Jan. 30, 1951 J. J. MASTERSON ET AL 2,539,746

LAMP AND REFLECTOR HOLDER

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Fig. 1.

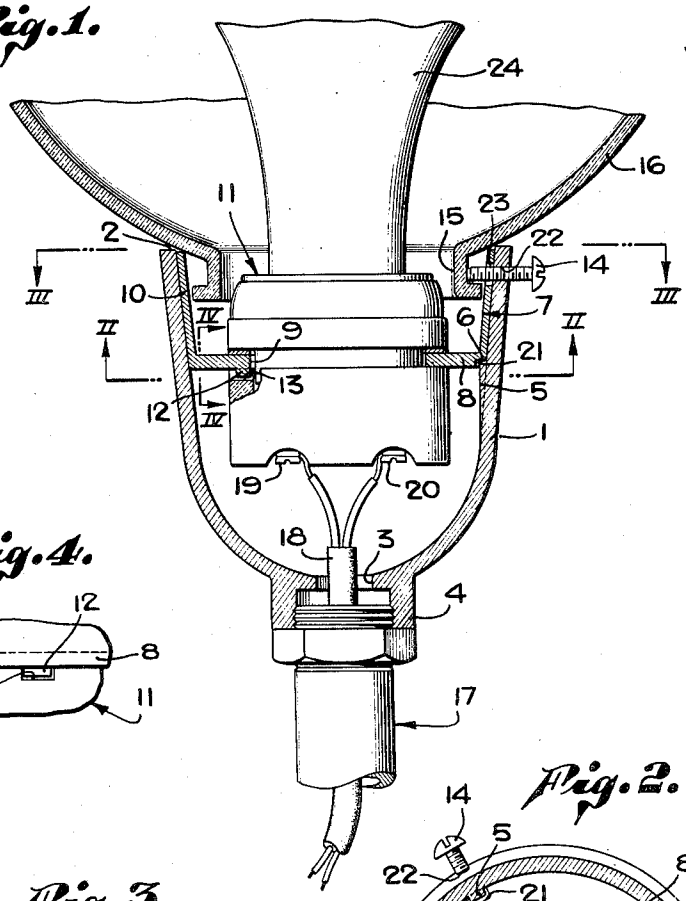


Fig. 4.

Fig. 2.

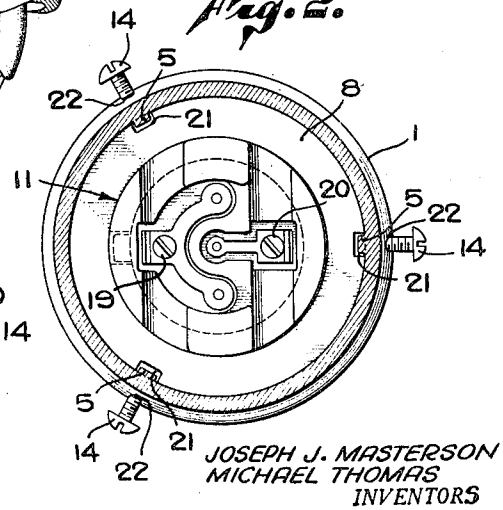
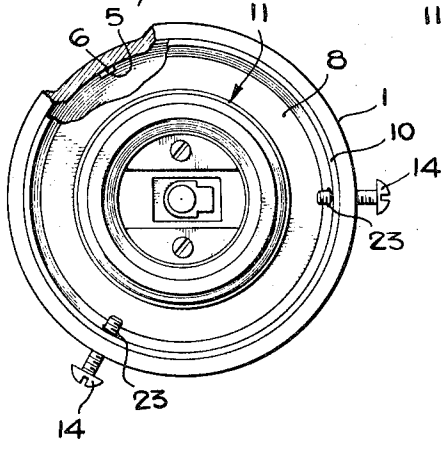


Fig. 3.



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LAMP AND REFLECTOR HOLDER

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4 Claims. (Cl. 240—132)

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This invention relates to an improved lamp and reflector mounting construction of the type wherein an incandescent electric lamp or the like is mounted within a female screw-type socket or lamp base so that the lamp is positioned within a curved reflector which is fixedly mounted with respect to the lamp and female socket by means of a lamp and reflector mount which generally is fixedly mounted upon a wall, ceiling, or the like by means of a threaded pipe adapted to threadedly engage the lamp mount. Such lamps, reflectors, and mounts are very frequently used to illuminate sporting events and the like conducted after nightfall, either out-of-doors or within a building such as a gymnasium, sporting arena, or the like, such as night baseball, football, soccer, boxing, wrestling and various other sporting events where a high intensity of illumination should be maintained. Generally speaking, numerous such lamps and reflectors are necessary to properly illuminate such sporting events and the like.

At the present time the prior art lamp mounts used for the aforesaid purposes are generally quite difficult to install, since the electrical leads, connections and female socket are positioned within the lamp mount and are relatively inaccessible, making it necessary for an installation electrician to spend a considerable period of time installing each such lamp and reflector.

Since such lamps and reflectors are generally mounted at a considerable height upon exteriorly threaded pipes or other suitable mounts, said prior art constructions are exceedingly inconvenient because they require expenditure of considerable amounts of time in an awkward, inaccessible position by the installation electrician upon a ladder or the like. Furthermore, many such prior art constructions do not properly seal in the electrical connections and protect same from dust, moisture, and the like.

The lamp and reflector mount of this invention is adapted to be assembled and installed even in very awkward and inaccessible positions with a minimum of labor. Furthermore, the lamp and reflector mount of this invention is arranged to provide an effectively sealed enclosure for the electrical connections protecting same from dust, moisture and the like. The lamp and reflector mount of this invention is of exceedingly simple, cheap, foolproof, rugged construction, easy to manufacture as well as assemble.

Generally speaking this invention comprises:

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a hollow housing member open at one end and provided with interior supports; a tapered insert member adapted to be supported within the housing member by said supports, said insert member being arranged to carry an electric lamp base; and movable means adjacent the open end of the said housing member adapted to engage and hold the flange of a reflector in the proper position with respect to said housing.

With the above points in mind, it is an object of this invention to provide an improved lamp and reflector mount so constructed as to be exceedingly simple to assemble and install.

It is a further object of this invention to provide an improved lamp and reflector mount of exceedingly simple, cheap, foolproof, rugged construction.

It is a further object of this invention to provide an improved lamp and reflector mount adapted to effectively enclose the electrical connections and protect same from dust, moisture and the like.

Other and allied objects will become apparent from an examination and study of the illustrations, specification and appended claims. To facilitate understanding, reference will be had to the following drawings, in which:

Fig. 1 is an elevational view, partly in section of the apparatus of this invention.

Fig. 2 is a sectional view taken along the plane II—II of Fig. 1.

Fig. 3 is a sectional view, partly broken away, taken along the plane III—III of Fig. 1.

Fig. 4 is a fragmentary view taken along the plane IV—IV of Fig. 1.

More specifically, a tapered, conical, hollow housing member 1 is provided with a large, cylindrical opening, indicated generally at 2, at one end thereof. The opposite end of said housing is provided with an aperture 3 and an interiorly threaded boss 4. The interior surface of the housing 1 is provided as viewed in Fig. 1, with three upright circumferentially spaced inwardly extending ribs 5, the inner surfaces of which are virtually vertical while the inner surface of the housing 1 is tapered or diverges away therefrom. The upper ends of three ribs 5, as viewed in Fig. 1, end abruptly in supporting shoulders 6.

Mounted within the housing 1 is an exteriorly tapered, frusto-conical, hollow, cup-like insert member, indicated generally at 7. The insert member 7 is provided with a bottom 8 centrally apertured at 9 and upstanding, circumferential side walls 10 which are exteriorly tapered to correspond to the interior taper of the housing 1,

The outer edge of the under surface of the bottom 8 is provided with circumferentially spaced recesses 21 adapted to receive the shoulders 6 on the upper surfaces of the upstanding ribs 5 so as to non-rotatably lock the insert member 7 with respect to the outer housing 1.

The central aperture 9 in the bottom 8 of the insert member 7 is adapted to mount a standard, female, screw-type plug element or lamp base, indicated generally at 11, with a portion of said plug element above the bottom 8 of the insert member 7 and a portion of the plug element below the bottom 8 of the insert member 7 but within the lower portion of the housing 1. The bottom 8 of the insert member 7 is provided with a downwardly projecting locking key 12 adapted to fit into a corresponding notch or recess 13 in the ceramic outer body portion of the plug element 11 for preventing relative rotation between the plug element 11 and the insert member 7.

Circumferentially spaced screws 14 are mounted so as to pass transversely inwardly through the holes 22 in the outer housing 1 and the holes 23 in the upstanding circumferential walls 10 of the insert member 7 mounted within the housing 1, adjacent the open end of the housing 1 so as to releasably engage and hold a flange 15 of a reflector 16 fixedly with respect to the lamp mounting. This also locks the insert member 7 in position within the housing 1.

The downwardly extending, interiorly threaded boss 4 on the bottom of the housing 1, as shown in Fig. 1, is adapted to threadedly engage an exteriorly threaded, hollow supporting pipe, indicated generally at 17, which may be of vertical, transverse, angular, offset, or any other desired type of construction. Lead-in cable 18 is adapted to pass through the hollow pipe 17 and through the aperture 3 in the bottom of the housing 1 with the wires connected to the terminals 19 and 20 of the lamp base or socket 11.

The operation of the apparatus may be described as follows. Assembly or installation of the apparatus of this invention is facilitated by reason of the fact that first the interiorly threaded boss 4 on the hollow housing 1 may be threadedly engaged with the exteriorly threaded pipe 17 with the lead-in cable 18 passed through the aperture 3 and through the open end 2 of the housing 1. The ends of the two wires forming the lead-in cable 18 may then be connected to the terminals 19 and 20 of the standard plug element 11 which is held in the hand outside of the hollow housing 1 but which is mounted within the aperture 9 in the insert member 7 which is also held in the hand outside of the hollow housing 1.

After such electrical connections have been made, the insert member 7 is then inserted through the opening 2 in the outer housing 1 and slid downwardly thereinto with the tapered exterior walls 10 of the insert member 7 in engagement with the tapered interior walls of the outer housing 1 until the bottom 8 of the insert member 7 contacts the shoulders 6 of the upstanding ribs 5 on the interior surface of the housing 1. Generally speaking, when such contact is made, the circumferentially spaced locking recesses 21 will not be in alignment with the upstanding ribs 5. Therefore the shoulders of the ribs will not be fitted in said recesses 21. So the insert member 7 is rotated until such time as the circumferentially spaced recesses 21 are in alignment with the circumferentially spaced shoulders 6 on the upstanding ribs 5, at which time the insert member 7 will move slightly downward in the housing 1 until the shoulders 6 will firmly fit within the recesses 21, thus non-rotatably locking the insert member 7 with respect to the housing 1, and causing contact between outer surfaces of the insert and the inner surface of the housing.

Flange 15 of the reflector 16 is then positioned within the upper portion of the hollow, cup-like insert member 7 and the circumferentially spaced, laterally movable screws 14 are laterally, inwardly advanced until they tightly engage and grip the flange 15 of the reflector 16. A lamp bulb 24 (shown fragmentarily) may then be screwed into the female, screw-type socket 11 carried by the insert member 7. The lamp and reflector mount is then entirely assembled and installed and ready for use.

Numerous modifications and variations of this idea are possible. For example, the outer housing need not be tapered. The insert member need not be tapered. The plug element or lamp base may be mounted with respect to the insert member in any desired manner. The supporting ribs and shoulders thereon may be modified in various ways or dispensed with entirely, if desired. The locking recesses may be modified in various ways, or dispensed with entirely. Other means for gripping the flange of the reflector may be provided. The apertured supporting boss at the base of the housing may be modified in any desired manner and provided with various types of fittings which may or may not be externally or internally threaded for mounting the lamp and reflector mount on different types of supports.

The lamp and reflector mount of this invention (exclusive of the female plug element which is generally exteriorly formed of ceramic or suitable dielectric insulating material and interiorly formed of electrical conducting material) is preferably, although not necessarily formed from metal.

Thus it can be seen that an improved lamp and reflector mount has been provided which is exceedingly easy and simple to assembly and install and which effectively encloses and protects the electrical connections of the lamp.

The examples described and illustrated herein are exemplary only and are not intended to limit the scope of this invention, which is to be interpreted in the light of the appended claims only.

We claim:

1. An improved apparatus for mounting a female screw-type electric lamp base, electric power supply wires therefor, and a reflector, comprising: a hollow, conical interiorly tapered housing member having a large circular opening at one end thereof and an aperture at the other end thereof to admit the electric power supply wires; a hollow, cup-like insert member of frusto-conical exterior shape adapted to be inserted into the housing with the interior taper of the housing cooperating with the exterior taper of the insert member; the interior surface of the tapered housing having a plurality of circumferentially spaced longitudinal ribs provided with supporting shoulders at one end thereof arranged to support the tapered insert member within the housing, said insert member being provided with a plurality of circumferentially spaced recesses adapted to receive the supporting shoulders whereby the insert member is non-rotatably supported within the housing; said

insert member having an aperture through the base thereof for mounting said lamp base in alignment with the large circular opening in the end of the housing member; ports provided in the insert member; radially advanceable and retractible screw means mounted in the housing adjacent the open end thereof arranged to extend through said ports to releasably engage the flange of the lamp reflector for holding same in position and to lock the insert member within the housing member.

2. An improved apparatus for mounting a female screw-type electric lamp base, electric power supply wires therefor, and a reflector, comprising: a hollow, conical interiorly tapered housing member having a large circular opening at one end thereof and an aperture at the other end thereof to admit the electric power supply wires; a hollow, cup-like insert member of frusto-conical exterior shape adapted to be inserted into the housing with the interior taper of the housing cooperating with the exterior taper of the insert member; the interior surface of the tapered housing having a plurality of circumferentially spaced longitudinal ribs provided with supporting shoulders at one end thereof arranged to longitudinally position the tapered insert member within the housing; circumferentially spaced ports in the insert member; radially advanceable and retractible screw means mounted in the housing adjacent the open end thereof in alignment with said ports and extending therethrough to releasably engage the flange of the lamp reflector for holding same in position and to lock the insert member within the housing member.

3. An improved apparatus for mounting a female screw-type electric lamp base, electric power supply wires therefor, and a reflector, comprising: a hollow, conical interiorly tapered housing member having a large circular opening at one end thereof and an aperture at the other end thereof to admit the electric power supply wires; an exteriorly tapered insert member adapted to be inserted into the housing; the interior surface of the tapered housing having a plurality of circumferentially spaced longitudinal ribs provided with supporting shoulders at one end thereof arranged to support the tapered insert member within the housing; said insert member being provided with a plurality of circumferentially spaced recesses adapted to receive the supporting shoulders whereby the insert member is non-rotatably supported within the housing; said insert member

being provided with means for mounting said lamp base; circumferentially spaced ports formed in said insert member radially advanceable and retractible screw means mounted in the housing adjacent the open end thereof arranged to extend through said ports to releasably engage the flange of the lamp reflector for holding same in position and to lock the insert member within the housing member.

4. In a lamp mounting, the combination of: a hollow housing provided with an open end, circumferentially spaced ribs formed on the interior surface of the housing extending longitudinally toward the open end and terminating in a transverse plane spaced inwardly from and adjacent to the open end; a hollow, cup-like insert member provided with a bottom wall adapted to non-rotatably carry an electric lamp socket, said insert member having a circumferential wall with an outer surface complementary to the inner surface of said housing between the open end and the ends of said ribs for cooperative sealing engagement with the housing; aligned ports in the wall of the insert member and the wall of the housing adjacent to said open end; recesses on the bottom wall of the insert member cooperating with ends of said ribs to non-rotatably position the insert member within the housing; and releasable means extending through the aligned ports and radially inwardly for cooperative engagement with a reflector to be mounted in the open end of the housing.

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