

[54] **THREE POSITION PIVOTAL SWITCH
WITH IMPROVED SPRING BIASED
JOYSTICK ACTUATOR AND CONTACT**

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[58] Field of Search.....200/6 A, 11 B, 11 C, 11 J, 200/11 K, 17 R, 166 BH

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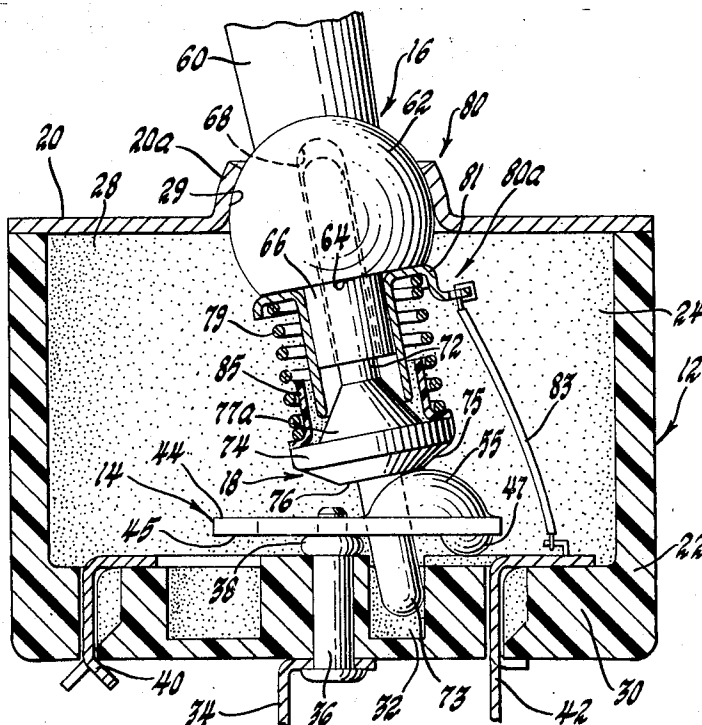
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[57] **ABSTRACT**

In a preferred form, this disclosure relates to a light switch assembly having a housing means carrying a stationary ground terminal and a plurality of stationary terminals positioned in a spaced relationship about the ground terminal, a pivotally supported bridging contact member, and a swivelly supported actuator means. The bridging contact member is pivotally supported upon the ground terminal for movement to different positions to bridge different ones of the stationary terminals and the ground terminal. The actuator means is swivelly supported by the housing means for pivoting the bridging contact member to different positions. Further, the actuator means includes a plunger member which is spring biased into engagement with a dome portion on the bridging contact member. The plunger member rolls in engagement with the dome portion when the actuator means is manipulated to maintain a substantially equal distribution of pressure upon the bridging contact member when it is moved to its different positions.

6 Claims, 6 Drawing Figures



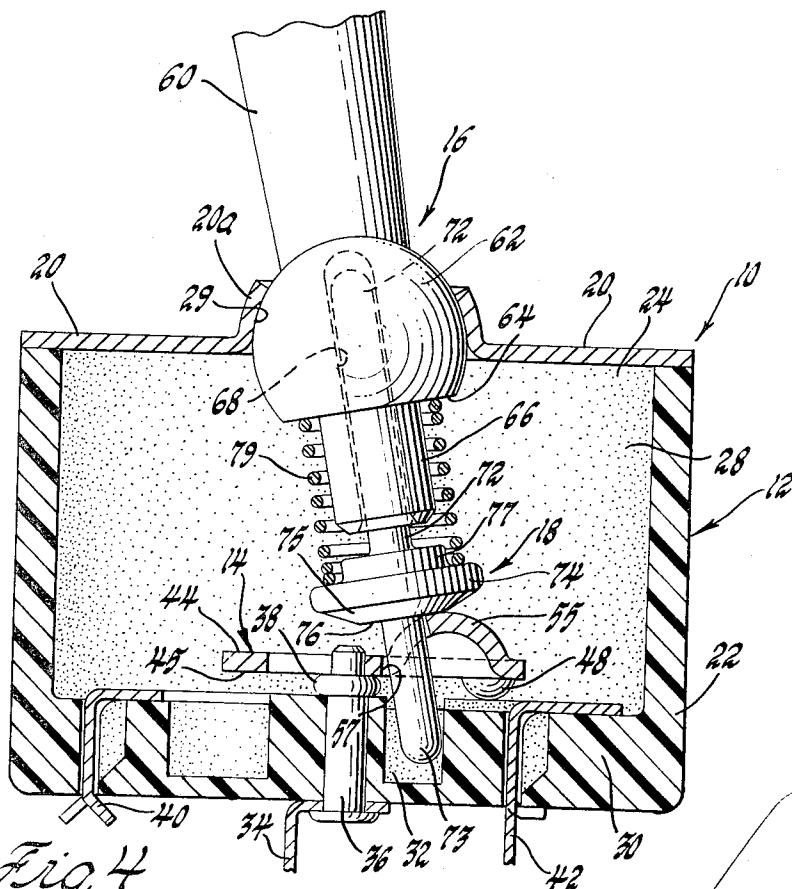


Fig. 4

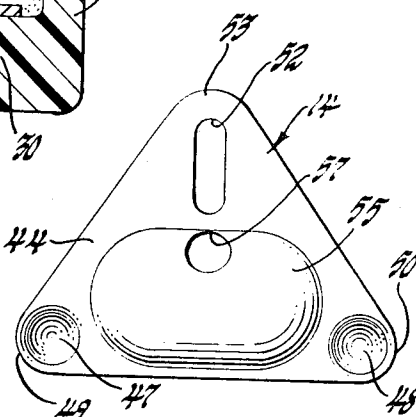


Fig. 5

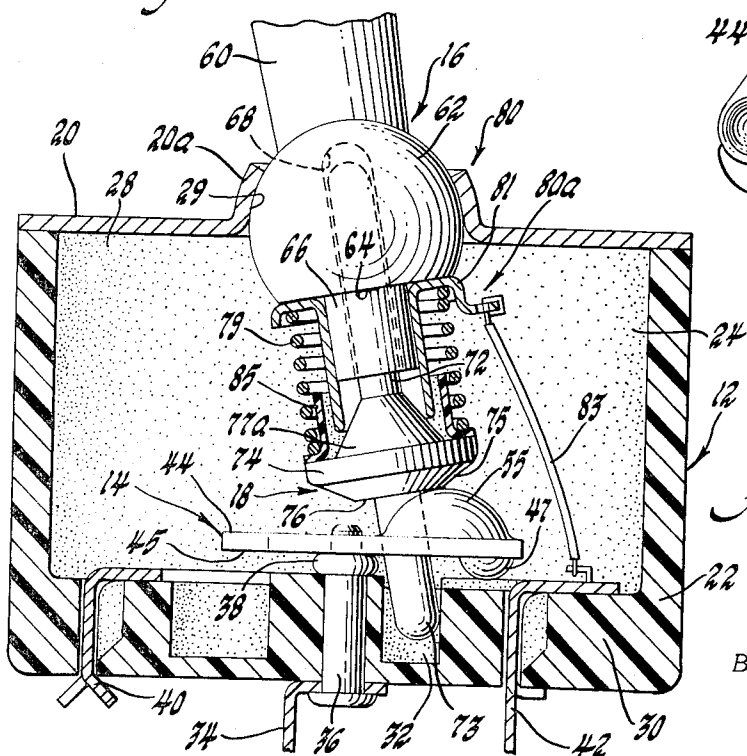


Fig. 6

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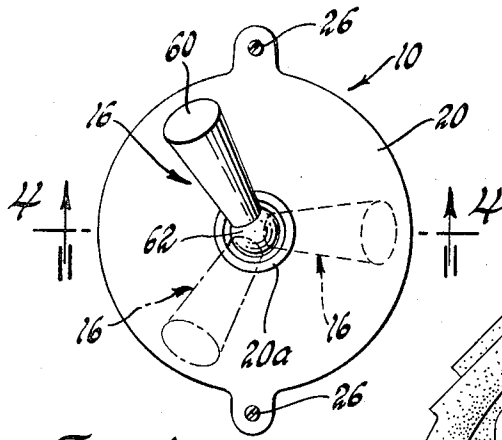


Fig. 1

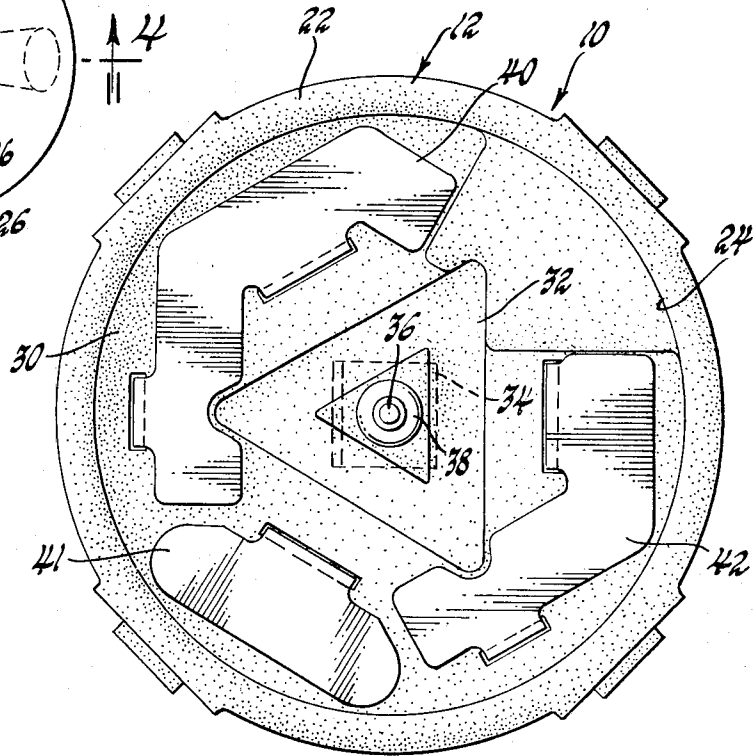


Fig. 2

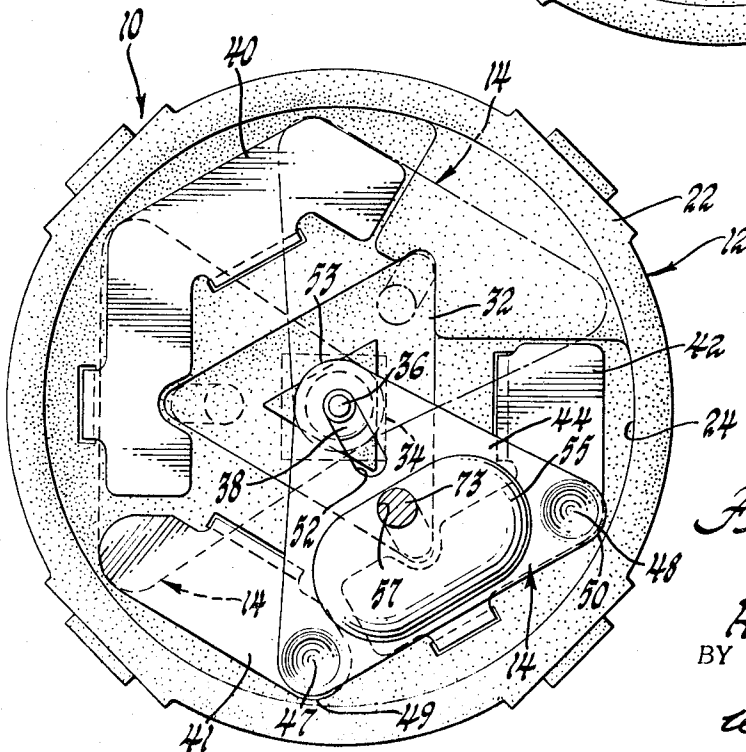


Fig. 3

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THREE POSITION PIVOTAL SWITCH WITH IMPROVED SPRING BIASED JOYSTICK ACTUATOR AND CONTACT

The present invention relates to a switch assembly, and more particularly to a switch assembly for controlling the operation of a vehicle headlamp lighting system having a low beam lighting mode, a high beam lighting mode and an intermediate beam lighting mode in which a beam or beams of light are directed at a height intermediate the heights of the high and low beams and to the right side of the road away from the approaching traffic.

Heretofore, light switch assemblies utilizing a swivelly mounted actuator to move a bridging contact member between different positions have been provided. Problems can be encountered with these switch assemblies, however, if sufficient pressure is not maintained upon all contact portions of the bridging contact member to assure contact of all contact portions of the bridging contact member with the different stationary terminals of the light switch assembly when the bridging contact member is in any of its different positions. Further, additional problems can be encountered when a sufficient pressure is not applied to all contact portions of the bridging contact member throughout its movements between the different stationary terminals because the contacts of the bridging contact member are susceptible to a build up of foreign material, such as a lubricant used in the assembly, which can break the electrical connection between the contacts and the fixed terminals. For the above reasons, it is desirable to have a substantially equal distribution of sufficient pressure upon the bridging contact member to assure engagement of the bridging contact member with each of the stationary terminals and to provide for the contacts to be wiped clean of foreign material as the bridging contact member is moved and slides between its different positions.

An object of the present invention is to provide a new and improved light switch assembly having a housing means, a stationary ground terminal carried by the housing means, a plurality of other stationary terminals carried by the housing means and positioned in a spaced relationship about the ground terminal, a bridging contact member having a rounded dome portion and pivotally supported upon the ground terminal for pivotal movement about the ground terminal to different positions to bridge different ones of the other stationary terminals and the ground terminal, and a manually manipulatable actuator means which is swivelly supported by the housing means for pivoting the bridging contact member to different positions and which has a plunger member which is spring biased into engagement with the dome portion of the bridging contact member, the plunger member rolling in engagement with the dome portion when the actuator means is manipulated to maintain a substantially equal distribution of pressure upon the bridging contact member to maintain the bridging contact member in engagement with the different stationary terminals when it is moved to its different positions.

Another object of the present invention is to provide a new and novel light switch assembly, as defined in the preceding object, for controlling the operation of the vehicle headlight system having a low beam mode, an intermediate beam mode, and a high beam mode and in which the bridging contact member is pivotally movable between first and second and third positions to effect the low, intermediate and high beam modes, and in which the spring biased plunger member of the actuator means has one end extending through a hole in the bridging contact member and received within a triangularly shaped guide slot in the back wall of the housing means whereby the actuator is movable in a triangular pattern between low beam and intermediate beam and high beam positions.

Another object of the present invention is to provide a new and novel light switch assembly as defined in the preceding objects and in which the actuator means comprises an upper member and the plunger member which are spring biased apart and in which the upper member can be manually depressed against the bias of the spring to engage a contact member carried by the upper member with the plunger

member to effect the high beam mode when the actuator means is in its low beam or intermediate beam positions.

These and other objects of the invention are accomplished in the preferred embodiments of the present invention by providing a light switch assembly having a housing means defining an inner chamber with a triangularly shaped guide slot in its back wall and carrying a stationary ground terminal on its back wall including a pin-like projection which extends from the back wall at approximately the center of the triangularly shaped guide slot into the inner chamber. The housing means also carries first, second and third stationary terminals in a spaced relationship around the guide slot and ground terminal. The light switch assembly also includes a bridging contact member which is generally rectangular in shape and has a pair of dimples or contacts located adjacent to two corners and an elongated slot which is adjacent to the third corner and with the pin-like projection of the ground terminal received therein. The bridging contact member is thereby pivotally supported for movement to a first position in which it bridges the first stationary terminal and the ground terminal to effect the low beam mode, a second position in which it bridges the first and second and ground terminals to effect the intermediate beam mode, and a third position in which it bridges the second and third and ground terminals to effect the high beam mode. The bridging contact member has a hole therethrough at approximately its center and has a rounded dome portion.

The light switch assembly further includes a manually manipulatable actuator for moving the bridging contact member between its different positions and which comprises an upper member having a ball portion with a hole therein and a lower plunger member which has its upper end received within the hole for sliding movement with respect to the upper member. The upper member and the lower plunger member are spring biased apart by a compression spring such that the ball portion of the upper member is maintained within a socket opening in the housing means and a shoulder portion on the plunger member is maintained in engagement with the dome portion of the bridging contact member. The plunger member has its other end extending through the hole of the bridging contact member and received within the guide slot whereby the actuator is movable in a triangular pattern between low, intermediate, and high beam positions. The shoulder portion rolls in engagement with the dome portion when the actuator is moved between its positions to provide a substantially equal distribution of pressure upon the spaced contacts and third corner of the bridging contact member to maintain the spaced contacts in engagement with the different stationary terminals when the bridging contact member is pivoted between its different positions. The actuator further includes an annular insulating ring between the plunger member and the compression spring, and the plunger member is engageable with an annular contact member which is electrically connected with the third stationary terminal and carried by the upper member upon manual depression of the upper member against the bias of the compression spring to effect the high beam mode when the actuator is in its low or intermediate beam positions.

These and other objects of the invention will become more fully apparent from the following description and drawings wherein:

FIG. 1 is a front elevational view of a preferred embodiment of the light switch assembly of the present invention;

FIGS. 2 and 3 are enlarged elevational views of the light switch assembly of the present invention with different parts removed;

FIG. 4 is a sectional view taken approximately along line 4-4 of FIG. 1;

FIG. 5 is a plan view of one part of the light switch assembly of the present invention; and

FIG. 6 is a sectional view taken approximately along line 4-4 of FIG. 1 and showing a different embodiment.

As representing a preferred embodiment of the present invention, the drawings show a switch assembly 10. Although

the switch assembly 10 could be used for controlling various electrically operated devices, it is particularly susceptible for use in controlling a vehicle headlight system having a low beam mode, an intermediate beam mode, and a high beam mode. Because the vehicle headlight system does not, per se, form a part of the present invention, it will not be described in detail.

The switch assembly 10 broadly comprises a housing 12, a bridging contact member 14 which is pivotally supported for movement to different positions, and a manually manipulatable actuator means 16 which is swivelly supported by the housing 12 for pivoting the bridging contact member 14 to its different positions. The actuator 16 includes a plunger member 18 which is spring biased into engagement with the bridging contact member 14 and maintains a substantially equal distribution of pressure thereon.

Referring to FIGS. 1 and 4, the housing 12 is generally cylindrical over the cylindrical shape and comprises a flat circular metallic face plate 20 and a cylindrical plastic rear member 22 having a cylindrical opening 24 therein. The face plate 20 is positioned over the cylindrical opening 24 of the rear member 22 and is suitably attached by mechanical means, herein shown as screws 26, to define a cylindrical inner chamber 28 within the housing 12. The face plate 20 has a central aperture therein with a flange portion 20a projecting outwardly in an arcuate manner to form a socket opening 29.

The housing 12 has a back wall 30 opposite the face plate 20 and has a triangularly shaped guide slot 32 therein, as shown in FIG. 2. Now referring to FIGS. 2 and 4, the back wall 30 of the housing 12 has a ground terminal 34 fixedly attached to its exterior side by a pin-like projection or stake 36 which extends from the exterior side of the back wall 30, through the back wall 30, and projects into the inner chamber 28 of the housing 12 at approximately the center of the back wall 30 and the triangularly shaped guide slot 32. The pin-like projection 36 has a radial projection 38 adjacent its interior end which is engaged with the interior side of the back wall 30 and has its exterior end formed into a head by a stacking process to fixedly attach the terminal 34 to the back wall 30. The back wall 30 of the housing 12 also carries first, second, and third stationary terminals 40-42 which have contact portions disposed within the inner chamber 28. The stationary terminals 40-42 are positioned in a spaced circular relationship around the triangular guide slot 32 and the pin-like projection 36. The ground terminal 34 and the respective stationary terminals 40-42 are adapted to be electrically connected to the circuitry of the vehicle headlight system (not shown).

Now referring to FIGS. 4 and 5, the bridging contact member 14 is of a suitable electrically conductive material and is generally triangular in shape. The bridging contact member 14 has a face side 44 and a back side 45. Further, the bridging member 14 has a pair of contacts or dimples 47 and 48 which are located upon the back side 45 of the member 14 immediately adjacent corners 49 and 50 of the triangularly shaped member 14. An elongated slot 52 within the bridging contact member 14 extends inwardly toward the center of the member 14 from a position immediately adjacent the other corner 53. The bridging contact member 14 is also formed with an oval shaped, rounded dome portion 55 which projects upwardly from the face side 44 and is positioned in an eccentric manner upon the member 14 and in an equidistant relationship from the contacts 47 and 48 and the elongated slot 52. The bridging contact member 14 further includes a hole 57 which extends through the dome portion 55 near its upper periphery, as shown in FIG. 5, approximately at the center of the triangularly shaped member 14, and at a position immediately adjacent the elongated slot 52. The elongated slot 52 has the end of the pin-like projection 36 extending into the inner chamber 28 received therethrough and the back side 45 of the member 14 lies flush with the radial projection 38. In this manner, the bridging contact member 14 is pivotally supported upon the pin-like projection 36 for rotating movement about the axis of the projection 36.

The bridging contact member 14 is adapted to selectively bridge different ones of the stationary terminals 40-42 and the ground terminal 34 through projection 36 to effect the low beam mode, the intermediate beam mode, or the high beam mode of the vehicle headlight system. The bridging contact member 14 is movable to a first position, as schematically shown by the phantom lines in FIG. 3, in which the contact 48 engages the first stationary terminal 40 and the member 14 bridges the ground terminal 34 and the first stationary terminal 40 to effect the low beam mode; a second position, as shown by the dash lines in FIG. 3, in which the contact 47 engages the second stationary terminal 41 and the contact 48 engages the first stationary terminal 40 so that the member 14 bridges the first and second stationary terminals 40 and 41 with the ground terminal 34 to effect the intermediate beam mode; and a third position, as shown by the solid lines in FIG. 3, in which the contact 48 engages the third stationary terminal 42 and the contact 47 engages the second stationary terminal 41 so that the member 14 bridges the second and third stationary terminals 41 and 42 with the ground terminal 34 to effect the high beam mode.

Now referring to FIGS. 1 and 4, the switch assembly 10 further includes a manually manipulatable actuator 16 for moving the bridging contact member 14 between its different positions as described above. The actuator 16 comprises an upper member 60 which extends outwardly from the inner chamber 28 of the housing 12 through the socket opening 29. The upper member 60 is generally cylindrical in shape and has a partial spherical or ball portion 62 intermediate its ends. The ball portion 62 has a flat side 64 facing the lower end portion 66 of the upper member 60. The upper member 60 also includes a cylindrical opening or cavity 68 which extends upwardly from the lower end face of the lower end portion 66 of the upper member 60 into the ball portion 62. The actuator 16 also includes a lower plunger member 18 which has its upper portion 72 shaped complementary to and slidably received within the cylindrical cavity 68 in the upper member 60. The plunger member 18 has a cylindrical lower portion 73 extending through the hole 57 of the bridging contact member 14 and projecting into the triangularly shaped guide slot 32 in the housing 12. In this respect, it should be noted that the actuator 16 can be manipulated in only a triangularly shaped pattern because the lower portion 73 of the plunger member 18 is received within the triangularly shaped guide slot 32. The plunger member 18 further includes a shoulder or enlarged portion 74 which is located between the cylindrically shaped upper and lower portions 72 and 73 and which extends radially outward in a concentric manner therefrom. The shoulder portion 74 has a chambered or beveled lower section 75 which terminates in a flat radially extending contact surface 76 facing the lower portion 73 of the plunger member 18. The shoulder portion 74 also includes an upper section 77 of a lesser diameter than the lower section 75. The actuator 16 further includes a compression spring 79 which has one end in abutting engagement with the flat side 64 of the upper member 60 and has its other end in abutting engagement with the shoulder portion 74 of the plunger member 18. The compression spring 79 encircles the lower end portion 66 of the upper member 60 and the upper section 77 of the shoulder portion 74 of the plunger member 18 which serve to retain the spring 79 in place. The compression spring 79 serves to bias apart the upper member 60 and the plunger member 18 which is slidably received within the cylindrical cavity 68 in the upper member 60. Thereby, the spring 79 maintains the ball portion 62 of the upper member 60 in engagement with the flange 20a and within the socket opening 29 formed in the face plate 20 of the housing 12. Further, the spring maintains the contact surface 76 of the shoulder portion 74 in engagement with the dome portion 55 of the bridging contact member 14.

The actuator 16 is adapted to be manually manipulated in a triangular pattern between a low beam position as shown by the phantom lines in FIG. 1, in which the actuator 16 has the

bridging contact member 14 positioned in its first position; an intermediate beam position, as shown by the dashed lines in FIG. 1, in which the actuator 16 positions the bridging contact member 14 in its second position to effect the intermediate beam mode; and a high beam position, as shown by the solid lines in FIG. 1, in which the actuator 16 has the bridging contact member 14 positioned in its third position to effect the high beam mode. Further, the lower portion 73 of the plunger member 18 is caused to assume within the triangular guide slot 32 the position shown by phantom lines in FIG. 3 when the actuator 16 is in its low beam position; the position schematically shown in dash lines in FIG. 3 when the actuator 16 is in its intermediate beam position; and the positions schematically shown in solid lines in FIG. 3 when the actuator 16 is in its high beam position.

It should be understood that the energization and deenergization of the vehicle headlight system is controlled by another switch (not shown) in series with the switch assembly 10. In operation, and assuming the vehicle headlight system to be energized, the actuator 16 can be pivoted in a triangular pattern between its different positions by virtue of the fact that it is swivelly supported by the housing 12. For example, assuming the actuator 16 to be in its high beam position, the actuator 16 can be moved in a straight line to the position shown in phantom lines in FIG. 1. This movement of the upper member 60 of the actuator 16 serves to shift the lower portion 73 of the plunger member 18 in a straight line from the position shown in solid lines in FIG. 3 in one corner of the guide slot 32 to the position shown in phantom lines in another corner of the guide slot 32. The movement of the lower portion 73 of the plunger member 18 serves to pivot the bridging contact member 14 upon the pin-like projection 36 of the ground terminal 34 from the third position of the member 14 shown in solid lines in FIG. 3 to the first position of the member 14 shown in phantom lines in FIG. 3. It should be understood that either the intermediate or high beam modes of the vehicle headlight system are effected in a similar manner by merely shifting the actuator 16 between its different respective positions.

When the actuator 16 is moved from one position to another, the lower portion 73 of the plunger member 18 is caused to follow a straight path as defined by the sides of the triangularly shaped guide slot 32. Because the lower portion 73 of the plunger member 18 is received within the hole 57 of the bridging contact member 14, it should also be apparent that the bridging contact member 14 is caused to slide upon the pin like projection 36 as it is pivoted thereupon between its different positions. In this manner, the inner end of the elongated slot 52 of the bridging contact member 14 approaches the pin-like projection 36 as the lower portion 73 of the plunger member 18 is moved toward the midpoint of any side of the guide slot 32. Similarly, the inner end of the elongated slot 52 slides away from the pin-like projection 36 as the lower portion 73 of the plunger member 18 passes the midpoint of any side of the guide slot 32 and moves toward another corner of the guide slot 32.

It should be apparent that, when the actuator 16 is shifted from one mode position to another, the actuator 16 is moved with respect to the bottom wall of the housing from an angled position, through a nearly upright position, to another angled position. During such movement of the actuator 16, the contact surface 76 of the plunger member 18 first rolls in engagement upwardly upon the dome portion 55 of member 14 and outwardly with respect to the member 14 as the actuator 16 approaches its nearly upright position at the midpoint of its movement between mode positions. The rolling engagement between the plunger 18 and the dome portion 55 of the member 14 causes the plunger 18 to slide upwardly into the cavity 68 in the upper member 60. After the actuator 16 passes its nearly upright position and approaches another angled position, the contact surface 76 of the plunger 18 rolls in engagement downwardly upon the dome portion 55 of the member 14 and inwardly with respect to the member 14.

Similarly, the rolling engagement between the plunger member 18 and the dome portion 55 causes the plunger 18 to slide outwardly from the cavity 68 in the upper member 60. The rolling engagement of the contact surface 76 upon the dome portion 55 and outwardly and inwardly with respect to the member 14 serves to minimize the change in the distance between the pin-like projection 36 upon which the bridging contact member 14 is supported and the pressure point of the plunger member 18 upon the bridging contact member 14 when the actuator 16 and the bridging contact member 14 are being shifted between their different positions. In this respect, the pressure point of the plunger member 18 upon the bridging contact member 14 remains substantially centrally positioned between the three pressure points of the bridging contact member 14 comprising the spaced contacts 47 and 48 which engage different terminals 40-42 and the third corner 53 which is supported by the projection 36. Therefore, the rolling engagement therebetween serves to provide a substantially equal distribution of pressure upon the three pressure points of the bridging contact member 14 during movement between its different positions. As previously stated, this equal distribution assures proper engagement of the spaced contacts with the different terminals 40-42 as the member 14 is moved.

Referring to FIG. 6, another embodiment of a switch assembly 80 of the present invention is shown. The parts of the switch assembly 80 which are identical to the switch assembly 10 will be given the same reference numerals. In the switch assembly 80 an additional switch 80a is provided to enable the operator to momentarily flash the high beams when in either the low or intermediate beam mode to signal oncoming drivers to lower their high beams. The switch 80 includes an annular contact ring 81 concentric about the lower projection 66 of the upper member 60. The annular contact ring 81 extends outwardly from the flat side 64 of the ball portion 62 to a position normally out of engagement with the shoulder portion 74 of the plunger member 18. Further, the annular contact ring 81 is electrically connected via connector 83 with the third stationary terminal 42. An annular insulator ring 85 is also added and positioned in a concentric manner upon the upward facing side of the shoulder portion 74 of the plunger member 18. It should be noted that the shoulder portion 74 of the plunger 18 of the switch assembly 80 has a cone-like upper projection 77a, and that the compression spring 79 has one end in biasing engagement with the annular contact ring and its other end in biasing engagement with the annular insulating ring 85.

In operation, the upper member 60 of the actuator 16 is manually depressed against the bias of the compression spring 79, when the actuator 16 is in its low and intermediate beam positions, to engage the lower end of the annular contact ring 81 with the cone-like projection 77a of the shoulder portion 74. This serves to bridge the third terminal 42 with the ground terminal 34 to effect the high beam mode through a circuit traced from the third stationary terminal 42, through the connector 83, through the annular contact ring 81, through the shoulder portion 74 of the plunger member 18, through the bridging contact member 14, and through the pin-like projection 36 to the ground terminal 34.

It should be understood that the upper member 60 of the actuator 16 of the above-described switch assemblies 10 and 80 is intended to be manipulated by hand by the operator, however, the upper member 60 could easily be replaced with a treadle in order that the operator could manipulate the switch assemblies 10 and 80 by foot.

The foregoing disclosure relates to only one embodiment of the invention which may be modified within the scope of the appended claims.

What is claimed is:

1. A switch assembly, comprising: a housing means; stationary ground terminal means carried by said housing means; a plurality of stationary terminals carried by said housing means and positioned in a spaced relationship about said ground terminal means; said ground terminal means and said

stationary terminals being adapted to be connected to electric circuit means; a bridging contact member being pivotally supported upon said ground terminal means for pivoting movement around said ground terminal means to different positions to bridge different ones of said stationary terminals and said ground terminal means, said bridging contact member having a rounded dome portion; a manually manipulatable actuator means swivelly supported by said housing means and operatively connected with said bridging contact member for pivoting the latter to different positions; said actuator means having a plunger member spring biased into engagement with said dome portion of said bridging contact member, and said plunger member rolling in engagement with said dome portion when said actuator means is manipulated to maintain a substantially equal distribution of pressure upon said bridging contact member which maintains said bridging contact member in engagement with different ones of said stationary terminals when it is moved between its different positions.

2. A switch assembly, comprising: a housing means; a stationary ground terminal carried by said housing means; a plurality of stationary terminals carried by said housing means and positioned in a spaced relationship about said ground terminal; said ground terminal and said stationary terminals being adapted to be connected to electric circuit means; a bridging contact member having a plurality of contact portions and being pivotally supported in an eccentric manner upon said ground terminal for movement to different positions to bridge different ones of said stationary terminals and said ground terminal, said bridging contact member having a rounded dome portion with a hole therethrough; a manually manipulatable actuator means swivelly supported by said housing means and having a slidably supported plunger with one end received within said hole of said bridging contact member for pivoting said bridging contact member to different positions in response to manual manipulation, said plunger having a shoulder portion and being spring biased with said shoulder portion in constant engagement with said dome portion of said bridging contact member, and said shoulder portion rolling in engagement with said dome portion when said actuator means is manipulated to maintain a substantially equal distribution of pressure upon said bridging contact member which maintains said contact portions of said bridging contact member in engagement with different ones of said stationary terminals when it is moved to its different positions.

3. A light switch assembly for controlling the operation of a vehicle headlight system having a low beam mode, an intermediate beam mode, and a high mode comprising: a housing means defining an inner chamber having a triangularly shaped guide slot in its back wall; a stationary ground terminal carried by the back wall of said housing means and including a pin-like projection extending from the center of said triangularly shaped guide slot into said inner chamber; a plurality of stationary terminals carried by said back wall of said housing means and positioned in a spaced relationship about said guide slot; said ground terminal and said stationary terminals being adapted to be connected to the vehicle headlamp circuit means; a bridging contact member having a plurality of contact portions and an eccentrically located, elongated slot with said pin-like projection of said ground terminal being received therein whereby said bridging contact member is pivotally supported, said bridging contact member being pivotally movable between first and second and third positions in which said bridging contact member selectively bridges different ones of said stationary terminals to effect said low and intermediate and high beam modes respectively, said bridging contact member having a hole therethrough at approximately its center and having a rounded dome portion; a manually manipulatable actuator for moving said bridging contact member between its different positions, said actuator comprising an upper member swivelly supported by said housing means opposite said back wall and having a slidably supported, spring biased lower plunger member with one end ex-

tending through said hole of said bridging contact member and received within said guide slot whereby said actuator can be moved in a triangular pattern between a low beam position and an intermediate beam position and a high beam position, said plunger member having a shoulder portion in engagement with said dome portion of said bridging contact member, and said shoulder portion rolling in engagement with said dome portion when said actuator is pivoted between its different positions to maintain a substantially equal distribution of pressure upon said bridging contact member which maintains said contact portions of said bridging contact member in engagement with different ones of said stationary terminals when it is pivoted between its different positions.

4. A light switch assembly for controlling the operation of a vehicle headlamp system having a low beam mode, a high beam mode, and an intermediate beam mode, comprising: a housing means defining an inner chamber with a triangularly shaped guide slot in its back wall; a stationary ground terminal carried by the back wall of the housing means and including a pin-like projection extending from said back wall and into said inner chamber at approximately the center of said triangularly shaped guide slot; first and second and third stationary terminals carried by the back wall of said housing means and positioned in a spaced relationship about said guide slot and said ground terminal; said ground terminal and stationary terminals being adapted to be connected to the vehicle headlamp circuit means; a bridging contact member generally triangular in shape and having a pair of spaced contacts adjacent two corners of the member, said bridging contact member having an elongated slot adjacent the third corner of said bridging contact member and having received therein said pin-like projection whereby said bridging contact member is pivotally supported for movement around said ground terminal between a first position in which it bridges said first stationary terminal and said ground terminal to effect said low beam mode, a second position in which it bridges said first and second and ground terminals to effect said intermediate beam mode, and a third position in which it bridges said second and third and ground terminals to effect said high beam mode, said bridging contact member having a hole therethrough at approximately its center and having a rounded dome portion; a manually manipulatable actuator for moving said bridging contact member between its different positions, said actuator comprising an upper member swivelly supported by said housing means opposite said back wall and a spring biased lower plunger member which is slidably supported with respect to said upper member, said plunger member having one end extending through said hole of said bridging contact member and received within said guide slot whereby said actuator is movable in a triangular pattern between a low beam position and an intermediate beam position and a high beam position, said plunger member having a shoulder portion in engagement with said dome portion of said bridging contact member, said shoulder portion rolling in engagement with said dome portion when said actuator is moved between its different positions to maintain a substantially equal distribution of pressure upon said spaced contacts and third corner of said bridging contact member which maintains said spaced contacts in engagement with different ones of said stationary terminals when the bridging contact member is pivoted between its different positions.

5. A light switch assembly for controlling the operation of a vehicle headlamp system having a low beam mode, and intermediate beam mode, and a high beam mode, comprising: a housing means defining an inner chamber with a triangularly shaped guide slot in its back wall; a stationary ground terminal carried by the back wall of said housing means and including a pin-like projection extending from said back wall at approximately the center of said triangularly shaped guide slot and projecting into said inner chamber; first and second and third stationary terminals carried by said back wall and positioned in a spaced relationship around said guide slot and said ground terminal; said ground terminal and said stationary terminals

being adapted to be connected to the vehicle headlamp circuit means; a bridging contact member generally triangular in shape and having a pair of contacts located adjacent two corners of the bridging contact member and having an elongated slot adjacent the third corner of the bridging contact member and having received therein said pin-like projection of said ground terminal whereby said bridging contact member is pivotally supported for movement around said ground terminal between a first position in which it bridges the first stationary terminal and said ground terminal to effect said low beam mode, a second position in which it bridges said first and second and ground terminals to effect said intermediate beam mode, and a third position in which it bridges said second and third and ground terminals to effect said high beam mode, said bridging contact member having a hole therethrough at approximately its center and having a rounded dome portion; a manually manipulatable actuator for moving said bridging contact member between its different positions, said actuator comprising an upper member having a ball portion with a hole therein, said actuator also comprising a lower plunger member which has its upper end received within said hole in said upper member for sliding movement with respect thereto, said upper and plunger members being spring biased apart by compression spring means such that the ball portion of the upper member is maintained within a socket opening of said housing means and a shoulder portion on said plunger member is maintained in engagement with said dome portion of said bridging contact member, said plunger member having its lower end extending through said hole of said bridging contact member and received within said guide slot whereby said actuator is movable in a triangular pattern between a low beam position and an intermediate beam position and a high beam position, said shoulder portion rolling in engagement with said dome portion when said actuator is moved between its different positions to maintain a substantially equal distribution of pressure upon said spaced contacts and said third corner of said bridging contact member to maintain said spaced contacts in engagement with different ones of said stationary terminals when said bridging contact member is pivoted between its different positions, an annular insulating ring between said

plunger member and said compression spring means, said plunger member being engageable with an annular contact member electrically connected with said third stationary terminal and carried by said upper member upon manual depression of said upper member against the bias of said compression spring means to effect said high beam mode when said actuator is in its low beam or intermediate beam positions.

6. A light switch assembly for controlling the operation of a vehicle headlight system having a plurality of lighting modes, comprising; a housing means; stationary ground terminal means carried by said housing means; a plurality of stationary terminals carried by said housing means and positioned in a spaced relationship about said ground terminal means; said ground terminal means and said stationary terminals being adapted to be connected to the vehicle headlight circuit means; a bridging contact member pivotally supported upon said ground terminal means for pivoting movement around said ground terminal means through different positions to selectively bridge different ones of said stationary terminals and said ground terminal means to effect different lighting modes, said bridging contact member having a rounded dome portion; a manually manipulatable actuator means swivelly supported by said housing means and operatively connected with said bridging contact member for pivoting the latter to different positions; said actuator means having a plunger member spring biased into engagement with said dome portion of said bridging contact member, said plunger member rolling in engagement with said dome portion when said actuator means is manipulated to maintain a substantially equal distribution of pressure upon said bridging contact member which maintains said bridging contact member in engagement with different ones of said stationary terminals when it is moved between its different positions, contact means electrically connected with one of said stationary terminals and carried by said actuator means, insulating means between said plunger member and said contact means, said contact means being engageable with said plunger member upon manual depression of said actuator means to momentarily effect one of said different lighting modes when said actuator means is in another mode position.

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