

Oct. 7, 1930.

A. LARQUEMIN

1,777,498

ANTI-GLARE SYSTEM

Filed Nov. 5, 1928

3 Sheets-Sheet 1

Fig. 1

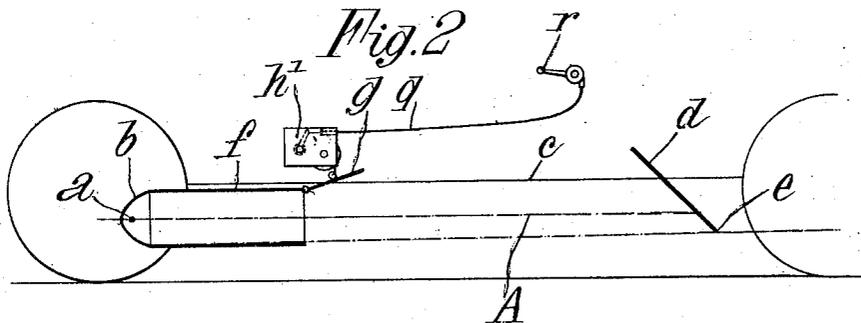
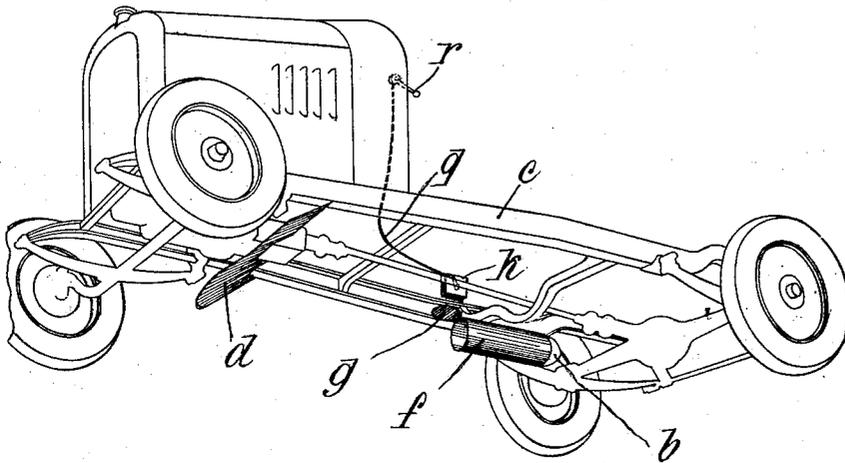
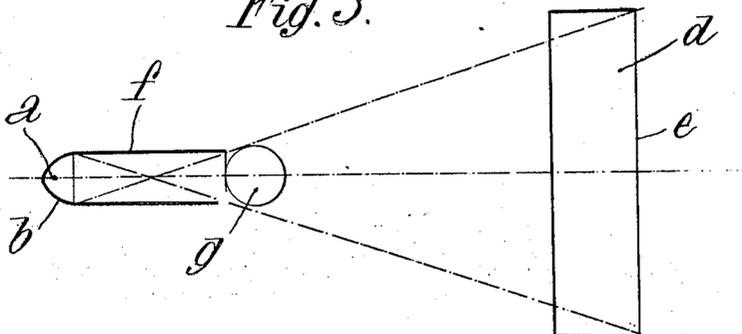


Fig. 3.



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Fig. 4

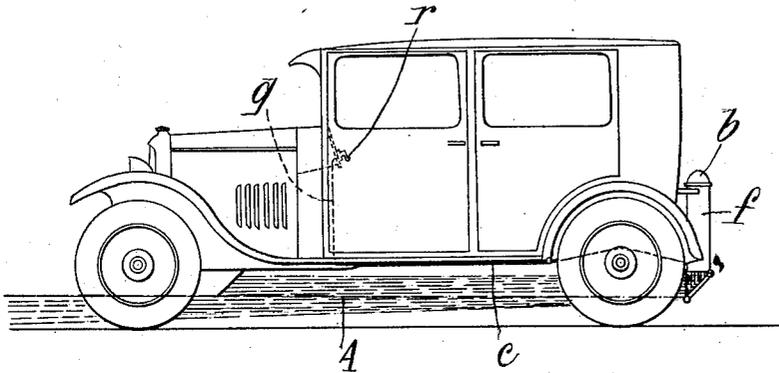


Fig. 5

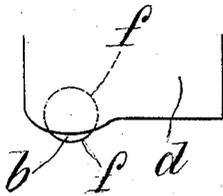
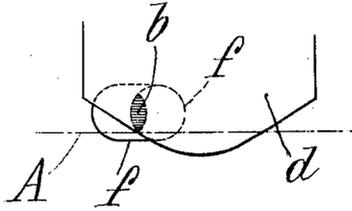


Fig. 6



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Fig. 7

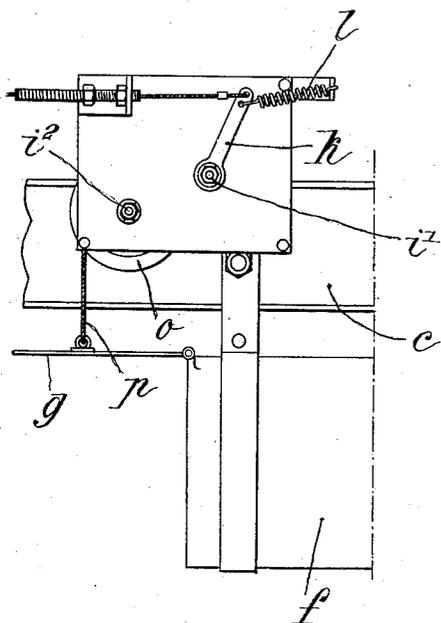


Fig. 8

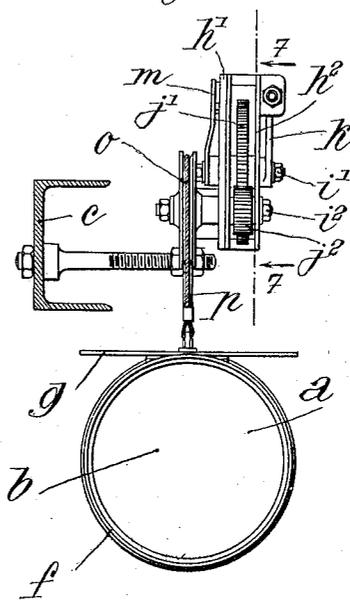


Fig. 9

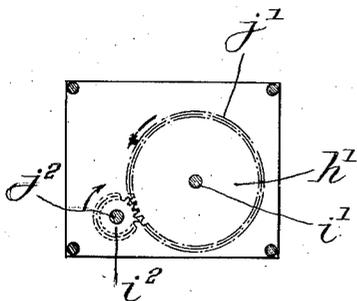
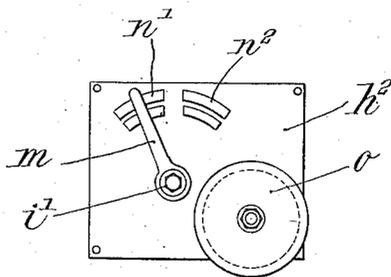


Fig. 10



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UNITED STATES PATENT OFFICE

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ANTI-GLARE SYSTEM

Application filed November 5, 1928, Serial No. 317,137, and in Belgium August 30, 1928.

The present invention relates to anti-glare systems for vehicle projectors.

One of the objects of the invention is to provide a positioning and screening system which eliminates any possibility of glare from the vehicle projectors.

Another object is to provide means for protecting the projectors.

Still other objects will appear in the course of the detailed description now to be given with reference to the accompanying drawings in which:—

Fig. 1 is a perspective of one illustrative embodiment of the invention;

Fig. 2 is a diagrammatic elevation of the same device;

Fig. 3 is a diagram, in plan, of the form of device illustrated in Figs. 1 and 2;

Fig. 4 illustrates a second constructive embodiment of the invention;

Fig. 5 is an end view of the projecting and screening assembly represented in the preceding figures;

Fig. 6 is an end oblique diagram of the assembly shown in Fig. 5;

Figs. 7 to 10 are details of the projector control.

Referring to Figs. 1, 2, 3, 5, 6 and 7 to 10 of the drawings, there is shown a light source *a*,—a parabolic reflector *b*, source *a* being positioned at the focal point of *b*,—a screen *d* positioned in front of the projector assembly and having a lower edge *e* adapted to cut off the upper part of the light beam,—a protecting cylinder *f*,—a hinged door *g* adapted to close the front end of *f*,—and a combined control for door *g* and source *a* consisting of a pair of lateral supports *h*¹, *h*²,—a pair of shafts *i*¹, *i*², supported on *h*¹ and *h*²,—a pair of gears *j*¹, *j*² keyed to *i*¹ and *i*² respectively, gear *j*¹ having a larger radius than *j*²,—a lever *k* (moving against the action of spring *l*) and a contact *m* keyed to shaft *i*¹, contact *m* being insulated from the latter,—a pulley *o* keyed to shaft *i*²,—two series of contact points *n*¹ and *n*² mounted on *h*² and positioned so that in its two extreme positions, *m* short circuits pairs of contacts *n*¹ or *n*²,—a cable *p* connected to door *g* and passing over pulley *o*,—a

flexible cable *q*,—and a control lever *r* adapted to move lever *k* to either of its extreme positions.

The device shown in Fig. 4 differs from those represented in the remaining figures only in the position of the projector which is, here, mounted behind the vehicle and provided with a mirror or prism positioned to direct the light beam forwardly and under the latter.

Whether the form of projector shown in Fig. 4 or in the other figures be employed, the axis of the light beam emanating therefrom should have a direction (1) substantially parallel to the longitudinal center line of the vehicle, (2) either parallel to or, preferably, slightly inclined towards, the ground and (3) as low as operation over ordinary roads permits. In addition, projector *b* should be placed as far back as possible.

The projector is either suspended from the chassis or from the rear of the vehicle and its screen *d* is attached under the vehicle as far forward as possible. In actual practice it is found that the distance between screen *d* and mirror *b* should not be less twice the diameter of *b* and, if possible, should be placed at a distance eight times this latter diameter. The lower edge *e* of screen *d* should extend (1) far enough laterally to cut off the laterally expanded upper portion of the light beam and (2) towards the ground so as to reach a limiting plane A (Fig. 2) below which glare is allowable and, above which, glare is not to be permitted. The position of plane A may be varied with conditions but, preferably, edge *e* and the beam are adjusted so that said plane rises very slightly from the horizontal as the beam moves forward (Fig. 5) but remains below the limit for which it is desired to eliminate glare until the beam is far enough in front of the vehicle to diminish any remaining glaring effect below the limit of danger.

The length of tube *f* may vary from one and one-half to eight times the diameter of the projector and its form may be either cylindrical or that of a cylinder flaring out into a flattened horizontal portion near its free extremity.

It will be noted that cylinder f acts to cut off lateral glare from the projector. When it is used in combination with screen d , the lower edge e of the latter may be raised laterally (Figs. 5 and 6), since the lateral portions of the mirror (Fig. 6) are cut off from the line of sight by element f , the amount of light projected on the road being thus increased.

If possible, screen d should be positioned slightly behind the front wheels so as to act as a mudguard preventing dirt from the road being projected by said wheels into tube f . The screen may be inclined at 45° to the road so as to project the beam cut off down onto the latter and provide a source of diffused light tending to diminish the sharpness of the shadows produced by the direct beam.

The manner in which the assembly shown in Figs. 7 to 10 operates is as follows:—a circuit controlling a pair of ordinary front dimmed lights is connected to one pair of contact points n^1 or n^2 and a circuit controlling projector a , b to the other. The electrical connections are arranged so that when lever r is actuated to close door g , contact m moves off of the pair of contact points closing the circuit to projector b and onto the pair of points closing the circuit to the dimmed lights.

The simple movement of lever r in one direction therefore closes door g , extinguishes projector b and lights the dimmed lights, while its movement, in the opposite direction, opens door g , illuminates the projector and extinguishes the dimmed lights.

It is to be understood, of course, that screen d need not form a detached structure. The various operative elements and casings normally positioned under a vehicle may be shaped to perform the function thereof.

What I claim is:—

1. In combination with a vehicle, means for projecting a light beam thereunder, a continuous opaque screen separate from, and independent, of said means rigidly positioned in the path of said light beam and forming an angle less than 90° with the axis of said beam.

2. In combination with a vehicle provided with front and rear wheels, means for projecting a light beam under said vehicle positioned towards the rear end of the latter, and a screen rigidly positioned in the path of said light beam and between the front and rear wheels, said screen being inclined to a horizontal plane.

3. In combination with a vehicle, a projector positioned to project a beam under the vehicle, a tube connected to the front of said projector, a door adapted to cover the free end of said tube, and means operative to simultaneously move said door into closed position and extinguish said projector.

4. In combination with a vehicle a light projector positioned to direct a beam under

the vehicle, a tube connected to the front end of said projector, and a screen independent of said tube of greater width than the maximum section of the latter, said screen being positioned to intercept the upper portion of the beam issuing from said tube and having a lower edge extending downward a greater distance near the axis of the light beam than at points lateral to the latter.

5. In combination with a vehicle, a light projector positioned to direct a beam under the vehicle, a tube connected to the front end of the projector and limiting the lateral spread of the projected beam, and a single continuous opaque screen independent of said tube rigidly positioned in advance of the latter and formed so as to cut off the upper portion of the projected beam.

In testimony whereof I have signed this specification.

ADOLPHE LARQUEMIN.