect with blade contacts projecting from the lid in the direction for entering the base portion when the lid is closed, and finger contacts mounted within the base of the box and connecting through a wall thereof to external terminations, the arrangement being such that, when  
 35 the lid is closed, the blade contacts on the lid electrically and mechanically engage with the finger contacts and, during an initial part of the opening movement of the hinged lid, the engagement between the blade and finger contacts is broken.

40 2. A fuse holder according to claim 1, wherein the box is right rectangular and the lid has interior fuse clips for locating a cartridge fuse parallel to the length of the lid.

45 3. A fuse holder according to claim 1 or claim 2, wherein the base portion has external resilient elements on its side walls for snap-fitting into an aperture in a panel, thereby to locate the edge region of said aperture between the end faces of said  
 50 elements and a rim on the base of the box.

4. A fuse holder according to claim 3, wherein the said end faces of the resilient elements are stepped to suit differing panel thicknesses.

55 5. A fuse holder according to any of claims 1 to 4, wherein the lid has a latch means for engagement under a rim on the base of the box.

6. A fuse holder according to any of claims 1 to 5, wherein the lid has an edge finger grip to assist opening of said lid.

60 7. A fuse holder according to claim 6 when appendant to claim 5, wherein said latch means and said finger grip are located at the end of the lid remote from its hinge.

8. A fuse holder according to any of claims 1 to 65 7, wherein the lid has internal skirt portions along

its sides which extend perpendicularly to the hinge, thereby to shield the blade contacts during the initial part of the opening movement until said blade contacts have disengaged the finger contacts.

9. A fuse holder according to any of claims 1 to 8, wherein the finger contacts are shielded within the base of the box by a terminal cover.

75 10. A fuse holder according to claim 9, wherein the box and terminal cover are moulded of plastics material, and the terminal cover snap fits into apertures in the bottom wall of the base portion of the box and is retained by barbs.

80 11. A fuse holder according to any of claims 1 to 10, wherein the finger contacts have stem portions push fitted through apertures in the bottom wall of the base portion of the box and are retained in position by barbs.

85 12. A fuse holder according to any of claims 1 to 11, wherein the hinged lid clips on to pivot pins moulded integrally with the base portion of the box.

90 13. A fuse holder according to any of claims 1 to 12, wherein said means for receiving a fuse link comprises a pair of conducting strips each integrally formed with a fuse clip and a blade contact, said strips being heat swaged to the lid interior.

95 14. A fuse holder substantially as hereinbefore described with reference to the accompanying drawings.

Amendments to the claims have been filed, and have the following effect:-

100 (b) New or textually amended claims have been filed as follows:-

105 1. A fuse holder comprising a box having a base portion and an end hinged lid, means on the inside of the lid for receiving a fuse link in a plane parallel to and adjacent said lid, said means including parts which at a position on the lid remote from the hinge connect with adjacent blade contacts projecting from the lid in a direction for entering the base portion when the lid is closed, said adjustment blade contacts connecting via a fitted fuse link and finger contacts mounted within the base of the box and connecting through a wall thereof to external terminations, the arrangement being such that, when the lid is closed, the blade contacts on the lid electrically and mechanically engage with the finger contacts and, during an initial part of the opening movement of the hinged lid, the engagement between the blade and finger contacts is broken.