

J. J. MARTIN.
 SCREEN FOR HEADLIGHTS AND OTHER LAMPS.
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1,141,718.

Patented June 1, 1915.

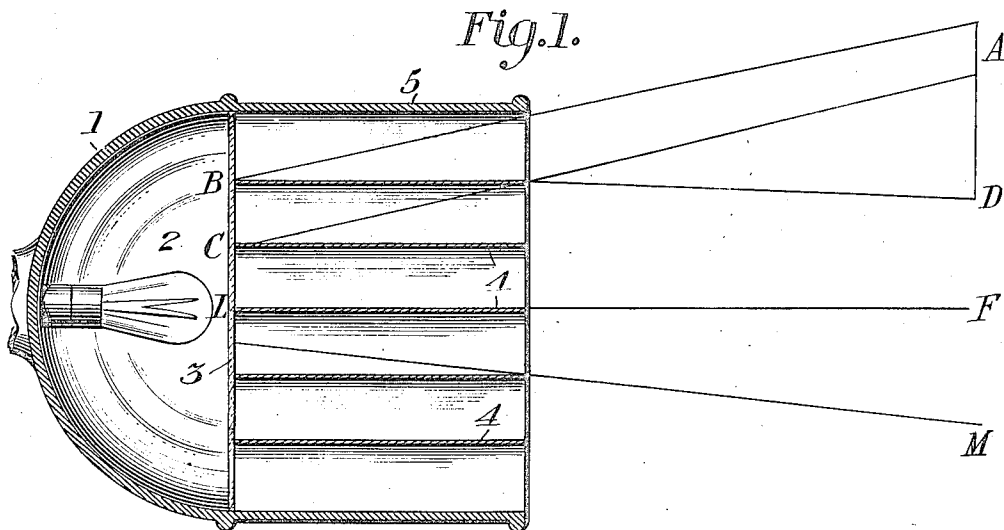


Fig. 2.

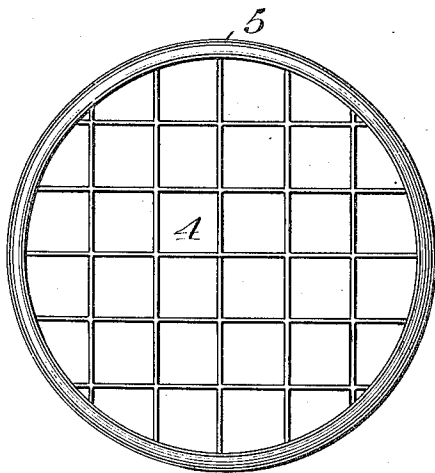
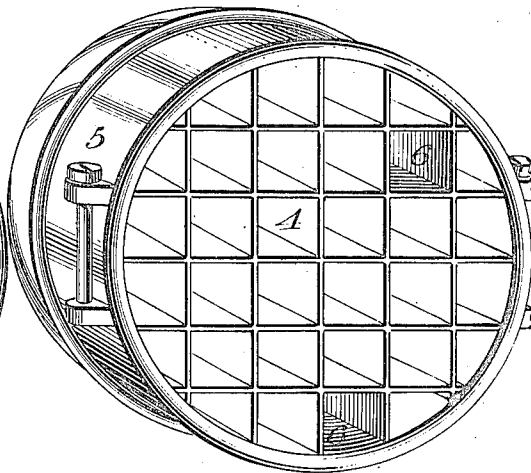


Fig. 3.



Witnesses

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SCREEN FOR HEADLIGHTS AND OTHER LAMPS.

1,141,718.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOHN J. MARTIN, citizen of the United States, residing at St. Louis, in the State of Missouri, have invented new and useful Improvements in Screens for Headlights and other Lamps, of which the following is a specification.

My present invention pertains to automobile and other headlights and other lamps such as are equipped with reflectors.

The general object of my invention is to provide on or in said lamps a screen that operates relatively, not absolutely, with a view to screening the reflected light in such manner as to practically eliminate the blinding and otherwise obnoxious glare, and this without diminishing the illuminating capacity of the light since the light rays are concentrated within the space where illumination is most needed. For instance from a view point directly in front of the screen and in a line with the axis of the reflector (see Fig. 1) the screen will be without effect, while the efficiency of the screen increases as the view point is shifted to one side or the other of said line. This is why I refer to the screen as calculated to operate relatively and not absolutely.

For the attainment of the foregoing the invention consists in an arrangement of thin, non-reflecting plates so placed and spaced apart as to permit the light to freely continue its course, which, in the case of light from a conventional parabolic mirror, is in the direction indicated by the axis of the curved surface, the said arrangement or screen operating to conceal the lamp mirror or reflector from an observer who is to one side of the plane of the lamp.

A secondary object of the invention is to provide a screen of the general character stated in which all surfaces of the thin planes or plates except the undersides of the horizontal planes are suitably made non-reflecting while the said undersides are finished or equipped to enable them to reflect any chance or abnormal rays downwardly and forwardly with a view to increasing the illumination of a roadway before an automobile. To the attainment of said secondary object I specifically use bright sheet-metal plates, and paint all surfaces dull black excepting the undersides of the horizontal plates which are left in a bright state.

With the foregoing in mind the invention

will be fully understood from the following description and claims when the same are read in connection with the drawings, accompanying and forming part of this specification, in which:

Figure 1 is a vertical longitudinal section showing one specific arrangement of a screen embodying my invention, relative to the light and reflector of a lamp. Fig. 2 is a face view of the same. Fig. 3 is a perspective showing a screen embodying my invention constructed in such manner that it can be readily applied to lamps such as at present in use, and also showing in two instances the manner in which all surfaces of thin and bright metallic plates are rendered non-reflecting except the undersides of the horizontal plates, the said undersides being left bright or being finished to reflect light.

Similar numerals of reference designate corresponding parts in Figs. 1 and 2 of the drawings, which will first be described.

The lamp may be of the conventional construction or of any other construction to which my novel screen is applicable. The construction shown comprises a casing 1, a mirror or reflector 2, and lens 3; and I would here have it understood that while I show the screen in front of the lens or glass of the lamp, such relative arrangement is not essential to the successful use of the screen, and, therefore, the screen may be arranged back of the lens or glass or the lens or glass may be altogether omitted without departure from the scope of my claimed invention. I would also have it here understood that my screen may be made in any form compatible with its purpose without departure from the scope of my claimed invention, though I prefer the form illustrated—i. e., a form comprising a group of rectangular plates or planes 4, intersecting one another and presenting a crate-like appearance. The said planes or plates are made very thin so as not to interfere appreciably with the forward passage of the light rays, and they are of a length corresponding to the size and character of the lamp equipped with the screen, the efficiency of the screen depending to a great extent upon the depth or fore and aft length of the planes or plates 4. With a view to practically doing away with the objectionable glare, I make those surfaces of the plates 4 which are liable to come within the field of vision of an observer located at the

side of the plane of the lamp, non-reflecting. Also, when deemed expedient, I provide in some suitable way for reflection from the remaining surfaces of the plates—
 5 *i. e.*, the undersides of the horizontal plates or planes, this to reflect incidental or abnormal rays of light to the roadway in front of the lamp. Some side and downward illumination may be provided for by
 10 giving the requisite spread to the sides and bottom of the casing 5 of the screen, but this I have deemed it unnecessary to illustrate.

In Fig. 1, the lines A—B and A—C show the lines of vision of an observer at A. It
 15 will be noted that both lines strike non-reflecting surfaces of the screening plates and completely eliminate all glare from the eye at the point A. The line M—L is the line of vision of an observer at M. To the eye
 20 of an observer at this point fifty per cent. of the reflecting surface is eclipsed, but the efficiency of the screen is considerably greater than fifty per cent. since a given amount of reflecting surface checkered with
 25 small dark areas produces far less confusing glare than an equivalent unbroken reflecting surface.

In Fig. 3 the sides and upper surfaces of the plates are made non-reflecting. This
 30 is shown by the shading in two interstices and is indicated by 6. It will also be observed that in Fig. 3 the screen is shown as an unitary article, readily applicable to headlights at present in general use.

35 For the sake of clearness of illustration, I have shown the planes or plates 4 of the screen much thicker than the planes or plates employed in the successful use of the device; it being understood that the planes
 40 or plates are extremely thin, for the purpose stated. It is also to be understood that the arrangement of the screen relative to the lamp casing and the specific construction of the screen, as well as the mode of fasten-
 45 ing the screen on or in the lamp casing are not of the essence of my invention, and that, therefore, any arrangement and construction compatible with the invention may be adopted without departure from the scope
 50 of the invention as claimed.

Having described my invention, what I

claim and desire to secure by Letters-Patent, is:

1. The combination with a lamp of the class described, of a crate-like screen ar- 55
 ranged transversely in front of the lamp and having spaced thin and vertical plates and spaced thin and horizontal plates and rectangular interstices, formed by said plates, all extending in the direction in 60
 which light is projected from the lamp and also having reflecting the lower surfaces of the horizontal plates and non-reflecting the surfaces of the vertical plates and the upper surfaces of the horizontal 65
 plates.

2. The combination with a lamp of the class described, of a screen arranged transversely in front of the light of the lamp and having a series of thin spaced planes 70
 and a second series of thin spaced planes disposed at angles to the planes of the first-named series, and interstices formed between planes of the two series, all extending in the direction in which light is pro- 75
 jected from the lamp and also having non-reflecting those surfaces of the planes which are liable to come within the field of vision of an observer at one side of the plane of the screen, and reflecting the under sur- 80
 faces of one series of planes.

3. The combination with a lamp of the class described, of a screen arranged transversely in front of the light of the lamp and having a series of thin spaced planes 85
 and a second series of thin spaced planes disposed at angles to the planes of the first-named series, and interstices formed between planes of the two series, all extending in the direction in which light is pro- 90
 jected from the lamp and also having non-reflecting those surfaces of the planes which are liable to come within the field of vision of an observer at one side of the plane of the screen. 95

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JOHN J. MARTIN.

Witnesses:

JOSEPH W. SCHLOEMER,
 EDWARD J. MONTI.