

B. AMES.
ADJUSTABLE LAMP AND SUPPORT FOR HEADLIGHTS.
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1,369,722.

Patented Feb. 22, 1921.

Fig. 1.

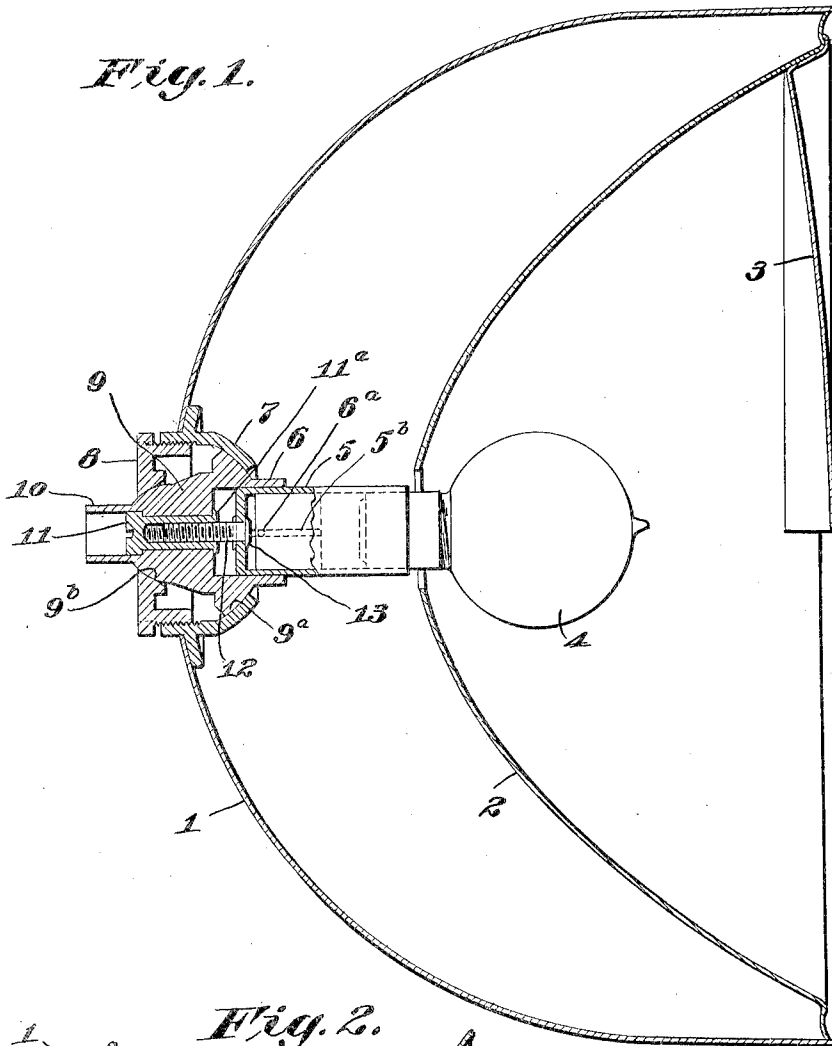
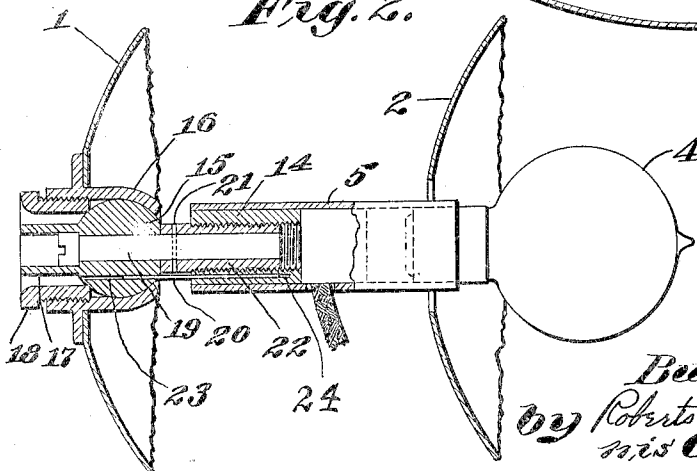


Fig. 2.



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ADJUSTABLE LAMP AND SUPPORT FOR HEADLIGHTS.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, BUTLER AMES, a citizen of the United States, and resident of Lowell, in the county of Middlesex and State of Massachusetts, have invented new and useful Improvements in Adjustable Lamps and Supports for Headlights, of which the following is a specification.

My invention relates to that class of headlights and the like in which a source of light such as an electric bulb light is used in association with a projecting reflector, and consists of improved means for adjusting the portion of the light source with reference to the focus of the reflector. The object of these improvements is to provide means for adjusting the light source in any direction, which shall be capable of accurate and fine regulation, be readily accessible to a simple manipulating instrument, but protected against accidental derangement.

In the drawings hereto annexed, which illustrate my invention,

Figure 1 is a vertical mid section of a headlight with an adjustable lamp support; and

Fig. 2 is a similar section (fragmentary in parts) of an alternative form of adjustable lamp support.

In Fig. 1, which illustrates what I regard as a preferred form of my improved adjustable lamp support, 1 represents the shell of a headlight such as is used on motor vehicles, 2 the parabolic reflector, 3 a light arresting or dimming screen, 4 the electric lamp bulb, 5 a socket for the lamp bulb, 9 a universal joint member which is mounted in the clamp-housing consisting of the parts 7 and 8; part 7 being secured in a central rear aperture in the shell 1, screw-threaded to receive and engage the clamping member 8, which is accessible from the outside of the shell 1.

The universal joint-member 9 is a metal block, provided with concentric spherical surfaces 9^a and 9^b which have radii of different length, the surface 9^a engages an interior spherical surface on the sectional lip of the part 7 while the surface 9^b engages the interior spherical surface on the part 8. By using spherical surfaces of different radii, the universal joint member and its coacting associates may be made more compact than

would be the case if the radius of the surface 9^b were equal in length to that of surface 9^a.

The universal joint member 9 is provided with a cylindrical recess and an annular projection 6, for the reception of the end of the lamp socket 5, and in which the lamp socket, with lamp bulb 4 attached is longitudinally adjustable. The said universal joint-member is centrally bored to receive the internally screw threaded sleeve 11, the head of which bears against a shoulder around said central bore at the inner end of the space inclosed in the shield 10, which consists of an annular or tubular projection from the outer end of the universal joint member 9. The inner end of the sleeve 11 is headed or flanged so that the sleeve, while capable of turning movement on the universal joint member, cannot move longitudinally therein. As shown in Fig. 1, the head of the sleeve 11 is notched to receive the bit of a screw driver.

The screw 12 is threaded into the internally threaded sleeve 11 and secured in the rear end of the lamp socket 5, at 13.

The lamp socket 5 is slotted longitudinally at 5^b, and a pin 6^a, secured to and projecting from the interior of the annulus 6, engages with this slot 5^a. Thus neither the screw 12 nor the lamp socket 5 may turn, but both together may move horizontally.

When it is desired to adjust the position of the light source with respect to the focus of the parabolic reflector 2, the part 8 of the clamp-housing is slackened, so that the universal joint member may turn in any direction. A screw driver is inserted into the shield 10, engaging the notch in the head of the screw-threaded sleeve 11. Turning movement of the screw driver will then produce longitudinal adjustment of the screw 12 and lamp socket 5, and the sides of the shield 10, being adapted to engage the screw driver blade constitute a socket in which the screw driver may be employed to turn the universal joint member in any direction. Thus by a combination of movements, easily imparted to the adjusting devices by one hand of the operator holding the screw driver, any combination of adjustments of the light source may be effected. When the adjustment is completed, the operator uses

his other hand to tighten the part 8 of the clamp-housing, to set the adjustment arrived at.

The shield 10, while permitting ready access to the adjusting means when desired, effectively protects them from accidental derangement.

In Fig. 2, an alternative assemblage of adjustable parts is shown. The threaded sleeve 14 is secured in the rear end of the lamp-socket 5, and is in thread-engagement with the screw 22. This screw 22 is provided with an axial opening to admit the rod 19. The universal joint member 15 is held between the threaded parts 16 and 18 which constitute a clamp-housing for the member 15. A shield 17 is carried by the joint member 15; the notched head of the rod 19 is seated in the bottom of the recess surrounded by the shield. A pin 21 passing through the screw 22 and rod 19 secures these two pieces together, the end of the screw 22 bearing against one side of the universal joint member 15. A guidingspline 20, seated in the holes 23 and 24 in the universal joint member 15 and sleeve 14, respectively, prevents the sleeve 14 and lamp socket 5 from turning, while permitting their longitudinal movement.

By slackening the part 18, and introducing a screw driver into the interior of the shield 17, any adjustment of the lamp may be effected, by turning the rod 19 or joint member 15, or both.

I claim:—

1. An adjustable lamp support for head-lights comprising a universal joint member, a clamp-housing therefor, a lamp holder mounted on and longitudinally movable in

the universal joint member, threaded adjusting means between the lamp holder and universal joint member, and a shield surrounding the operating portion of said threaded adjusting means, the adjusting means being accessible to an operating instrument through the shield.

2. An adjustable lamp support for head-lights comprising a ball member provided with curved concentric surfaces of different radii, a clamp-socket for said ball member, a lamp holder mounted on and longitudinally movable in said ball member, threaded adjusting means between the lamp holder and ball member, and a shield surrounding the operating portion of said threaded adjusting means, the adjusting means being accessible to an operating instrument through the shield.

3. An adjustable lamp support for head-lights comprising a universal joint member, a clamp-housing therefor, a lamp holder mounted on and longitudinally movable in the universal joint member, threaded adjusting means between the lamp holder and universal joint member, passing through the latter and having an exposed operating end remote from the lamp socket, a shield, mounted on the universal joint member and surrounding said operating end of the adjusting means, the adjusting means accessible to a suitable instrument through said shield, and the shield affording means engageable by such instrument, for adjustment of the universal joint member.

Signed by me at Boston, Massachusetts, this fourth day of February, 1920.

BUTLER AMES.