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[54] **DUAL VOLTAGE DROP LIGHT**

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[51] **Int. Cl.** **H01r 11/02**

[58] **Field of Search** ..... 313/318; 315/64, 315/67, 69; 339/28, 144, 145, 157, 147 R, 148

[56] **References Cited**

UNITED STATES PATENTS

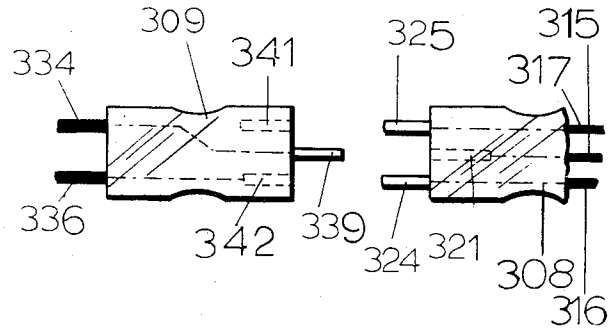
2,197,910	4/1940	Ament	339/28 X
1,946,570	2/1934	Beidler	315/67 X
3,414,762	12/1968	Wyzykowski	339/144 X

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[57] **ABSTRACT**

A trouble light for use on two different voltages. The light has an incandescent lamp having two filaments. One of the filaments is connected to terminals so that it can be connected to a first source of voltage, such as 120 volts A.C. The second filament is connected to two terminals so that it can be connected to a second source of voltage, such as, for example, 12 volts. A cord is connected to the terminals. The cord terminates in a first plug. The first plug has pins for plugging into a socket. The adapter has a second female plug adapted to be received in a power supply. Clip leads are connected to the wires in the first plug for connecting to a battery. The construction of the lamp disclosed herein is such that it will prevent an electrical shock to the user since the exposed plugs and terminals are not connected to the power source.

6 Claims, 6 Drawing Figures



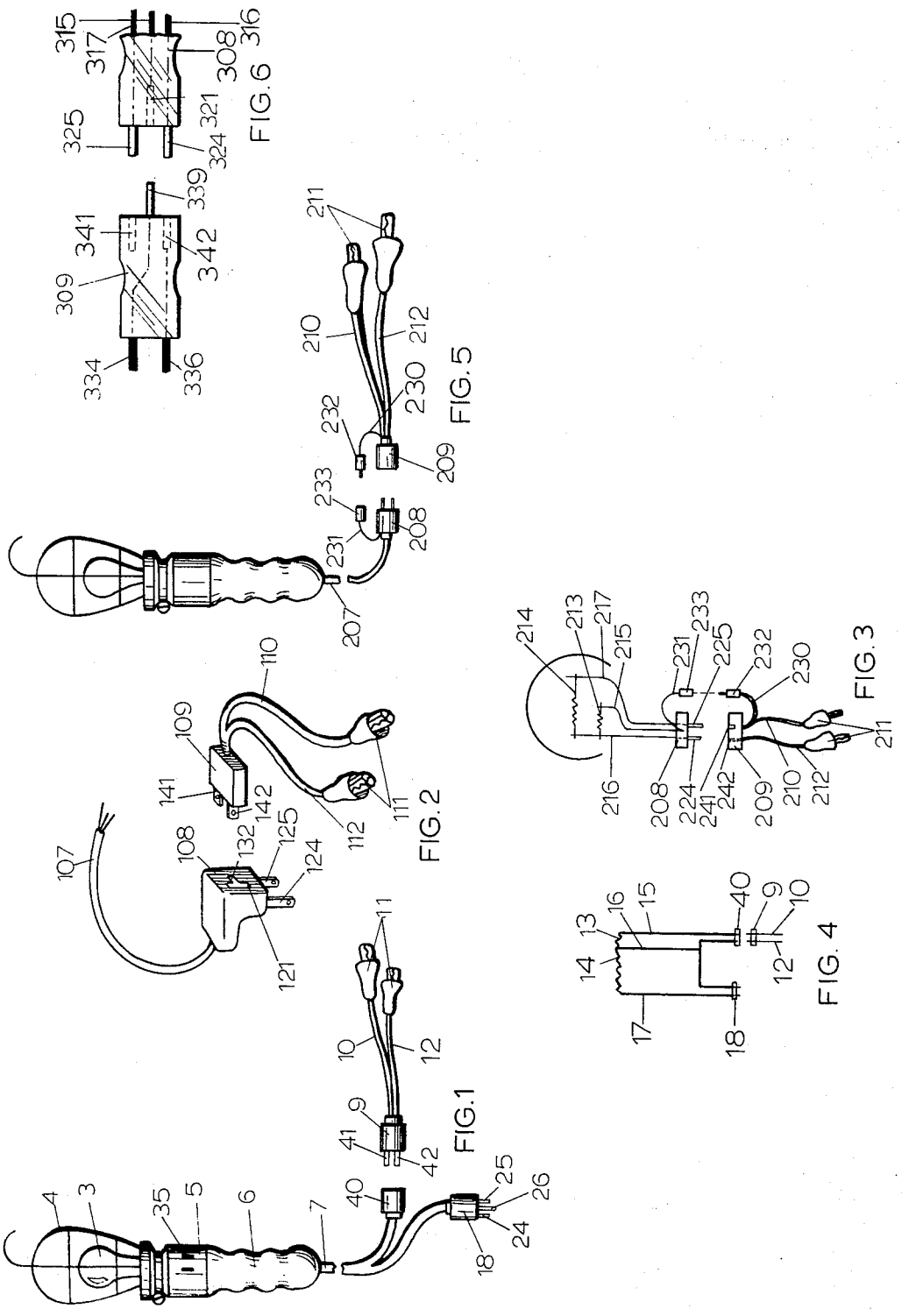


FIG. 6

FIG. 5

FIG. 2

FIG. 3

FIG. 1

FIG. 4

DUAL VOLTAGE DROP LIGHT

OBJECTS OF THE INVENTION

It is an object of the invention to provide a lamp which can be connected to either a power line plug or terminals, the power line plug connecting a first filament to a first source of voltage and the clips connecting a second filament to a second source of voltage in such a way that the user will not incur electrical shock.

Another object of the invention is to provide a dual voltage lamp.

Another object of the invention is to provide a lamp that is simple in construction, economical to manufacture, and simple and efficient to use.

With the above and other objects in view, the present invention consists of the combination and arrangement of parts hereinafter more fully described, illustrated in the accompanying drawing and more particularly pointed out in the appended claims, it being understood that changes may be made in the form, size, proportions, and minor details of construction without departing from the spirit or sacrificing any of the advantages of the invention.

DESCRIPTION OF THE DRAWINGS

FIG. 1 is an exploded view of the trouble lamp according to the invention.

FIG. 2 is a view of another embodiment of the invention.

FIG. 3 is a schematic electrical view of the embodiment shown in FIG. 5.

FIG. 4 is a schematic view of the wiring of another embodiment.

FIG. 5 is a view of the lamp corresponding to the circuit of FIG. 3.

FIG. 6 is a schematic view of another embodiment of the invention.

DETAIL DESCRIPTION OF THE DRAWINGS

Now with more particular reference to the drawings, the trouble light embodiment shown in FIG. 1 and FIG. 4 has a lamp 3 with a guard 4. Power is carried to the lamp through the lamp holder 5 and handle 6. The lamp holder 5 has openings 35 into which an accessory may be plugged. The accessory opening is electrically connected to the 120 volt filament of the lamp.

The lamp can be used either by plugging male plug 18 into a conventional 120 volt power source Male plug 18 has first terminals 24 and 25 and ground terminal 26 or it could be supplied power from a battery by plugging male adapter plug 9 into female plug 40 and attaching clips 11 to the terminals of a battery. Therefore, the user of a vehicle may use the trouble light where 120 volts is available at the dock. He can also use the light while he is enroute, when only the vehicle battery is available.

The lamp is provided with the two filaments, 13 and 14. In the embodiment shown in FIGS. 1 and 4 the three lines 15, 16, 17 in cord 7 connect the filaments 13 and 14 to two different power sources. The 120 volt lines 16 and 17 are connected to the two pins 24 and 25 of plug 18. The pin 26 is connected to a ground line.

The female plug 40 may receive the terminals 41 and 42 of plug 9. The terminals 41 and 42 are connected to clips 11 by lines 10 and 12. The clips 11 may be clipped onto the terminals of a suitable battery. It will be noted that filaments 13 and 14 are both connected to common line 16. Filament 13 is connected to lines 16 and 15. Filament 14 is connected to lines 16 and 17. Thus, when plug 18 is connected to a 120 volt power source, filament 14 is used. When plug 9 is connected to plug 40 and clips 11 are connected to battery terminals, filament 13 is used.

In the embodiment of the invention shown in FIG. 2, the cord 107 has three lines in it. These three lines are connected to a high voltage filament and to a low voltage filament in the same manner as the lines in cord 7 of FIG. 1. The lines connected to the high voltage filament in the embodiment of FIG. 2 are connected to the male terminals 124 and 125 of the male portion of plug 108. The terminals 124 and 125 can be plugged into a suitable 120 volt source. The female terminals 121 and 132 in the female portion of plug 108 receive the terminals 141 and 142 of the male plug 109. Lines 110 and 112 are connected to terminals 141 and 142 and to clips 111. Thus, when terminals 141 and 142 are inserted in terminals 121 and 132 and clips 111 are connected to the terminals of a suitable battery, the low voltage filament of the lamp bulb will be energized.

In the embodiment of the invention shown in FIGS. 3 and 5, the cord 207 has three conductor lines 215, 216 and 217 connected to filaments 213 and 214, as shown in FIG. 3. Wires 216 and 217 are connected to terminals 224 and 225 of the male plug 208. These terminals 224 and 225 can be plugged into a suitable 120 volt source.

Female terminal 242 in plug 209 is connected to one line 212. The other female terminal 241 is not electrically connected. Thus, when the male terminals 224 and 225 are plugged into female terminals 241 and 242, terminal 224 is connected to one line 212. The jumper line 230 is connected to the other line 210 and to the male plug 232. The male plug 232 can be plugged into female plug 233, which is connected through line 231 to the line 215. Thus, the clips 211 are connected to the lines 216 and 215 when the plug 208 is plugged into the plug 209 and the plug 232 is plugged into the plug 233, and the filament 213 can be energized by a suitable source of power.

It will be seen that in this embodiment, there are no exposed terminals that may injure a user of the circuit.

In the embodiment of the invention shown in FIG. 6, the plug 308 is fixed to a 3-wire cord, such as the cord 7 shown in FIG. 1. The plug 308 has two male terminals 324 and 325 and one female terminal 321 connected to the lines 316, 317 and 315 respectively. The plug 309 has two female terminals 341 and 342. Terminal 342 is connected to line 336 and a male terminal 339 is connected to line 334. The female terminal 341 is not connected to any conductor. Lines 334 and 336 will be connected to two clip leads such as the clip leads 10 and 12 in FIG. 1. Thus the male terminals 324 and 326 are received in the female terminals 341 and 342 and the terminal 339 is received in the terminal 321 and the lamp cord can be used connected to a battery. When plugs 308 and 309 are separated, the terminals 324 and 325 can be plugged into a suitable 120 volt source and the high voltage filament will be energized. When the plugs 308 and 309 are connected and clipped to a battery, the low voltage filament will be energized.

The foregoing specification sets forth the invention in its preferred practical forms but the structure shown is capable of modification within a range of equivalents without departing from the invention which is to be un-

derstood is broadly novel as is commensurate with the appended claims.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. In combination, an electrical device having a first electrical element adapted to operate on a first voltage and a second electrical element adapted to operate on a second voltage,

a first plug member and a second plug member,

said first electrical element having a first end and a second end,

said second electrical element having a first end and a second end,

a first male terminal on said first plug member connected to said first end of said first electrical element,

a second male terminal on said first plug member connected to said second end of said first electrical element,

a third female terminal on said first plug member connected to said second end of said second electrical element,

said second male terminal on said first plug member being connected to said first end of said second electrical element,

a first female terminal on said second plug member receiving said first male terminal on said first plug member,

a second female terminal on said second plug member receiving said second male terminal on said first plug member,

a third male terminal on said second plug member received in said third female terminal on said plug

member,

and means for connecting said second female terminal on said second plug member and said third male terminal in said second plug member to a second electrical voltage source.

2. The plug recited in claim **1** wherein said third line is connected to an external wire having a plug thereon and a plug adapted to be connected to said external wire and connected to one of said clips.

3. The lamp recited in claim **1** wherein a second female plug is provided and said second female plug is connected to said first line and said third line,

said first female plug has pins thereon adapted to be received in said second female plug whereby said clips are connected to said first line and said third line.

4. The combination recited in claim **1** wherein said electrical device comprises a lamp,

said first electrical element comprises a first lamp filament in said lamp,

said second electrical element comprises a second electrical filament in said lamp,

5. The combination recited in claim **1** wherein said adapter members comprise

elongated wires connected to said female terminals on said second plug member, and clips on the end of said adapter wires.

6. The combination recited in claim **4** wherein said third female terminal on said first plug member is supported thereon by means of a jumper wire,

said jumper wire is connected to said female terminal.

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