May 6, 1952 G. J. THOMAS 2,595,994

LAMP SOCKET SUPPORTING MEANS

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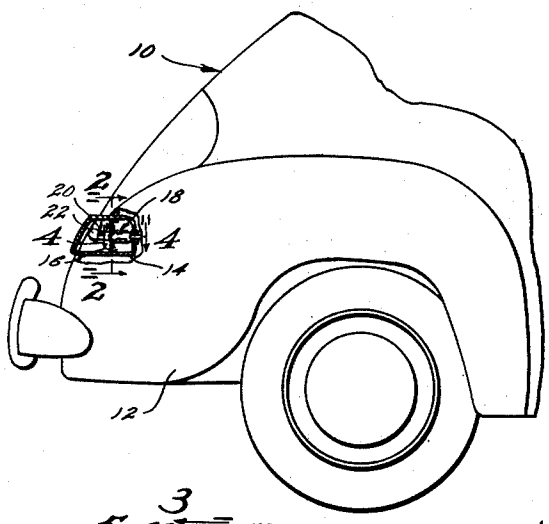


Fig. 1.

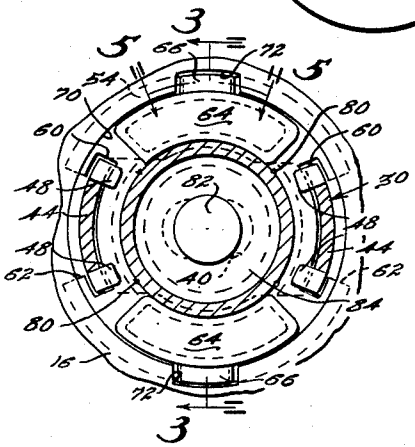


Fig. 2

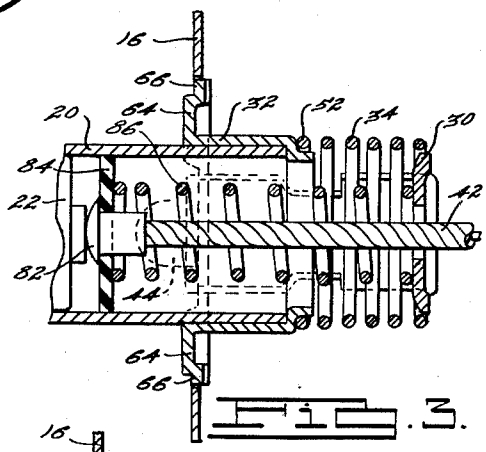


Fig. 3.

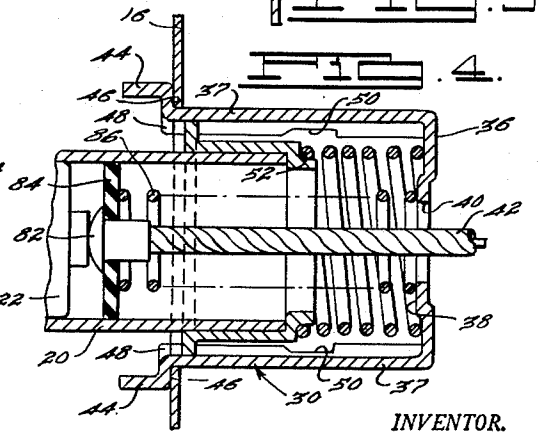


Fig. 4.

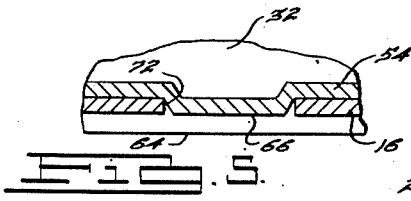


Fig. 5.

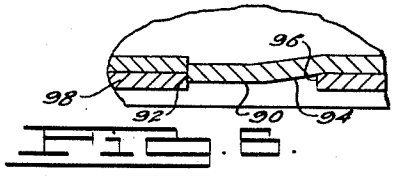


Fig. 6.

INVENTOR.
George J. Thomas.
BY
Harness, Dickey & Pierce.
ATTORNEYS.

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LAMP SOCKET SUPPORTING MEANS

George J. Thomas, Birmingham, Mich., assignor to Watts Electric & Mfg. Co., Birmingham, Mich., a corporation of Michigan

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This invention relates to an improved lamp socket supporting fixture adapted to extend through an aperture of, and be mounted on, a bracket plate or other similar member.

It is an object of the invention to provide an improved lamp socket supporting fixture which is simple in construction, economical of manufacture, and reliable and efficient in operation.

Another object is to provide such a lamp socket supporting fixture which may be easily and quickly applied to an associated bracket plate or the like and which may be readily detached therefrom.

For a better understanding of the invention, reference may be had to the accompanying drawing wherein:

Figure 1 is a broken view partially in elevation and partially in section of the rear portion of an automobile showing an embodiment of the invention employed to support the lamp socket of the rear tail light of the automobile;

Fig. 2 is an enlarged sectional view of the structure illustrated in Fig. 1 taken along the line 2—2 thereof;

Fig. 3 is a broken sectional view of the structure illustrated in Fig. 2 taken along the line 3—3 thereof;

Fig. 4 is an enlarged sectional view of the structure illustrated in Fig. 1 taken along the line 4—4 thereof;

Fig. 5 is a broken enlarged sectional view of the structure illustrated in Fig. 2 taken along the line 5—5 thereof; and

Fig. 6 is a sectional view similar to Fig. 5 of a modification of the invention.

Referring to the drawing, the automobile 10, in each of its rear fenders 12 carries a rear tail light box 14 welded or otherwise suitably secured thereto. The box 14 has a generally centrally located, vertically disposed bracket plate 16 to which the lamp socket supporting fixture, generally designated 18, is secured. A lamp socket 20 is supported therein as hereinafter described, and extends rearwardly therefrom and carries the rear tail light bulb 22 mounted in and extending from its rear end.

The lamp socket supporting fixture 18 comprises a stirrup 30, a supporting member or cup 32 mounted on said stirrup and adapted to receive and support the lamp socket 18, and a coil spring 34 engaging the stirrup 30 and the member 32 to yieldably grip the bracket plate 16 between the stirrup 30 and the cup member 32.

Considering the above mentioned elements of

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the fixture 18 in greater detail, the stirrup 30 is generally U-shaped and is formed of strip steel or other suitable material. The web portion 36 of the stirrup is formed to provide a circular raised portion 38 on the inner surface thereof which projects into one end of the spring 34 to properly locate the same. An aperture 40 is provided centrally of the web portion 36 through which may extend a suitably insulated electrical conductor 42. The stirrup arms 37 are curved transversely to lie in the surface of a common circular cylinder extending at right angles to the web portion 36. At the outer end of each arm 37, and disposed centrally thereof, a locating tab 44 is integrally formed thereon. The tabs 44 are offset outwardly to provide clamping surfaces 46 (see Fig. 4) presenting axially inwardly of the stirrup 30, or toward the web portion 36. On opposite sides of each of the tabs 44 the outer ends of the arms 37 are inwardly turned to form fingers 48 adapted to engage the supporting member 32 to prevent the latter from being forced off the outer ends of the arms 37 of the stirrup by the action of the spring 34. Each of the stirrup arms 37 is also provided intermediate its ends with a pair of opposed cooperating notches 50 (see Fig. 4) formed in opposite sides thereof to facilitate assembly of the supporting member 32, the stirrup 30 and the spring 34 as hereinafter more fully described.

The above mentioned supporting member 32 is generally cylindrical in shape and has a reduced inner end adapted to fit within one end of the spring 34 and provide an annular spring seat 52 spaced from and presenting toward the web portion 36 of the stirrup. A radially outwardly extending flange 54 is integrally formed on the outer end of the cylindrical supporting member 32 and has a pair of diametrically opposed T-shaped slots formed therein. The enlarged portion 60 of each slot is adapted to receive and retain one of the stirrup arms 37 and permit sliding movement of the supporting member 32 longitudinally of the stirrup. The reduced and radially outer portion 62 of each slot is proportioned to receive the stirrup arms 37 at the notches 50, during assembly of the fixture 18. Intermediate these T-shaped slots the flange 54 is provided with a pair of diametrically opposed arcuately extending bosses 64 projecting axially outwardly therefrom, which function both to reinforce the flange 54 and to locate and guide the supporting member 32 during application of the lamp socket supporting fixture 18 to the bracket plate 16. Radially outwardly of the bosses

64 the flange 54 carries a pair of diametrically opposed detents 66 which function as hereinafter described to retain the fixture 18 in clamped position when it has been applied to the bracket plate 16.

The bracket plate 16 is provided with a generally circular aperture 70 having a pair of diametrically opposed notches 72 extending radially outwardly therefrom and communicating therewith.

The lamp socket 20 is telescopically received within the cylindrical supporting member 32 and seats against the reduced inner end portion thereof and is staked therein as indicated at 80 or otherwise suitably secured against rotation relative thereto. Within the lamp socket 20 a conventional electrical contact element 82 is fastened on the inner end of the electrical conductor 42 and is supported centrally of the lamp socket by a plunger 84 formed of a suitable insulating material. The contact element 82 is urged outwardly of the lamp socket 20 and into contact with the base of the bulb 22 by a coil spring 86 one end of which engages the plunger 84 and the other end of which extends through the reduced end of the member 32 and abuts against the web portion 36 of the stirrup.

To attach the fixture 18 to the bracket plate 16 the outer end of the lamp socket is inserted through the aperture 70 and the tabs 44 on the outer end of the stirrup arms 37 are pressed into the notches 72. It will now be appreciated that as pressure is applied to the web of the stirrup externally thereof, the flange 54 of the supporting member 32 is pressed against the bracket plate 16 and the arcuately shaped bosses 64 are pressed into the aperture 70 to assist in properly locating the supporting member 32. Additional pressure is then applied to the stirrup and the spring 34 is compressed permitting the stirrup arms 37 to move through the aperture to a position in which the clamping surfaces 46 have moved beyond the remote surface of the plate 16. The clamp is then rotated to move the clamping surfaces 46 out of alignment with the notches 72 and the stirrup is released. In this position it will be appreciated that the plate 16 is gripped between the flange 54 on one side and the clamping surface 46, carried by the tab 44 of the stirrup arm, on the opposite side, by the action of the spring 34. The installation is completed by continuing to rotate the stirrup in the same direction to a position in which the detents 66 drop into the notches 72. In this position the detents 66 engage the plate 16 at the opposite sides of the notches 72 to yieldably prevent rotation of the fixture 18 in either direction. To remove the fixture the stirrup is rotated relative to the plate 16 and the stirrup arms 37 engage the supporting member 32 in the slots 60 and cause the member 32 to rotate with the stirrup. This rotation cams the detents 66 from the notches 72. The fixture may then be rotated to a position in which the clamping surfaces 46 are aligned with the slots 72 and withdrawn from the plate.

The modification illustrated in Fig. 6 differs from the above described embodiment only in that the detent 90 thereof corresponding to the detent 66 in the above described embodiment, has an abrupt face 92 at one edge thereof and a cam surface 94 at the other edge thereof. This construction permits the fixture to be rotated in one direction during installation until the detent drops into the notch 96 corresponding to the notch 72 of the above described embodiment, and further rotation is prevented by the engagement

of the abrupt face 92 of the detent and the plate 98, at one edge of the notch 96. This construction permits the clamp to be readily removed by rotation in the opposite direction, the detent 90 being lifted out of the notch 96 by the action of the cam 94 acting against the plate 16.

What is claimed is:

1. A lamp socket supporting fixture adapted to be secured to a supporting element having an aperture therein, said lamp socket supporting fixture comprising a first member having a base portion and a jaw portion, a second member adapted to engage one face of said supporting element and mounted on said first member for movement therealong, spring means engaging said base portion and said second member to yieldably urge the latter along said first member in a direction toward said jaw portion, said fixture being rotatable relative to said supporting element, said jaw portion being adapted to be inserted through said aperture in said supporting element in one rotative position of said fixture relative to said element and rotated to another rotative position, and when so inserted and rotated, to engage the opposite face of said supporting element, and means on said second member adapted to project into a portion of said aperture in said another rotative position of said fixture to engage said supporting element and yieldably hold said fixture against rotation from said another position.

2. A lamp socket supporting fixture adapted to be secured to a supporting element having an aperture therein, said lamp socket supporting fixture comprising a stirrup member having a base portion and spaced arms formed thereon, said arms having clamping surfaces formed externally thereof and facing towards said base portion, a cylindrical member mounted on said arms for movement therealong, and a spring engaging said base portion and said cylindrical member to yieldably urge the latter towards said clamping surfaces, said cylindrical member having an outwardly extending flange adapted to engage one face of said supporting element, said arms being adapted to be inserted through said aperture in one rotative position of said fixture relative to said element and rotated to another rotative position, and when so inserted and rotated, to engage the opposite face of said element, and said flange having a detent formed thereon adapted to project into a portion of said aperture in said another rotative position of said fixture and engage said supporting element to hold said fixture against rotation from said another rotative position.

3. A lamp socket supporting fixture adapted to be secured to a supporting element having an aperture therein, said lamp socket supporting fixture comprising a stirrup member having a base portion and spaced arms formed thereon, said arms having clamping surfaces formed externally thereof and facing towards said base portion, a cylindrical member mounted on said arms for movement therealong, and a spring engaging said base portion and said cylindrical member to yieldably urge the latter towards said clamping surfaces, said cylindrical member having an outwardly extending flange adapted to engage one face of said supporting element, said arms being adapted to be inserted through said aperture in one rotative position of said fixture relative to said element and rotated to another rotative position, and when so inserted and rotated, to engage the opposite face of said ele-

ment, said flange having a detent formed thereon adapted to project into a portion of said aperture in said another rotative position of said fixture to engage said supporting element and yieldably hold said fixture against rotation from said another rotative position, said flange also having a cam surface at one edge of said detent effective upon rotation of said fixture in one direction to engage said supporting element and withdraw said detent from said aperture.

GEORGE J. THOMAS.

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