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(54) ELECTRIC LAMP UNITS

(71) We, WESTINGHOUSE ELECTRIC CORPORATION, of Westinghouse Building, Gateway Center, Pittsburgh, Pennsylvania, United States of America, a corporation organised and existing under the laws of the State of Pennsylvania, United States of America, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to electric lamp units and has particular reference to sealed-beam lamp units of the type used on motor vehicles for illuminating the roadway.

High intensity sealed-beam lamp units that employ a halogen-cycle type incandescent lamp as the light source are well known in the art. Such a lamp unit is disclosed in U.S. Patent No. 3,553,519 and utilizes a ceramic support member that is slip-fitted into channels formed on the sealed end of the halogen lamp and is also coupled to a light shield. However, the halogen lamp is held in place by welding its lead wires to the stiff conductive leads that are attached to the reflector portion of the outer casing or housing. Various types of assemblies for holding a halogen-cycle type incandescent lamp in proper position with the reflector of a sealed-beam lamp unit using sheet-metal members that are slipped over the press seal of the halogen lamp or embedded therein are also known in the art. Such mount assemblies and techniques are disclosed in U.S. Patent Nos. 3,848,120 issued to Wolfe et al., 3,909,607 issued to Vause et al. and 3,904,909 issued to Vause.

The use of sheet-metal holders or caps that are interlocked with the seal portion of a halogen-cycle lamp and are fastened to a support plate or a support wire to hold the lamp in the desired position within a sealed-beam unit are shown in U.S. Patent Nos. 3,963,916 and 3,904,904. In other types of sealed-beam headlamps illustrated in U.S. Patent Nos. 3,917,939 and 3,997,808, a halogen lamp is disposed in the desired position relative to the reflector component by cementing a sheet-metal or a ceramic holder to the press seal of the halogen lamp and then soldering or welding the lamp lead wires to the conductor portions of the lamp casing or housing.

While the prior art sealed-beam lamp units which employ a halogen-cycle type incandescent lamp as the light source were satisfactory from a functional standpoint, they require complicated mount structures that are expensive and difficult to assemble on a mass-production basis. The lamp-holding arrangements also entail the use of an excessive number of specially formed parts and, in some instances, require that metal supporting members be embedded in the press seal of the halogen lamp envelope. This not only further complicated lamp manufacture but created the potential problem of introducing strains in the hermetic seal which could eventually cause it to crack and leak. Moreover, in some of the prior art designs the halogen lamp is held in suspended position within the sealed-beam housing by a single support member or by welded support means which does not provide any protection against a mechanical or electrical failure of the mount assembly should the support member or its weld juncture break, particularly under the severe vibration and rough surface conditions to which the sealed-beam lamp unit is subjected when in use on a motor vehicle.

All of the foregoing manufacturing and quality problems and cost disadvantages are avoided in accordance with the present invention by providing a sealed-beam lighting unit with a compact baseless incandescent lamp, such as a halogen-cycle lamp, which is held in predetermined relationship with the reflector component by a mount

assembly that uses a minimum number of parts that can readily by formed from sheet metal. The metal parts are so shaped and fastened to the rigid lead-in wires of the incandescent lamp and the main conductors of the reflector component that the lamp itself and its lead wires are used as structural parts of the mount assembly and the lamp is positively seated in prefocussed relationship with the reflector by the holder means. This is accomplished by employing a pair of sheet-metal clips as the lamp-holding means, slipping them onto the side edges of the press seal, and then locking them in such position by welding selected parts of the metal clips to the lamp lead-in conductors and the main conductors that are carried by the sealed-beam housing.

Each of the metal clips include a laterally-protruding tabular segments which is fastened to the respective lead-in wires of the lamp and the also serves as stop means which engages the end of the lamp seal and thus insures that the incandescent lamp is properly positioned relative to the reflector surface of the sealed-beam housing. The metal clips are preferably mechanically interfitted with the ends of the main conductors and subsequently welded to these members, as well as to the lamp lead-in conductors, to provide a mount structure that is rugged, very reliable from both a mechanical and electrical standpoint, and inexpensive.

Various alternative mount embodiments for single-filament and dual-filament type compact incandescent lamps are also disclosed which utilize modified forms of sheet-metal holders that include additional features of the present invention.

In order that the invention can be more clearly understood, convenient embodiments thereof will now be described, by way of example, with reference to the accompanying drawings in which:

Figure 1 is an elevational view of a sealed-beam lamp unit, a portion of the reflector component being removed to better illustrate the inner lamp component and the mount assembly;

Figs. 2 and 3 are enlarged front and side views, respectively, of the inner lamp component and mount assembly shown in Fig. 1;

Fig. 4 is an enlarged pictorial view of one of the sheet-metal lamp-holding members;

Fig. 5 is an exploded view of the mount components showing the manner in which they are assembled with the halogen lamp to form the mount;

Figs. 6 and 7 are front elevational and sectional views, respectively, of another mount assembly which employs a modified sheet-metal holder;

Figs. 8 and 9 are front elevational and sectional views, respectively, of still another mount embodiment utilizing a single-filament incandescent lamp and a one-piece metal holder;

Fig. 10 is an elevational view, partly in section, of another sealed-beam lamp unit which is provided with a deal-filament incandescent lamp and accommodating mount assembly pursuant to the invention;

Figs. 11 and 12 are front and side elevational views, respectively, of the mount assembly shown in Fig. 10; and,

Fig. 13 is an enlarged cross-sectional view through the lamp mount, along line XIII —XIII of Fig. 11.

While the present invention can be advantageously employed in various kinds of electric lamp units which contain a compact or miniature lamp that is mounted within a protective housing or casing, it is especially adapted for use in conjunction with sealed-beam lamp units of the type used as motor vehicle headlamps and it has accordingly been so illustrated and will be so described.

A sealed-beam lamp unit L that embodies the invention and contains a mount assembly M which includes a compact single-filament incadescent lamp 15 is shown in Fig. 1. The lamp unit consists of the usual concave reflector component 16 that is molded from glass or other suitable vitreous material and is provided with an inner coating 17 of aluminum or the like which defines a reflector surface of parabolic or other suitable configuration. The reflector component 16 is peripherally sealed to a vitreous cover component 18 that is light transmitting and may be provided with integral flutes, prisms, and the like to serve as a lens which directs the transmitted light rays into a desired beam pattern in accordance with standard practice in the art. A pair of metal ferrules 19 are sealed into openings in the back of the reflector component 16 and have their outer ends brazed or otherwise fastened to a pair of blade-like connectors 20 which permit the lamp unit L to be inserted into the socket fixture of the motor vehicle. A pair of rigid main conductors such as lead-support wires 21, 22 of iron, nickel or nickel-plated iron are brazed to the ferrules 19 and extend inwardly into the concave reflector component 16 in the usual fashion. The housing or casing formed by the reflector 16 and lens-cover 18 is evacuated and filled with a non-oxidizing inert gas, such as argon or nitrogen at a suitable pressure, in accordance with the usual practice.

The incandescent lamp 15 is preferably of the halogen-cycle type and comprises an integral structural part of a mount assembly M which retains it in the proper optical relationship with the focal point of the reflector defined by the specular metal coating 17. The compact lamp 15 thus includes a vitreous envelope 26 of suitable high-temperature material (such as quartz, Vycor (Re-

gistered Trade Mark) or hard glass) and contains a tungsten filament 28, an inert fill gas such as nitrogen at a suitable fill pressure, and a measured amount of a halogen such as iodine or bromine that is introduced into the envelope during lamp manufacture either in elemental form or in the form of a suitable halogen-containing compound. The lamp 15 is anchored to the inner end portions of the lead-support wires 21, 22 by a holder assembly that is fabricated from sheet metal and, in this particular embodiment, comprises a pair of clip-like members 34 that nestingly embrace a selected part of the lamp envelope and are fastened to the lead-support wires 21 and 22 and to a pair of rigid lead-in conductors such as molybdenum wires 29 and 30 that extend from the lamp 15.

As shown more clearly in Figs. 2 and 3, the incandescent halogen-cycle lamp 15 is of the baseless type and terminated at one end by a pinch or press seal 27 of fused vitreous material that is generally rectangular in shape and thus has two side edges and an end face from which the rigid lead-in wires 29 and 30 extend. The tungsten filament 28 is suspended within the envelope 26 in the usual manner by attaching it to a pair of inner lead-in conductors that are fastened to a pair of metal foils or ribbons that are hermetically embedded in the press seal and connected to the rigid out lead-in wires 29 and 30. Lead-in wires 29, 30 may be made of molybdenum and each may comprise a one-piece lead, if desired, thus eliminating the need for ribbons and conjoined inner heads.

As will be noted in Fig. 4, each of the clip-like members 34 are fabricated from a single piece of suitable sheet metal (such as stainless steel or cold rolled steel) that is bent to provide a hollow tubular segment 35 that merges with a pair of laterally extending panels 36 that define a pocket of generally U-shaped cross-section which is located above a pair of laterally extending tabular segments 37. The tabular segments extend from the terminus of tubular segment 35 and are disposed closer to one another than the panels 36 and thus partially close and obstruct the entrance to the pocket. The spacing of the panels 36 is such that they snugly embrace and nestingly accommodate the side edges of the press seal 27 when the lamp 15 is inserted into the clip-like members 34. The spacing between the tabular segments 37 is just slightly larger than the cross-sectional dimension of the lead-in wires 29, 30 and the inner dimension of the tubular segments 35 are such that they snugly receive the inserted end portions of the large-diameter lead-support wires 21, 22.

The manner in which the halogen-cycle lamp 15 is interfitted with the clip-like members 34 and lead-support wires 21, 22 to form the mount assembly M is shown in Fig. 5. As indicated, the inner end portions of the wires 21 and 22 are inserted into the tubular segments 35 of the respective clip-like members 34 and the latter are then slip-fitted onto the side edges of the press seal 27 of the lamp envelop 26 with the respective lead-in wires 29 and 30 of the lamp 15 disposed between the associated tabular segments 37 and with the latter seated against the curved end face of the press seal, thus producing the mount M shown in Figs. 1—3. The tabular segments 37 accordingly serve as stop means for the press seal 27 and insure that the lamp 15 is oriented in the proper relationship with the main conductors 21 and 22. This is important since the lamp filament 28 must be located in predetermined optical relationship with the focal point of the paraboloidal reflector component 16 in order to control the beam pattern and beam intensity.

Proper positioning of the lamp 15 relative to the lead-support wires 21, 22 is also insured by the fact that the inner end portions of the wires are bent toward one another (as shown in Figs. 1, 2 and 5) and the clip-like members 34 are pressed down onto the ends of the wires until the members engage the right-angle bends of the respective wires and the parts are in force-fitted telescoped relation.

The mount components are mechanically locked in their assembled relationship by welding the tubular segments 35 of the clip-like members 34 to the enclosed ends of the lead-support wires 21 and 22 and also welding the tabular segments 37 to the respective lamp lead-in wires 29 and 30, the welds being indicated by the "asterisk" indicia shown in Fig. 2. Since the metal clip-like members 34 embrace and extend over only the side edge portions of the press seal 27, they are physically and electrically isolated from one another and serve as mechanical and electrical coupling members for the halogen-cycle lamp 15, with the various components of the mount assembly M being held together by the lamp 15 itself and its rigid lead-in wires 29 and 30.

The positioning of the finished mount M relative to the reflector component 16 is achieved by inserting the free ends of the lead-support wires 21, 22 into the ferrules 19, adjusting the location of the mount M until the desired orientation with the reflector surface 17 is obtained, and then brazing the wires to the ferrules. The lens-cover 18 is then joined to the reflector component 16, the resulting airtight casing is evacuated, charged with fill gas and finally hermetically sealed in the usual manner.

A modified sealed-beam lamp mount assembly M_a that includes a single-filament type halogen lamp 15a is shown in Figs. 6 and 7.

As will be noted, it employs only clip-like

member 34a of sheet metal that is slip-fitted over a side edge of the press seal 27a of the lamp envelope 26a and has its tabular segments 37a welded to one of the lamp lead-in wires 29a and its hollow tubular segment 35a disposed in telescoped and welded relationship with the end portion of the associated lead-support wire 22a. According to this embodiment, however, the other rigid lead-in wire 30a is connected directly to the end portion of the other lead-support wire 21a by a weld to complete the electrical circuit with the lamp filament 28a. Lead-support wire 21a is mechanically coupled to the lamp 15a by slipping a suitable sleeve-like insulator 38 of suitable ceramic over the end portion of the wire 21a and clamping it and the wire 21a in compressed abutting relationship with the side edge of the press seal 27a by a U-shaped band 40 of sheet metal.

As shown most clearly in Fig. 7, the metal band 40 laterally extends around the press seal 27a and overlies the clip-like member 34a and has its free ends welded to the tubular segment 35a of the clip-like member. The closed or "loop" end of the metal band 40 overlies and tightly grips the insulator 38 so that all of the mount components are securely locked together and the welds joining the lead-in wires 29a and 30a to the clip-like member 34a and lead-support wire 21a, respectively, are reinforced and thus protected from mechanical shocks and stresses which might cause the welds to fracture and render the sealed-beam lamp unit inoperable.

An alternate sealed-beam mount embodiment M_b which requires only one sheet-metal component is shown in Figs. 8—9. As illustrated, according to this embodiment the rigid lead-in wire 30b of the halogen incandescent lamp 15b is welded directly to the end portion of one of the stiff lead-support wires 21b which is bent so that its end portion extends laterally and terminates adjacent the end of the press seal 27b. The other main conductor 22b is mechanically and electrically coupled to the lamp 15b by a sleeve-holder 42 of sheet metal that laterally extends around the press seal 27b and is electrically isolated from the lead-in wire 30b and conjoined main conductor 21b.

As will be noted in Fig. 9, the sleeve-holder 42 is fabricated from a single piece of sheet metal and has its free ends disposed in overlapped welded relationship with one another and bent around one side edge of the press seal 27b. The opposite or closed end of the metal sleeve holder is formed into a hollow tubular segment 43 that is slipped over and welded to the end portion of the other main conductor 22b.

As in the previous embodiments, the sheet-metal holder 42 has paired laterally-extending tabular segments 46 (Fig. 8) that are spot welded in overlapped relationship with the other lamp lead-in wire 29b and also serve as a seat and stop means for the end of the press seal 27b to insure proper positioning of the lamp 15b relative to the main conductors 21b, 22b and the reflector component of the sealed-beam lighting unit.

The invention is not limited to sealed-beam lighting units that contain single-filament incandescent lamps as inner light sources but can also be employed with headlamps and lighting units that contain dual-filament lamps of compact size.

A sealed-beam unit L_c of such construction is shown in Fig. 10 and consists of the usual concave component 16c of glass or other suitable material that has a reflective inner surface 17c and is hermetically joined along its periphery to a light-transmitting cover or lens 18c. The resulting airtight housing encloses a mount assembly M_c that includes a compact incandescent lamp 15c which contains a pair of tungsten filaments 48 and 50. The inner lamp component 15c is preferably of the halogen-cycle type and, in accordance with the usual practice in the art, one end of each of the filaments 48, 50 is connected to a single outer lead-in wire 51 through a common ribbon or foil conductor that is hermetically embedded in the press seal 27c which is formed on the end of the lamp envelope 26c. Lead-in wire 51 is thus electrically "common" to both filaments. The other ends of the filaments 48 and 50 are connected to separate lead-in wires 52 and 53, respectively, by separate foil conductors that are also embedded in the press seal. The outer lead-in wires 51, 52, 53 are composed of molybdenum, or other suitable rigid conductive material, since they are used to mechanically anchor the lamp 15c in place as previously described.

As in the previous embodiments, the compact incandescent lamp 15c is mechanically and electrically coupled to the main conductors of the concave reflector member 16c by a sheet-metal holder assembly that engages that press seal 27c and utilizes the lamp 15c itself and its outer leads as the components that lock the mount elements together in operative relation. Since the lamp 15c contains a pair of filaments, the reflector component 16c is provided with three sealed-in metal ferrules 19c and associated blade connectors 20c, and the ferrules are brazed to three rigid lead-support wires 54, 55 and 56 of iron, nickel or nickel-plated iron that extend inwardly into the reflector component.

As shown more clearly in Figs. 11—13, body portion of lead-support wire 56 is disposed in substantially the same plane as wire 54 but has its end portion bent laterally and skewed slightly so that it terminates below and adjacent the end of the press seal

27c in line with the protruding "common" lead-in wire 51. As will be noted, the tip of lead-in wire 51 is also bent to extend laterially and the tip of the lead-support wire 56 is formed into a clamp 57 that is crimped in positive electrical engagement around the tip of the common lead-in wire. The remaining lead-support wires 54 and 55 are mechanically and electrically coupled to the other lead-in wires 52 and 53 of the lamp 15c by a sheet-metal holder assembly which comprises a pair of clip-like members 34c, each of which are formed from a single piece of material and are constructed in the same fashion as described in the Figs. 1—3 embodiment. The side edges of the press seal 27c are thus slip-fitted into snug nested relationship with the panel segments 36c of the clip-like members 34c and the end of the press seal 27c is seated against the paired tabular segments 37c that are spot welded to the respective lead-in wires 52 and 53. Hollow tubular segments 35c of the clip-like members are in telescoped relationship with and welded to the bent end portions of the lead-support wires 54 and 55 that are located adjacent to and extend along the side edges of the press seal 27c, the welds being indicated by asterisks as in the previous embodiments.

As will be noted in Figs. 12 and 13, the laterally-extending medial portion of lead-support wire 55 is disposed at an angle relative to the plane containing the press seal 27c and tubular segments 35c of the clip-like members 34c so that the straight body portion of wire 55 is aligned with and extends into the associated ferrule 20c.

As will be appreciated to those skilled in the art, the sheet-metal components of the holder assembly employed in each of the embodiments are so shaped and designed that they can be readily fabricated and assembled with the incandescent lamp and stiff main conductors of the reflector component in a positive and efficient manner on a mass-production basis, using suitable jigs and welding apparatus, to provide a mount structure that is light in weight and inexpensive but rugged and able to withstand the high-temperature environment characteristic of halogen-cycle type lamps. While a vitreous reflector component of paraboloidal shape and circular periphery has been illustrated in each of the embodiments, the invention is not limited to sealed-beam headlamps utilizing such components but can also be used with equal advantage in headlamps of rectangular configuration and those which employ a sheet-metal reflector that is fitted with a glass lens member. The juncture of the metal parts of the mount with the lamp conductors can also be effected by brazing or soldering instead of welding, if desired.

WHAT WE CLAIM IS:—

1. An electric lamp unit having a housing and rigid main conductors extending into said housing, and which comprises the combination of a baseless incandescent lamp having an envelope containing a filament which is connected to rigid lead-in conductors anchored in and extending from an hermetic seal terminating one end of said envelope and having two longitudinal side edges, and means mechanically and electrically coupling said incandescent lamp to the main conductors and suspending the lamp within said housing including a holder of sheet metal having (a) a first segment of generally U-shaped cross-section in snug slip-fitted relationship with a side edge portion of the envelope seal, (b) a second segment of hollow tubular configuration fastened to one of said main conductors in overlying telescoped relationship therewith, and (c) a third segment fastened to one of the lamp lead-in conductors so that the associated main and lead-in conductors are electrically connected to one another by the sheet-metal holder, the said third segment of the sheet-metal holder extending laterally along the outer end of the envelope seal and constituting stop means for orienting the incandescent lamp in predetermined interfitted relationship with the holder.

2. A unit according to claim 1, wherein the second and third segments of the sheet metal holder are each joined to the associated main conductor and lamp lead-in conductor, respectively, by a weld.

3. A unit according to claim 1 or 2, wherein

the incandescent lamp is of compact size and has a vitreous envelope the hermetic seal whereof comprises a press seal of fused vitreous material that constitutes one end of the envelope,

the lead-in conductors extend from the end of said press seal, and

the third segment of the sheet-metal holder comprises a tabular-shaped segment extending laterally from the terminus of the tubular second segment.

4. A unit according to claim 3, wherein

the housing comprises a concave reflector component and a light-transmitting cover component secured to one another,

the rigid main conductors comprise stiff lead-support wires carried by and extending into the reflector component, and

the compact incandescent lamp is disposed in predetermined optical relationship with the reflector component and thus produces a concentrated beam of light when the lamp unit is energized.

5. A unit according to claim 4, wherein

the concave reflector and cover components are hermetically joined along their peripheries and said lamp unit is thus of the

sealed-beam type,

the incandescent lamp is of the halogen-cycle type, and

the hermetic seal comprises a press seal of generally rectangular shape formed on the end of the lamp envelope.

6. A unit according to claim 5, wherein

the halogen-cycle lamp contains a single filament and has a pair of rigid lead-in wires protruding from the end of the press seal,

the reflector component carries a pair of inwardly-extending lead-support wires, and

the sheet-metal holder comprises a pair of clip-like members disposed in slip-fitted, nested relationship with only the side edge portions of the press seal and are thus spaced from one another,

each of said sheet-metal clip-like members being fastened to the associated lead-support wire and lamp lead-in wire and thereby providing a unitary mount assembly the parts whereof are retained in assembled relationship by the halogen-cycle lamp and its rigid lead-in wires.

7. A unit according to claim 6, wherein

the inner end portions of the lead-support wires are bent toward one another and are disposed adjacent to and extend along the respective side edge portions of the press seal,

the tubular segments of the the metal clip-like members are welded to the enclosed end portions of the associated lead-support wires, and

the tabular-shaped segments of said metal clip-like members overlie and are welded to the associated lamp lead-in wires.

8. A unit according to claim 7, wherein each of said clip-like members is fabricated from a single piece of sheet metal.

9. A unit according to claim 5 wherein

the halogen-cycle lamp contains a single filament and has a pair of rigid lead-in wires protruding from the end of the press seal,

the reflector component carries a pair of inwardly-extending lead-support wires, and

the sheet-metal holder laterally extends around and grips the press seal and thus comprises a sleeve locking the halogen-cycle lamp to one of the lead-support wires,

one of the lamp lead-in wires being electrically connected to said holder and the remaining lamp lead-in wire being electrically isolated from said holder and connected directly to the other of said lead-support wires.

10. A unit according to claim 9, wherein

the sleeve comprises an extension of the said first segment of the holder, and

the holder is fabricated from a single piece of sheet metal the free ends whereof are joined together along the side edge portion of the press seal which is opposite the tubular segment of the holder.

11. A unit according to claim 9 or 10, wherein

the inner end portions of the lead-support wires are bent toward and extend along the respective side edge portions of the press seal,

the sleeve portion of the holder comprises a separate U-shaped band component of sheet metal fastened to the tubular segment of the holder at one side of the press seal and overlies and is mechanically coupled to the end portion of the lead-support wire located at the other side of the press seal, and

the lead-support wire connected directly to one of the lamp lead-in wires is electrically isolated from the band component of the holder by an insulator interposed between the associated lead-support wire and overlying part of said sheet-metal band component.

12. A unit according to claim 11, wherein

the insulator is of sleeve-like configuration and disposed in telescoped relation with the end portion of the associated lead-support wire, and

the metal band component extends around and clamps the sleeve-like insulator and end of the associated lead-support wire to the side edge of the press seal.

13. A unit according to claim 9 or 10, wherein

the end portion of the lead-support wire connected to said holder is disposed at and extends along one side of the press seal, and

the end portion of the lead-support wire fastened directly to one of the lamp lead-in wires is disposed adjacent the end of the press seal.

14. A unit according to claim 13, wherein the sheet-metal holder, lamp lead-in wires, and lead-support wires are welded to one another.

15. A unit according to claim 5, wherein

the halogen-cycle lamp contains a pair of filaments connected to three rigid lead-in wires protruding from the end of the press seal,

the reflector component has three inwardly-extending lead-support wires one of which is fastened directly to one of the lamp lead-in wires, and

said sheet-metal holder comprises a pair of metal clip-like members disposed in slip-fitted nested relationship with only the side edge portions of the press seal and are thus spaced from one another,

each of said metal clip-like members being fastened to the remaining pairs of lead-support wires and lamp lead-in wires and thereby providing a unitary mount assembly the parts whereof are retained in assembled relationship by the halogen-cycle lamp and its rigid lead-in wires.

16. A unit according to claim 15, wherein one of the lead-in wires is electrically connected to and is thus common to both of said filaments.

17. A unit according to claim 16, wherein

the lamp lead-in wire that is fastened

directly to one of the lead-support wires protrudes from the medial part of the press seal and the end portion of said one lead-support wire is bent toward and located adjacent the end of the press seal,

the end portions of the other main conductors are bent toward and located adjacent to the side edges of the press seal, and

each of the said metal clip-like members have hollow tubular portions secured to the end portions of the connecting lead-supported wires.

18. A unit according to claim 17, wherein the lamp lead-in wire protruding from the medial part of the press seal is the one electrically common to both of said filaments, and

the remaining lead-in wires are connected to the ends of the respective filaments and protrude from the portions of the press seal which carry the associated clip-like members.

19. A unit according to claim 18, wherein each of said clip-like members is fabricated from a single piece of sheet metal and are welded to the associated lead-support wires and lamp lead-in wires.

20. An integral lamp-mount assembly for use in a vehicular headlamp and similar lighting units that have a concave reflector component, said lamp-mount assembly comprising:

a pair of substantially rigid main conductors that (a) are adapted to be fastened to terminal means carried by the reflector component of the headlamp and (b) have end portions which are disposed in spaced side-by-side relationship,

a baseless type incandescent lamp of compact size having an envelope that contains a filament and is terminated by a hermetic seal from which a pair of substantially rigid lead-in wires extend, said lead-in wires being anchored in the hermetic seal and connected to the filament and said hermetic seal having a pair of side edges, and

means mechanically and electrically coupling the compact incandescent lamp to the end portions of the main conductors comprising a pair of spaced clip-like holders of sheet metal that are disposed in snug interfitted embracing relationship with the respective side edges of the hermetic seal, are fastened to the end portions of the respective main conductors, and have segments that extend laterally along the end face of the hermetic seal.

the laterally-extending segments of each of said clip-like holders being seated against the end face of the hermetic seal and also being fastened to the respective lead-in wires of the compact lamp and thereby serving as positioning and electrical-connector means for the compact incandescent lamp.

21. An assembly according to claim 20, wherein the lead-in wires extend outwardly from the end face of the hermetic seal and the segments of the clip-like sheet-metal holders which extend along said end face each comprise a tubular segment which is welded to the associated lamp lead-in wire.

22. An assembly according to claim 20, wherein each of the clip-like sheet-metal holders also have a hollow tubular segment that is disposed in slip-fitted telescoped overlying relationship with the end portion of the associated main conductor and is fastened thereto by a weld.

23. An integral lamp-mount assembly adapted for use in a vehicular headlamp and similar lighting units that have a concave reflector component, said lamp-mount assembly comprising:

a pair of substantially rigid main conductors that (a) are adapted to be fastened to terminal means carried by the reflector component of the headlamp and (b) have end portions which are disposed in spaced side-by-side relationship,

a baseless type incandescent lamp of compact size having an envelope that contains a filament and is terminated by a hermetic seal from which a pair of lead-in wires extend, said lead-in wires being anchored in the hermetic seal and connected to the filament,

means mechanically coupling the compact incandescent lamp to the end portions of the main conductors comprising a pair of spaced clip-like holders of sheet meatal that are disposed in interfitted embracing relationship with peripheral portions of the hermetic seal, each of said holders having a hollow tubular segment that is disposed in slip-fitted telescoped overlying relationship with the end portion of one of the main conductors and is secured thereto, and

means electrically connecting the clip-like holders with the respective lead-in wires and, together with said telescoped tubular segments, maintaining said holders and main conductors in assembled relationship with the hermetic seal and the compact lamp.

24. An assembly according to claim 23, wherein the lamp lead-in wires extend outwardly from the end of the hermetic seal and the clip-like holders of sheet metal are interfitted embracing relationship with longitudinally-extending side edges of the hermetic seal.

25. An assembly according to claim 23, wherein the hollow tubular segments of the clip-like holders comprise the longitudinal side segments of the respective holders and are welded to the end portions of the associated main conductors in telescoped overlying relationship therewith.

26. Electric lamp units constructed, arranged and adapted for use substantially as described herein with particular reference to Figures 1 to 5 or Figures 10 to 13 of the

accompanying drawings.

27. Integral lamp-mount assemblies constructed, arranged and adapted for use substantially as described herein with particular reference to Figures 2 to 5, Figures 6 and 7 or Figures 8 and 9 or Figures 11, 12, and 13 of the accompanying drawings.

RONALD VAN BERLYN.

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1604058 COMPLETE SPECIFICATION
5 SHEETS *This drawing is a reproduction of the Original on a reduced scale*
Sheet 1

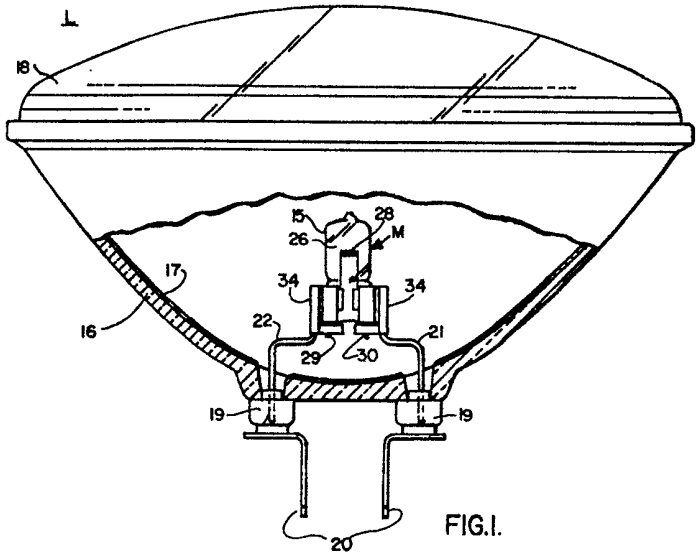


FIG.1.

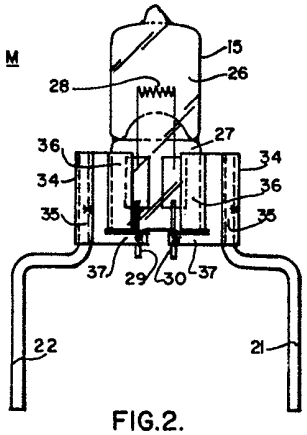


FIG.2.

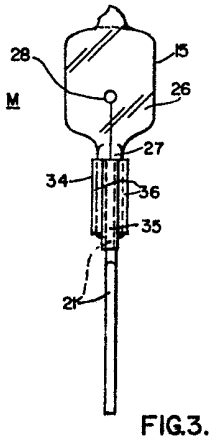


FIG.3.

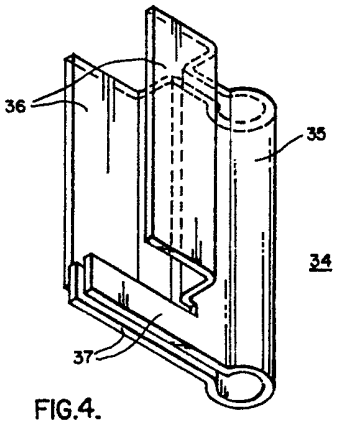


FIG.4.

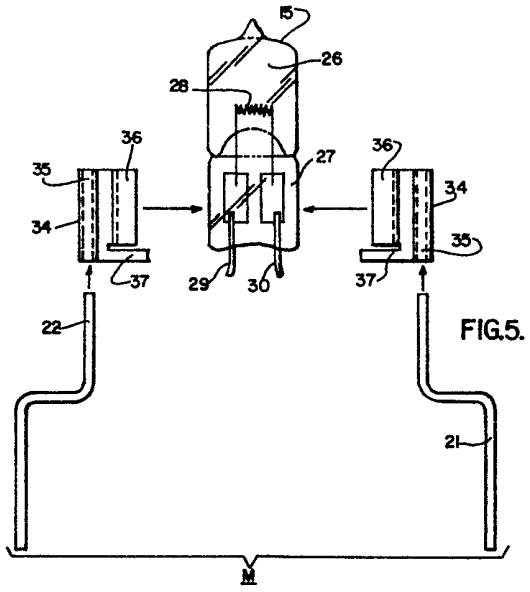


FIG.5.

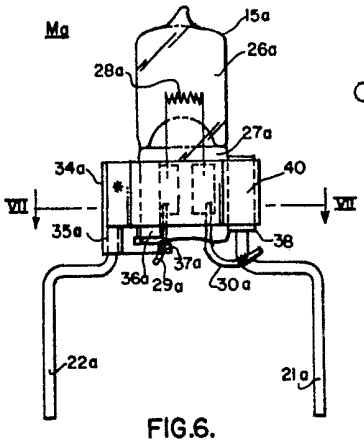


FIG.6.

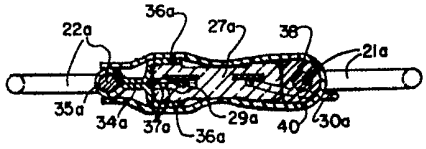


FIG.7.

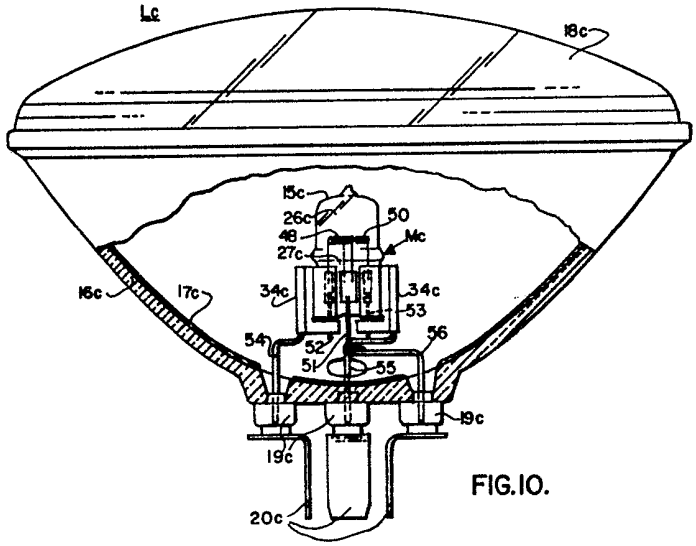


FIG.10.

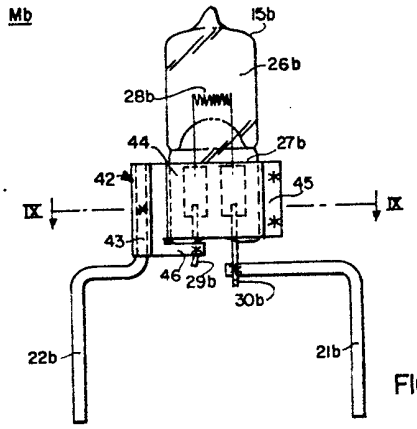
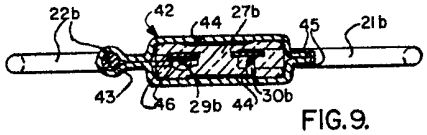

Mb
15b
26b
28b
44
27b
42
45
IX
IX
43
46
29b
30b
22b
21b

FIG.8.


22b
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44
27b
45
21b
43
46
29b
44
30b

FIG.9.

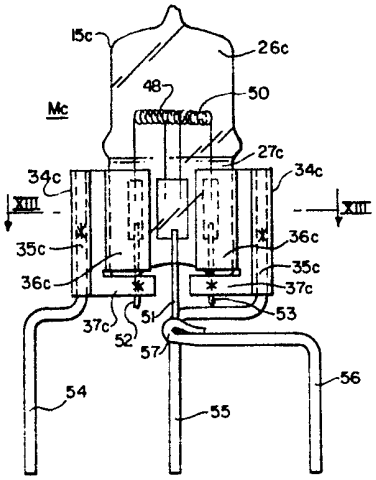

FIG.11.

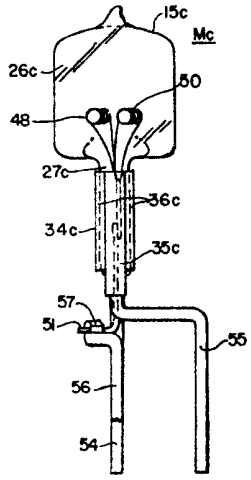

FIG.12.

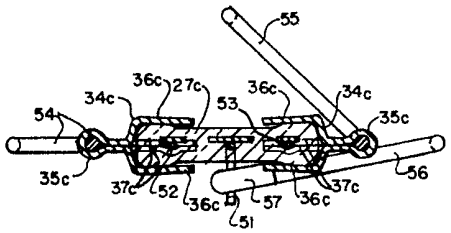

FIG.13.