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S. BRAUNER
ANTI-GLARE DEVICE
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3,174,398

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Fig. 1

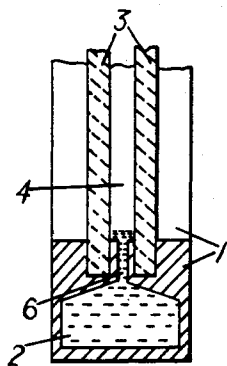


Fig. 2

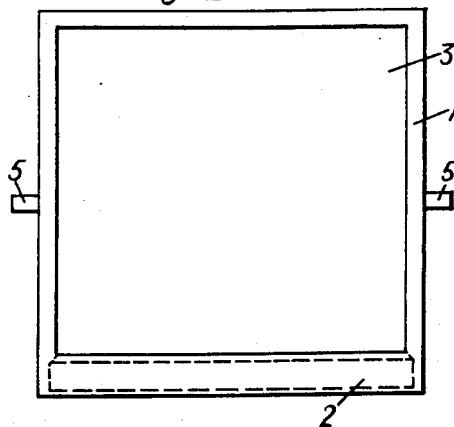


Fig. 3

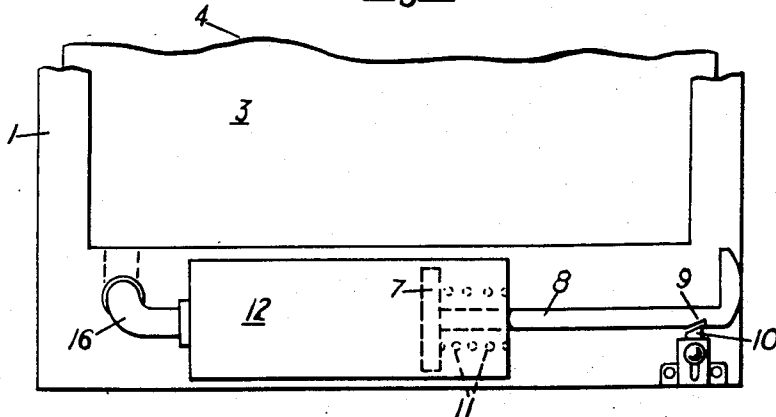


Fig. 4

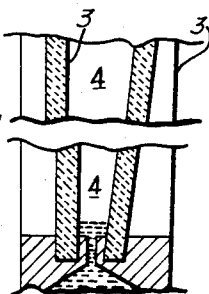
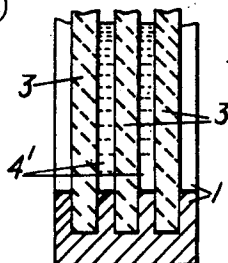


Fig. 5



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ANTI-GLARE DEVICE

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1 Claim. (Cl. 88-107)

To protect a driver against the glare of the headlamps of oncoming vehicles quite a number of devices and methods have been proposed. Shades and screens of various kinds, Polaroid glass panes, mirrors, are used for protection. According to another concept the headlamps of a car are sometimes so designed as to restrict the cone of their beam to ply over one-half of the road only. Each of these means has certain drawbacks. Translucent or transparent shades, if too dark, obstruct the view more than permissible and, if too light, give only insufficient or no protection.

It is an object of the present invention to provide a shade or blind transparency of which can be changed at will so that it can serve against the rays of the sun as well and, when being made fully transparent, does not obstruct the view. The use of such a shade is, of course, not limited to motorcars. It can serve on any window instead of window blinds.

According to the invention, there is provided a light filter screen particularly for use as an anti-glare device in motor vehicles or like structures. The device comprises two transparent panes separated from each other and defining a space therebetween. The panes are disposed to provide a greater space at the upper portion than at the lower portion. A receptacle is provided containing a colored fluid, the receptacle communicating with the space between the panes enabling the colored fluid to flow between the receptacle and the space. A piston is disposed in the receptacle and is movable from a first position to a second position to pump the colored fluid from the receptacle to the space. There is further provided spring means urging the piston to one position, and releasable latching means latching the piston in the other position. Thus, it is only necessary to move the piston, or to release the latch, to cause the piston to pump the colored fluid from the receptacle into the space (or vice versa), whereby a light filtering screen is produced having greater screening effect at the upper portion than at the lower portion.

The fluid may be any suitable dye in an aqueous or in an oily solution. Or there may be two such solutions accommodated together in the space between the panes. Due to their different specific density they will come to rest one above the other. If their colours are different this would result in different shades for, say, the top half and the bottom half of the screen.

The quantity of the fluid used in a screen is substantially equal to the volume of the said space between the panes. If there is a container of similar volume provided beyond one edge of the said space and in connection therewith, the fluid will, by operating the piston in one direction, collect therein, leaving the space between the panes fully transparent. The screen can then serve as an ordinary window. By operating the piston in the other direction the screen will again assume its more or less dark hue as the fluid will seep from the container back into the space between the panes.

Another possibility within the scope of the invention is the provision of three parallel panes of plain glass creating between them two parallel, separated hollow spaces. Each of these could be filled with a differently coloured fluid and emptied at will.

According to a feature of the invention the two panes are not strictly parallel. They are spaced a little greater at one edge than at the opposite edge. If the space be-

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tween them is now filled with a coloured fluid the latter will appear darker in the wider part of the space and lighter in the narrower part. Such a screen could be used so as to make its upper portions less transparent than its lower portion, to shut out the glare from the blue sky and give at the same time a more or less clear view of the road ahead.

These and other features will become clear from the following detailed description in connection with the drawings, showing the new screen in a schematic manner.

FIG. 1 is a fractional, elevation section of the new screen.

FIG. 2 shows the new screen in a frontal view.

FIG. 3 is a frontal view of a fraction of a screen according to the invention with some accessories thereto.

FIG. 4 is a fractional sectional view of a preferred form of screen for use in the embodiment of FIG. 3.

FIG. 5 is a sectional view of a slightly varied form of the said screen.

The new light filter screen is composed of a frame 1, in the lower side of which is arranged a receptacle 2 for the coloured fluid. In the frame 1 are held two panes 3 at a distance from one another and thus defining an empty space 4 between them communicating with receptacle 2. As can be seen from FIG. 2 the screen as a whole may be suspended from two gudgeons 5 so that it can be turned about a horizontal axis through 180°. In the position shown in FIG. 2 the fluid in receptacle 2 cannot flow into space 4 and the screen is fully transparent. On turning the screen through 180° so that the receptacle 2 comes to lie uppermost, the fluid flows from there through a duct or ducts 6 (see FIG. 1) into space 4 and the screen becomes less transparent, coloured and thus offers protection against strong light and glare.

A more elaborate construction is shown in FIG. 3. Here the receptacle 12 is affixed to one side of the frame 1 and is in communication with the space 4 by a pipe 16. In the receptacle 12 moves a piston 7 the rod 8 of which extends into the open at one end. Piston 7 is movable from a first position to a second position to pump the coloured fluid from the receptacle 2 to the space 4. The rod is provided near its end with a nick 9 which can be engaged by a pawl 10. In the position shown in FIG. 3 the liquid is fully in receptacle 12 the piston 7 being withdrawn to the extreme outer position. Accordingly the rod 8 has moved across the pawl 10 and had become engaged by nick 9. A spring 11 is provided urging the piston 7 inwardly. When it is intended to have the fluid enter the space between the panes, the rod 8 is disengaged from the pawl 10 so that the spring 11 pushes the piston inwardly, pumping the fluid into the space between the two panes. When it is intended to have a fully clear screen the rod 8 is pulled out, whereupon the liquid flows down into receptacle 12.

The screen, as shown in FIG. 4, is particularly for use as an anti-glare device in motor vehicles or other structures. In this case, the panes 3 are disposed so as to be non-parallel, thus providing a space 4 of greater width at the upper portion than at the lower portion, whereby when the piston 7 is operated to pump the coloured fluid into the space, the light filtering screen produced has greater screening effect at the upper portion than at the lower portion.

FIG. 5 illustrates a frame 1 in which are held three panes 3, thus creating two spaces 4'. As has been explained above these two spaces may contain different fluids, i.e. of different colour or of different density.

There are many modifications possible within the scope of the invention. The screen need not be rectangular. It may have any suitable outline as known with screens

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or blinds. It may be turnable about any desired axis and in any direction, dependent on the special use to which it may be put. A small vent may be provided on top of space 4.

What I claim is:

A light filter screen particularly for use as an anti-glare device in motor vehicles, comprising, two transparent panes separated from each other and defining a space therebetween, said panes being disposed to provide a greater space at the upper portion thereof than at the lower portion thereof, a receptacle for containing a colored fluid, said receptacle communicating with said space enabling the colored fluid to flow between the receptacle and said space, a piston disposed in said receptacle and moveable from a first position to a second position to pump the colored fluid from the receptacle to the space, spring means urging the piston to one position, and releasable latching means latching the piston in the other position, whereby when said piston is operated to pump the colored fluid from the receptacle into the space, a light filtering screen is produced having

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greater screening effect at the upper portion thereof than at the lower portion thereof.

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