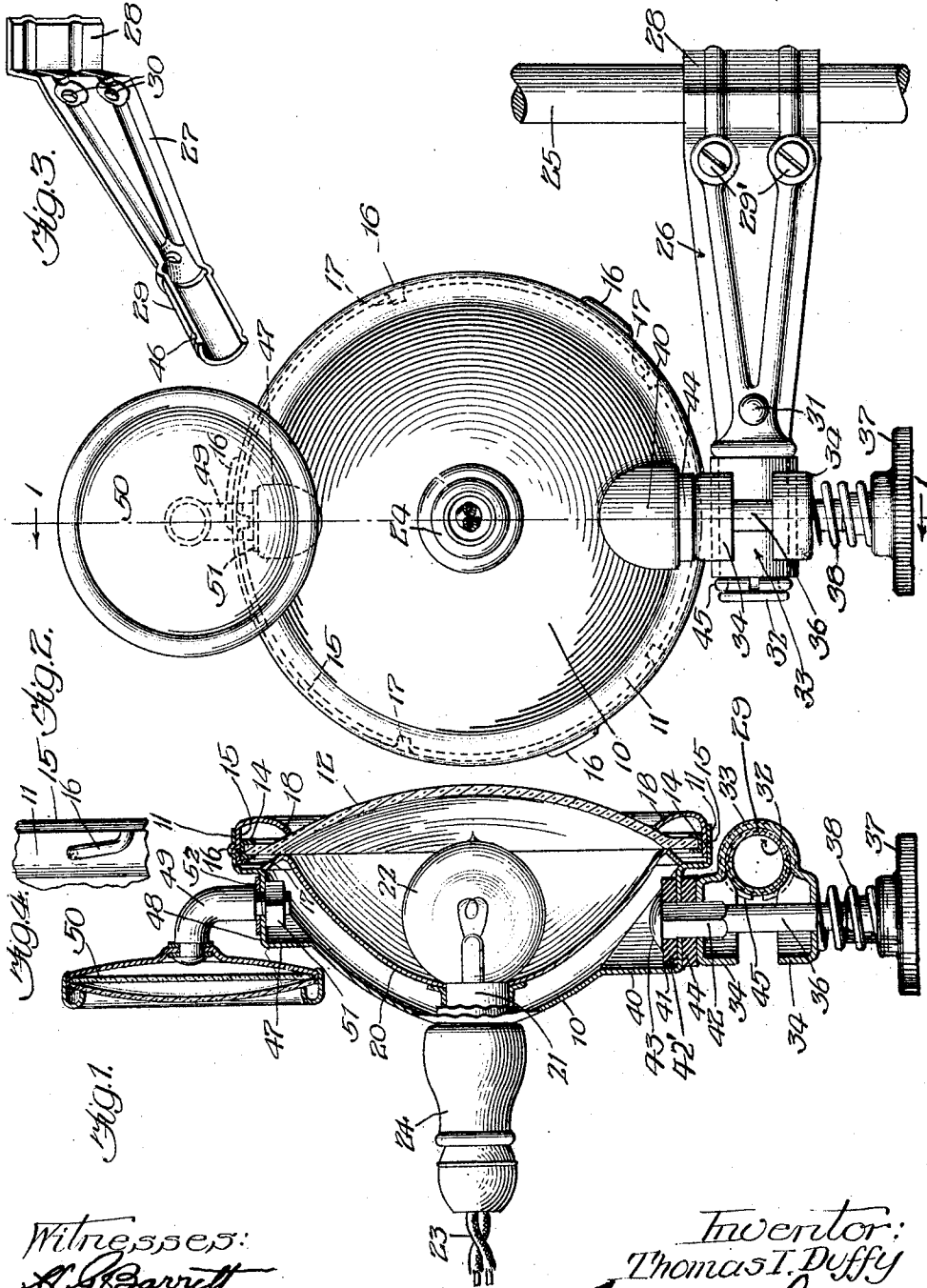


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SPOT LAMP AND MOUNTING FOR AUTOMOBILES.
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UNITED STATES PATENT OFFICE.

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SPOT LAMP AND MOUNTING FOR AUTOMOBILES.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, THOMAS I. DUFFY, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Spot Lamps and Mountings for Automobiles; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the characters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in so-called spot lights or lamps for motor vehicles designed to be attached to any suitable fixed part of the vehicle frame in reach of the driver and mounted so as to be universally movable in all directions, whereby its light rays may be directed to any point on or at the side of the road-way as desired.

The invention consists in the combination and arrangement of the parts shown in the drawings and described in the specification and is pointed out in the appended claims.

Among the objects of the invention is to provide a novel means for supporting the lamp on the car body so constructed as to permit it to be freely moved in all directions, while avoiding accidental displacement or mal-adjustment of the lamp due to vibrations of the car.

Another object of the invention is to provide in a lamp mounting a novel universal joint, with novel means for maintaining friction on the joint elements so as to avoid accidental displacements of the parts.

A further object of the invention is to provide a novel mounting bracket for a lamp of this character.

Another object of the invention is to provide a novel means for connecting the lamp casing to the lamp mounting and also for connecting to the lamp casing a mounting for a reducing mirror by which latter the driver may observe objects in the rear of the car.

In the drawings:—

Figure 1 is a vertical sectional view of a combined spotlamp and mirror embodying my invention.

Figure 2 is a rear view thereof.

Figure 3 is a perspective view of one of the members of the mounting bracket for the lamp.

Figure 4 is a fragmentary detail of the means for locking the lens in place.

As shown in the drawings, 10 designates the metal portion of the lamp casing or body which terminates at its front open side in a short annular flange 11. 12 designates a convexo-concave lens which fits at its periphery within an annular member 14 of channel cross section of any suitable soft material. Said member fits within an annular lens-holding ring 15, which is in turn fitted within the annular flange 11 of the lamp casing or body and is locked thereto by the bayonet joint 16. The inner margins of the lens-holding ring may be provided with inturned prongs or lugs 17 that bear against the rear face of the marginal portion of the lens, between which and the outer lip 18 of the ring the lens is held. Thus the lens and its holding ring may be removed from or applied to the lamp casing as a unitary part, thereby simplifying the assembly of the device. 20 designates a silvered reflector arranged within the lamp casing and concentrically with respect to a base or socket 21 which supports any suitable form of lamp, as the electric lamp 22. The front flanged margin of said reflector is clamped or confined between the lamp body flange and the lens 12. The feed wires 23 of said lamp are conducted rearwardly through a suitable hollow hand piece 24 fixed in any suitable manner to the casing or body 10.

The said lamp is adapted to be attached to a fixed part 25 of the vehicle body by means of a suitable bracket designated as a whole by 26. Said bracket comprises two like elongated members 27, (Figure 3) preferably stamped from sheet metal, each of which is provided at one end with a jaw 28 and at its other end with a hollow semi-cylindric bearing extension 29. The said jaws 28 of the bracket are adapted to clasp the fixed support 25 and may be clamped thereon in any suitable manner, as by means of clamping screws 29' which extend through registering openings 30 of the bracket members near the said jaws 28. The outer ends of the

bracket members may be fixed together by a rivet 31, the resiliency of the bracket members permitting the jaw ends to spring apart sufficiently to engage over the supporting

5 part 25. Said semi-cylindric bearing extensions 29 of the bracket members constitute, when the two parts are assembled and fixed together, a cylindric bearing 32 adapted to be frictionally engaged by the sleeve-like
10 portion of a clamping member 33 which is provided with arms 34, 34, that are adapted to be acted upon by clamping means, hereinafter to be described, whereby the sleeve is clamped upon the bracket extension. With
15 the construction described, it will be obvious that the lamp may be vertically adjusted about the axis of the bearing 32, so that the spot light may be directed upon the roadway at different distances from the car or
20 may be directed backwardly on the car itself.

The said clamping member 33 is shown as clamped upon the cylindric bearing 32 by means of a bolt 36 which is fixed to the
25 casing and extends through registering openings in the arms 34 of the clamping member 33 and a nut 37 screw-threaded to said bolt acting on said arms to force them inwardly and therefore force the
30 sleeve portion of the clamping member into frictional engagement with the bearing 32. A spring 38 is interposed between said nut 37 and the adjacent clamp arm 34 so as to press the member 33 into frictional contact
35 with the cylindric bearing 32 with a yielding pressure, whereby the lamp may be reliably locked in given positions of adjustment while, at the same time, the spring will yield sufficiently to permit the lamp to
40 be manually swung horizontally without releasing said nut, and by the use of reasonable manual power.

The means herein shown for attaching the clamping bolt 36 to the lamp body consists
45 in striking up by a swaging operation a portion of the body near the lower side of the same to produce a hollow lug 40 having a flat bottom portion 41. The said bottom 41 of the hollow lug is provided with
50 an opening to loosely receive the polygonal inner end 42 of the clamping bolt 36; which latter is inserted outwardly through said opening before the reflector body 20 is placed within the casing. Said bolt is also
55 provided at its inner end with a head 43 having on its side adjacent to the polygonal portion 42 of the shank a flattened surface adapted to engage a washer 42' in contact with the inner side or face of the flattened
60 bottom wall 41 of the lug 40. The polygonal portion 42 of the bolt engages and interlocks with a like shaped opening in the adjacent arm 34 of the clamp 33. Interposed between the latter arm of the clamp
65 and the outer face of the flat bottom wall

41 of the lug 40 is a friction washer 44 which is also provided with a polygonal opening to fit closely over and interlock with the polygonal shank of the bolt.

With the construction described it will 70 be obvious that the bolt 36 constitutes an axis about which the lamp may be horizontally swung to vary its adjustment so that the spot light may be directed from one side to the other of the roadway, or back- 75 wardly on the car. The two turning axes of the lamp provide means, therefore, for universally adjusting the spot lamp. It will also be observed that by reason of the fact that said bolt is interlocked to one of the 80 arms of the clamping member 33, and is also interlocked to the friction washers 41 and 44, but is free to turn in the opening in the flat wall 41 of the hollow casing lug 40, the said lamp casing may be frictionally 85 locked in any desired position of horizontal adjustment and that the spring 38 which serves to frictionally lock the clamp 33 on the bracket bearing 32, also serves to frictionally lock the lamp from turning about 90 the axis of said clamping bolt. This construction is a very simple and efficient means of providing, what may be termed, a universal swinging joint or a connection which permits practically universal adjustment of 95 the lamp both horizontally and vertically. It also provides an efficient means for clamping the parts of the joint members together with sufficient force to prevent accidental loosening of the joints and conse- 100 quent displacement of the lamp,—it being obvious that the pressure exerted through the spring 38 permits the friction surfaces of the bearings to turn upon each other with the exertion of comparatively little force, 105 but prevents displacement of the bearings relatively to each other due to vibration.

The clamping member 33 may be locked on the two part cylindric bearing extension 32 in any suitable manner, as for in- 110 stance, by means of a split locking ring 45 which engages in a grooved portion 46 of the cylindric bearing extension. Said split ring may be removed by the use of a suitable implement and when removed the 115 clamping member may be readily slipped endwise off the bearing.

In Figures 1 and 2 is shown the manner of mounting a reducing mirror on the lamp casing or body. As therein shown said 120 lamp casing or body is provided with a hollow lug 47 which is struck up therefrom by suitable stamping or swaging operation and having a flat top wall 48. Said wall 125 of the lug is apertured to receive the lower screw threaded end of a bracket 49 of a reducing mirror 50 which latter faces rearwardly, the bracket being clamped to the flat wall 48 of the hollow lug through the medium of a screw threaded nut 51 within 130

the lug and a flange 52 on the bracket which bears against the exterior face of the flat wall of the lug.

The manner described of thus fitting the mirror mounting to the lamp casing and also the connection of the universal bearing mounting to the sheet metal lamp body or casing are very simple and economical. The constructions require no assembling or riveting operations and possess greater strength than if the lugs were riveted or in some other manner made separate therefrom and attached thereto.

I claim as my invention:—

1. A spot lamp comprising, in combination, a lamp body, an attaching bracket formed at one end to provide a cylindric bearing, a clamping member to frictionally engage and turn on said bearing and provided with apertured arms, a clamping bolt extending through said arms and constituting means by which the clamp is attached to the lamp body and having a bearing surface at one end to frictionally engage a bearing surface of said body and a single yielding friction means to yieldingly hold the two pairs of opposed bearings together.

2. A spot lamp comprising, in combination, a lamp body, an attaching bracket formed at one end to provide a cylindric bearing, a clamping member to frictionally engage and turn on said bearing and provided with apertured arms, a clamping bolt extending through said arms and constituting means to attach the clamp to the body, and to frictionally press said clamping member on said bearing, said bolt having at one end a bearing surface to frictionally engage a bearing surface of said body, a single locking device acting on both said friction bearings, and a spring co-operating with the locking device to yieldingly transmit the locking pressure to both said bearings.

3. A spot lamp comprising, in combination, a body, an attaching bracket provided with a cylindric bearing, a clamp frictionally engaging said bearing and provided with apertured arms, a clamping bolt disposed at right angles to said bearing and extending through said arms, said bolt having means at its end to attach it to the lamp body and provided with a friction surface

to engage a friction surface on the lamp body, and a single adjusting means for adjusting frictional contact of both friction bearing surfaces.

4. A lamp comprising, in combination, a casing provided with an apertured lug, a bolt extending loosely through said apertured lug, a friction element locked to the bolt and frictionally engaging the outer face of said apertured lug, a bracket formed with a cylindric friction bearing surface, a clamp engaging said bearing surface and provided with two apertured arms through which said bolt extends, with one of said arms interlocked to the bolt, and a nut screw threaded to the bolt and acting on said arms to frictionally press the clamp on the cylindric extension and to force the friction element of said bolt against the friction surface of said lug.

5. In combination with the sheet metal casing of a spot lamp provided with an integral hollow lug, of a reducing mirror and a bracket therefor extending into said lug, with means for attaching the bracket to said lugs.

6. In a device of the class described, an attaching member having a post at one end and a clamp at the other for detachable engagement with a support, a split sleeve rotatably adjustable on the post and provided with spaced lateral extensions having apertures therein and offset with respect to the longitudinal plane of the post, a supporting member mounted for rotation on one of the extensions, a bolt extending through the supporting member and through the apertures in the extensions, and means engaging the lower end of the bolt for simultaneously clamping the split sleeve in engagement with the post, and the supporting member in engagement with the adjacent extension.

In testimony that I claim the foregoing as my invention I affix my signature in the presence of two witnesses, this 18th day of March, A. D. 1916.

THOMAS I. DUFFY.

Witnesses:

M. J. JONES,
M. GERTRUDE ADY.