

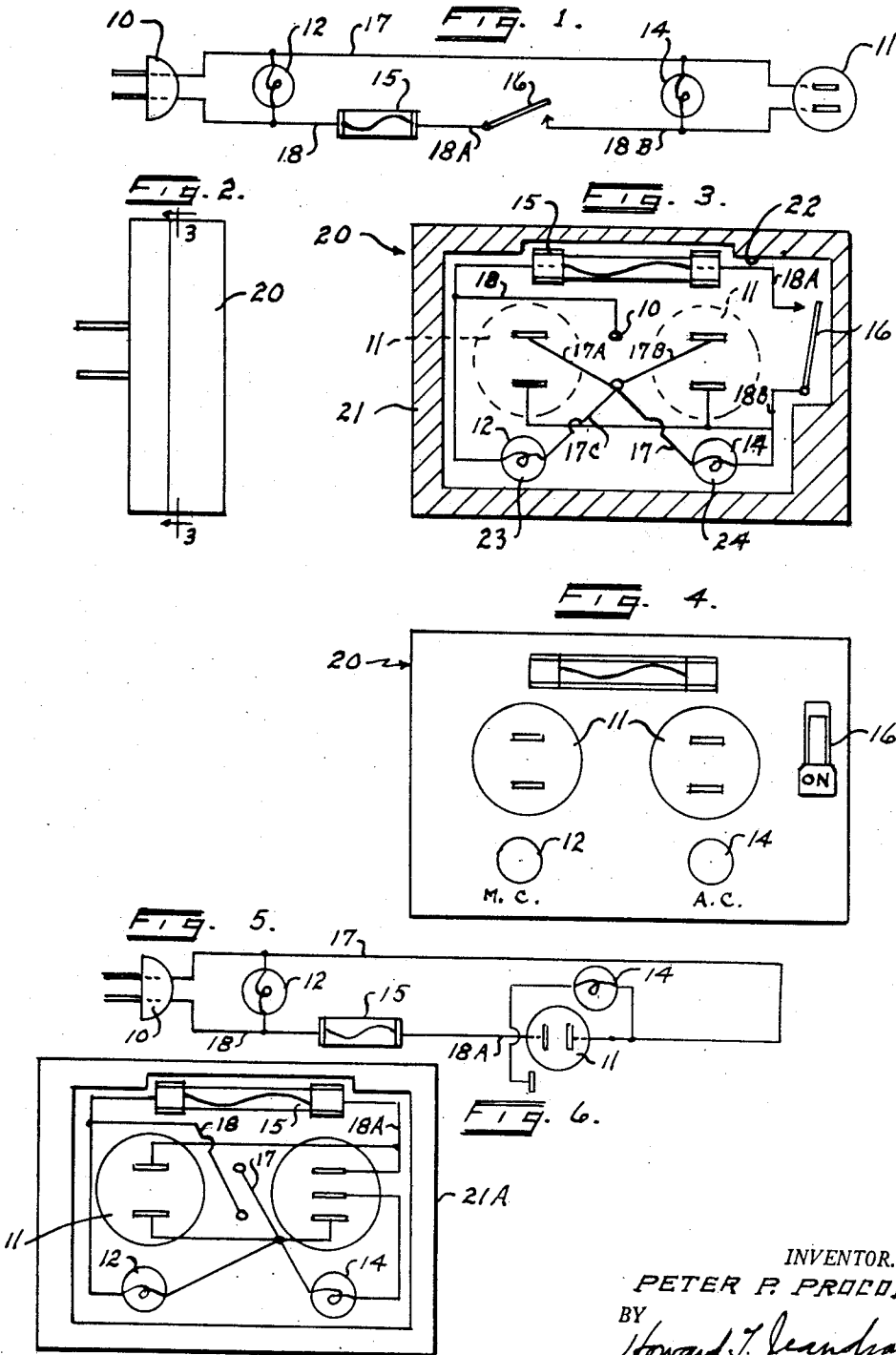
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COMBINATION ELECTRIC RECEPTACLE AND FUSE

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COMBINATION ELECTRIC RECEPTACLE
AND FUSE

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This invention relates to certain novel improvements in electric receptacles and more particularly to an electrical receptacle having a fuse and pilot light combined therein.

It is an object of this invention to provide an attachment receptacle that may be plugged into any present outlet and which provides a pilot light to indicate that said outlet is live.

A further object of this invention is to provide a plug-in receptacle that is provided with a fuse and a pilot light.

A still further object of this invention is to provide a plug-in receptacle that is provided with a pilot light to indicate that said receptacle is live and a second pilot light is provided to indicate when said receptacle is connected to a second plug-in device.

Another object of this invention is to provide a plug-in receptacle that is arranged in such a manner that a first pilot light indicates the receptacle is live and a second pilot light indicates when a second plug-in unit is energized and in which a fuse is mounted in the plug-in receptacle to protect the second plug-in device and said fuse is mounted to facilitate easy replacement.

Another object of this invention is to provide a plug-in receptacle that is arranged in such a manner that a first pilot light indicates the receptacle is live and a second pilot light indicates when a second plug-in unit is energized and in which a fuse and a switch are mounted so that the fuse will protect the second plug-in device and the switch permits making or breaking the circuit to the second plug-in device.

Other objects of this invention will be apparent by reference to the accompanying description and the drawing in which

Fig. 1 illustrates a schematic circuit of one embodiment of this invention,

Fig. 2 is a side elevational view of a plug-in unit incorporating the circuit illustrated in Fig. 1,

Fig. 3 is a cross sectional view taken on line 3-3 of Fig. 2, illustrating the wiring within the plug,

Fig. 4 is a front elevational view of the same plug,

Fig. 5 is a schematic wiring diagram of another embodiment of this invention, and

Fig. 6 is a cut away section of a plug incorporating the circuit illustrated in Fig. 5.

Referring to Fig. 1 there is illustrated a schematic wiring diagram in which a male plug 10 is provided and a female plug 11 is provided and a pair of pilot lights 12 and 14 are provided and a fuse 15 and switch 16 are provided. There

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are two connecting lines 17 and 18. The units are connected in the following manner, one side of plug 10 is connected by means of line 17 to one side of plug 11, the opposite side of plug 10 is connected to a fuse 15 by means of line 18. The opposite side of fuse 15 is connected by line 18A to one side of a switch 16, the opposite side of switch 16 is connected by means of line 18B to the opposite side of plug 11. The pilot light 12 is placed adjacent to plug 10 and is connected on each side to the lines 17 and 18. The pilot light 14 is placed adjacent to the plug 11 and is connected on either side to the lines 17 and 18B. It is apparent that when the plug 10 is plugged into a live circuit that the lamp 12 will immediately be energized to indicate the circuit as live. With the plug 10 so mounted, this circuit is ready for use. Any plug-in device may then be plugged into plug 11; in order that the device may be energized switch 16 must be closed. Upon closing switch 16, the pilot light 14 will be energized to indicate the circuit to the second plug-in unit as completed. It is apparent that with this circuit so connected the plug-in device is protected by means of fuse 15 and in the event of a short circuit or overload through the device plugged into plug 11, fuse 15 will receive the overload and burn out without affecting the main circuit into which plug 10 has been mounted. This is due to the fact that in every case plug 15 must be of an amperage less than the fuse used in the main circuit. Referring to Fig. 2, there is illustrated a general appearance of a plug-in receptacle 20 incorporating the circuit described above. Fig. 3 illustrates the same plug-in receptacle 20 showing the general arrangement of the component parts. That is, there is provided a body portion 21 with a hollowed out center portion 22 to provide ample space in which to mount the fuse 15 and the base receptacles 23 and 24 and the pilot lights 12 and 14 respectively. Also there is ample space provided for the switch 16. In this receptacle 20 there are provided a pair of female plugs 11 and the male plug 10 is incorporated as a part of the body portion 21. Thus the wiring in Fig. 3 does not follow the simple illustration shown in Fig. 1. However the connections are similar, that is, starting with the two connected elements or prongs of plug 10, we may follow one side of plug 10 through a line 17 to a pilot light 14. From the same side of plug 10 there are provided connecting leads 17A, B and C, 17A being connected to one side of the female plug 11 and similarly 17B being connected to one side of the

other female plug 11 and 17C connects the same side of plug 10 to the pilot lamp 12. The opposite side of plug 10 is connected by means of a line 18 to one side of the fuse 15. The opposite side of fuse 15 is connected by means of a line 18A to the switch 16. The opposite side of switch 16 is connected by means of a line 18B to the opposite side of both of the female plugs 11 and is also connected to the opposite side of the pilot lamp 14. Line 18 is also connected to the opposite side of lamp 12. Thus with all of the component parts connected as described and with the face of the plug 20 covering these component units, the plug 20 will present the general appearance illustrated in Fig. 4. It may be noted that the face plate will be cut away around the fuse 15 so that the fuse is easily accessible to be removed when burned out. And it is to be noted that the switch 16 is mounted in such a relation that when closed the switch presents a face having a proper marking to indicate "on" and when the switch is opened it will also indicate a proper marking "off." It is also to be noted that the face plate may be properly marked under each pilot light. In this instance, pilot light 12 has been marked M. C. meaning main circuit and pilot light 14 has been marked A. C. meaning auxiliary circuit. Thus with the unit plugged into a live line, the M. C. light will be energized and upon plugging in a unit into either of the plugs 11 and placing the switch 16 in an "on" position the A. C. pilot lamp will be similarly energized.

A further embodiment of this invention is illustrated in Figs. 5 and 6 in which the circuit of Fig. 5 includes the male plug 10 and the female plug 11, the pilot lamps 12 and 14 and the fuse 15. These components are connected by means of lines 17, 18 and 18A. The line 17 is connected from one side of the plug-in unit 10 to one side of the plug 11. The line 18 is connected from the opposite side of plug 10 to one side of the fuse 15 and the opposite side of fuse 15 is connected by the line 18A to the opposite side of plug 11. Lamp 12 is placed adjacent to the plug 10 and is connected on either side to the lines 17 and 18 and the lamp 14 is shunted across lines 17 and 18B adjacent to the plug 11. The line 18B is one side of the plugged in device as illustrated in Fig. 5. Referring to Fig. 6 the circuit of Fig. 5 is incorporated in a body portion 21A and is similar except that there are two female plugs 11 provided and the plug 10 is incorporated in the body member 21A. The circuit in Fig. 6 may be similarly followed. The two prongs of plug 10 are connected as follows; one side of plug 10 being connected by line 17 to one side of both pilot lamps 12 and 14 and line 17 is also connected to one side of each of the female plugs 11. The opposite side of plug 10 is connected by means of line 18 to one side of the fuse 15 and in turn to the opposite side of lamp 12. The opposite side of fuse 15 is connected by means of line 18A to the opposite side of the female plugs 11, and the opposite side of lamp 14. Thus it is apparent with this circuit that when the unit is plugged in by means of the prongs of plug 10 into a live circuit that the lamp 12 will be energized to indicate this receptacle is live and ready for use. As soon as any device having a closed circuit is plugged into either of the female plugs 11, the pilot light 14 will be energized by means of the shunt circuit to indicate that the plugged in device is similarly energized and this unit provides an indication of a live circuit and of a completed circuit through the

plugged in device and the fuse is of such an amperage less than the main fuse in the main circuit to protect the plugged in device or rather the protect the main circuit from any overload or short circuit that may be found in the plugged in device as the fuse 15 will burn out before the fuse in the main circuit and cut out any overload or defective unit that may be plugged in.

Various changes or modifications may be made in the general combination or manner of connecting the component parts to provide an electrical connecting element for indicating the conditions above described without departing from the spirit of this invention and this invention shall be limited only by the appended claims.

What is claimed is:

1. A receptacle for a cartridge fuse and a pair of pilot lights, comprising a body of insulating material formed for cooperating upper and lower sections, said sections having cooperating recesses formed in the abutting surfaces thereof, a pair of U-shaped clip members mounted in the recess in the lower of said sections in spaced apart relation to hold the cartridge fuse, a male plug and a female plug, said male plug connected on one side to one side of said female plug, said male plug connected on its opposite side to one of said U-shaped clips, the opposite U-shaped clip in turn connected to the opposite side of said female plug, a first pilot light connected across the male plug connections, a second pilot light connected to one side of said female plug connections and to the exterior of the other side of said female plug, said exterior connection to be completed when a male plug is inserted in said female plug connection, means for detachably interconnecting said insulated sections, means to indicate when said receptacle has been plugged into a live circuit and means to indicate when a closed circuit is connected to said female plug.

2. A receptacle for a cartridge fuse, switch and a pair of pilot lights, comprising a body of insulating material formed for cooperating upper and lower sections, said sections having cooperating recesses formed in the abutting surfaces thereof, a pair of U-shaped clip members mounted in the recess in the lower of said sections in spaced apart relation to hold the cartridge fuse, a switch mounted in the recess in the lower of said sections, a male plug and a female plug, said male plug connected on one side to one side of said female plug, said male plug connected on its opposite side to one of said U-shaped clips, the opposite U-shaped clip in turn connected to one side of said switch, the opposite side of said switch in turn connected to the opposite side of said female plug, a first pilot light connected across the male plug connections, a second pilot light connected across the female plug connections, means for detachably interconnecting said insulated sections, means to indicate when said receptacle has been plugged into a live circuit, means to connect a closed auxiliary circuit to said female plug, and means to close said switch and indicate that said auxiliary circuit is live.

3. A fuse and pilot light adaptor comprising a body member formed of insulating material, a cartridge fuse arranged within the insulated body member, a pair of pilot lights arranged in said body member, a male plug and a female plug connected to said body member, means to connect one side of the male plug to one side of said female plug, means to connect the opposite side of said male plug to said fuse, means to connect the opposite side of said fuse to said opposite side of

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said female plug, a pair of pilot lights, the first pilot light connected across the male plug, the second pilot light connected to one side of said female plug and to the exterior of the other side of said female plug, said exterior connection to be completed when a male plug is inserted in said female plug connection, means to insert a cartridge fuse of smaller amperage than the fuse used in the live circuit into which the adaptor is to be plugged, means to indicate said adaptor is connected to a live circuit, and means to indicate when a closed circuit is plugged into said adaptor.

4. A fuse switch and pilot light adaptor comprising a body member formed of insulating material, a cartridge fuse arranged within the insulated body member, a pair of pilot lights and switch arranged in said body member, a male plug and a female plug connected to said body member, means to connect one side of the male plug to one side of said female plug, means to connect the opposite side of said male plug to said fuse, means to connect the opposite side of

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said fuse to one side of said switch, means to connect the opposite side of said switch to said opposite side of said female plug, a pair of pilot lights, the first pilot light connected across the male plug, the second pilot light connected across said female plug, means to insert a cartridge fuse of smaller amperage than the fuse used in the live circuit into which the adaptor is to be plugged, means to indicate said adaptor is connected to a live circuit, and means to close said switch and indicate when a closed auxiliary circuit is connected to said female plug.

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