United States Patent [19]

Pitacco

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[54] **LAMP HOLDER**

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[73] Assignee: **ITT Industries, Inc.**, New York, N.Y.

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[52] **U.S. Cl.** ..... **339/14 R**, 339/176 L, 339/217 S

[51] **Int. Cl.** **H01r 3/06**

[58] **Field of Search** ..... 339/14 R, 14 P, 14 L, 339/217 R, 217 S, 217 PS, 91 L, 94 L, 97 L, 99 L, 108 L, 125 L, 176 L, 177 L, 188 R, 188 T, 188 C, 191 L, 189 L

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Assistant Examiner—Robert A. Hafer
Attorney—C. Cornell Remsen, Jr. et al.

[57] **ABSTRACT**

A lamp holder having a molded body of plastic material formed with a dead inner cavity having a shaped profile and suitable to fit with the profile of the glass base of the lamp. The cavity is provided on the bottom thereof with two openings for the passage of two contacts which are snap engaged with the body of the lamp holder, and a side slit is arranged to permit alternatingly a different type of contact acting as a ground.

6 Claims, 4 Drawing Figures

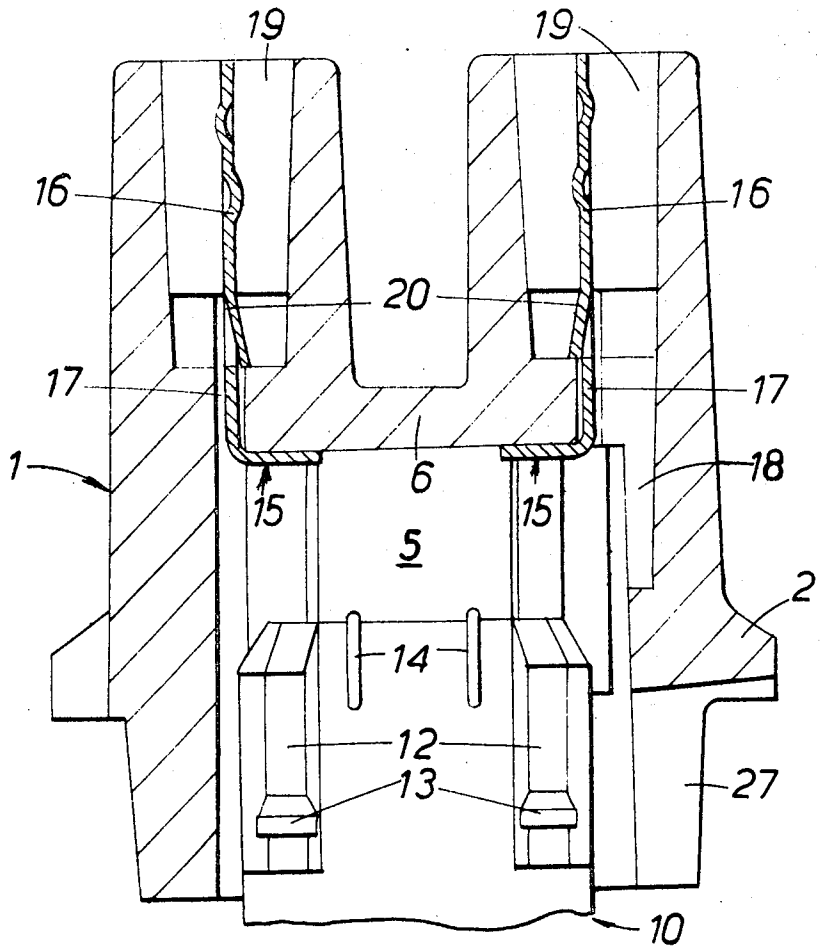
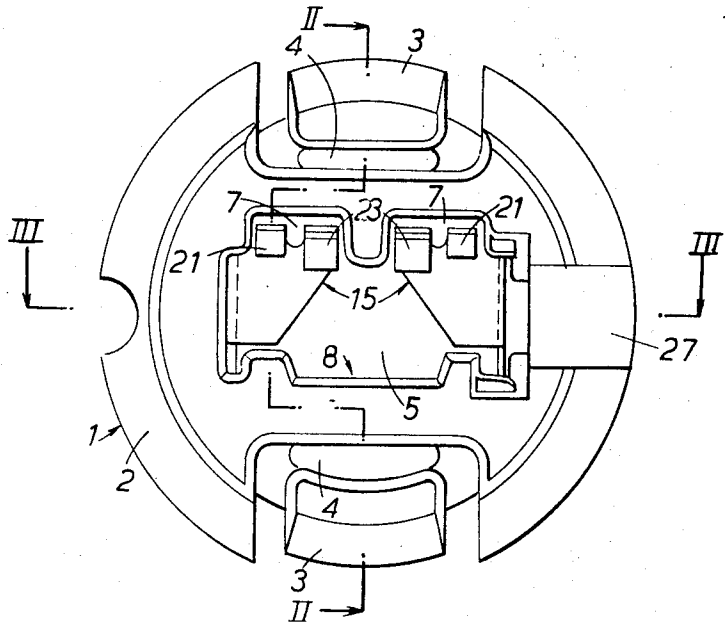


FIG. 1


II
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III
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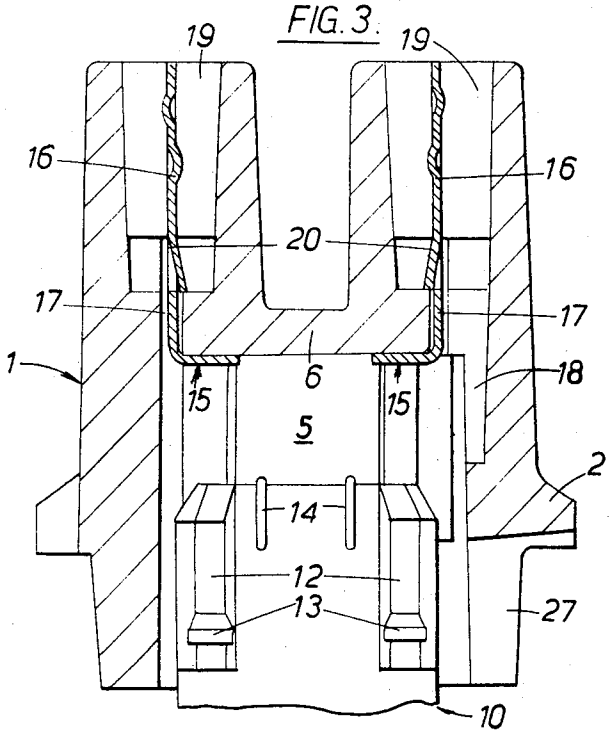
II

FIG. 3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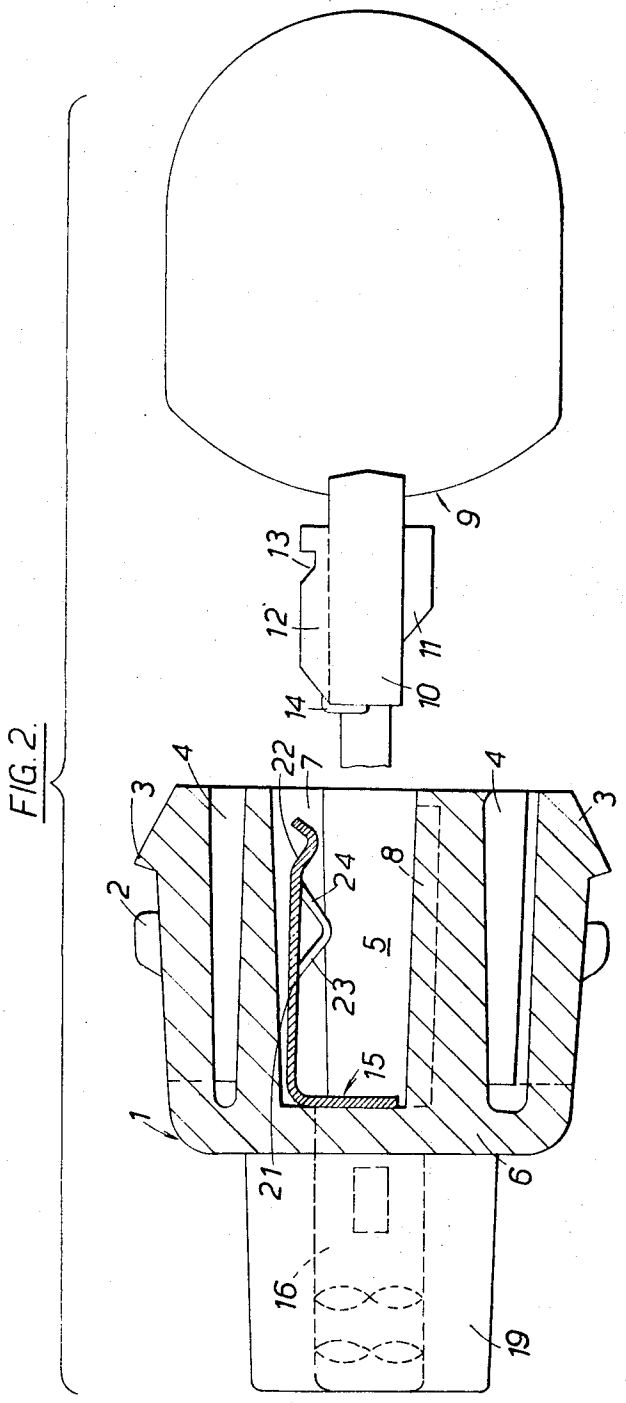
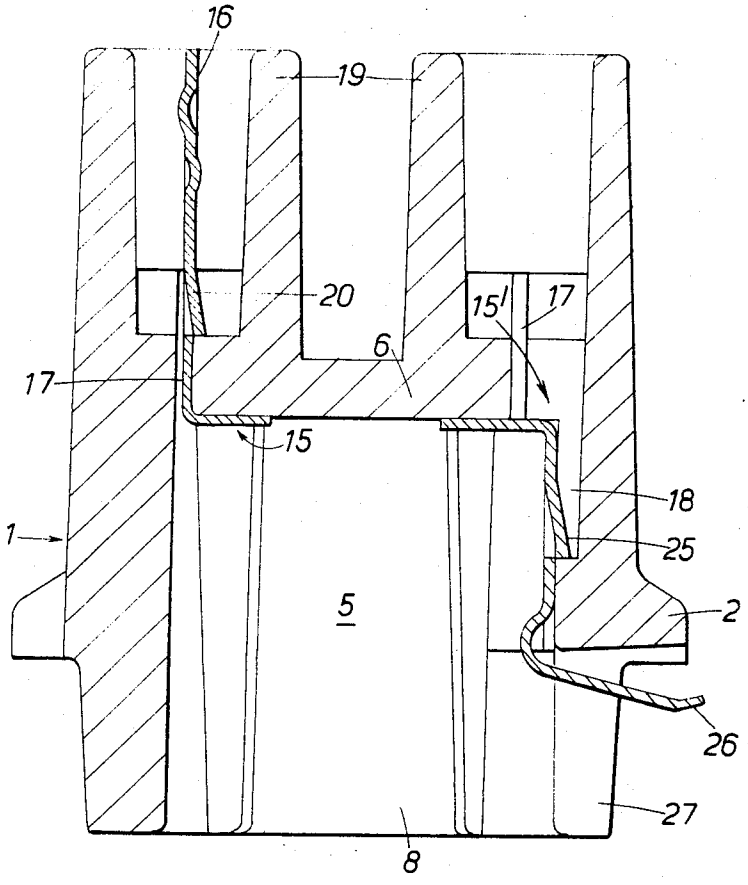


FIG. 2.

FIG.4.



LAMP HOLDER

BACKGROUND OF THE INVENTION

The present invention relates to lamp holders, and more particularly to lamp holders for lamps having a glass base.

The lamps having a glass base, also called "all-glass," are generally of small size and are used for lighting instruments on dashboards of motorvehicles; accordingly the lamp holders to which such lamps are applied are shaped so that to receive the glass bases thereof, to engage therewith and to provide an electrical connection with the bare wires projecting from such lamp holders.

Due to the small size of the lamps no mechanical problems existed up to now as to the holding of the lamps, it being sufficient that there was an engagement with the spring straps also acting as electric contacts.

When the all-glass lamps are manufactured with larger dimensions to be used as lamps in signaling lights, it is necessary to suitably dimension the lamp holder to which the same are to be applied and to adapt the holding devices for the size and the weight of the lamps themselves.

SUMMARY OF THE INVENTION

An object of the invention is to provide a lamp holder on which all-glass lamps of large size can be mounted, such lamp holder assuring an effective and long lasting holding action for the lamp and a good connection for the electrical contacts.

Another object is to provide a lamp holder of the type specified above and capable of being used for two different kinds of assemblies, in one of which the lamp is electrically connected to two different insulated wires and in the other the lamp is connected to an insulated wire and to ground contact.

Accordingly, the lamp holder comprises a molded body of plastic material formed with a dead inner cavity having a shaped profile and adapted to fit with the profile of the glass base of the lamp, such cavity being provided on the bottom thereof with two openings for the passage of the strap plugs of two contacts which are snap engaged with the body of the lamp holder, and with a side slit arranged to permit, alternatingly, a different type of contact.

BRIEF DESCRIPTION OF THE DRAWINGS

Further characteristics and advantages of the invention will appear from the following detailed description when read in connection with the accompanying drawings, in which:

FIG. 1 is a top view of a lamp holder according to the invention;

FIG. 2 is an axial section view taken along the lines II—II in FIG. 1;

FIG. 3 is another axial section view taken along lines III—III in FIG. 1; and

FIG. 4 is similar to FIG. 3 and shows the lamp holder arranged for the use of a single wire and a ground contact.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring now to the drawings, the body 1 of a lamp holder is made of insulating molded plastic material, substantially of tubular shape and surrounded by an annular rib 2 which is cut off at two diametrically opposed

positions. Two spring teeth 3 are provided adjacent two inner recesses and designed to permit the lamp holder to be snap mounted on a fixed support.

The lamp holder has an inner cavity 5 having a shaped profile and closed at the bottom by a transverse wall 6. The said cavity has a substantially rectangular configuration in a top view, one of the major walls has two parallel recesses 7 and the other has a central larger recess 8. This configuration allows the insertion into and the relative engagement with the said cavity by the base 10 of an all-glass lamp 9, such base 10 having on a face thereof a large projection 11 engaging with the recess 8 of the cavity and two parallel projections 12 on the opposite face engaging with the two recesses 7 in the other wall. The two parallel projections 12 are formed with two shaped notches 13 for holding the lamp and between the projections 12 two bare wires 14 extend to supply electric current to the inner filament.

Two metal contacts 15 are engaged in the cavity 5 and provided with strap plugs 16 wich are inserted into two parallel slits 17 formed in the wall 6 and received by two parallel spaces 18 arranged in the rear portion of the lamp holder. The said strap plugs are secured to the lamp holder by means of spring teeth 20 on the rear face of the transverse wall 6. One of the spaces 19 extend axially besides the wall 6 of the lamp holder and defines a side recess 18 to allow the use of a different type of electric contact 15', as illustrated in FIG. 4, which is provided with a tooth 25 snap engaging the bottom of the space 18 and a spring strap 26 which is folded outwardly and received in a radial cut off portion or notch 27 formed in the front edge of the lamp holder and extending also to the annular rib 2.

The said electric contacts are each provided with a spring strap 21 which projects axially from the bottom of the cavity 5 along one of the recesses 7 and has at one end thereof a shaped portion 22 capable of engaging with one of the notches 13 in the base of the lamp; each electric contact is also provided with a second strap 23 parallel to the former extending along the same recess 7 and having a shaped end portion 24 arranged to engage with one of the bare wires 14 of the lamp.

The lamp 9 is then held in the cavity 5 of the lamp holder due to the engagement of the spring straps 21 with the notches 13 in the base, while the connection between the base and the cavity 5 provides a safe coupling.

The said lamp holder is set both for the mounting with two strap plugs, as illustrated in FIGS. 1 to 3, when two different insulated cables are used for the current supply to the lamp (FIG. 3) and when a single insulated cable is connected to a strap plug and to an earth contact by means of the spring strap 26 for the assembling thereof, as illustrated in FIG. 4.

The lamp holder described above can also form a component part of a headlight body in which case it is not necessary to provide the annular rib and the engagement teeth 3 mentioned above.

While I have described above the principles of my invention in connection with specific apparatus, it is to be clearly understood that this description is made only by way of example and not as a limitation to the scope of my invention as set forth in the objects thereof and in the accompanying claims.

What is claimed is:

1. A lamp holder for lamps having a rectangular glass base including a pair of first projections on one major surface of said base, a second projection intermediate said pair of first projection on the other major surface of said base and a pair of filament wires for said lamp extending from said base on said one major surface of said base between and spaced from said pair of first projections, each of said pair of filament wires being associated with an associated one of said pair of first projections, said pair of first projections each having a notch disposed therein, said holder comprising:

an annular body of molded material having an inner rectangular cavity disposed symmetrically about a longitudinal axis of said body to receive said base of said lamp, said inner cavity having a bottom wall in a transverse relation to said axis, a pair of first recesses in one major wall of said inner cavity parallel to said axis, each of said pair of first recesses receiving an associated one of said pair of first projections and an associated one of said pair of filament lines, a second recess in the other major wall of said inner cavity parallel to said axis to receive said second projection and two slits through said bottom wall parallel to said axis in registry with said pair of first recesses; and

two electrical contacts in the form of two straps each disposed in a different one of said slits extending through said bottom wall, each of said straps having a first inwardly extending portion engaging said bottom wall on a transverse surface thereof within said inner cavity, a first spring tooth to engage said bottom wall on a transverse surface thereof outside said inner cavity, a first portion extending parallel to said axis in an associated cavity of said body extending away from said bottom wall and said inner cavity, a second portion extending parallel to said axis in an associated one of said pair of first recesses, said second portion having a shaped end portion to engage an associated one of said notches when said base of said lamp is received in said inner cavity and a third portion extending parallel to said axis and said second portion in an associated one of said pair of first recesses, said third portion having a shaped end portion to make electrical contact with an associated one of said pair of filament wires, said first inwardly extending portion cooperating with an associated one of said first spring teeth to hold each of said straps securely to said body.

2. A lamp holder according to claim 1 further including

a third electrical contact to be substituted for one of said two electrical contacts, said third electrical contact being in the form of a third strap having a second inwardly extending portion engaging said bottom wall of said transverse surface within said inner cavity, a fourth portion at substantially right angles to said second inwardly extending portion engaging a major surface of an associated one of said pair of first recesses, said fourth portion having a second spring tooth to engage an inwardly projecting step between an extension of an associated one of said cavities into said inner cavity and said major surface of an associated one of said pair of first recesses, said second inwardly extending portion and said second spring tooth retaining said third strap in said holder, and a fifth portion extending through a slot in the wall of said inner cavity transverse to said axis to a ground contact external of said holder, said fifth portion having a shaped part to engage an associated one of said notches and make electrical contact with an associated one of said pair of filament wires.

3. A lamp holder according to claim 2, further including

an annular rib formed integral with the outer surface of said body, said annular rib having diametrically opposite cut outs; and

a retaining spring tooth formed integral with the outer surface of said body adjacent each of said cut outs;

said annular rib and each of said retaining spring teeth enabling said body to be snap mounted to a fixed support.

4. A lamp holder according to claim 3, wherein said molded material is a plastic.

5. A lamp holder according to claim 1, further including

an annular rib formed integral with the outer surface of said body, said annular rib having diametrically opposite cut outs; and

a retaining spring tooth formed integral with the outer surface of said body adjacent each of said cut outs;

said annular rib and each of said retaining spring teeth enabling said body to be snap mounted to a fixed support.

6. A lamp holder according to claim 5, wherein said molded material is a plastic.

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