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J. E. CORNWALL
AUTOMOBILE HEADLIGHT
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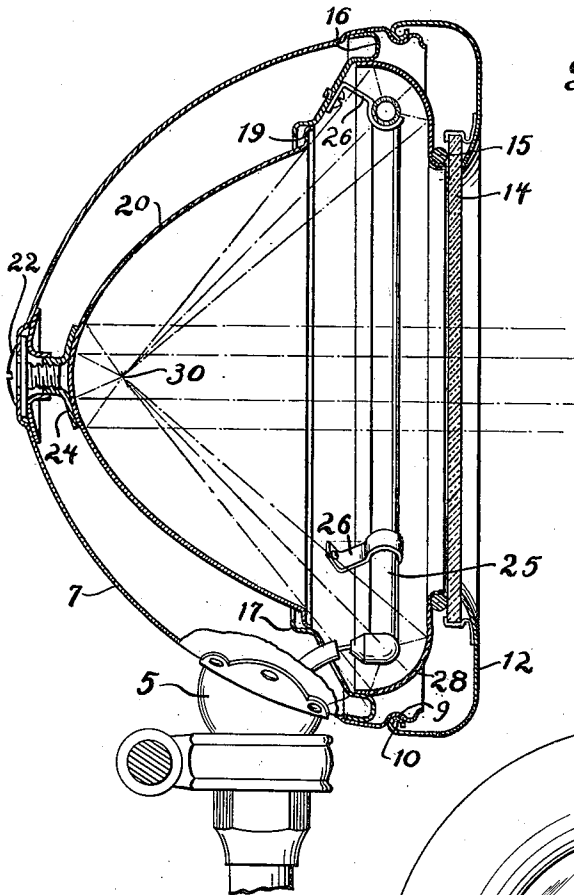


Fig. 1

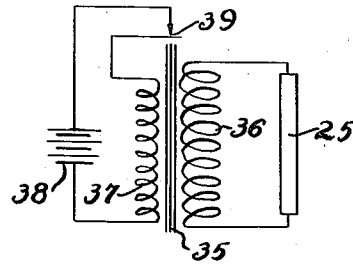
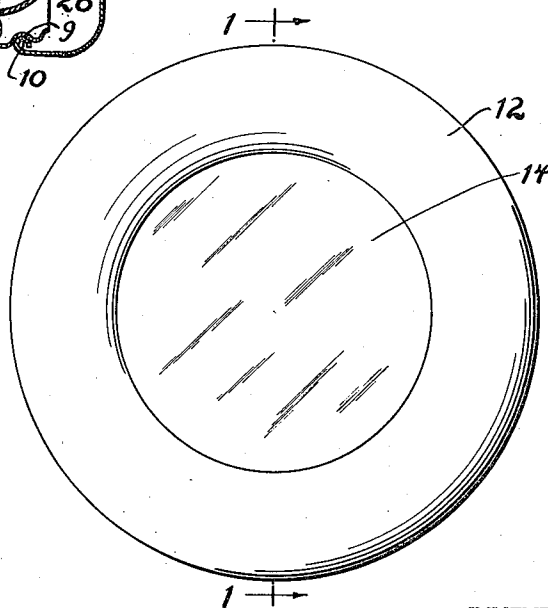


Fig. 3

Fig. 2



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AUTOMOBILE HEADLIGHT

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2 Claims. (Cl. 240—41.1)

This invention relates to illuminating means, and more particularly to the construction of an improved head or searchlight particularly adapted for use in vehicle headlamps, and adapted to throw a powerful reflected beam in a desired direction with a minimum of diffusion and dissipation.

A further object of the invention is the provision of a headlight incorporating a light source of novel form and arrangement, which light source is completely shielded from the direct view of persons facing the light, while the reflecting system is so designed that stray beams, which are frequently responsible for the very undesirable but often encountered glaring of headlights, are completely eliminated.

A further object of the invention is the provision of such a headlight utilizing as its source of light a luminous tube which is completely concealed from the direct view of persons facing the lamps.

Still another object is the incorporation in such a lamp utilizing a light source comprising a luminous tube, of novel means, for projecting the concentrated beam from said light source by means of a simple parabolic reflector, as if from a point source, which beam possesses the great penetrating power characteristic of the light generated by gas filled tubes, yet may be tinted somewhat, and the glare accordingly further reduced.

A still further object is the provision of a light construction incorporating the foregoing and other advantages, yet of very simple and inexpensive construction and conventional appearance, and in which novel focusing means and supporting structure of improved and simplified nature are provided.

Other objects and advantages will be apparent from the following description wherein reference is made to the accompanying drawing illustrating a preferred embodiment of my invention, and wherein similar reference numerals designate similar parts throughout the several views.

Figure 1 represents in vertical section, and somewhat diagrammatically, a headlight incorporating the principles of this invention;

Figure 2 is a front elevational thereof; and

Figure 3 is a schematic diagram showing suitable wiring connections for the lamp and electrically associated elements.

Referring now to the drawing, reference character 5 designates a supporting standard, which may be of the usual or any desired construction, preferably hollow for passage of the feed wires

for the lamp therethrough. Carried by the standard is a lamp casing or shell 7, which may be stamped or spun of sheet metal and of the conventional cupped or any suitable configuration. At its front extremity the shell is provided with a grooved and reduced portion 9, over which the bead 10 of a bezel 12 is adapted to be snapped and frictionally held, or secured in any other suitable manner. The bezel carries a transparent plate 14 which is urged thereby against a gasket 15.

Within the shell 7, near its open mouth, is an annular supporting element 16 which at its inner peripheral edge is provided with a substantially cylindrical portion 17 adapted to slidably support the outwardly flared rim 19 of a generally parabolic reflector 20. The reflector is movable axially of itself and the casing by means of an adjusting screw 22 extending through the back of the casing and threaded into a tapped sleeve 24 secured to and projecting from the rear of the reflector. It will be seen that by adjusting the screw 22 the reflector may be moved axially for focusing purposes, and that when so moved its rim 19 slides in the supporting portion 17.

Also carried by the supporting member 16, as by means of bracket members 26, is an annular luminous tube 25, which may be filled with any desired gas. The brackets 26 may be of resilient spring metal adapted to yield under unduly severe shocks and so prevent their transmission to the tube. The construction of the tube itself need not be considered in detail, since such details form no part of my invention and are already well understood. It is sufficient to say that the tube is adapted to glow when energized by a high-frequency current of electricity.

Arranged behind the bezel and partly surrounding the glow tube 25 is a reflector 28, generally of partly toroidal form, its shape and positioning being such as to focus the light emitted by the tube 25 at a point (30) within the casing substantially at the focal point of the parabolic reflector 20. It will be apparent that from this point the reflector 20 will throw the light forwardly in the form of a concentrated beam through the lens 14, and that the characteristics of the beam may be varied by adjusting the reflector, by means of screw 22, with relation to the point 30 at which the light from the luminous tube is concentrated. The inner edge of the reflector 28 may also support the gasket 15, as shown.

The tube 25 may be energized by means of a transformer, as 35, having a high voltage sec-

ondary 36 and a low voltage primary 37, supplied with pulsating direct current from a battery 38 in series with which is arranged a vibrating interrupter 39. The interrupter may of course
5 be actuated by the core of the transformer in the conventional manner indicated in Figure 3.

It will thus be seen that although the light source is of tubular form it is effectively focused to create a concentrated beam in a very simple
10 and effective manner, while the tube light itself is not only hidden from view and protected against injury, but the construction by which these advantages are attained is one in which the parts are of very simple and self-reinforcing
15 nature, numerous parts heretofore considered necessary being entirely eliminated while full adjustability and easy assembly and accessibility are provided for.

While it will be apparent that the illustrated
20 embodiment of the invention herein disclosed is well calculated to adequately fulfill the objects and advantages primarily set forth, it is to be understood that the invention is subject to variation, modification and change within
25 the spirit and scope of the subjoined claims.

What I claim is:

1. An illuminating device comprising a dished exterior casing having an open mouth and a substantially parabolic reflector therein, and axially
30 movable within the casing and having its free edge terminating short of the mouth of the casing, means for moving the parabolic reflector axially, an annular supporting member arranged within and substantially at the mouth
35 of the casing, a bearing portion carried by said supporting portion and slidably supporting and interfitting with the free edge of the parabolic reflector, a substantially annular luminable tube

carried by said supporting member adjacent the free edge of said reflector, another reflector of generally partly toroidal form carried by and interfitting with the opposite end of said supporting member and projecting between the tube
5 and open mouth of the casing, said last mentioned reflector being so disposed as to cast light from the tube toward the focal point of the parabolic reflector, and the latter being arranged to throw such light out the open mouth of the
10 casing, a transparent plate tightly connected to said partly toroidal reflector and to the casing and completing separate enclosure of the space within said reflectors and supporting member
15 and also closing the open mouth of the exterior casing.

2. An illuminating device comprising a dished exterior casing having an open mouth, a concaved reflector arranged and axially movable
20 in the casing, an annular supporting member arranged in and near the open mouth of the casing, a slideway portion carried by said supporting member and slidably interfitting with and supporting the free edge of the reflector, a
25 looped luminous tube also carried by said supporting member and extending around and near the free edge of the reflector, an additional annular reflector carried by and interfitting with the opposite end of said supporting means and
30 adapted to throw light generated by the luminous tube toward the first mentioned reflector, a transparent plate closing the open mouth of said exterior casing, and a portion providing
35 sealing connection between said additional annular reflector and the transparent plate and completing enclosure of the space within said reflectors and supporting member.

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