

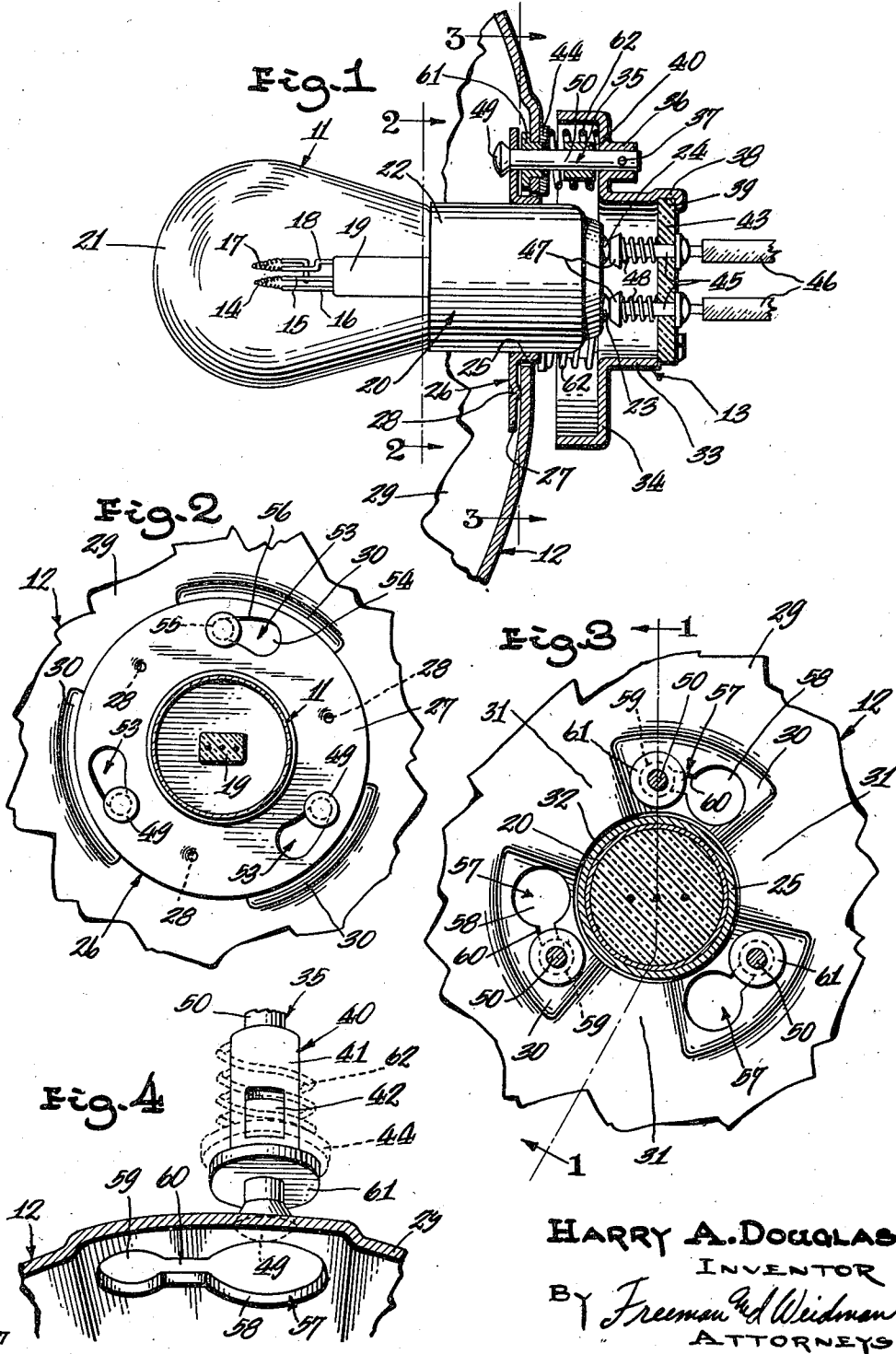
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ELECTRIC LAMP UNIT

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ELECTRIC LAMP UNIT

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My invention relates to electric lamp units, and particularly to electric lamp units comprising an incandescent electric lamp mounted in a reflector, as in an automobile headlight, and the principal object of my invention is to provide a new and improved unit of this type. In the drawing accompanying this specification, and forming a part of this application, I have shown, for purposes of illustration, one form which my invention may assume; in this drawing:

Figure 1 is a longitudinal sectional view of the unit, showing the lamp in elevation,

Figure 2 is a section on the line 2—2 of Figure 1, illustrating particularly the means for securing the lamp in position in the reflector,

Figure 3 is a section on the line 3—3 of Figure 1, illustrating particularly the connection of the socket unit to the reflector, while

Figure 4 is a view in perspective, illustrating additionally in this respect.

The herein disclosed embodiment of my invention comprises a lamp 11, of the two-filament type, having a first filament 14 mounted between a common post 15 and a first selective post 16, and positioned in focus, for so-called bright light, and a second filament 17, mounted between the common post 15 and a second selective post 18, and positioned above the focal point, for so-called dim light. The three posts 15 and 16 and 18 are supported in the usual glass body 19, mounted in the lamp base 20, to which is secured the usual bulb 21, and the common post 15 is grounded to the exterior shell 22 of the lamp base 20, while the selective posts 16 and 18 are secured respectively to the contacts 23 and 24, carried by and projecting from the rear face of the lamp base 20.

Secured to the lamp base outer shell 22 is the tubular portion 25 of a positioning ring 26 which comprises also an outwardly extending flange 27 provided with three bayonet slots 53, spaced about the periphery of the lamp base 20, and provided also, on its rear face, intermediate the slots 53, with three positioning projections 28.

Receiving the lamp 11 is a reflector 12, comprising a body 29, which may be of parabolic form, and which is provided at its rear with a central aperture 32 adapted to receive the lamp base 20 and the tubular portion 25 of the positioning ring 26. Surrounding the central aperture 32, at points spaced about the central aperture 32, the reflector 12 is provided with three arcuate depressions 30 each containing a bayonet slot 57, and intermediate the slots 57 are surfaces 31 lying in a single plane perpendicular to the axis

of the unit and adapted to be engaged by the positioning ring projections 28.

Receiving the rear of the lamp base 20 is a socket unit 13 comprising a cylindrical shell 33 provided at its forward end with an integral outwardly extending annular flange 34 which carries three pins 35 comprising shanks 50 provided at their forward ends with enlarged heads 49. The rear ends of the shanks 50 are mounted in rearwardly extending bosses 36 struck from the flange 34, and are secured in position, in the bosses 36, by cross pins 37 traversing the bosses 36 and the shanks 50.

Surrounding each pin 35 is a sleeve 40 having a substantially cylindrical body 41 provided at its forward end with an enlarged head 61. Each sleeve body 41 is provided on opposite sides, at 42, with recesses there reducing the body to a width equal only to the diameter of the pin shank 50. Surrounding the sleeve bodies 41 are compression springs 62, bearing at their rear ends against the socket flange 34 and at their front ends, through washers 44, against the rear surface of the reflector 12, and acting to bias rearwardly the entire socket unit 13, including the pins 35.

If desired, the washers 44 may be constructed as a single annular disc.

The shell 33 is provided at its rear end with three rearwardly extending integral fingers 38 outwardly convexed to form recesses 39 in which is supported an insulating base 43 substantially closing the rear end of the shell 33.

Slidably mounted in the insulating base 43 are two terminal rods 45, which are connected to conductors 46 leading to the control switch, as is well known in the art, and which are provided at their forward ends with heads 47, adapted to contact the terminals 24 and 23 of the lamp base 20, and pressed into firm engagement with the lamp base terminals 24 and 23 by springs 48 encircling the terminal rods 45 and compressed between the insulating base 43 and the terminal heads 47.

Each of the positioning ring bayonet slots 53 comprises an entrance 54 adapted to receive a pin head 49, a seat 55 adapted to closely receive a pin shank 50, and a connecting portion 56, connecting the entrance 54 to the seat 55. Each of the reflector flange bayonet slots 57 comprises an entrance 58 adapted to receive a sleeve head 61, a seat 59 adapted to closely receive a sleeve body 41, and a connecting portion 60, connecting the entrance 58 to the seat 59, and adapted to receive

a sleeve body 41 at the section of reduced diameter formed by the cutaways 42.

The socket pins 35, the sleeves 40, the washers 44, and the springs 62, may be positioned with the socket shell 33 by mounting the washers 44 and springs 62 on the sleeves 40, inserting the pins 35 through the sleeves 40 and into the bosses 36, and then inserting and riveting the securing cross pins 37. The insulating base 43 may be conveniently assembled with the shell 33 by positioning it in the internal recess 39 before the ends of the fingers 38 have been intumed, or may be sprung into position afterward, as may be desired.

The entire socket unit 13 is assembled with the reflector 12 by inserting the sleeve heads 61 through the entrances 58 of the reflector bayonet slots 57, continuing the movement against the action of the springs 62, until the reduced portions 42 of the sleeves 40 are aligned with the connecting portions 60 of the reflector slots 57, and then rotating the socket unit 13 relative to the reflector 12, until the sleeve bodies 41 seat in the seats 59 of the bayonet slots 57, to releasably hold the socket unit 13 assembled with the reflector 12.

To assemble a lamp 11 in a reflector 12, the lamp 11 is inserted, with the entrances 54 of the bayonet slots 53 registering with the heads 49 of the pins 35, and then the lamp is rotated, to bring the pin shanks 50 into the seats 55 of the bayonet slots 33, with the pin heads 49 overlying the adjacent walls of the lamp positioning flange 27, whereupon the springs 62, acting through the socket shell 33 and the pins 35, urge the projections 28 of the positioning ring flange 27 into tight engagement with the reflector surfaces 31. Concurrently, the springs 48 hold the socket contacts 47 in firm engagement with the lamp base contacts 24 and 23.

To assure that any lamp 11 will be accurately positioned in any reflector 12, each reflector 12 is made accurately to gauge, entirely uniform for all practical purposes, and each lamp is placed in a standard reflector, while its positioning ring 26 is still free, and accurately positioned, with the projections 28 of the positioning ring flange 27 in firm engagement with the part of the standard reflector corresponding to the reflector surfaces 31, and the positioning ring 26 is then secured in fixed position on the lamp base 20, while the parts are so held.

By the use of three projections 28, spaced about the periphery of the lamp base 20, the lamp will be held firmly positioned, against any tilting, and by forming the bayonet connections other than equally spaced, the construction will be such that the lamp can be inserted in only the one proper position.

From the foregoing it will be apparent to those skilled in the art that the herein disclosed embodiment of my invention provides a new and improved lamp assembly, accurately positioning the lamp, and readily and conveniently constructed, and accordingly, accomplishes at least the principal object of my invention. On the other hand, it also will be obvious to those skilled in the art that the particular embodiment of my invention which is disclosed herein may be variously changed and modified, without departing from the spirit of my invention, or sacrificing the advantages thereof, and accordingly, that the disclosure herein is illustrative only, and that my invention is not limited thereto.

I claim:

1. In combination: an incandescent electric lamp, having a base; a mounting for said lamp; said base having a lateral extension adapted to abut said mounting; pressing means for pressing said lateral extension against said mounting; said pressing means and said mounting being so constructed and arranged that they are detachably connectable by bayonet connection; said bayonet connection comprising a bayonet slot in said mounting having a reduced channel between its entrance and seat, and a reduced portion, on said pressing means, constructed and arranged to traverse said channel, but normally out of alignment with the general plane of said mounting at said channel.

2. In combination: an incandescent electric lamp, having a base; a mounting for said lamp; said base having a lateral extension adapted to abut said mounting; pressing means for pressing said lateral extension against said mounting; said pressing means and said mounting being so constructed and arranged that they are detachably connectable by bayonet connection; and said bayonet connection comprising a bayonet slot in said mounting, and portions of said pressing means, said portions extending through said slot and being so constructed and arranged that they are relatively movable.

3. In combination: an incandescent electric lamp, having a base; a mounting for said lamp; said base having a lateral extension adapted to abut said mounting at a plurality of points spaced about the periphery of said base; said mounting having depressed portions, circumferentially between said points; said depressed portions having apertures; and means, having portions extending through said apertures, constructed and arranged to press said lateral extension toward said mounting.

4. In combination: an incandescent electric lamp, having a base; a mounting for said lamp; said base having a lateral extension adapted to abut said mounting; pressing means for pressing said lateral extension against said mounting; said pressing means and said mounting being so constructed and arranged that they are detachably connectable by bayonet connection; said bayonet connection comprising a bayonet slot in said mounting having a reduced channel between its entrance and seat, and a reduced portion on said pressing means, constructed and arranged to traverse said channel, but normally out of alignment with the general plane of said channel; and said pressing means and said lateral extension being so constructed and arranged that they are detachably connectable by bayonet connection.

5. In combination: an incandescent electric lamp, having a base; a mounting for said lamp; said base having a lateral extension adapted to abut said mounting; pressing means for pressing said lateral extension against said mounting; said pressing means and said mounting being so constructed and arranged that they are detachably connectable by bayonet connection; said bayonet connection comprising a bayonet slot in said mounting, and portions of said pressing means, said portions extending through said slot and being so constructed and arranged that they are relatively movable; and said pressing means and said lateral extension being so constructed and arranged that they are detachably connectable by bayonet connection.

6. In combination: an incandescent electric lamp, having a base; a mounting for said lamp;

said base having a lateral extension adapted to abut said mounting; pressing means for pressing said lateral extension against said mounting; said pressing means and said mounting being so constructed and arranged that they are detachably connectable by bayonet connection; and said bayonet connection comprising a bayonet slot in said mounting, and portions of said pressing means, said slot having a reduced channel between its entrance and seat, said portions extending through said slot and being so constructed and arranged that they are relatively movable, one of said portions having a reduced part constructed and arranged to traverse said channel.

7. In combination: an incandescent electric

lamp, having a base; a mounting for said lamp; said base having a lateral extension adapted to abut said mounting; pressing means for pressing said lateral extension against said mounting; said pressing means and said mounting being so constructed and arranged that they are detachably connectable by bayonet connection; said bayonet connection comprising a bayonet slot in said mounting, and portions of said pressing means, said portions extending through said slot and being so constructed and arranged that they are relatively movable; and one of said portions having a part overlying said mounting between said mounting and said lateral extension.

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