United States Patent [19]

Cardwell, Jr.

[11] **3,746,906**

[45] **July 17, 1973**

[54] **ADAPTER BASE FOR ELECTRIC LAMP**

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[73] Assignee: **General Electric Company**, Schenectady, N.Y.

[22] Filed: **Aug. 10, 1971**

[21] Appl. No.: **170,589**

[52] **U.S. Cl.** **313/318**, 339/146

[51] **Int. Cl.** **H01j 5/48**

[58] **Field of Search** 313/318; 174/50, 174/52; 339/146

[56] **References Cited**

UNITED STATES PATENTS

773,805	11/1904	Miller	339/146
3,622,947	11/1971	Griffin	339/146
2,791,713	5/1957	Dean	313/318 X

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[57] **ABSTRACT**

An adapter screw-base is attached to a lamp of the type having cup-shaped ferrule terminals, by means of an adapter disc positioned over the ferrule terminals and against the lamp envelope and held in place by fastening means attached to the outer ends of the ferrule terminals. A screw-base is positioned with its skirt surrounding the adapter disc and attached thereto by interlocking indentations. Wires provide electrical connections between the screw-base and ferrule terminals.

10 Claims, 4 Drawing Figures

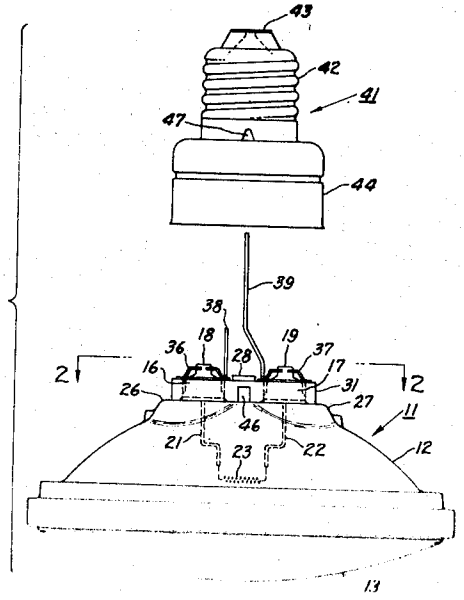


Fig. 1.

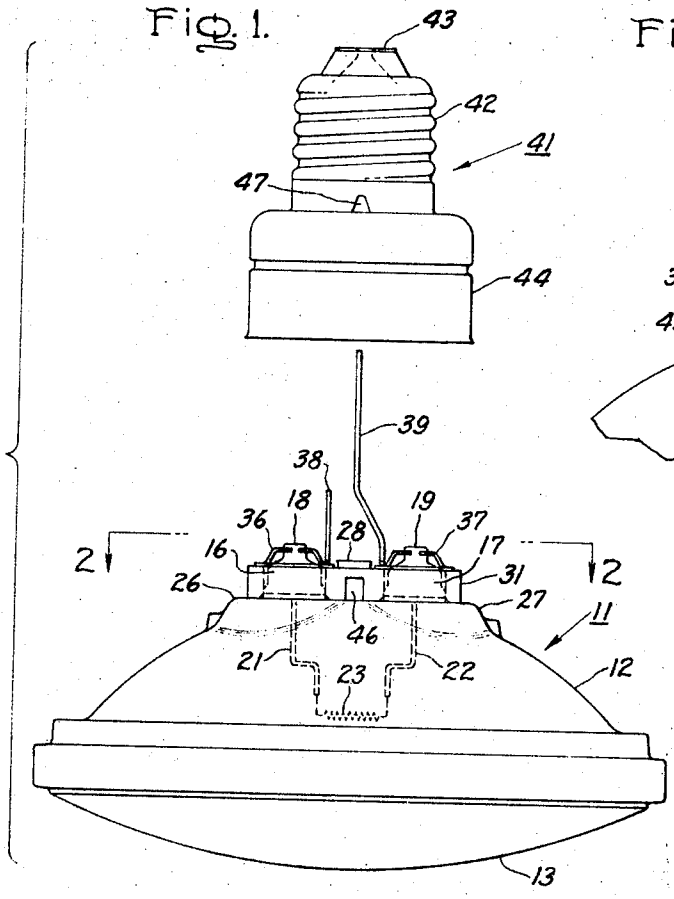


Fig. 3.

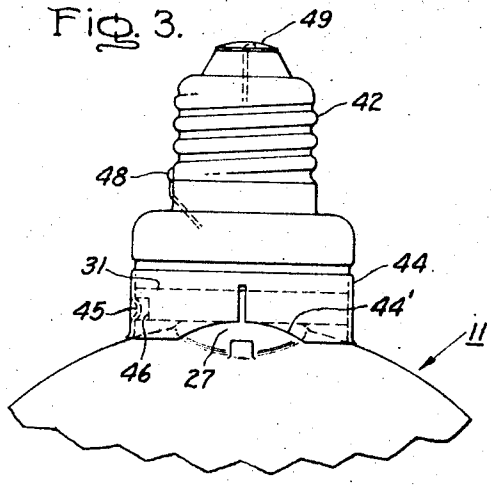


Fig. 2.

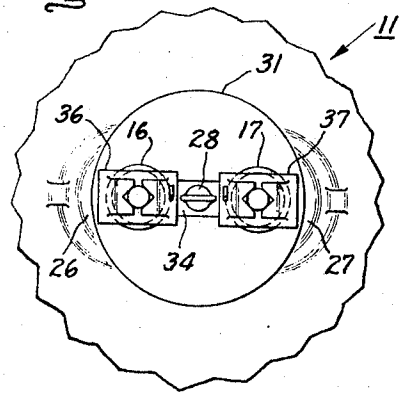
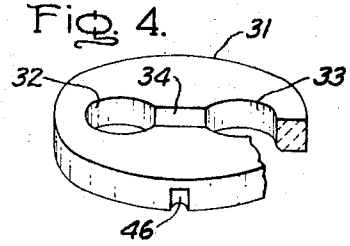


Fig. 4.



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ADAPTER BASE FOR ELECTRIC LAMP

BACKGROUND OF THE INVENTION

The invention is in the field of electric lamps provided with bases, and is particularly directed to an adapter base attachment assembly for the type of lamp provided with terminal posts such as cup-shaped ferrule terminals.

Certain types of lamps, such as built-in reflector lamps, are often provided with terminal posts, usually in the form of cup-shaped ferrule terminals embedded into the glass or quartz envelope material and extending rearwardly thereof. Electrical connections to the ferrule terminals are made in several different ways, such as by soldering or welding flexible wires to the terminals, or soldering or welding screw-terminals to the ferrule terminals, or by clamping a socket to the terminals. It is sometimes desirable to attach a screw-base to such a lamp. U.S. Pat. No. 2,098,080 to Daniel Wright discloses a screw-base adapter into which lamp prongs, extending from ferrule terminals, are inserted. U.S. Pats. No. 2,262,629 to Daniel Wright and No. 3,515,930 to LaVerne Walsh and Gerald Keimer each disclose a screw-base adapter positioned with its skirt fitting around a specially shaped shoulder on the lamp envelope and secured thereto by cement or interlocking indentations.

SUMMARY OF THE INVENTION

Objects of the invention are to provide an improved adapter base assembly for lamps of the type having terminal posts such as cup-shaped ferrule terminals, and to provide such a base assembly which is tightly and permanently secured to the lamp without requiring any specially shaped shoulder on the lamp envelope for attachment of the base.

The invention, briefly and in a preferred embodiment, provides an adapter-base for a lamp of the type having terminal posts such as cup-shaped ferrule terminals extending from the lamp envelope, comprising an adapter member positioned over the terminal posts and against the lamp envelope, fastening means attached to the outer ends of the terminal posts for holding the adapter member in place, a base member attached to the adapter member, and electrical connectors connected between the base member and the terminal posts.

BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 is an exploded side view of a preferred embodiment of the invention, showing the base member detached from the rest of the assembly;

FIG. 2 is a view taken on the line 2–2 of FIG. 1, looking downwardly on the lamp and adapter member assembly;

FIG. 3 is a side view of FIG. 1, looking toward the right-hand side thereof, with the base member attached to the rest of the assembly; and

FIG. 4 is a perspective view of the adapter member.

DESCRIPTION OF THE PREFERRED EMBODIMENT

The drawing shows a reflector lamp **11**, such as type PAR 36, provided with a shaped glass bulb portion **12** having a parabolic aluminized reflective inner surface, a glass cover plate **13** being sealed thereto at the rim thereof. A pair of cup-shaped ferrule terminals **16, 17** are sealed at the open edges thereof to the glass bulb **12** so that the closed ends of the ferrules extend rearwardly from the bulb, as shown. Openings are provided in the bulb **12** axially of the ferrules **16, 17.** The ferrules **16** and **17** are respectively provided with rearwardly extending nipples **18** and **19,** into which a pair of lead wires are respectively positioned and soldered, the other ends of the lead wires being connected to a filament **23** within the lamp **11.** A pair of flat bosses **26, 27** rise from the curved contour of the bulb **12** in the vicinity of the ferrules **16** and **17,** as shown, to provide level surface areas into which the open ends of the ferrules **16** and **17** are sealed. A sealed-off exhaust tubulation **28** extends rearwardly of the bulb **12,** between the ferrules **16** and **17.**

In accordance with the invention, an adapter member in the form of a ceramic disc **31** is provided with a pair of openings **32** and **33** therethrough, so as to fit over and around the ferrule terminals **16** and **17,** and a slot **34** extends between the openings **32** and **33,** so that the ceramic disc **31** will clear the sealed-off exhaust tubulation **28.** The adapter member **31** is positioned over the ferrules **16** and **17** and against the back surface of the glass envelope bulb **12,** as shown in FIGS. **1** and **2.** A pair of fastener members **36, 37** are respectively attached to the nipples **18** and **19** of the ferrule terminals **16** and **17,** so as to hold the ceramic disc **31** in place, i.e., wedged between the fastener members **36, 37** and the rear portion of the bulb **12** as partly defined by the raised bosses **26** and **27.** The fastener members **36** and **37** may comprise washer-like devices such as so-called "speed nuts" which are pressed over the nipples **18** and **19** and remain in position due to spring-wedging tension of tabs pressing against the nipples. If desired, the speed nuts may be soldered to the nipples **18** and **19.** Alternatively, the fastener members **36** and **37** may comprise metal washers positioned over and around the nipples **18** and **19,** and soldered thereto. A pair of lead wires **38** and **39** are respectively soldered to the fastening members **36** and **37,** or to the nipples **18** and **19.**

A screw-base member **41** comprises a cylindrical threaded portion **42,** an insulated end contact disc **43** at an end thereof, and a cylindrical skirt portion **44** at the other end thereof, which may be electrically insulated from the cylindrical threaded portion, as shown. The base **41** is positioned with the skirt **44** around the adapter disc **31,** cut-out portions **44'** being provided at the edge of the skirt portion **44** so as to clear the raised bosses **26** and **27,** so that the circumferential edge of the skirt **44** rests against the rear of the bulb **12.** Indentations **45** are provided in the skirt **44** to lock it into recesses **46** provided in the ceramic adapter **31.** The lead wire **38** extends through an opening **47** in the side wall of the screw-threaded portion **42,** and is soldered to the threaded portion **42** as indicated at numeral **48.** The lead wire **39** extends through an opening in an end of the base and through the contact disc **43,** and is soldered thereto as indicated at numeral **49.**

By providing an adapter member **31** fitted over the terminal posts **16, 17** and against the rear of the bulb **12,** and holding it in place by fastener means attached to the connector posts **16** and **17,** and attaching the base member to the adapter member **31,** as described above, the base **41** is rigidly attached to the lamp **11** without the necessity of providing a special shoulder on the bulb **12** for attachment of the base **41.**

While a preferred embodiment of the invention has been shown and described, various other embodiments and modifications thereof will become apparent to persons skilled in the art, and will fall within the scope of invention as defined in the following claims.

What I claim as new and desire to secure by Letters Patent of the United States is:

1. A base assembly for a lamp of the type having terminal posts extending substantially mutually parallel from a surface of the lamp, comprising an adapter member shaped and positioned to fit over said terminal posts and against said surface of the lamp, fastening means attached to said terminal posts in a position to hold said adapter member in place, and a base member attached to said adapter member and connected electrically to said terminal posts.

2. A base assembly as claimed in claim 1, in which said fastening means comprises washer-like devices respectively positioned around said terminal posts and soldered thereto, said washer-like devices bearing against a surface of said adapter member so as to hold the adapter member in position against said surface of the lamp.

3. A base assembly as claimed in claim 1, in which said fastening means comprises washer-like devices of the "speed nut" type respectively positioned around said terminal posts and held in place by means of integral inwardly extending tabs pressing against said terminal posts, said devices bearing against a surface of said adapter member so as to hold the adapter member in position against said surface of the lamp.

4. A base assembly as claimed in claim 1, in which said adapter member is disc-shaped and provided with one or more openings therethrough into which said terminal posts extend.

5. A base assembly as claimed in claim 4, in which the thickness of said adapter member is less than the lengths of said terminal posts extending from said surface of the lamp.

6. A base assembly as claimed in claim 4, in which said base member is cylindrically shaped and provided with an open-end skirt portion shaped and positioned to closely surround the periphery of said disc-shaped adapter member.

7. A base assembly as claimed in claim 6, in which said skirt portion of the base member and said periphery of the disc-shaped adapter member are provided with interlocking indentations for fastening said base member to said adapter member.

8. A base assembly as claimed in claim 1, in which said terminal posts comprise cup-shaped ferrules sealed at the open ends thereof into said surface of the lamp, each of said ferrules being provided with an outwardly extending nipple at the closed outer end thereof, said fastening means respectively surrounding and being attached to said nipples of the terminal posts.

9. A base assembly as claimed in claim 1, in which said adapter member is disc-shaped and provided with one or more openings therethrough into which said terminal posts extend, the thickness of said adapter member being less than the lengths of said terminal posts extending from said surface of the lamp, said base member being cylindrically shaped and provided with an open-end skirt portion shaped and positioned to closely surround the periphery of said disc-shaped adapter member, said skirt portion of the base member and said periphery of the disc-shaped adapter member being provided with interlocking indentations for fastening said base member to said adapter member.

10. A base assembly as claimed in claim 8, in which said base member is a screw-base provided with a cylindrical threaded portion.

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