Jan. 29, 1963 C. A. LINDEMAN 3,076,077

FUSED PLUG-IN RECEPTACLE

Filed Jan. 18, 1961

FIG. 1

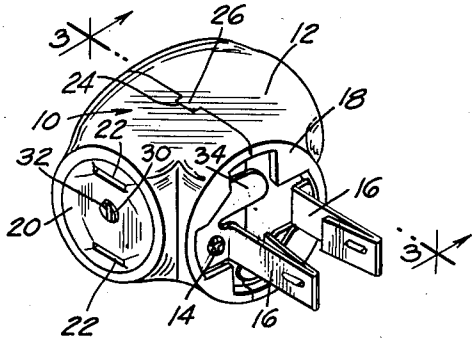


FIG. 2

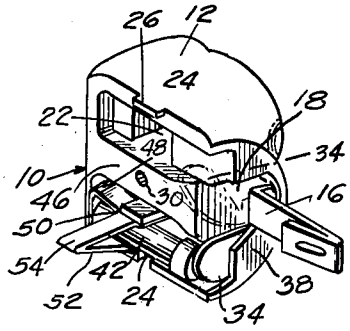


FIG. 3

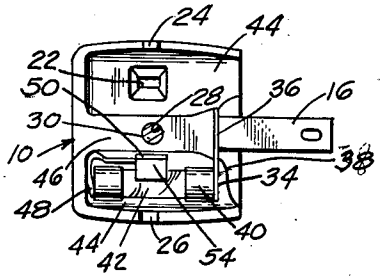


FIG. 4

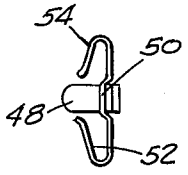


FIG. 5

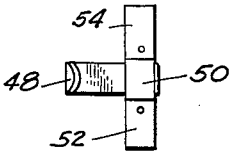
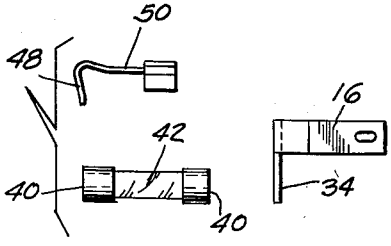


FIG. 6



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FUSED PLUG-IN RECEPTACLE

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4 Claims. (Cl. 200—115.5)

This invention relates in general to a plug-in receptacle for multiple connections having a duplication of parts and a separate fuse for each inlet blade adapted to be used in connection with the receptacle for blade outlets commonly used for house, power and lighting circuits.

In most lighting and small power circuits for homes, offices, factories and the like, it is customary to provide a number of outlets in different rooms for ordinary household and lighting plug-in receptacles, but the fuses for such connections are usually located at a point remote from the outlet and frequently in a switch or fuse box which, if not inaccessible, is frequently in a remote location not easily accessible. It is also customary to provide a multiple outlet plug which may be inserted in such a receptacle, but this plug itself is usually without a fuse and only increases the possibility of blowing a fuse at the more remote location because of multiple circuits applied thereto.

The present invention provides a bladed plug with an attachable multiple receptacle consisting of duplicate parts and having a separate removable fuse for each blade and conductor. Each blade is therefore rotatable to remove and insert a fuse when the plug is removed from a receptacle.

It is therefore an important object of the invention to provide a fused receptacle for multiple blade connections in which a separate conductor is provided for a pair of receptacle connections, each conductor having a separate, easily accessible and removable fuse.

A further object of the invention is to provide a simple combined receptacle for multiple bladed connection which comprises a pair of duplicate parts either releasably or permanently attached together to form an ordinary bladed plug with multiple openings.

Still a further object of the invention is to provide one portion of a bladed plug with a fuse connection which may be slipped readily in place and applied to one end of a bladed plug having oppositely extending electrical connections.

Still a further object of the invention is to provide a plug receptacle having a pair of opposite receptacle parts each containing a blade receiver of identical construction which makes a separate connection with a fuse for one side of a blade extending oppositely, being resiliently seated in one receptacle and extending into an opening in the opposite receptacle part.

Other objects of the invention will appear in the specification and will be more apparent from the accompanying drawings in which,

FIG. 1 is a perspective view of a plug-in receptacle in accordance with this invention.

FIG. 2 is a perspective view of one of the receptacle parts shown in FIG. 1.

FIG. 3 is a face view of one of the two identical parts which make up a complete plug with the ordinary bladed connector and a fuse held in proper place by one of the protruding blades.

FIG. 4 is an end elevational view of one of the two conductors which is oppositely disposed within a plug.

FIG. 5 is another elevational view of the conductor shown in FIG. 4; and

FIG. 6 is an exploded view of the internal conductor and the external blade between which a fuse is gripped.

This invention is intended to be applied and used in

connection with an ordinary twin bladed plug connector. When the plug parts are assembled, the fuses for each blade are complete in one half of the receptacle; two fuses are necessary for a complete plug, one for each of the incoming lines; the fuses are easily accessible and replaceable by rotating the two identical projecting blades when a plug is removed from its receptacle.

Referring now more particularly to the drawings, a complete fuse plug is shown in FIG. 1 comprising two identical plug parts one of which 12 is shown in FIG. 2 having a blade 16 mounted on a pivot 14 and projecting from one face 18 of the plug and another face 20 at right angles to the plug face 18 containing two slots 22 for the insertion of the blades of another plug, or the similar connection to some other part for receiving or using electricity.

Each of the plug parts 10 (or 12) is made of insulating material such as plastic, hard rubber, porcelain or any desired construction, the two parts being identical, each part having a notch 24 engaged by a projection 26 so that they will match when the parts are reversed and placed together and a central hole 28 extending through the plug part and through which a fastening pin 30 is inserted to draw the parts tightly together. This fastening pin may be inserted through both parts and the ends riveted, but preferably it is formed with a screw slot 32 at one end and is insertable through a fastening nut not shown in the other part.

In one end of each part upon which the blade 16 is rotatable upon the pivot 14, there is a projection 34 spaced at right angles a distance sufficient to provide an abutment for an end contact with one extremity 40 of a fuse 42 which is seated in a recess or opening 44 in one side of each plug part, and at one side of a central partition 46 through which the registering hole 28 for the fastening pin extends. At the other side of the partition is a similar recess 44 for partially receiving a fuse and conductor of the opposite plug part.

Applied to the other and opposite conductor end 40 of each fuse 42 is a projecting extremity 48 of a double internal blade connector 50, one end 52 of which extends downwardly in the plug section to which it relates, and the other end 54 extends outwardly therefrom for joint engagement with a similar blade of another plug section which is secured to the first one and is disposed diametrically with respect to the plug and the openings 20 at both ends thereof. The ends 52 and 54 of this connector are doubled upon themselves to form a good contact for a bladed connector inserted in the plug from either direction, and also the extremities of these parts 50 are spaced from each other to partially embrace a fuse 42 inserted in each section of the plug so that the fuse and each of the end engaging parts are held in proper location with the blades 16 parallel to each other when inserted in a receptacle, and the opposite internal conductor blades 50 will be held properly with their ends 52, 54 opposite the openings 20 in each opposite side of the plug to receive separate bladed connectors therein.

A fuse 42 is thus seated in the recess 44 at one side of the dividing partition 46. One end of the fuse is engaged by the extremity 48 of a double blade connector 30 seated at the inner side of this recess 44 and adapted to make connections, when a plug is assembled, with spaced blades inserted through the openings 22 at the opposite ends of a plug in a well known manner. The other end of the fuse 40 is adapted to engage an extremity at the end of the projection 34 of the blade 16 pivoted upon the axis 14. This projection is held in contact with the fuse and against outward movement with respect to the plug by its own resiliency and an overlying ledge 38

at this end of the plug. This ledge is spaced from the face 18 to allow the projection 34 to move behind the ledge 38 between the ledge and the adjacent face 18, thereby preventing outward movement of the blade 16 upon its pivot 14 and permitting only a swinging movement of the blade upon its pivot to uncover the adjacent end 40 of the fuse, and thereby to facilitate the removal and replacement of the fuse within its half of the plug.

By placing the two identical fixture plug parts together, a complete plug is formed having the parallel blades 16 as shown in FIG. 1 and into a plug receptacle. This plug projects from the receptacle to provide space for the insertion of twin blades in the openings 22 and each opposite end of the plug. The connection for each blade 16 through its fuse 42 to the double connector 50 provides a separate fuse connection so that if either one of the fuses are blown or become exhausted, the plug connector becomes useless and may be detached, the blade turned, the old fuse removed and a new one substituted for the old and exhausted fuse. Thus it is not necessary to separate the plug parts by the removal of the screw pin 30, but only to rotate the proper blade 16 on its axis 14 and to remove and replace the exhausted fuse.

A plug manufactured in this way of duplicate parts, each part having certain pieces connected thereto and the two parts being connected together in opposite relation by a fastening pin 30 will reduce the number of different parts to form a complete plug; it will simplify the construction, assembly and reduce the actual different parts to that extent, and it is more easy to assemble and to repair a plug of this kind.

While a preferred construction has thus been described in some detail, it should be regarded by way of illustration and example rather than as a restriction or limitation thereof, as many changes in the construction, combination and arrangement of the parts may be made without departing from the spirit and scope of the invention.

I claim:

1. In a fused plug-in receptacle, bladed plug parts each comprising one-half of a receptacle with an opposite notch and projection fitting similar and opposite parts, means holding the two parts together, each part having one face containing two slots and one-half of a face having one blade projecting therefrom, an electrical connector in the plug part having two reversely bent socket ends extending inwardly toward each other and terminating below the opposite recesses in two connected half plug parts, the connector having an extremity between the two ends thereof bent at right angles to its opposite socket ends, the blade having a foot and a projection at the bottom and at one side of the center of the joint plug parts and pivoted to turn about a lengthwise axis in its plug part, the plug part having a recess with a thin ledge overlying the recess within which the plug foot and projection are rotatable to retain the blade in place, a fuse engaged at one end by the projection of the blade, the other end of the fuse being engaged by the said bent extremity of the electrical connection, and the fuse lying laterally between the inwardly turned socket end of the electrical connector thereby making a fused electrical connection for both openings at opposite sides of two bladed plug parts when they are secured together.

2. In a fused plug-in receptacle, bladed plug parts each comprising one-half of a receptacle with an opposite notch and projection fitting similar and opposite parts, means holding the two parts together, each part having one face containing two slots and one-half of a face having one blade projecting therefrom, an electrical connector in the plug part having two reversely bent socket ends extending inwardly toward each other and terminating below the opposite recesses in two connected half plug parts, the connector having an extremity between the two ends thereof bent at right angles to its opposite socket ends, the blade having a foot and a projection at the bottom and at one side of the center of the joint plug parts and pivoted to turn about a lengthwise axis in its plug part, the plug part having a recess with a thin ledge overlying the recess within which the plug foot and projection are rotatable to retain the blade in place, a fuse engaged at one end by the projection of the blade, the other end of the fuse being engaged by the said bent extremity of the electrical connection, one-half of each receptacle formed with a thin ledge behind which the foot of the blade is rotatable and at the same time to engage one end of the fuse, the fuse itself being seated in a recess in contact with one end of the bladed projection and the other end in contact with the lateral projection from the double contact member in a recess between the two inwardly turned extremities of each double contact member, a partition separating the interior of each half plug into a recess for a fuse partly extending therefrom and for a fuse from the other half plug, the two half plugs forming a complete receptacle when one part is inverted and secured in connection with the other part.

3. In a fused plug-in receptacle, bladed plug parts each comprising one-half of a receptacle with an opposite notch and projection fitting similar and opposite parts, means holding the two parts together, each part having one face containing two slots and one-half of a face having one blade projecting therefrom, an electrical connector in the plug part having two reversely bent socket ends extending inwardly toward each other and terminating below the opposite recesses in two connected half plug parts, the connector having an extremity between the two ends thereof bent at right angles to its opposite socket ends, the blade having a foot and a projection at the bottom and at one side of the center of the joint plug parts and pivoted to turn about a lengthwise axis in its plug part, the plug part having a recess with a thin ledge overlying the recess within which the plug foot and projection are rotatable to retain the blade in place, a fuse engaged at one end by the projection of the blade, the other end of the fuse being engaged by the said bent extremity of the electrical connection, each half receptacle having a ledge behind which the foot of the blade is rotatable and at the same time engaging one end of the fuse, the blade having a pivot for mounting it to turn about an axis endwise thereof, a double contact member having a lateral projection for engaging a fuse when the opposite end of the fuse is engaged and held under said ledge by turning the blade projection to engage under the ledge, and the blade being rotatable to move its projection out of engagement with one end of the fuse so that the fuse may be removed and replaced without dismantling the entire plug connection.

4. In a fused plug-in receptacle, bladed plug parts each comprising one-half of a receptacle with an opposite notch and projection fitting similar and opposite parts, means holding the two parts together, each part having one face containing two slots and one-half of a face having one blade projecting therefrom, an electrical connector in the plug part having two reversely bent socket ends extending inwardly toward each other and terminating below the opposite recesses in two connected half plug parts, the connector having an extremity between the two ends thereof bent at right angles to its opposite socket ends, the blade having a foot and a projection at the bottom and at one side of the center of the joint plug parts and pivoted to turn about a lengthwise axis in its plug part, the plug part having a recess with a thin ledge overlying the recess within which the plug foot and projection are rotatable to retain the blade in place, a fuse engaged at one end by the projection of the blade, the other end of the fuse being engaged by the said bent extremity of the electrical connection, each blade having a pivot to mount it for endwise rotation to engage the projection with the end of the fuse and to rotate it free from said engagement to uncover one end of the fuse, the ledge holding its projection in connection with the end of its fuse and restraining the

blade from moving outwardly, and the two blades of two connected half receptacles being parallel and spaced apart when both fuses are connected and are covered by the blades.

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