Oct. 6, 1970 R. SCHULTZ 3,532,929

AUTOMOTIVE HEADLIGHT SAFETY SYSTEM WITH ALTERNATE SUBSTITUTION OF FILAMENT

Filed Sept. 16, 1969 2 Sheets-Sheet 1

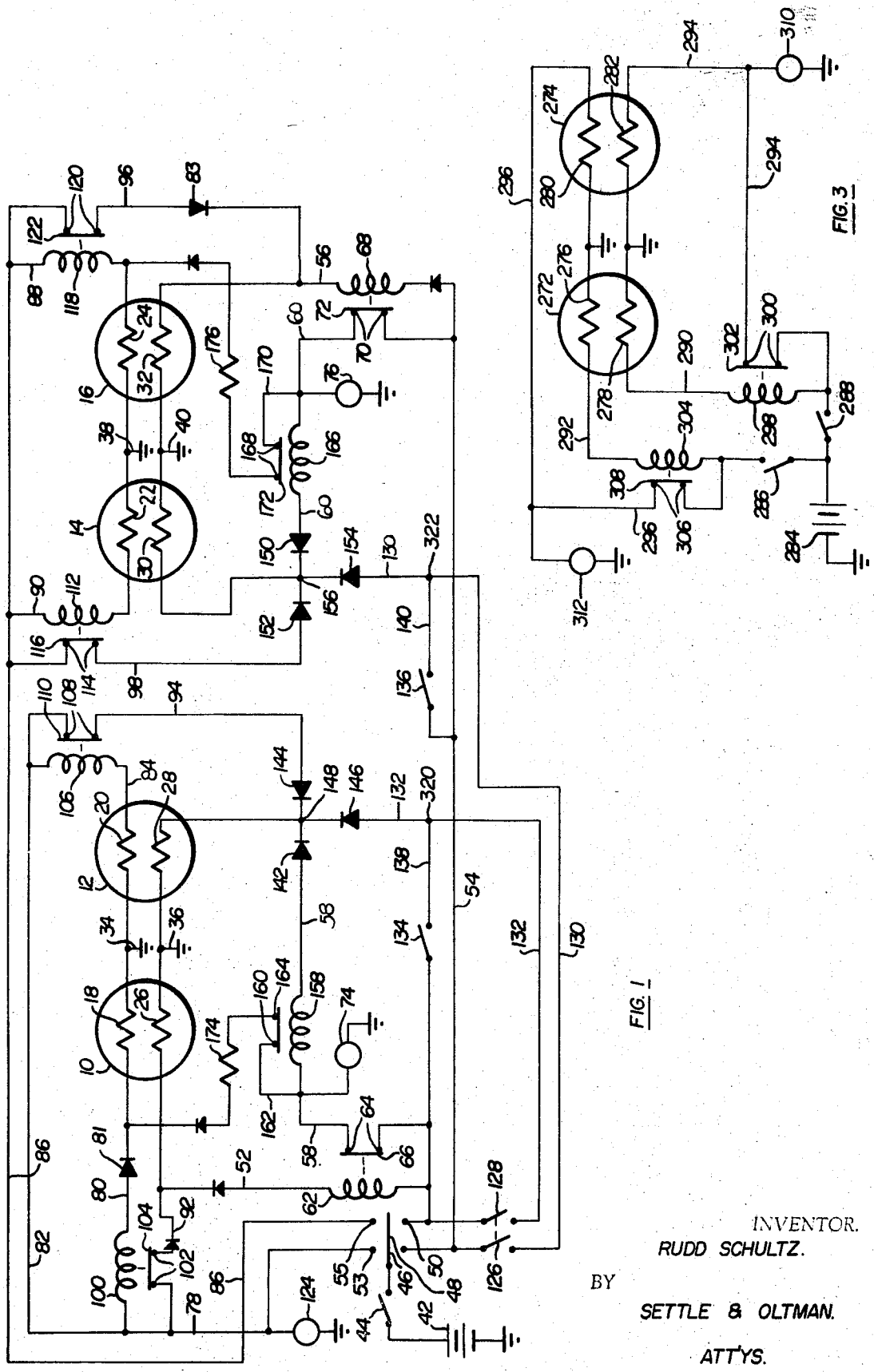


FIG. 1

FIG. 3

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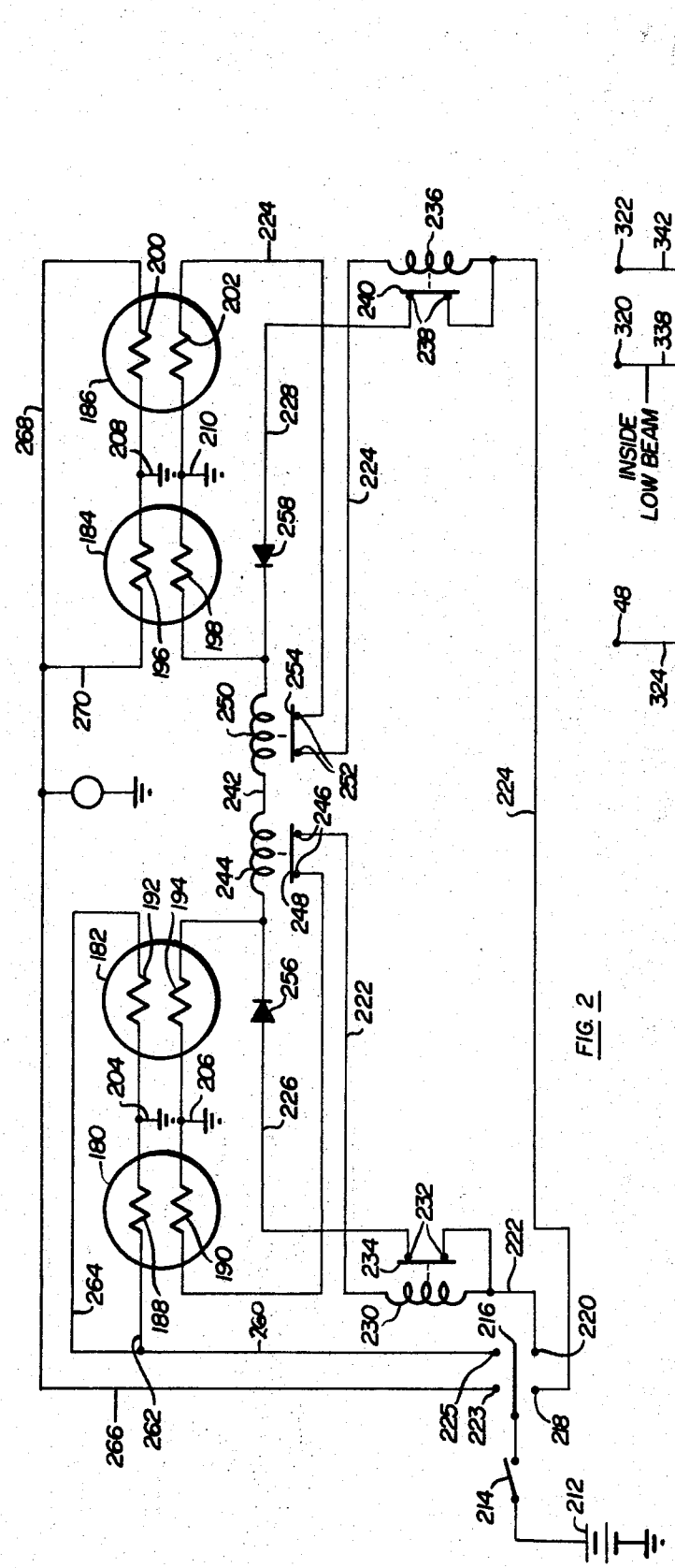


FIG. 2

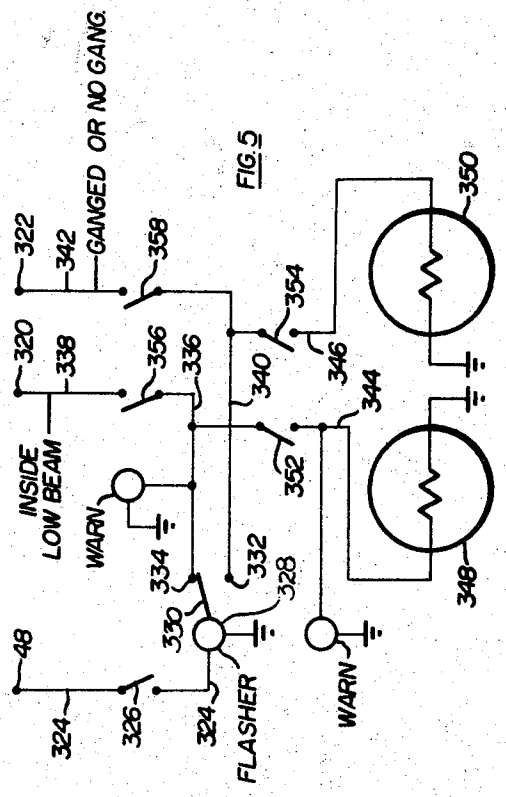


FIG. 5

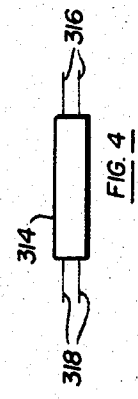


FIG. 4

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AUTOMOTIVE HEADLIGHT SAFETY SYSTEM WITH ALTERNATE SUBSTITUTION OF FILAMENT

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Continuation-in-part of application Ser. No. 788,163, Dec. 31, 1968. This application Sept. 16, 1969, Ser. No. 858,460

Int. Cl. B60q 1/08, 1/14, 1/56

U.S. Cl. 315—83 18 Claims

ABSTRACT OF THE DISCLOSURE

Four lamps of an automotive vehicle are each provided with a high intensity filament and a low intensity filament. The high intensity filaments are all energized simultaneously for bright lighting purposes. Only two of the low intensity filaments are normally energized. However, switching devices, which are preferably relays, are responsive to these two filaments so that if one of them burns ont, at least one and preferably both of the other two low intensity filaments are energized. Switching may also be provided from a high intensity filament to a low intensity filament, and rectifiers are used to prevent back feed. A flasher is used in one embodiment to alternately light the two backup low beam filaments for emergency signalling purposes.

BACKGROUND OF THE INVENTION

This application is a continuation-in-part of copending application Ser. No. 788,163 filed Dec. 31, 1968 now Pat. 3,479,557 by the present inventor. This copending application is expressly incorporated herein by reference

In the copending application, two preferred embodiments are described. In one embodiment, an automotive lamp such as a headlamp is provided with a high beam filament and a low beam filament, a switching device for switching from the low beam filament to the high beam filament in case the low beam filament burns out, and current limiting means to reduce the brightness of the high beam filament to a safe level. In the other embodiment, the lamp as at least two low beam filaments plus at least two high beam filaments, and in this case the control circuit provides switching from one low beam filament to the other low beam filament if the first low beam filament burns out.

In some cases, modern automobiles are provided with four headlamps, one of which has a high beam filament and a low beam filament and the other of which has only a high beam filament. The first embodiment described above could be used to provide switching from the low beam filament to the high beam filament of the double filament lamp if desired. However, with this embodiment, current limiting means is required to reduce the brightness of the high beam filament when it is serving as a backup filament. It is believed that it would be desirable in such vehicles to substitute for the single filament lamp a different lamp which also has a high beam filament and a low beam filament, and then switch from one low beam filament to the other low beam filament in case the first low beam filament burns out. This would have the advantage of requiring no current limiting, and at the same time would not require that a special headlamp be built as would be the case if the second embodiment described above is incorporated in automobiles.

Accordingly, it is an object of the present invention to provide improved safety lighting circuits for an automotive vehicle wherein four lamps are employed, each

having a high intensity filament and a low intensity filament.

Another object of the invention is to provide four headlamps for an automotive vehicle each including a high beam filament and a low beam filament with a control circuit which switches from one low beam filament in in one lamp to another low beam filament in another lamp in case the first low beam filament burns out.

Another object of the invention is to provide the switching from one low beam filament to another as described in the last paragraph and with further switching which causes both backup low beam filaments to be lighted when either one of the primary low beam filaments burns out.

Another object of the invention is to provide additional lamps such as tail lamps and stop lamps for an automotive vehicle each having a high intensity filament and a low intensity filament with switching means for switching from one low intensity filament in one lamp to another low intensity filament in another lamp in case the first low intensity filament burns out.

A further object of the invention is to provide four headlamps for an automotive vehicle, each with a high beam filament and a low beam filament, with switching means for lighting a backup filament in case a primary filament burns out and with flashing means for flashing two low intensity filaments in an alternating manner to provide emergency signalling when desired.

Other objects of this invention will appear from the following description and appended claims, reference being had to the accompanying drawings forming a part of this specification wherein like reference characters designate corresponding parts in the several views.

ON THE DRAWINGS

FIG. 1 is a schematic diagram of a safety lighting circuit in accordance with one embodiment of the invention;

FIG. 2 is a schematic diagram of a safety lighting circuit in accordance with another embodiment of the invention;

FIG. 3 is a schematic diagram of a safety lighting circuit for tail lamps in accordance with still another embodiment of the invention;

FIG. 4 illustrates an adaptor unit which may contain most of the circuitry of any of the embodiments of the invention; and

FIG. 5 is a schematic diagram of a flasher system which may be added to the embodiment of FIG. 1.

Before explaining the present invention in detail, it is to be understood that the invention is not limited in its application to the details of construction and arrangement of parts illustrated in the accompanying drawings, since the invention is capable of other embodiments and of being practiced or carried out in various ways. Also, it is to be understood that the phraseology or terminology employed herein is for the purpose of description and not of limitation.

AS SHOWN ON THE DRAWINGS

In the circuit of FIG. 1, there are four headlamps **10**, **12**, **14** and **16** which are mounted at the front of an automotive vehicle such as an automobile in the usual manner with headlamps **10** and **12** being at the left side of the vehicle and headlamps **14** and **16** being at the right side of the vehicle. Headlamps **10** and **16** will be referred to as the outside headlamps and headlamps **12** and **14** will be referred to as the inside headlamps, although it should be understood that the invention is not limited to any particular orientation of the headlamps, this reference being merely a matter of convenience in identification. Each of the headlamps has a high intensity

filament and a low intensity filament which respectively provide the high beam and the low beam of the headlamp. The high beam filaments are designated **18**, **20**, **22** and **24**, and the low beam filaments are designated **26**, **28**, **30** and **32**. Filaments **18** and **20** are grounded at **34**, filaments **26** and **28** are grounded at **36**, filaments **22** and **24** are grounded at **38** and filaments **30** and **32** are grounded at **40**.

Current for energizing the headlamps is supplied from a battery **42** which is the current source of the automotive vehicle. This current is supplied through an on-off switch **44** to a foot switch which has a movable contact **46**, low beam fixed contacts **48** and **50**, and high beam fixed contacts **53** and **55**. Fixed contact **50** is connected through line **52** to low beam filament **26**, and fixed contact **48** is connected through line **54** and line **56** to low beam filament **32**. Thus, when the movable contact **46** of the foot switch is in the low beam position where it closes both contacts **48** and **50**, current is supplied from the battery **42** to the outside low beam filaments **26** and **32** to energize these filaments and provide low beam illumination.

Connected in parallel with line **52** is an auxiliary circuit path designated **58**. The circuit path **58** is connected between contact **50** and the low beam filament **28** of the inside headlamp **12**. Similarly, an auxiliary circuit path **60** is connected in parallel with line **56**, and leads from line **54** to low beam filament **30**. Line **52** includes the coil **62** of a relay which has fixed contacts **64** in line **58** and also has a movable contact **66** which is normally closed against the fixed contacts **64**. Likewise, line **56** includes the coil **68** of a relay which has fixed contacts **70** in line **60** and also has a movable contact **72** which normally closes against the fixed contacts **70**. When current is flowing through lines **52** and **56** to the low beam filaments **26** and **32**, the relay coils **62** and **68** are energized and so pull in movable contacts **66** and **72** to open lines **58** and **60**. Thus, the inside low beam filaments **28** and **30** are deenergized. However, if filament **26**, for example, should burn out, current in line **52** will cease, thus dropping out relay coil **62** so that movable contact **66** closes against fixed contacts **64** to complete the auxiliary circuit path **68**. Current then flows through line **58** to the inside low beam filament **28** to provide low beam illumination from lamp **12** and thus keep the low beam illumination on. If filament **32** should burn out, current ceases in line **56**, thus deenergizing coil **68** so that movable contact **72** closes against fixed contact **70** to complete the auxiliary circuit path **60**. Current will then flow through line **60** to the inside low beam filament **30** to keep low beam illumination on. Thus, the low beam filaments **28** and **30** in lamps **12** and **14** provide backup or safety illumination in case one of the outside low beam filaments **26** and **32** burns out. Warning devices **74** and **76** are connected respectively to lines **58** and **60** to provide a warning signal whenever either of these lines is energized. The warning signal could be a lamp or a buzzer or other suitable signal.

When the movable contact **46** of the foot switch is moved to the high beam actuating position, it closes against both contact **53** and contact **55**. Contact **53** is connected through line **78** and line **80** to high beam filament **18**, and is also connected through line **78**, line **82** and line **84** to high beam filament **20** of lamp **12**. Similarly, contact **55** is connected by line **86** and line **88** to high beam filament **24** of lamp **16**, and is also connected by line **86** and line **90** to high beam filament **22** of lamp **14**. Thus, with the foot switch in the high beam actuating position, current is supplied from battery **42** to all of the high beam filaments **18**, **20**, **22** and **24** to light these filaments simultaneously.

An auxiliary circuit path **92** is connected from line **78** to low beam filament **26**, and another auxiliary circuit path **94** is connected from line **82** to low beam filament **28**. Referring to the other lamps **14** and **16**, an auxiliary

circuit path **96** is connected from line **86** to low beam filament **32**, and another auxiliary circuit path **98** is connected from line **86** to low beam filament **30**. Connected in line **80** is the coil **100** of a relay which has fixed contacts **102** in line **92** and a movable contact **104** which normally closes the fixed contacts **102**. Connected in line **84** is the coil **106** of a relay which has fixed contacts **108** in line **94** and a movable contact **110** which normally closes the fixed contacts **108**. Connected in line **90** is a coil **112** of a relay which has fixed contacts **114** connected in line **98** and a movable contact **116** which normally closes the fixed contacts **114**. Finally, connected in line **88** is a coil **118** of a relay which has fixed contacts **120** in line **96** and a movable contact **122** which normally closes the fixed contacts **120**. It is apparent that when current is flowing in the high beam filaments **18**, **20**, **22** and **24** via lines **78** and **86**, the movable contacts **104**, **110**, **116** and **122** will be pulled in to prevent energization of the low beam filaments. However, in case any of the high beam filaments should burn out, a corresponding low beam filament will be lit. For example, if filament **18** burns out, relay **100** will drop out, and current will flow through line **92** to low beam filament **26**, thus lighting this filament. If filament **20** should burn out, relay **106** will drop out, and current will flow through line **94** to low beam filament **28** lighting this filament. If filament **22** burns out, relay **112** drops out so that current flows through line **98** to low beam filament **30** and similarly if filament **24** burns out, relay **118** drops out so that current flows through line **96** to low beam filament **32**. Thus, the low beam filaments provide backup for the high beam filaments in case any high beam filament burns out.

A high beam signalling device such as a lamp **124** is connected to line **78** for indicating that the high beam circuits are energized. Diodes **81** and **83** prevent reverse current in lines **80** and **96** respectively.

Alternate means of actuating the low beam filaments are provided in the embodiment of FIG. 1. A foot switch having two movable contacts **126** and **128** which are ganged together is provided, with contact **126** being connected to contact **48** and movable contact **128** being connected to contact **50**. The movable contacts **126** and **128** are connected respectively by lines **130** and **132** to the inside low beam filament **28** and **30**. Thus, with movable contact **46** in the low beam actuating position closing contacts **48** and **50**, and with foot switch contacts **126** and **128** closed, current is supplied via lines **52**, **132**, **130** and **56** to all four of the low beam filaments, so that all of the low beam filaments may be lighted at the same time if desired.

It is also possible to light either of the inside low beam filaments **28** and **30** by closing manual switches **134** and **136**. Switch **134** is connected in a line **138** which is connected between contact **50** and line **132**, and switch **136** is connected in a line **140** which is connected between line **54** and line **130**. With switches **134** and **136** both closed, and with movable contact **46** in the low beam actuating position, current is supplied through line **138** and **132** to filament **28** and similarly supplied through line **54**, line **140** and line **130** to low beam filament **30**. Thus, the switches **134** and **136** provide optional manual control over the inside low beam filaments **28** and **30**.

Diodes **142**, **144** and **146** are respectively connected in lines **58**, **94** and **132** which merge at a junction point **148**. These diodes prevent flow of reverse current through any of the lines just referred to, but allow flow of forward current through these lines to the low beam filament **28** when any one of the lines is energized. Similarly, diodes **150**, **152** and **154** are connected respectively in lines **60**, **98** and **130** which merge at a junction point **156**. These diodes are poled to prevent reverse current from flowing in any of these lines, but to allow flow of forward current to the filament **30** when any of these lines is energized.

Connected in line 58 is a coil 158 of a relay which has fixed contacts 160 connected in a line 162 and a movable contact 164 which normally closes the fixed contacts 160. Line 162 leads from line 58 to high beam filament 18. Similarly, connected in line 60 is a coil 166 of a relay which has fixed contacts 168 connected in a line 170 and a moveable contact 172 which normally closes fixed contacts 168. Line 170 leads from line 60 to high beam filament 24. A current limiting resistor 174 is provided in line 162, and another current limiting resistor 176 is provided in line 170. Assuming that low beam filament 28 has been energized in the manner described previously, if this filament should burn out, relay 158 drops out to send current though line 162 to high beam filament 18. The current in line 162 is limited by resistor 174 to reduce the brightness of filament 18 below its normal high beam level to a level which is safe for continuous driving. Backup protection is provided for filament 30 in the same manner. Assuming that filament 30 has been energized as backup protection in the manner described previously, if this filament should also burn out, relay 166 drops out to send current through line 170 to high beam filament 24. This current is also limited by resistor 176 to reduce the intensity of filament 24 to a safe level. Thus, backup protection is provided for all of the filaments in the embodiment of FIG. 1.

FIG. 2 shows another embodiment of the invention which is similar to the embodiment of FIG. 1, but in which certain modifications have been made. The circuit includes four headlamps 180, 182, 184 and 186. Headlamps 180 and 182 are mounted at the left front side of an automotive vehicle, and headlamps 184 and 186 are mounted on the right front side. Lamp 180 includes a high beam filament 188 and a low beam filament 190, and lamp 182 includes a high beam filament 192 and a low beam filament 194. Lamp 184 has a high beam filament 196 and a low beam filament 198, and lamp 186 has a high beam filament 200 and a low beam filament 202. Filaments 188 and 192 are grounded at 204, and filaments 190 and 194 are grounded at 206. Filaments 196 and 200 are grounded at 208, and filaments 198 and 202 are grounded at 210.

Current is supplied from a battery 212 which is the current source of the vehicle, and this current flows through an on-off switch 214 to a foot switch having a movable contact 216, a pair of low beam actuating fixed contacts 218 and 220, and a pair of high beam actuating fixed contacts 223 and 225. When movable contact 216 is in the low beam actuating position, it closes both contacts 218 and 220, and when movable contact 216 is in the high beam actuating position, it closes both contacts 223 and 225.

Contact 220 is connected by line 222 to low beam filament 190. Contact 218 is connected by line 224 to low beam filament 202. Thus, with foot switch contact 216 in the low beam actuating position, the outside low beam filaments 190 and 202 are both lit.

An auxiliary circuit path 226 is connected from line 222 to low beam filament 194, and another auxiliary circuit path 228 is connected from line 224 to low beam filament 198. Connected in line 222 is a coil 230 of a relay having fixed contacts 232 and a movable contact 234 which normally closes the fixed contacts. Connected in line 224 is a coil 236 of a relay having fixed contacts 238 in line 228 and a movable contact 240 which normally closes the fixed contacts 228. When current is flowing in lines 222 and 224, relays 230 and 236 are both pulled in. This keeps the low beam filaments 194 and 198 off. However, if filament 190, for example, should burn out relay 230 drops out so that current flows through line 226 to the backup low beam filament 194 in lamp 182. Similarly, if low beam filament 202 should burn out, relay 236 drops out to send current through line 228 to light the other backup low beam filament 198.

It may be noted that the inside low beam filaments 194 and 198 that are provided for backup purposes are interconnected by a line 242. Connected in this line 242 is a coil 244 of a relay having fixed contacts 246 in line 222 and a movable contact 248 which normally closes the fixed contacts 246. Also connected in line 242 is another coil 250 of a relay having fixed contacts 252 in line 224 and a movable contact 254 which normally closes the fixed contacts 252. If filament 190 has burned out so that current is flowing through the line 226 to filament 194, this current divides and flows through line 242 to filament 198 so that both of the inside filaments 194 and 198 are lit. This maintains a balance at the front of the vehicle so that either both of the outside low beam filaments or both of the inside low beam filaments are lit. Diodes 256 and 258 are provided in lines 226 and 228 and are poled to prevent reverse current in these lines. Thus, when current flows through line 242 to filament 198 it does not flow back through line 228. The current in line 242 pulls in both relays 244 and 250 to open circuit lines 222 and 224 and thus assure that both of the outside low beam filaments 190 and 202 are turned off. It is apparent that the reverse action takes place if low beam filament 202 burns out rather than filament 190. In this case, current flows through lines 228 and 242 to light both of the inside low beam filaments 194 and 198, and the relays 244 and 250 pull in to turn off the outside low beam filaments 190 and 202.

The high beam actuating contacts 223 and 225 are closed by movable contact 216 when the foot switch is in the high beam actuating position. Contact 225 is connected through line 260, 262 and 264 to the high beam filaments 188 and 192, and contact 223 is connected by lines 266, 268 and 270 to the high beam filaments 196 and 200. Thus, with the movable contact 216 of the foot switch in the high beam actuating position, all four high beam filaments 188, 192, 196 and 200 are lit at the same time.

FIG. 3 shows a simplified version of the invention which may be used for example with tail lights. In FIG. 3, two lamps 272 and 274 are provided. Lamp 272 has a high intensity filament 276 and a low intensity filament 278. Lamp 274 has a high intensity filament 280 and a low intensity filament 282. Filaments 276 and 280 may be used as stop lights, and filaments 278 and 282 may be used as tail lights, with filaments 280 and 282 both providing backup protection. It should be understood that two identical lamps may be provided at the other side of the rear of the vehicle, but these lamps are not shown in FIG. 3 to simplify the drawings.

Current is supplied from a battery 284 which is the current source of the vehicle. Two switches 286 and 288 are connected to battery 284 in parallel with each other, with switch 288 being a manual switch and 286 being a brake controlled switch. Switch 288 is connected by line 290 to the tail light filament 278 which is a low intensity filament. Switch 286 is connected by line 292 to the stop light filament 276 which is a high intensity filament. In normal operation for night driving, the manual switch 288 is closed, and switch 286 is closed by the brakes when the driver stops the vehicle.

An auxiliary circuit path 294 is connected from switch 288 to the backup low beam filament 282 in lamp 274. Another auxiliary circuit path 296 is connected from switch 286 to the backup filament 280 in lamp 274. Connected in line 290 is a coil 298 of a relay which has fixed contacts 300 in line 294 and a movable contact 302 which normally closes fixed contacts 300. Connected in line 292 is a coil 304 of a relay which has fixed contacts 306 in line 296 and a movable contact 308 which normally closes fixed contacts 306. The relays 298 and 304 control energization of the backup filaments 282 and 280. With switch 288 closed, if filament 278 burns out, relay 298 drops out to complete circuit path 294 to low intensity backup filament 282 to light the latter filament and also to light a warning lamp or device 310. With switch 286

closed, if filament 276 should burn out, relay 304 drops out to complete auxiliary circuit path 296 to thereby light high intensity backup filament 280 and also light a warning lamp or device 312. Thus, both high intensity and low intensity backup protection may be provided for the high intensity and low intensity filaments 276 and 278 of lamp 272.

FIG. 4 is a simplified view of an adaptor unit which merely illustrates that the circuitry described in any one of the embodiments of FIGS. 1, 2 or 3 may be built into a module 314 having terminals 316 and 318 so that the module 314 may be mounted on the outside of a given lamp with one set of terminals connected to the interior of the lamp and another set of terminals connected to the battery of the vehicle.

FIG. 5 shows a flasher circuit which may be used as an optional feature with FIG. 1. In FIG. 5, the terminal 48 is the same as terminal 48 in FIG. 1. Terminals 320 and 322 are the same as terminals 320 and 322 in FIG. 1. Connected to terminal 48 is a line 324 including a manual switch 326 which may be closed to actuate the flasher circuit. Line 324 leads to a flasher unit 328 which has an oscillating movable contact 330. The contact 330 is adapted to alternately contact two fixed contacts 332 and 334. Contact 334 is connected by lines 336 and 338 to the inside low beam filament 28 via terminal 320. Contact 322 is connected by lines 340 and 342 to terminal 322 which is connected to the other inside low beam filament 30. Thus, the flasher unit 328, when energized, will alternately turn on the low beam filaments 28 and 30 in an alterating manner to provide a flashing signal for emergency purposes.

Lines 344 and 346 lead to two colored lamps 348 and 350 from lines 336 and 340. Thus, the flasher 328 will also alternately energize lamps 348 and 350 to provide additional emergency signalling when desired. Switches 352 and 354 are closed to actuate lamps 348 and 350, and switches 356 and 358 are closed to actuate the inside low beam filaments of lamps 12 and 14. It may be noted that by connecting line 344 to line 340 and connecting line 346 to line 336, a criss-cross pattern of flashing lights may be achieved if desired.

Referring again to FIG. 3, the same circuit may be used to provide backup protection for turn signal filaments in combination with a tail light filament or a parking light filament, for example. In this case, filament 278 becomes a turn signal and filament 276 becomes a parking light or tail light. Lines 290 and 292 would be extended below the battery to duplicate the circuitry shown in FIG. 3 for another set of lamps at the other side of the vehicle. The only change needed is to connect switch 288 so that it can select either the line 290 for filament 278 or the added section of line 290 for the corresponding opposite side filament, and also to insert a flasher next to switch 288 for blinking the turn signal filament which is selected. With this arrangement, the filaments 274, 276, 278 and 280 could all be of the same intensity, if desired.

Thus the invention provides a safety automotive lighting circuit in which one lamp provides backup protection for another lamp, with both lamps having two filaments, which are normally high intensity and low intensity filaments but in some circumstances could be the same intensity. This backup protection may be extended to any number of lamps, and is particularly useful for headlight protection since four headlamps are usually provided on automobiles at the present time anyway, and only an additional low beam filament is needed in the extra lamps. Thus, it is a simple matter to mount four identical headlamps on automotive vehicles each having a high beam filament and a low beam filament, and connecting these filaments with the circuitry described herein to provide full high beam illumination, low beam illumination, and backup illumination for both low beams and high beams. If one of two primary low beam filaments burns out, it is possible to switch from the burned out low beam filament to a backup low beam filament in a separate lamp, and it is also possible to turn on a second backup filament in another lamp and turn off the other primary low beam filament. This provides a balanced lighting pattern as described previously. The flashing light feature described herein is optional, but may be useful for emergency vehicles.

Having thus described my invention, I claim:

1. A lighting circuit for use with an automotive vehicle and including in combination, a pair of lamps each having one high intensity filament and one low intensity filament therein, a first circuit path connected to one of said low intensity filaments, a second circuit path connected to the other of said low intensity filaments, a further circuit path connected to said high intensity filaments for energizing the same simultaneously, and switching means having contacts in said second circuit path for selectively making and breaking said second circuit path, said circuit paths being adapted to be connected to said current source, and said switching means being operable to open said second circuit path to allow selective energization of said one low intensity filament through said first circuit path and further being operable upon burning out of said one low intensity filament to complete said second circuit path and thereby energize said other low intensity filament.

2. The lighting circuit as claimed in claim 1 in which said switching means comprises a relay including a coil in said first circuit path, fixed contacts in said second circuit path, and a movable contact operated by said coil to make and break said fixed contacts, said movable contact and said fixed contacts being normally closed.

3. The lighting circuit as claimed in claim 2 in which said relay and portions of said circuit path are incorporated in an adaptor unit attached to the exterior of one of said lamps.

4. A lighting circuit as claimed in claim 1 in which said further circuit path is connected to said high intensity filaments by first and second branch circuits and is also connected to both of said low intensity filaments by third and fourth branch circuits, said lighting circuit further including second and third switching means respectively having contacts in said third and fourth branch circuits, said second and third switching means being operable to open said third and fourth branch circuit paths to allow selective energization of said high intensity filaments and further being operable upon burning out of either of said high intensity filaments to complete one of said third and fourth branch circuit paths to energize one of said low intensity filaments.

5. The lighting circuit as claimed in claim 4 in which each of said switching means comprises a relay.

6. The lighting circuit as claimed in claim 1 in which said lamps are both headlamps for an automotive vehicle.

7. A lighting circuit for use with an automotive vehicle and including in combination, four lamps for an automotive vehicle each having a first filament and a second filament therein, two of said lamps being provided at the left side of said vehicle and the other two of said lamps being provided at the right side of said vehicle, first and second circuit paths respectively connected to the first filaments of one of said left lamps and one of said right lamps, third and fourth circuit paths respectively connected to the first filaments of the other of said left lamps and the other of said right lamps, fifth circuit means connected to said second filaments, and first and second switching means respectively having contacts in said third and fourth circuit paths for selectively making and breaking the same, said switching means being operable to open said third and fourth circuit paths to allow selective energization of said first filaments of said one lamp through said first and second circuit paths and further being operable upon burning out of either of said one first filament to complete said third or fourth circuit path.

8. The lighting circuit as claimed in claim 7 in which both of said switching means comprise relays.

9. The lighting circuit as claimed in claim 8 in which said first filaments are low intensity filaments and said second filaments are high intensity filaments.

10. The lighting circuit as claimed in claim 9 in which said circuit further includes an additional circuit path further inter-connecting the low intensity filaments of said other right and left lamps including third and fourth switching means in the form of relays having coils in said additional circuit path and contacts in said first and second circuit paths so that when either of the low intensity filaments of said other right and left lamps is energized both of them will be energized.

11. The lighting circuit as claimed in claim 10 in which said third and fourth circuits each include a rectifier poled to prevent reverse current therein when said third and fourth switching means are operated.

12. The lighting circuit as claimed in claim 7 including a pair of separate circuit paths connected respectively to said other first filaments, and flasher means between said separate paths and a current source to alternately energize said other first filaments.

13. The lighting circuit as claimed in claim 12 including additional colored lamps also connected respectively to said separate circuit paths to be energized alternately by said flasher means.

14. The lighting circuit as claimed in claim 7 in which said lamps are headlamps, said first filaments are low beam filaments, said second filaments are high beam filaments, and said fifth circuit means is connected to all of said high beam filaments to energize the same simultaneously.

15. The lighting circuit as claimed in claim 7 in which said first filaments are tail lamp filaments.

16. The lighting circuit as claimed in claim 7 in which said first filaments are turn signal filaments.

17. A lighting circuit for use with an automotive vehicle and including in combination, four lamps for an automotive vehicle each having a first filament and a second filament therein, two of said lamps being provided at the left side of said vehicle and the other two of said lamps being provided at the right side of said vehicle, first and second circuit paths respectively connected to the first filaments of one of said left lamps and one of said right lamps, third and fourth circuit paths respectively connected to the first filaments of the other of said left lamps and the other of said right lamps, fifth circuit means connected to said second filaments, and first and second switching means respectively having contacts in said third and fourth circuit paths for selectively making and breaking the same, said switching means being operable to open said third and fourth circuit paths to allow selective energization of said first filaments of said one lamps through zation of said first filaments of said one lamp through said first and second circuit paths and further being operable to complete said third and fourth circuit paths.

18. The lighting circuit as claimed in claim 17 including a pair of separate circuit paths connected respectively to said other first filaments, and flasher means between said separate paths and a current source to alternately energize said other first filaments.

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