May 18, 1965 R. J. McLAREN 3,184,569

COMBINED PLUG RECEPTACLE AND CIRCUIT OVERLOAD PROTECTIVE DEVICE

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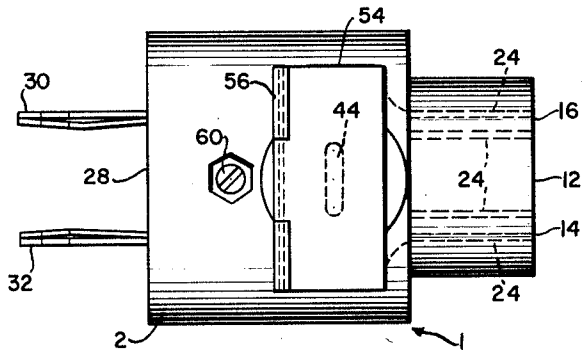


FIG.1.

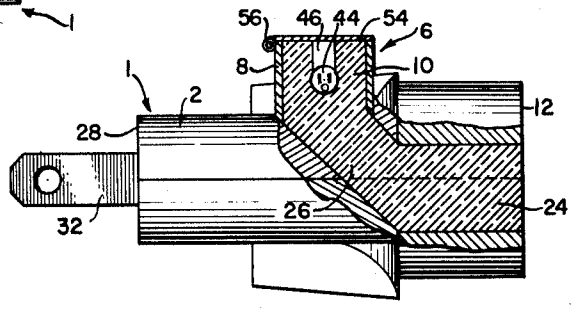


FIG.2.

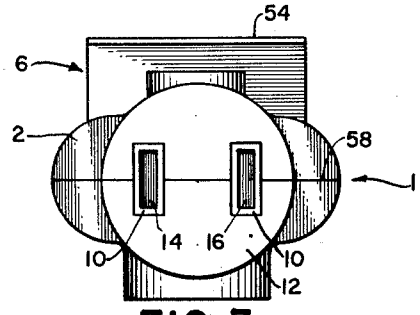


FIG.3.

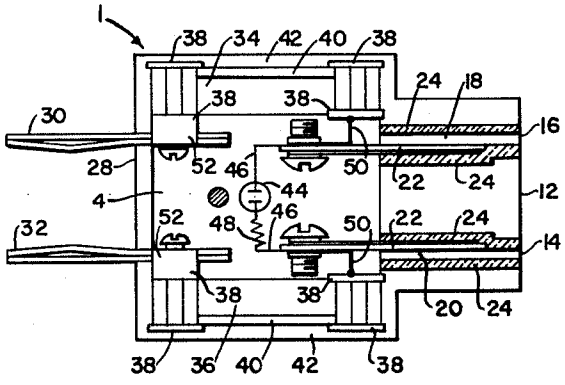


FIG .4.

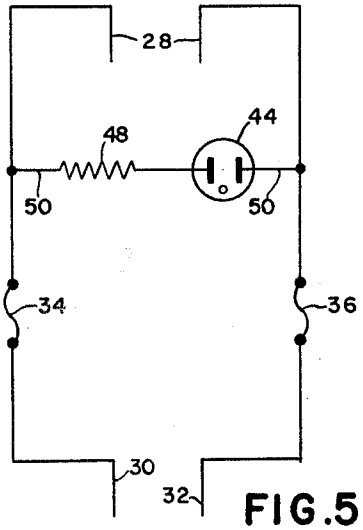


FIG.5.

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COMBINED PLUG RECEPTACLE AND CIRCUIT OVERLOAD PROTECTIVE DEVICE

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6 Claims. (Cl. 200—121)

This invention relates to plug receptacles and more particularly to a device of that nature including, in combination, means for interrupting a circuit in the event of an overload thereon, structure adapted to provide illumination peripherally of the outlet apertures as a guide for insertion of a male plug member and illuminating means adapting said device for use as a night light, said illuminating means, while lighted, further serving as an indication that the outlet is operational and that any appliance in circuit therewith is in good working order and does not constitute an overload to the circuit.

Consonant with the foregoing, the instant invention has for an object the provision of a plug receptacle wherein a pair of cartridge-fuse members are removably provided to preclude damage to an appliance connected in circuit therewith.

Another object of the present invention is to provide a plug receptacle having light means associated therewith to indicate failure or not with respect to cartridge-fuses contained within said receptacle.

A further object of the present invention is the provision of a plug receptacle having illumination means associated therewith, said illumination means being utilizable as a night light and cover means adapted to prevent emanation of light therefrom.

A still further object of the instant invention is the provision of a plug receptacle having illumination means associated therewith, said illumination means serving as a guide to the specific location of the female outlet apertures of said plug receptacle.

Another object of the instant invention is the provision of a new and useful plug receptacle accomplishing the objectives noted above, which plug receptacle is of extremely simple construction, economical of manufacture, and highly reliable in operation.

Further and additional objects and advantages will become apparent to those skilled in the art as the description proceeds with reference to the accompanying drawings, wherein:

FIGURE 1 is a top plan view of the plug receptacle;

FIGURE 2 is a side elevational view of the receptacle, parts being broken away to show the continuity arrangement of the material of high internal light reflective character;

FIGURE 3 is an end view of the present invention illustrating the prong receiving apertures;

FIGURE 4 is a plan view of the lower half section of the plug receptacle showing the relative arrangement of parts therein; and

FIGURE 5 is a schematic representation of the circuitry employed in the instant invention.

Referring now in detail to the present preferred embodiment of the invention illustrated by way of example in the accompanying drawings, numeral **1** generally designates the plug receptacle.

As presented the device is seen to be generally comprised of body **2** constructed of opaque insulating plastic, hard rubber or any other suitable material, said body having a hollow central portion **4** therewithin. Top portion **6**, in accordance with the preferred embodiment hereof, is raised as shown and formed of wall casing **8**, said wall containing polymethyl methacrylate, designated by numeral **10** or any other material having the property of high internal light reflection, the preferred material as heretofore stated being commonly known under the

trademark Lucite. Material **10**, as shown in FIGURE 2 of the drawings, integrally extends through said body to appear surfacedly of said top portion **6** and of end wall **12** as will be described hereinbelow following.

Said end wall **12**, as observed in FIGURE 3 of the drawings, contains apertures **14**, **16**, elongate passages **18** and **20** being provided intermediate said apertures, respectively, and said hollow central portion **4**, and conductive strips **22**, **22** being disposed lengthwise within each said passage, said strips being of brass or other suitable material. Accordingly, said material **10** appearing surfacedly of said apertures **14**, **16** and peripherally thereof as shown in said FIGURE 3, forms the abounding walls **24** of said elongate passages and is integrally connected therewith by portion **26** of said material **10** as disclosed in FIGURE 2 of the drawings.

End wall **28**, opposingly located with respect to end wall **12**, has a pair of receptacle-mating-prongs **30**, **32** extending therefrom, said receptacle-mating-prongs being preferably of brass or any other suitable conductive material folded over upon itself. Said prongs provide contact members adaptable to any suitable electrical power source, contact members of any suitable configuration being utilizable in lieu thereof as in the case of a direct wall outlet where adapter prongs would not be required.

As shown in FIGURE 4 of the drawings, cartridge-fuses **34**, **36** are provided intermediate said contact members **30**, **32**, respectively, and said conductive strips **22**, said fuses being receivable within clip-connectors **38**, said connectors being provided within recesses **40** extending substantially the length of said central hollow portion and adjacent side walls **42**, **42**. Said cartridge-fuses, being of conventional operation, are composed of material having a predetermined electro-thermal capacity so as to readily melt and separate when more than a predetermined amount of electric current passes therethrough. In operation, when a current greater than that desired passes through the device, either both or one of cartridge-fuses **34**, **36** will burn and sever. Thus the circuit between receptacle-mating-prongs or contact members **30**, **32** and conductive strips **22**, **22** will be broken, stopping the flow of current and simultaneously cause the deenergization of a neon lamp as will now be described.

A small neon lamp or other suitable electrical illuminating device **44** is positioned within cavity **46** of top portion **6** and connected by wire **46** to conductive strips **22**, **22**. A small resistance **48** may be included in the circuit as shown so that it is connected in series with the neon lamp.

Accordingly then, it will be appreciated that said conductive-strips being connected to said cartridge-fuses by wires **50**, **50** are in series circuit with said receptacle-mating-prongs which are connected to said cartridge-fuses at screw connections **52**, **52**, said neon lamp and said resistance being connected in parallel with said series circuit as shown in FIGURE 5 of the drawings. Hence, it will be apparent that in the event either cartridge-fuse **34** or **36** is severed, further current flow to the conductive strips or to the neon lamp will be curtailed, thus extinguishing the neon lamp to indicate an overload in the circuit and the necessity of remedial action.

By dint of the arrangement of said material displaying high internal reflective character, light emanating from neon lamp **44** will be directed internally of said material and will appear peripherally of apertures **14**, **16** located in end wall **12** of the device, to thus facilitate insertion within said apertures of a male plug adapter. Light from said neon lamp will concurrently be emanated from said top portion **6** thus functioning as a night light or as an indicator of working order of the device. An opaque cover **54** is provided across said top portion and is

hingedly connected thereto at 56 to provide closure against light emanating from said top portion if so desired.

As seen in FIGURE 3 of the drawings, said plug receptacle 1 is comprised of an upper and a lower half divided at 58, nut and bolt combination 60, shown in FIGURE 1 being employed for holding said halves together.

Both the structural and operational characteristics of the invention having been described, it will be understood that changes may be made in the form, construction and arrangement of parts from that disclosed herein without in any way departing from the spirit of the invention or sacrificing any of the attendant advantages thereof, provided, however that such changes fall within the scope of the claims appended hereto.

What is claimed is:

1. A plug receptacle comprised of a body of opaque insulating plastic having a central hollow portion; a top portion containing transparent material of high internal light reflective character, there being a neon lamp receiving cavity within said top portion; side walls each containing a recess extending substantially the length of said central hollow portion, a clip-connector within each said recess, and a cartridge-fuse within each said clip connector; a first end wall containing a pair of apertures therein; passages intermediate said apertures and said central hollow portion, and a conductive strip within each said passages and extending therefrom to within said central cavity portion, said passages being integral with said material contained within said top portion and formed of said material, said material appearing surfacedly of said first end peripherally of said apertures; a second end wall having a pair of receptacle-mating-prongs extending therefrom, one end of said prongs extending to within said central hollow portion; a neon lamp removably mounted within said cavity; and a cover hingedly connected to said top portion and superposed with respect to said cavity; said conductive strips, receptacle-mating-prongs and said cartridge-fuses being in series with the line supply, said neon lamp being in shunt across the load side of the line, and a high resistive element in series with said neon lamp.

2. A plug receptacle comprised of a body of opaque insulating plastic having a central hollow portion; a top portion containing transparent material of high internal light reflective character, a cavity within said top portion; side wals each containing a recess etxending substantially the length of said central hollow portion, cartridge-fuse receiving clips within each said recess; a first end wall containing a pair of apertures therein; elongate passages intermediate said apertures and said central hollow portion and a conductive strip within each said passages and extending therefrom to within said central cavity portion, said passages being formed through material of high internal light reflective character, said material extending integrally between said passages and said top portion, said material appearing surfacedly of said first end peripherally of said apertures; a second end wall having a pair of receptacle-mating-prongs extending therefrom, one end of said pfongs extending to within said central hollow portion; a neon lamp removably mounted within said

cavity; said conductive strips and said receptacle-mating-prongs being in series circuit with the line supply, said neon lamp being in shunt across the load side of the line, and a high resistive element in series with said neon lamp.

3. A plug receptacle as set forth in claim 2 wherein said material of high internal light reflective character is polymethyl methacrylate.

4. A plug receptacle comprised of a body of opaque insulating plastic having a central hollow portion; a top portion containing material of high internal light reflective character; a cavity within said top portion; a first end wall containing a pair of apertures therein; elongate passages intermediate said apertures and said central hollow portion, and a conductive strip within each said passages and extending therefrom to within said central cavity portion, said passages being formed through material of high internal light reflective character, said material extending integrally between said passages and said top portion, said material appearing surfacedly of said first end peripherally of said apertures; a second end wall having a pair of receptacle-mating-prongs extending therefrom, one end of said prongs extending to within said central hollow portion; a neon lamp removably mounted within said cavity; said conductive strips and said receptacle-mating-prongs being in series circuit with the line supply, said neon-lamp being connected in shunt across the load side of the line, and a high resistive element in series with said neon lamp.

5. A plug receptacle as set forth in claim 4 wherein said material of high internal light reflective character is polymethyl methacrylate.

6. A plug receptacle comprised of a body having a central hollow portion; a top portion containing material of high internal light reflective character; a cavity within said top portion; a first end wall containing a pair of apertures therein; said material extending between said top portion and said apertures, said material appearing surfacedly of said first end peripherally of said apertures; elongate passages intermediate said apertures and said central hollow portion, said passages being formed through said material; a conductive strip within each said passage; a second end wall having a pair of contact members positioned thereat; a neon lamp mounted within said cavity; said conductive strips and contact members being connected in series with the line supply; said neon lamp being in shunt across the load side of the line, and a high resistive element in series with said neon lamp.

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