

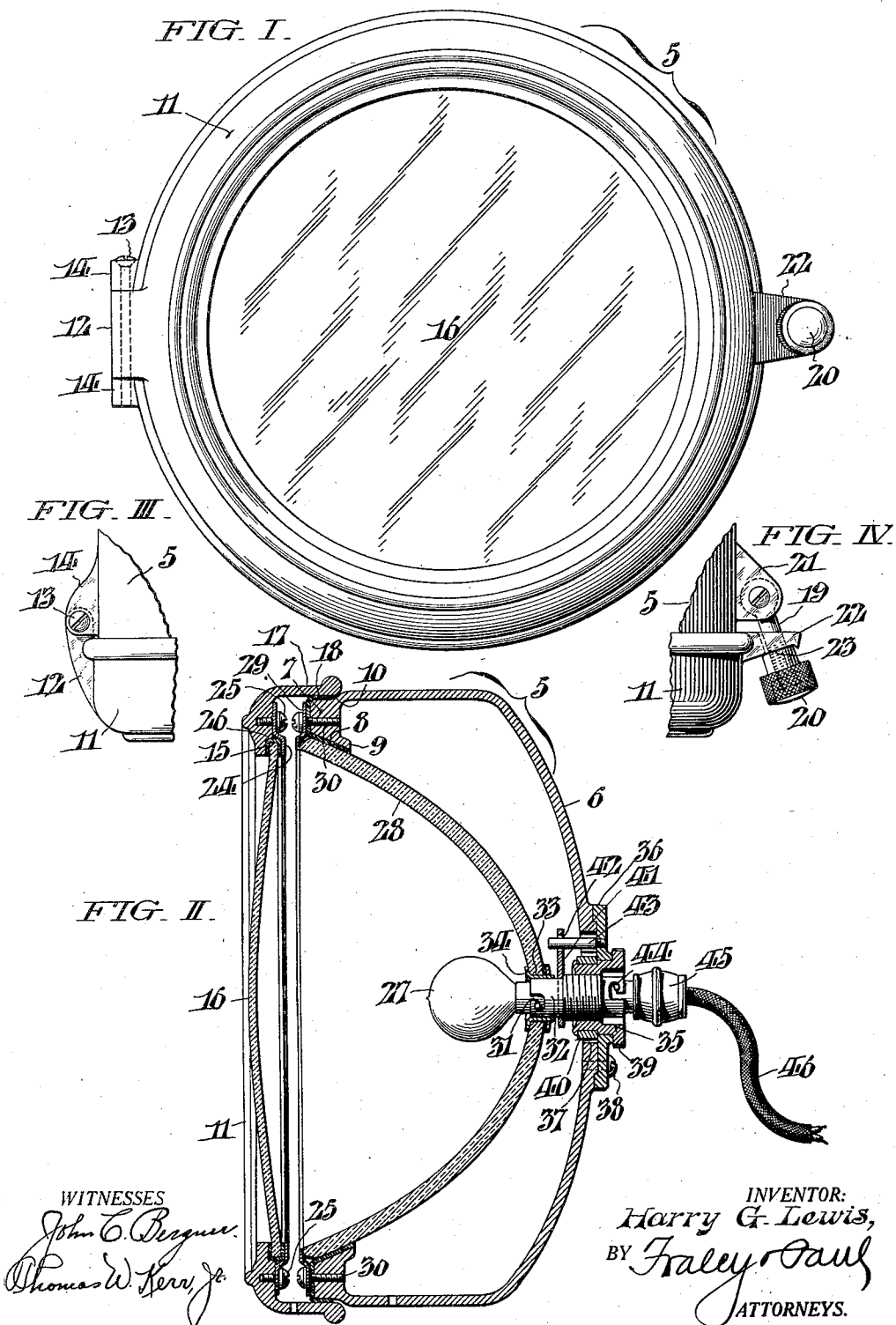
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HEADLIGHT

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UNITED STATES PATENT OFFICE

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HEADLIGHT

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This invention relates to vehicle headlights, particularly to the type employed upon automobiles.

More specifically speaking, it is concerned with structural refinements in a headlight, of the kind referred to, calculated to insure absolute water-tightness between the lens and cover and the casing; as well as affording good protective cushioning for the reflector against road shocks, thereby to enable use of frangible material in the construction of the latter.

Further objects of my invention are to facilitate focal adjustment of the illuminating lamp relative to the reflector so that this operation may be performed without necessity for access to the interior of the headlight; and to obtain this desideratum in a lamp support and associated adjusting means capable of removal as a unit from the headlight casing.

Additional objects and advantages will be readily apparent from the detailed description hereinafter of a typical embodiment of my invention illustrated in the accompanying drawings, whereof Fig. I is an elevation of the headlight as viewed from the front.

Fig. II is an axial sectional view of the same.

Figs. III and IV are fragmentary illustrations showing, respectively, the details of the hinge mounting, and the securing means for the lens door of the headlight.

In these illustrations, the casing of the headlight is generally designated 5, the same being cylindric or drum shaped with its back 6 rounded, or bowed outward somewhat, as shown. The front end of the casing 5 is open, and its edge thickened to afford an inwardly-projecting perimetric flange 7 which is substantially square in cross-section except for a slight internal inclined rounding at 8, and a rearward extending lip 9. At the region of the flange 7, a marginal portion of the exterior surface of the casing 5 is recessed as at 10 for a purpose which will presently become apparent. The open end of the casing 5 is closed by a door 11 formed at one side with a rearwardly extending lug 12 that is pivotally connected, by means of a screw pin 13, between spaced ears 14 projecting outward from said casing,

as shown in Figs. I and III. From Fig. II, it will be observed that the frame of this door 11 is in the form of an annulus appropriately configured with regard to its cross-section to provide a seat 15 for the lens 16, and a lateral circumferential flange 17 which is slightly flared as shown for overlapping wedge fit about the recessed marginal portion 10 of the casing 5. Fluid tightness is insured at this overlap juncture by a facing gasket 18 of compressible material such as felt or rubber, said gasket enveloping three faces of the flange 7 of the casing 5 whereto it is secured, in practice, by any suitable cementing medium.

As a means to clampingly maintain the door 11 in closed position, I employ at a point opposite the hinge mounting of the latter, a swivel bolt 19 (Fig. IV) with an associate thumb nut 20, said bolt being pivoted to an ear 21 on the casing 5, and the nut 20 engaging a lug 22 on the door. This lug 22 is clevised to receive the swivel bolt 19, and its outer face 23 is sloped to correspond with the angle of repose of said bolt, and recessed for retainment of the nut 20.

The lens 16 is held in place against the seat 15 by an overlapping keeper ring 24 secured to the cover by screws 25, an edge-enveloping cushioning gasket 26 being used as a protection for said lens.

The illumination from an incandescent bulb lamp 27 is projected through the cover lens 16 by a parabolic reflector 28 preferably constructed of glass or ceramic material. This reflector 28 is secured firmly in place against a seat afforded by the rounded internal circumferential face 9 of the flange 7 of the casing 5, by a clamp ring 29 which is in turn fastened by screws 30. In this connection it will be observed that the facing 18, previously referred to, serves in an additional capacity as a cushion to protect the reflector 28 against fracture under jars or road shocks. The usual form of bayonet lock 31 is used to removably secure the lamp bulb 27 within the socket 32 therefor, which, in the present instance, is longitudinally shiftable in an axial aperture 33 through the reflector 28, which aperture is preferably bushed by a metallic ferrule 34 to insure a

snug working fit. The central portion of the bulb socket 32 is threaded, as conventionally represented, to engage a regulating nut 35 which is rotatable in a plate 36, covering a central opening 37 in the back 6 of the casing 5, and attached by screws whereof one is indicated at 38 in Fig. II. The nut 35 is regulatable by a knurled circumferential enlargement 39 at its outer end, and held from axial displacement through cooperation of an inset ring 40 that engages the rear face of the plate 36. The socket 32 is prevented from rotating with the nut 35 by an attached arm 41 which is pierced at 42 for guidance by an inwardly projecting pin 43 anchored in the cover plate 36. At the outer end, the socket 32 affords bayonet connection 44 for the terminal plug 45 of the conductor cable 46 after standard and accepted practice. By virtue of the accessibility of the regulating nut 35 at the exterior, it will be apparent that the light bulb 27 may be focally adjusted relative to the reflector 28 without necessity for opening the lens door 11. It is also to be noted that by mounting the lamp supporting and adjusting mechanism directly on the plate 36, the whole may be withdrawn as a unit, simply by removal of the screws 38, the opening 37 being just large enough to afford the requisite clearance. When access is necessary to the interior of the casing 5 for the purpose of cleaning the reflector 28 or for lamp replacement, this may be had in an obvious manner, simply by releasing the swivel bolt 19 and swinging back the lens door 11 on the hinge connection 12, 14.

Having thus described my invention, I claim:

1. A headlight of the character described comprising a casing enclosing a parabolic reflector, a lamp socket extending into the casing having its central portion screw-threaded with its inner end guided for longitudinal shifting in an axial bushed opening of the reflector, a regulating nut constrained with respect to axial displacement but rotatably held by the casing and in operative engagement on the screw-threaded portion of the socket for the purpose of enabling focal adjustment of the lamp, an arm fast on the socket, and a stationary guide cooperating with said arm to prevent rotation of the socket incidental to its adjustment.

2. A headlight of the character described comprising a casing enclosing a parabolic reflector, a lamp socket extending into the casing and guided for longitudinal shifting in an axial opening of the reflector, a mounting plate detachably secured over a central opening in the back of the casing, a regulating nut constrained with respect to axial displacement but rotatably held by the plate and in threaded engagement with the socket for the purpose of enabling focal adjustment of the lamp, an arm fast on said socket, and a

cooperating guide pin anchored in the plate to prevent rotation of the socket incidental to its adjustment, said socket and the adjusting mechanism being removable from the casing as a unit with the plate aforesaid.

In testimony whereof, I have hereunto signed my name at Philadelphia, Pennsylvania, this 15th day of November, 1926.

HARRY G. LEWIS.