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FUSE ADAPTER

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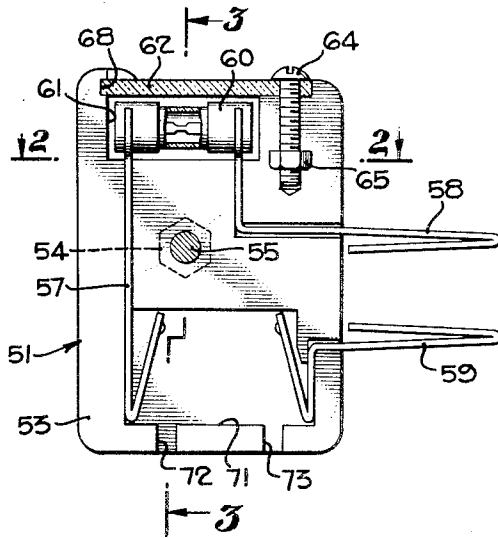


Fig. 1.

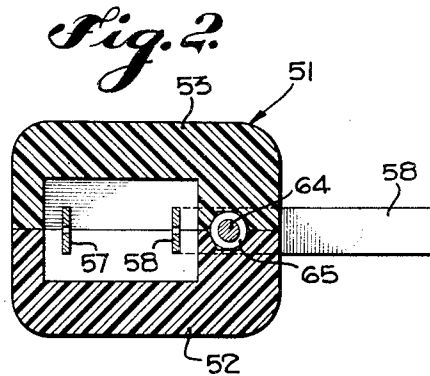


Fig. 2.

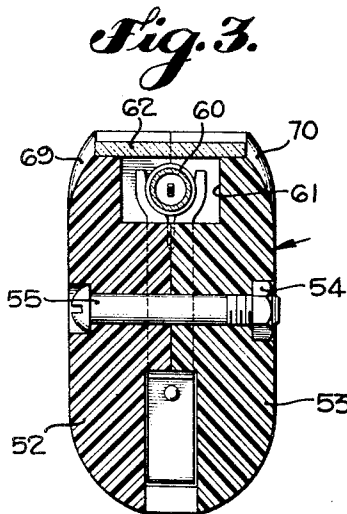


Fig. 3.

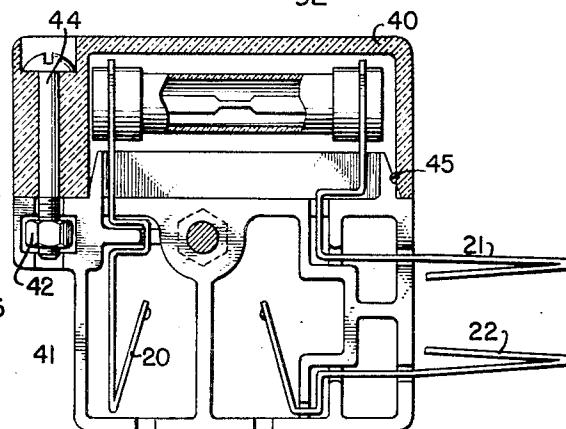


Fig. 4.

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FUSE ADAPTER

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5 Claims. (Cl. 200—115.5)

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This invention relates to a fuse adapter, that is an electrical connector or plug incorporating a replaceable fuse therein.

A main object of the present invention is to provide a fuse adapter which is simple in construction and more easily assembled than was possible with prior fuse adapters.

Another main object of the present invention is to provide a fuse adapter having a replaceable fuse located on the outside of the main part of the connector and housed within a cover, wherein the fuse is replaceable by removal of the cover alone.

Another main object of the present invention is to provide a fuse adapter having a housing separable into parts, preferably two parts, which parts are adapted to be clamped together to be held together fairly permanently, and wherein there is a cover applicable to the housing and there are means for supporting a replaceable fuse on the outside of the housing but inside the cover so that the fuse is replaceable by removal of the cover alone.

Another object of the present invention is to provide a fuse adapter having a housing separable into parts, preferably two parts, with one or more of the parts having winding or zigzag passageways therein and in which fuse adapter there are strip-like conductors bent to fit within the passageways so as to be held by their fit within the passageways so that no other means for fastening the conductors within the fuse adapter is necessary.

Another object of the present invention is to provide a fuse adapter having a housing separable into two parts, there being means for supporting a replaceable fuse on the outside of the housing and there being a cover to enclose the fuse, and wherein the two parts of the housing are each recessed to receive a non-circular nut so that the nut is held within the recesses and the fuse adapter has a bolt receivable by the nut for fastening the cover on the housing.

Another object of this invention is to provide an improved means for holding a fuse.

Another object of the invention is to provide an improved manner of applying a cover to a fuse adapter housing.

Another main object of the present invention is to provide a fuse adapter having a main body, the body having means for supporting a replaceable fuse in a position to be exposed at a side of the body, there being a replaceable cover for covering the fuse, the cover being replaceable without taking the main body apart.

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With the foregoing and other objects in view, which will be made manifest in the following detailed description and specifically pointed out in the appended claims, reference is had to the accompanying drawings for an illustrative embodiment of the invention, wherein:

Fig. 1 is a sectional view in elevation of a preferred form of the invention;

Fig. 2 is a sectional view along the line 2—2 of Fig. 1; and

Fig. 3 is a sectional view along the line 3—3 of Fig. 1.

Fig. 4 is a sectional view similar to Fig. 1 showing a modified form of the invention.

Referring to the accompanying drawings wherein similar reference characters designate similar parts, a preferred form of the invention is shown in Figs. 1, 2, and 3 where a housing 51 comprises two separable parts 52 and 53 clamped together by a nut 54 and a bolt 55 in a manner similar to the previously described forms of the invention, the nut 54 being located within a hexagonal recess. There are passageways in the two parts 52 and 53 in which strip-like conductors 57, 58, and 59 are held. The protruding ends of conductors 58 and 59 can be reversely bent to provide external contacts and the opposed ends of conductors 57 and 59 may be suitably bent or formed to provide resilient internal contacts. The upper ends of conductors 57 and 58 are bifurcated and formed to provide resilient Y's for receiving a replaceable fuse 60 which is snapped between the Y's. The parts of the housing 51 are recessed to provide a pocket 61 to receive fuse 60 and there is a cover 62 for enclosing fuse 60, the cover being held on the housing by means of a screw 64 and a nut 65, the nut being held within a hexagonal recess as most clearly shown in Fig. 2, the recess being formed in parts 52 and 53. Parts 52 and 53 preferably are grooved at 68 to receive one end of cover 62 so that between the groove 68 and the bolt 64 and nut 65 the cover at 62 is firmly held on the housing 51. The sides of parts 52 and 53 are preferably relieved at 69 and 70 in order that a person may grip the sides of cover 62 after screw 64 has been removed to remove cover 62.

The parts of housing 51 are also preferably formed with a pocket 71 which has at 72 and 73 inlets in which conductors can be plugged.

It is contemplated that the various parts of the housing 51 will be molded plastic material but any other suitable manner will fall within the scope of the invention.

Another form of the invention is shown in

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Fig. 4, wherein there is a cover 40 of transparent material. In the device shown in Fig. 4, the housing comprises a part 41 and its mating part, not shown, which are fastened together in a manner similar to the manner in which the parts of the housing 51 are fastened together and part 41 and its mating part are recessed to provide a non-circular recess to retain and non-rotatably receive a non-circular nut 42. Cover 40 is bored to receive a bolt 44 which is threadably received by nut 42 to secure cover 40 on the housing. There is a lug or boss 45 on cover 40 receivable within a notch in part 41 and its mating part to securely retain cover 40 on the housing. There are suitable conductor strips 20, 21, and 22 fitting within zigzag passageways in part 41 and its mating part forming internal and external contacts and detachably holding a fuse within housing 40.

It will be appreciated that by the present invention a simple low amperage fuse is provided between an electrical appliance and the main fuse box and this low amperage fuse will protect motors, heating elements, timers, and other electrical assemblies which might be damaged by frozen bearings, frayed cords, short circuits, or other causes resulting in damage to the appliance or they will create a fire or shock hazard. With the type of fuse adapter shown it is not necessary to remove the fuse adapter from the wall socket when replacing a fuse because only one side of the line is exposed when the cover 62 or 40, as the case may be, is removed so that whenever an electrical appliance is connected to the wall socket it may be left in the line and the fuse replaced. In the usual type of fuse adapter, it is mandatory that the fuse adapter be removed from the wall socket and disassembled in order to replace the fuse, but with the present invention it is only necessary to remove the cover and snap a new fuse into the fuse adapter.

It will be appreciated that the zigzag passageways in Fig. 4 will retain the conductor strips 20, 21, and 22 without any other fastening means being required and it can be seen from Fig. 1 that the conductor strips 57, 58, and 59 are also retained within parts 52 and 53 by the form of the conductor strips and the shape of the passageways in which the conductor strips fit.

Various changes may be made in the details of construction without departing from the spirit and scope of the invention as defined by the appended claims.

I claim:

1. A device of the class described comprising a housing separable into at least two parts, means for securing the parts together, conductor means on the housing providing external contacts to enable the device to be plugged into a wall socket and internal contacts to receive the prongs of an electrical connector, the housing providing a pocket on one side thereof to receive a fuse, means connected to the first named means and disposed within the pocket for detachably holding a fuse to enable the fuse to be readily replaced, a cover for covering the pocket, a nut, a screw having the shank receivable through the cover, the parts of the housing being mutually recessed to non-rotatably receive the nut and rotatably receive the screw, means for preventing withdrawal of the nut from the housing whereby the nut can be enclosed upon assembly and the screw can be threaded into the nut to detachably secure the cover to the housing.

2. A device of the class described comprising

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a housing separable into at least two parts, means for securing the parts together, conductor means on the housing providing external contacts to enable the device to be plugged into a wall socket and internal contacts to receive the prongs of an electrical connector, the parts of the housing being mutually recessed to form a pocket in one side of the housing to receive a fuse, means connected to the first named means and disposed within the pocket for detachably holding a fuse to enable the fuse to be readily replaced, a cover for covering the pocket, a nut, and a screw having the shank receivable through the cover, the parts of the housing being mutually recessed to retain and non-rotatably receive the nut and rotatably receive the screw whereby the nut can be enclosed upon assembly and the screw can be threaded into and out of the nut to detachably secure the cover to the housing to permit the cover to be removed without separating the parts of the housing.

3. A device of the class described comprising a housing separable into at least two parts, means for securing the parts together, conductor means on the housing providing external contacts to enable the device to be plugged into a wall socket and internal contacts to receive the prongs of an electrical connector, means connected to the first named means and exposed at one side of the housing for detachably holding a fuse to enable the fuse to be readily replaced, a cover for covering the exposed means, a nut, and a screw having the shank receivable through the cover, the parts of the housing being mutually recessed to retain and non-rotatably receive the nut and to rotatably receive the screw shank whereby the nut can be enclosed upon assembly and the screw can be threaded into and out of the nut to detachably secure the cover to the housing permitting the cover to be removed without separation of the parts of the housing.

4. A device of the class described comprising a housing separable into at least two parts, means for securing the parts together, conductor means on the housing providing external contacts to enable the device to be plugged into a wall socket and internal contacts to receive the prongs of an electrical connector, means connected to the first named means and exposed at one side of the housing for detachably holding a fuse to enable the fuse to be readily replaced, a cover for covering the exposed means, a screw having the shank thereof receivable through the cover, a nut for the screw, the parts of the housing being mutually recessed to non-rotatably receive the nut and to rotatably receive the screw shank, and means for preventing withdrawal of the nut from the housing whereby the nut can be enclosed upon assembly and the screw can be threaded into and out of the nut to detachably secure the cover to the housing permitting the cover to be removed without separating the parts of the housing.

5. A device of the class described comprising a housing separable into at least two parts, means for securing the parts together, conductor means on the housing providing external contacts to enable the device to be plugged into a wall socket and internal contacts to receive the prongs of an electrical connector, means connected to the first named means and providing spring fingers exposed at one side of the housing for detachably holding a fuse to enable the fuse to be readily replaced, a cover for covering the spring fingers, a screw having the shank thereof receivable

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through the cover, a nut for the screw, the parts of the housing being mutually recessed to non-rotatably receive the nut and to rotatably receive the screw shank, and means for preventing withdrawal of the nut from the housing after the parts of the housing are secured together whereby the nut can be enclosed upon assembly and the screw can be threaded into and out of the nut to detachably secure the cover to the housing permitting the cover to be removed without separating the parts of the housing.

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