R. T. NEWTON.

GLARE SCREEN.

APPLICATION FILED FEB. 25, 1920.

1,408,386.

Patented Feb. 28, 1922.

2 SHEETS—SHEET 1.

Fig. 1.

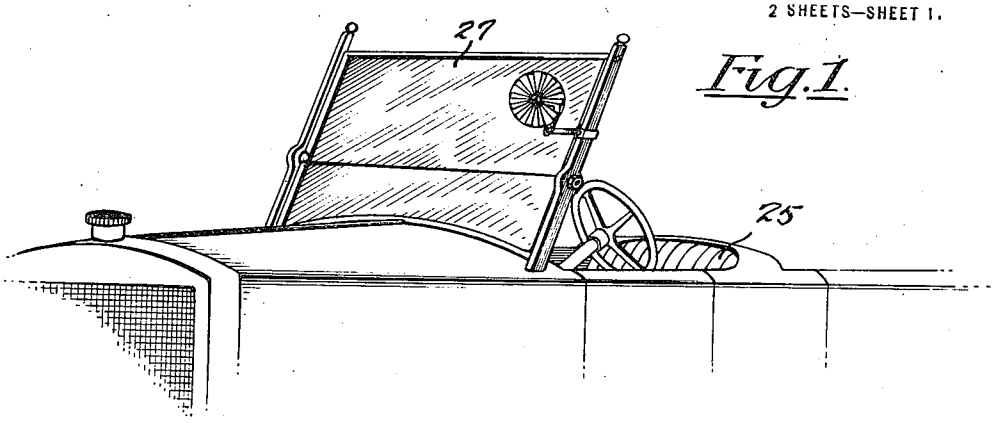


Fig. 2.

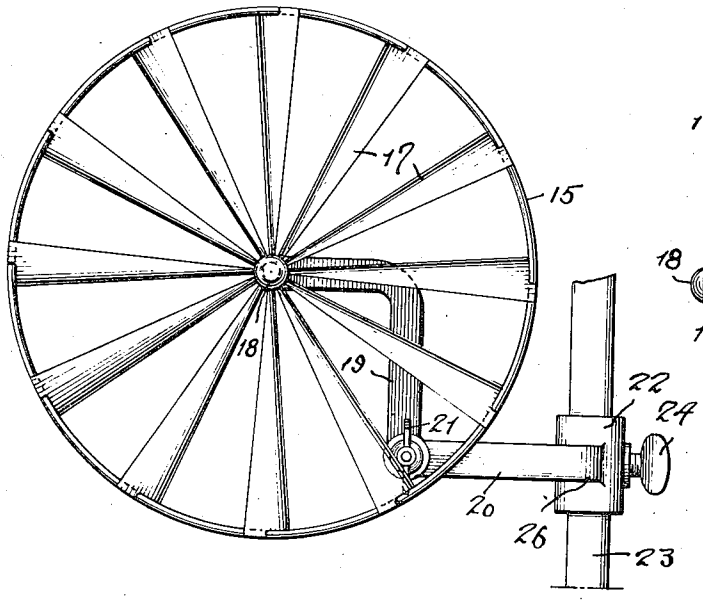


Fig. 3.

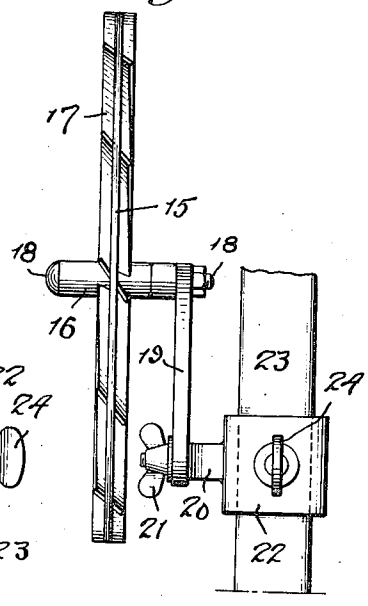
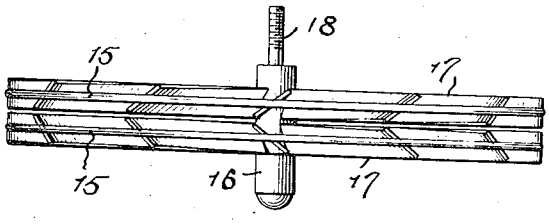


Fig. 4.



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2 SHEETS—SHEET 2.

Fig. 5.

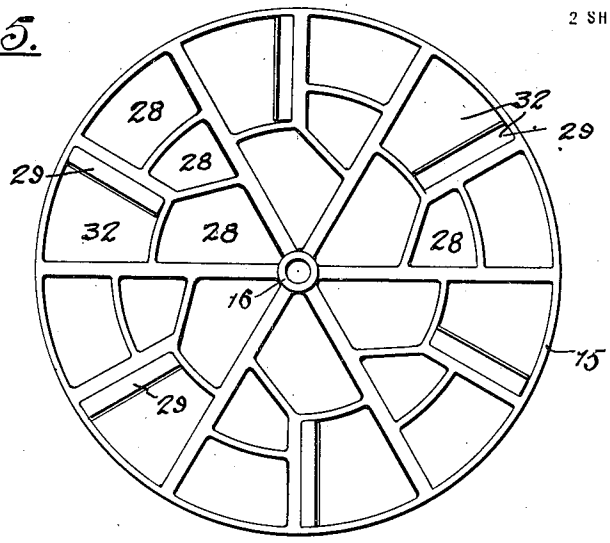


Fig. 6.

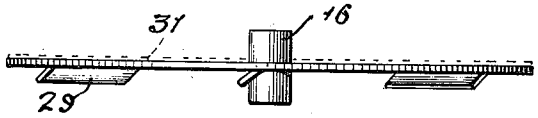


Fig. 7.

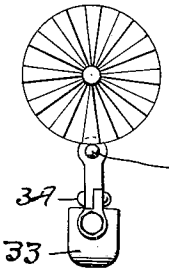
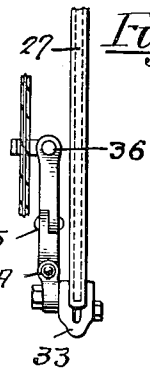


Fig. 8.



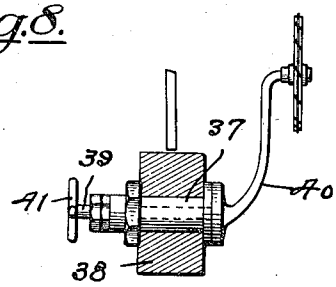
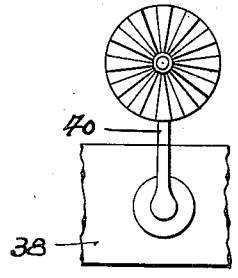


Fig. 9.

Fig. 10.



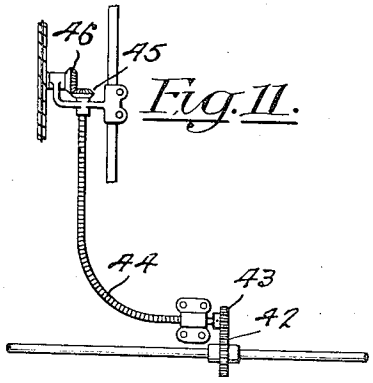


Fig. 11.

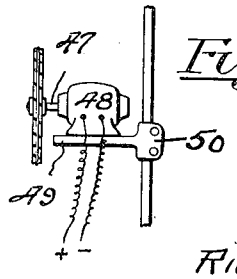


Fig. 12.

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UNITED STATES PATENT OFFICE.

RICHARD T. NEWTON, OF NEW YORK, N. Y.

GLARE SCREEN.

1,408,386. Specification of Letters Patent. Patented Feb. 28, 1922.

Application filed February 25, 1920. Serial No. 361,135.

To all whom it may concern:

Be it known that I, RICHARD T. NEWTON, a citizen of the United States of America, residing in the city, county, and State of New York, have invented certain new and useful Improvements in Glare Screens, of which the following is a specification.

My invention relates to glare screens, and particularly to a device of this character applicable to automobiles. The object of my invention is to provide an intermittent light interrupter which may be arranged at a suitable point in front of the driver's seat, and of such construction that it cuts off a sufficient portion of the light rays from the lamp of an approaching car to eliminate its objectionable or blinding glare, without interfering materially with the driver's vision. Preferably, the screen is rotary, and may be driven either automatically by the rush of air therethrough when the car is in motion, or positively by a suitable motor connection. Preferably, also, the device is in the nature of a self-contained appliance adapted to be mounted in suitable position upon the usual wind-shield frame, and is of such construction that it may be not only adjusted to the requirements of the driver, but also moved to an out-of-the way position when not needed.

In the accompanying drawings—

Fig. 1 is a perspective of portion of an automobile showing mounted on the wind shield a glare screen in which my invention is embodied in one form;

Figs. 2 and 3 are respectively front and side elevations of the glare screen drawn to a larger scale;

Fig. 4 is a plan of a modified construction of the screen;

Figs. 5 and 6 are respectively front and plan views of a further modified construction of the screen;

Figs. 7 and 8 are respectively front and side elevations of a modified construction of the attaching bracket;

Figs. 9 and 10 are respectively side and front elevations of a further modification of the attaching bracket, particularly suitable for use in an enclosed car;

Figs. 11 and 12 are more or less diagrammatic side elevations showing different positive drive connections for the screen.

To lessen the blinding glare from the head lights of an approaching car, various modifications in the construction of the lens or other appurtenance of the lamp have been suggested. Many of these have not proven satisfactory for the purpose, however, and a great many cars moreover are not provided with head lights so guarded. It has also been suggested that panels of colored glass be inserted in the wind shield in front of the driver's seat to cut down the glare of an approaching light. These panels, however, are more or less unsightly, and detract from the appearance of the car in day time. Moreover, they require a special construction of the wind shield, which adds materially to the expense of this portion of the car.

The present invention provides an inexpensive attachment, readily placed in position or removed, and by which a sufficient portion of the light from an approaching car is cut off to shield the driver's eyes from glare. The underlying thought of the invention is an intermittent interruption of the light rays, of sufficient frequency to eliminate glare, while at the same time insuring unobstructed vision of the roadway. The invention may be carried out in various ways, but the simplest and best embodiment appears to be in the form of a rotating screen.

In Figs. 1–3 the present glare screen in its simplest form is illustrated. As here shown it comprises an annulus 15 forming a rim between which and the hub 16 extends a series of light-obturating vanes 17. The latter are set at an angle to the plane of the screen so that they may serve as vanes to rotate the screen on its axis. While the area of the vanes may be varied, I have shown them of such size that they occupy about one-third of the shield area lying within the rim 15. They thus cut off practically a third of the light rays from the head light of the approaching car. This is ordinarily sufficient to eliminate its glare.

The hub of the screen is mounted on a bearing pin 18 carried by a swinging arm 19 pivoted on the bracket 20 and held in adjusted position by the clamping nut 21. The base 22 of the bracket is channelled to engage the side upright 23 of the wind shield frame and is held in adjusted position by a set screw 24. The shield is shown mounted in Fig. 1, and is adjustable vertically or laterally to meet the requirements of the driver seated at 25. If desired the bracket arm 20 may be pivoted to the base 22 at 26 so that the screen may be swung out of the way of the upper portion of the wind shield 27 when the latter is raised,

after which the shield is returned to position.

In the modified construction shown in Fig. 4, two rotary units are used with their vanes 17 facing in opposite directions, to cause the units to rotate in opposite directions.

In Fig. 5 the screen is further modified by dividing its area into irregularly shaped spaces of different area and contours. Vanes 29 may be arranged at the margins of certain of these areas to drive the screen when the car is in motion. The area of the framework may be made sufficiently great in itself to afford the requisite interruption of the light rays. It may be made lighter, however, if the spaces 28 are filled with colored glass, celluloid or the like. A simple method of effecting the latter is indicated in Fig. 6, in which a sheet 31 of celluloid or glass (properly apertured at the spaces 32 to admit air to the vanes 29) is secured on one face of the screen. In a construction of this type the presence of the shield is practically unnoticeable to the driver save by the fact that at its area the glare of the approaching light is eliminated. The color of the shield openings may be uniform, or it may be varied to produce a blended color when in operation, that is not only effective as a glare screen, but also restful to the eye. Such a screen is useful on long drives in bright daylight.

The mounting for the appliance may be of any suitable character. In Figs. 7 and 8 I have shown a clamp 33 adapted to engage the margin of the wind shield frame. Joints 34, 35 and 36 in the screen area afford manual adjustment for the screen or permit it to be swung entirely out of the way of the wind shield.

The mounting indicated in Figs. 9 and 10 is primarily designed for closed cars. A bushing 37 passed through the top of the dash 38 affords a bearing for the stem 39 of the screen arm 40, while a handle 41 located at the end of the stem within the car body enables the driver to swing the screen arm on the axis of its stem.

While I have indicated that the screen may be rotated by the passage of air therethrough, it may also be positively rotated, and in the latter case, driving vanes 17 or 29 would not be requisite. In Fig. 11 the drive is taken through gear 42 on a spindle driven by some motor element of the car. The pinion 43 meshing therewith rotates the flexible shaft 44, and a bevel gear 45 at the opposite end of the latter drives the screen through a cooperating bevel gear 46 on its spindle. In Fig. 12 the screen is mounted on the spindle 47 of a small electric motor 48 carried by the arm 49 of a bracket 50 adapted to be mounted on the wind shield side frame.

In all the constructions the underlying thought is present, viz., that the screen effect is secured by an intermittent interruption of the light rays, which, while sufficient to eliminate glare, does not materially impair the driver's vision. Various other constructions, in which the invention is embodied, will readily occur to those skilled in the art, without departing from what I claim as my invention.

I claim—

1. For use with an automobile or the like, a glare screen adapted to be arranged in the line of vision of the driver and comprising a rotary element subdivided into a series of light-obstructing areas of irregular and different shapes which serve, during the rotation of said element, to minimize glare without materially limiting vision through the screen.

2. For use with an automobile or the like, a glare screen adapted to be arranged in the line of vision of the driver and comprising a rotary element subdivided into a series of light-obstructing areas and interposed colored translucent areas which serve, during the rotation of said element, to minimize glare without materially limiting vision through the screen.

3. For use with an automobile or the like having a wind shield, a self-contained attachment comprising a rotary glare screen, an adjustable bracket carrying the same and adapted to mount the screen adjacent the wind shield in the line of vision of the driver, and a rotary element subdivided into a series of light-obstructing areas which serve, during the rotation of said element, to minimize glare without materially limiting vision through the screen.

4. The combination with an automobile having a wind shield, of a glare screen comprising a wind-driven rotor having light obstructing areas, and means for mounting the same adjacent the wind shield in the line of vision of the driver.

5. The combination with an automobile having a wind shield, of a glare screen, comprising a member having light obstructing areas of irregular and different shapes, and means for rotating the same.

6. The combination with an automobile having a wind shield, of a glare screen, comprising a rotary member having vari-colored translucent areas.

7. The combination with an automobile having a wind shield, of a glare screen comprising a flat disc with light obstructing areas, means for rotating the same, and an adjustable bracket to hold the same in the line of vision of the driver.

In testimony whereof I have signed my name to this specification.

RICHARD T. NEWTON.