W. S. MAYER.

LIGHT FOCUSING MECHANISM.

APPLICATION FILED OCT. 6, 1917.

1,276,791.

Patented Aug. 27, 1918.

3 SHEETS—SHEET 1.

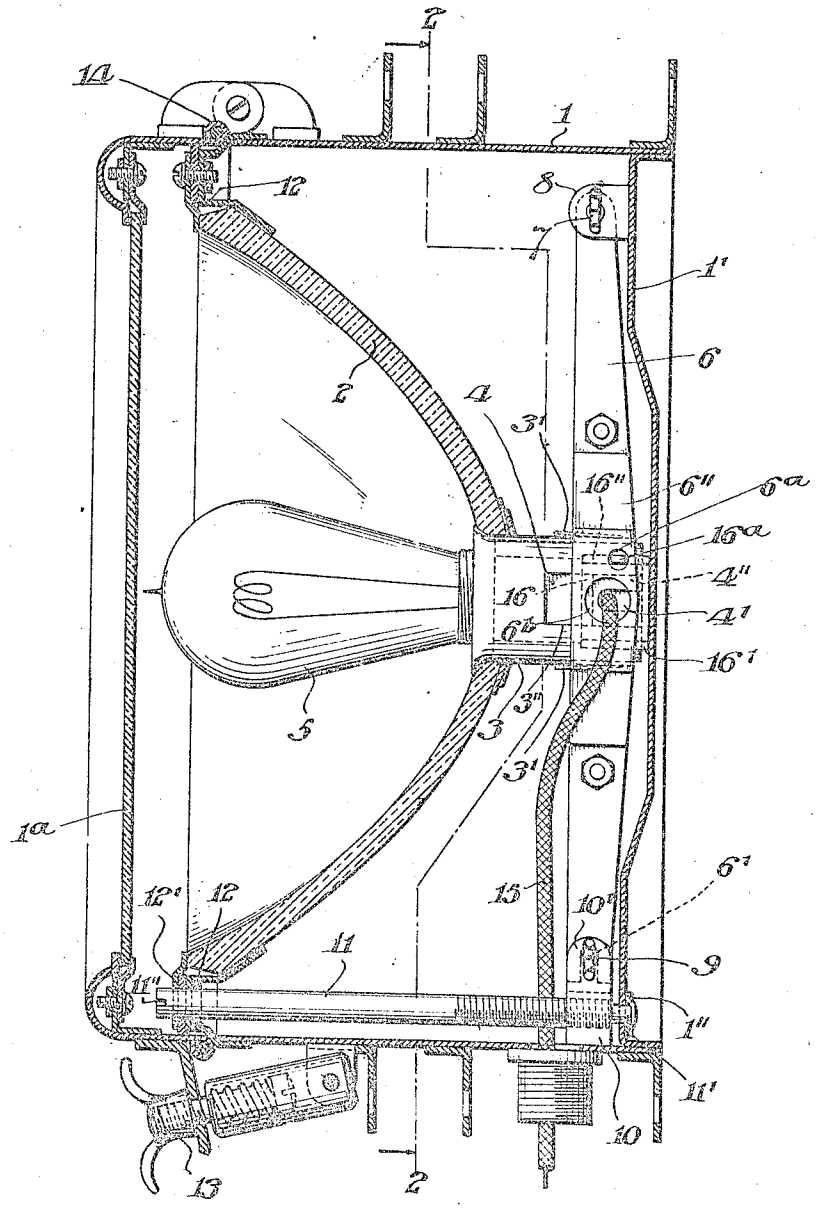


Fig. 1

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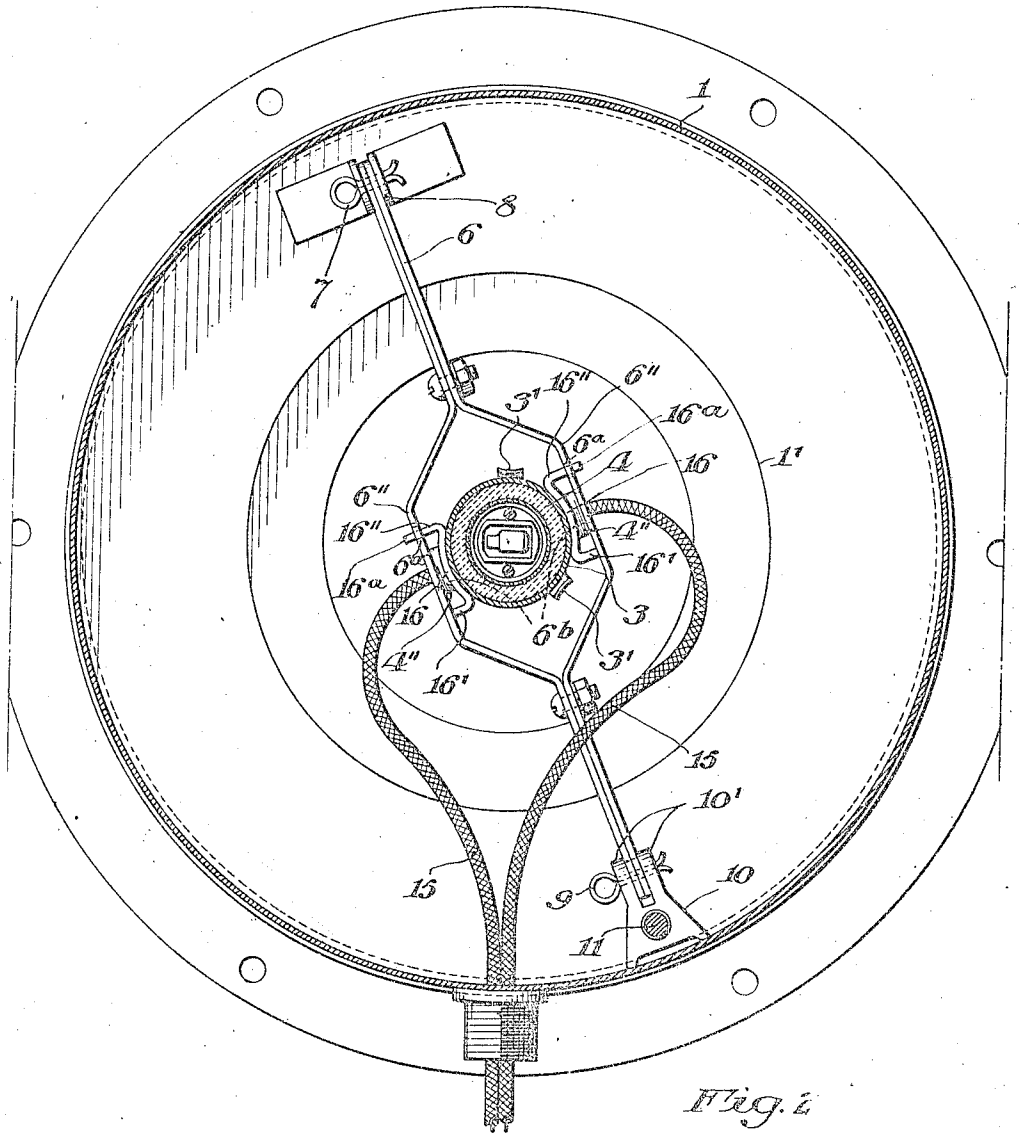


Fig. 1.

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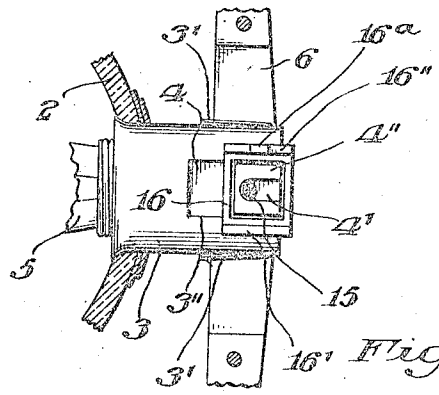


Fig. 3.

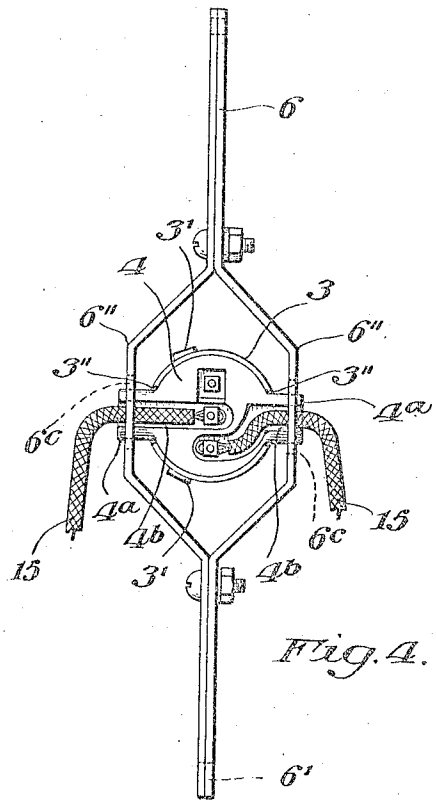


Fig. 4.

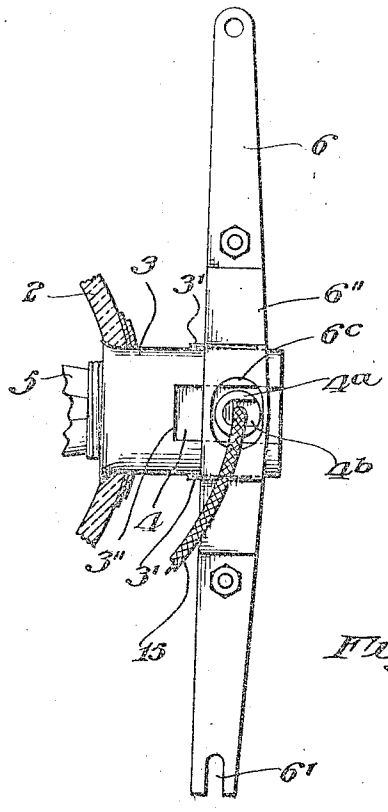


Fig. 5.

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UNITED STATES PATENT OFFICE.

WALTER S. MAYER, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO ELECTRIC SERVICE SUPPLIES COMPANY, OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

LIGHT-FOCUSING MECHANISM.

1,276,791. Specification of Letters Patent. Patented Aug. 27, 1918.

Application filed October 6, 1917. Serial No. 195,050.

To all whom it may concern:

Be it known that I, WALTER S. MAYER, a citizen of the United States, residing in the city of Philadelphia, county of Philadelphia, and State of Pennsylvania, have invented certain Improvements in Light-Focusing Mechanism, of which the following is a specification.

My invention relates to mechanism for adjusting the relation between sources of light and reflectors therefor, more especially for focusing headlights, and it is designed primarily for adjusting an incandescent lamp in a parabolic reflector, to focus the light, by simple, convenient and efficient means which will hold said light steady in the desired position.

The characteristic features of my invention are more fully disclosed in the following description and the accompanying drawings in illustration thereof.

In the drawings, Figure 1 is a sectional view taken through the axis of a headlight comprising a concave reflector in combination with an incandescent lamp and means for focusing the same; Fig. 2 is a sectional view taken on the line 2—2 of Fig. 1; Fig. 3 is a broken side elevation of a guide tube with a lamp socket therein in illustration of details employed in the structure shown in Figs. 1 and 2; Fig. 4 is a rear elevation of a modified form of lamp socket in combination with a guide and adjusting lever; and Fig. 5 is a side elevation of the construction shown in Fig. 4.

My invention is here illustrated as embodied in a headlight comprising a case 1 containing a parabolic reflector 2 which has a guide tube 3 fixed at its vertex, the reflector and tube preferably having approximately coincident axes.

An insulating lamp socket 4 is held in the tube 3, the tube being provided with resilient fingers 3′ struck out of the metal thereof and frictionally engaging the socket so that it is adjustable in the tube to adjust, with relation to the reflector, the incandescent lamp 5 carried by the socket.

A lever 6, for adjusting the socket 4, has one end thereof connected, by a pivot or cotter pin 7, with a bearing 8, which is fixed, within the case 1, to the back 1′ thereof. The lever 6 has, at its end opposite that held by the pivot 7, a longitudinal slot 6′, through which passes a pivot or cotter pin 9, the latter being connected with a special nut or block 10. The device 10 forms part of the lever and is movable along the engaging interior of the casing, being provided with the bifurcations 10′ forming a yoke for receiving the bifurcations of the lever formed by the slot 6′.

A threaded bolt 11, which passes through and has the function of adjusting the position of the nut 10, is provided with a reduced part 11′, which is journaled in and held against longitudinal movement by a bearing 1″ in the back of the casing. The forward end of the bolt passes through the flange 12, fixed in the casing as a support for the reflector and having a bearing 12′ within which the bolt is journaled, and has the slot 11″ for the engagement of a screw driver, the end of the bolt containing the slot being made accessible by opening the front 1^a of the headlight or disengaging its catch 13 and turning it on its hinge 14.

The lever 6 is provided with the bifurcations 6″ which form, between its ends, a yoke, within which the tube 3 and socket 4 lie.

As illustrated in Figs. 1, 2, and 3, the socket 4 is provided with integrally formed oppositely disposed lugs 4″, which are movable in the longitudinal ways 3″ of the tube 3, the lugs containing the open channels 4′ for the passing of the wires 15 for connecting the lamp 5 in circuit.

Yokes 16, which may be stamped out of sheet metal, are engaged on the lugs 4″ and provided with outwardly extending flanges 16′ and 16″ for engaging the bifurcations 6″ to hold said yokes in place on the lugs, the flanges 16″ having the respective lugs 16^a thereon which are engaged in holes 6^a of the respective bifurcations 6″, whereby the lever 6 is provided with a rocking engagement in relation to and is adapted for moving the socket 4 longitudinally in the tube 3. The bifurcations 6″ contain the apertures 6^b for the passage of the wires 15.

As illustrated in Figs. 4 and 5, the sockets 4 may be provided with lugs 4^a formed integrally therewith and extending through the slots 3′ of the tube 3 and the longitudinal slots 6^c of the bifurcations 6″, thus effecting a direct rocking engagement of the lever 6 with the socket 4 without the intervention

of the yokes 16. These lugs are provided with the open channels 4^b for the passage of the lamp wires 15 therethrough and through the slots 6^c.

It will be understood from the foregoing description that the desideratum of providing for focusing the lamp from its front is effected, in the form shown, by opening the front 1^a of the head-light and turning the bolt 11, the latter rocking the flexible lever formed by the parts 6 and 10 and moving the socket 4 in the tube 3 to effect the movement of the source of light along the axis of the reflector 2 to the desired position.

Having described my invention, I claim:

1. The combination of a case, a reflector supported therein, a lamp socket, a lamp carried by said socket, means for supporting said socket and holding said lamp in the axis of said reflector, a lever connected with said socket for moving it to adjust the position of said lamp, and a bolt journaled on opposite sides of said lever and having a threaded connection therewith for adjusting it.

2. The combination of a case, a reflector therein, a lamp socket provided with laterally extending lugs adapted for supporting it and passing wires, a lamp carried by said socket in the axis of said reflector, means in the axis of said reflector for guiding said socket, and means engaging said lugs for moving said socket in its guiding means.

3. The combination of a case, a reflector therein, means comprising a lamp movable along the axis of said reflector and mechanism for moving said means, said mechanism comprising a revoluble bolt adapted to be turned from the front of said case, and rocking mechanism in the rear of said case with which said bolt has a threaded engagement, said rocking mechanism comprising a member guided by said case.

4. The combination of a guiding device, a lamp socket movably supported by said device, said socket having oppositely disposed lugs containing channels, and means comprising a lever having a yoke within which said socket is disposed for engaging said lugs and moving said socket.

5. The combination of a case, a concave reflector therein, a guide tube disposed in the axis of said reflector, a lamp socket movably supported in said tube, said socket having oppositely disposed lugs thereon, means comprising a lever having a yoke for engaging said lugs, and means comprising a block to which said lever is pivotally connected and a journaled bolt having a threaded connection with said block for rocking said lever.

6. The combination of a case having a flange therein, a reflector fixed to said flange, a bolt journaled in said flange and adapted to be turned from the front of said case, a device guided in said case and connected with said bolt whereby it is movable, a lever having one end pivotally connected with a fixed support and the other end pivotally connected to said device, said lever having a yoke intermediate its pivotal connections, a lamp socket disposed in said yoke and movable in the axis of said reflector, and means for connecting said socket with said yoke.

7. The combination of a reflector having an axial guide, a lamp socket movable in said guide, said socket having laterally extending lugs adapted for the passage of conductors, yokes engaging said lugs, and a lever having a yoke within which said socket is disposed, the yoke of said lever having a rocking connection with said yokes first named.

In testimony whereof I have hereunto set my name this 2nd day of October, 1917.

WALTER S. MAYER.