

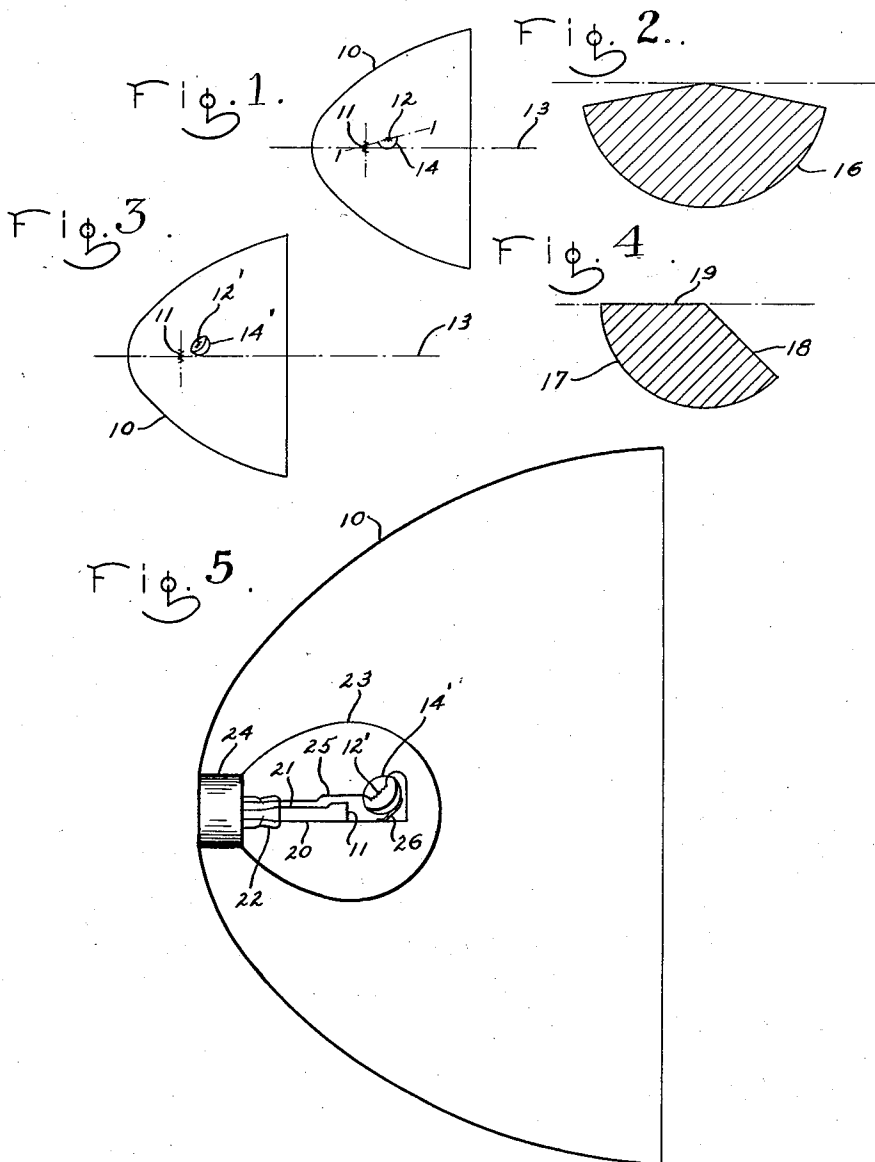
June 25, 1935.

W. HONING

2,006,140

ILLUMINATION

Filed Jan. 13, 1933



INVENTOR
WILHELM HONING
BY *Charles V. Vella*
HIS ATTORNEY

UNITED STATES PATENT OFFICE

2,006,140

ILLUMINATION

Wilhelm Honing, Eindhoven, Netherlands, assignor to General Electric Company, a corporation of New York

Application January 13, 1933, Serial No. 651,593
In Great Britain January 15, 1932

2 Claims. (Cl. 240—41.25)

My invention relates to illumination and more particularly to vehicle headlights and electric lamps therefor. Still more particularly my invention relates to a headlight having a lamp comprising a bulb having a light source therein and a concave reflecting shield disposed in juxtaposition therewith to produce a desired beam pattern. Electric lamps for headlights are known in which a concave reflecting shield is disposed below a filament within the bulb, the plane in which the open edge of said shield lies being horizontally disposed in the coinciding axes of the reflector and lamp, that is, the opening of the shield is directed at right angles to the said reflector and lamp axes. The said filament is disposed in advance of the focal point of the said reflector and, by means of the said shield located therebelow, a passing beam pattern is produced comprising a semi-circular cross section with a flat top to prevent glare above the horizontal. A second filament is generally disposed at the focal point of said reflector to project the light straight down the road for ordinary driving purposes. In contradistinction to this known construction, the object of the present invention is to provide a beam with a cross section comprising a sector with an angle smaller than 180° to insure a greater degree of freedom from glare. With the old beam pattern of semi-circular cross section a glaring light is thrown in an approaching driver's eyes when passing along a road which is not entirely smooth, due to the bouncing of the car and consequent elevation of the entire beam. According to my invention these objections are overcome by so disposing a reflecting shield in said lamp as to provide the said pattern having a cross section of a sector of less than 180° . The light in the upper portion of the quadrant in which the approaching driver is located is thus eliminated, so that even if a rough road is encountered, said approaching driver will not be subjected to a glaring light. Further features and advantages of my invention will appear from the following description of species thereof.

In the drawing Fig. 1 is a diagrammatic elevation of a headlight construction according to my invention and Fig. 2 is the beam pattern produced thereby; Fig. 3 is a diagrammatic elevation of a modification and Fig. 4 is the beam pattern produced thereby; and Fig. 5 is an elevation showing in detail, the construction in Fig. 3.

Referring to the drawing, the headlamp comprises a parabolic reflector 10 with a filament 11 at the focal point thereof. A filament 12 is disposed ahead of the focal point, and a concave re-

flecting shield 14, preferably semi-spherical, is located therebelow.

Referring to Fig. 1, the construction according to my invention comprises tilting the reflecting shield 14 so that the plane I—I passing through the edge of the opening thereof intersects the axis 13 of the reflector 10 at an acute angle, preferably about twelve degrees. This arrangement provides a beam pattern as illustrated by 16 (Fig. 2) which comprises a sector of less than 180° , resulting in a decrease of the glaring effect. The shield may be arranged so that the axis 13 of the lamp and reflector does not intersect it, or it may be placed in the said axis. Said shield may be made reflecting or dull and have any desired shape such as a trough or a hemispherical shape.

In Fig. 1, the normal to the plane I—I lies in the vertical plane passing through the axis 13. In Fig. 3 the shield 14' is so arranged that the normal to the plane passing through the edge of the opening thereof intersects the said vertical plane passing through the axis 13, that is, the shield opens out in a direction making an acute angle with said vertical plane. This arrangement produces the beam pattern 17 (Fig. 4) in which one of the radii 18 of the resulting sector makes an acute angle with the horizontal, while the other radius 19 extends horizontally. The limiting radius 18 is, of course, located on that side of the road upon which a vehicle is approaching, thus materially eliminating glare on that side, whereas, the other side of the road is fully illuminated.

The construction represented by Fig. 3, is shown in Fig. 5 in which the major filament 11 is mounted on lead wires 20—21 which are mounted on a stem press 22 in a bulb 23 having a base 24 mounted thereon. The filament 12' is mounted on the end of the lead wire 20 and on another lead wire 25 which is also mounted on the stem press 22. The shield 14' is mounted on a support wire 26 which is mounted on the lead wire 20.

What I claim as new and desire to secure by Letters Patent of the United States is:

1. An electric lamp comprising a bulb having a pair of light sources therein, one located ahead of the other, and a concave shield disposed below the foremost light source with the normal to the plane in which the edge of said shield is located making an acute angle with the horizontal plane passing through the longitudinal axis of said lamp, and also making an acute angle with the perpendicular plane passing through said axis.

2. A vehicle headlamp comprising a reflector

having a focal point, an electric lamp having a light source therein located substantially at said focal point, a second light source located ahead of said focal point, and a concave shield disposed below said second light source with the normal to the plane in which the edge of said shield is located making an acute angle with the horizontal plane passing through the axis of said reflector, and also making an acute angle with the perpendicular plane passing through said reflector axis, said shield being open toward the upper rear portion of said reflector.

WILHELM HONING.