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Niwa

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# [54] SCREEN FOR A WINDOW-PANE OF THE REAR WINDOW OF A MOTOR-CAR

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[21] Appl. No.: **55,275**

**Related U.S. Application Data**

[63] Continuation-in-part of Ser. No. 834,604, Jan. 10, 1969, abandoned, which is a continuation of Ser. No. 407,755, Oct. 30, 1964, abandoned.

[30] **Foreign Application Priority Data**

Nov. 5, 1963 Japan .....38/83165

[52] **U.S. Cl.** .....**296/97 F,** 161/1, 350/276, 52/203, 156/163, 52/171, 161/6

[51] **Int. Cl.**.....B60j/3/00; B44f/1/00; G02b/27/00

[58] **Field of Search**.....161/6, 149, 1, 213, 408, 9; 350/276; 296/97 R, 97 J, 97 G, 97 F, 97 D

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*Primary Examiner*—Douglas J. Drummond
*Attorney*—McGlew and Toren

[57] **ABSTRACT**

This invention discloses a screen for a window-pane of the rear window of a motor vehicle or the like which is formed of a transparent colored sheet of synthetic resin to prevent the passage of direct sunlight and thermic rays, the formation of mist on the window-pane and the dazzle by head lights of succeeding cars at night. The screen being made of a single sheet of rather flexible and rigid synthetic resin and having the same shape and at least the same size as the extended surface of the curved window-pane, it is fitted to said window-pane in surface to surface contact adapting the entire contour thereof in strut bridging.

**2 Claims, 3 Drawing Figures**

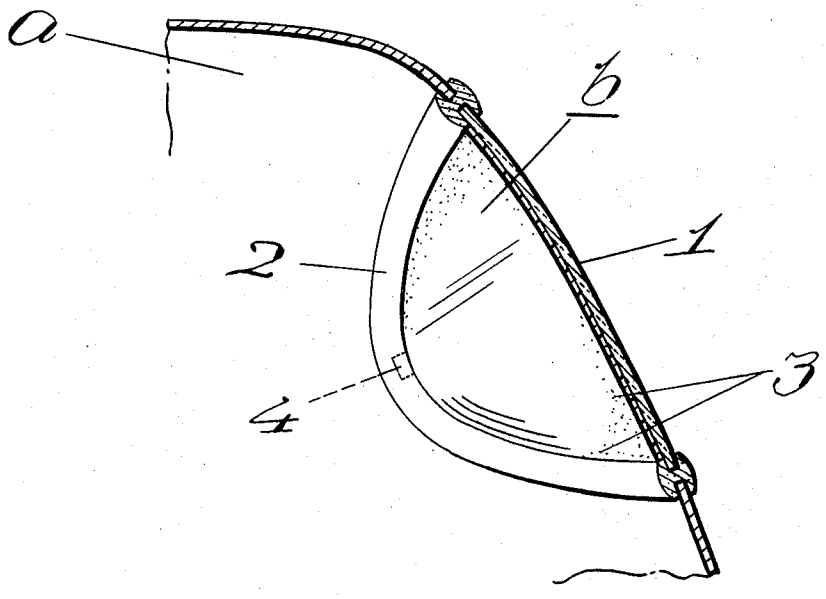


Fig. 1

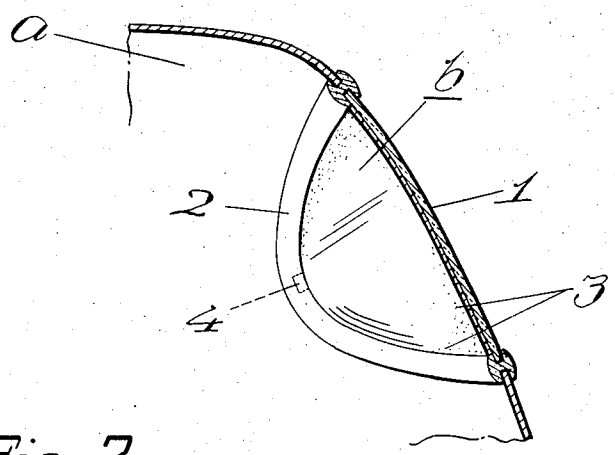



Fig. 2

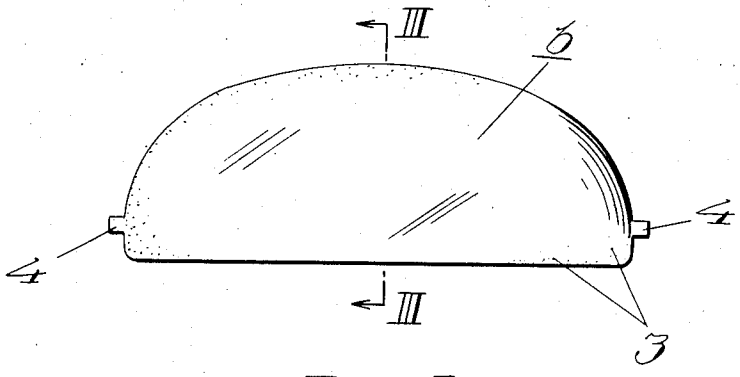
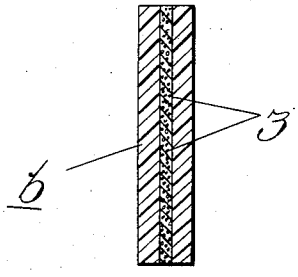



Fig. 3




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# SCREEN FOR A WINDOW-PANE OF THE REAR WINDOW OF A MOTOR-CAR

This application is a continuation-in-part of Ser. No. 834,604 filed Jan. 10, 1969, now abandoned, which in turn is a continuation of application Ser. No. 407,755 filed on Oct. 30, 1964, now abandoned.

This invention relates to a screen for a window-pane, and more particularly to a screen adapted to be attached to the rear window of a motor vehicle or the like.

An object of the present invention is to provide a screen which can be easily attached to a window-pane of the rear window of a motor-car which has a semi-circular shape with a suitably curved contour, by abutting a single sheet of said screen to the window-pane adopting the entire contour thereof from the inside of the motor-car so that the screen can tightly adhere to the window-pane due to its force of restitution resisting the bending stress exerted on said screen, without any other means such as sticking or screwing, etc.

Another object of the present invention is to provide a screen which can be tightly fitted to the window-pane affording the rear window such construction as is a double window to prevent the formation of tiny dewdrops caused by the condensation of vapor on the window-pane.

A further object of the present invention is to provide a screen which is transparent and colored preferably in light blue or light green and contains a layer of pulverized metal foil inside to prevent not only the passage of direct sunlight and thermic rays protecting the inside of a room from becoming overheated, but also the dazzle by head-lights of succeeding motor-cars at night.

A still further object of the present invention is to provide a screen which can be attached to the window-pane covering the entire surface thereof so as to prevent the scattering of fragments of a broken glass to protect the riders inside the room from being injured with the fragments.

Essentially, according to the present invention, there is provided a screen for a window-pane of the rear window of a motor-car comprising a sheet of flexible and rigid transparent synthetic resin colored according to the case, said screen being of the same shape as the extended surface of the curved window-pane and at least the same size so the inside contour of a window-frame, said screen being attached to said window-pane for resilient engagement against the window frame taking advantage of its force of restitution exerted on the both lateral ends thereof, whereby said screen is tightly secured to the window-pane in strut bridging.

The foregoing and other object, features and advantages will be apparent from the following description taken in connection with the accompanying drawings in which:

FIG. 1 is a side elevation view partly in cross section of the present screen as attached to the rear window of a motor-car;

FIG. 2 is a plan view of the same; and

FIG. 3 is an enlarged cross section taken along the line III — III of FIG. 2.

Referring now to the drawings, 1 is a rear window of a motor-car *a*, and 2 is a window-pane frame of rubber in which a window-pane is engaged. A screen *b* is formed of a sheet of rather rigid synthetic resin such as



acrylic resin and has exactly the same shape as the extended surface of said curved window-pane and at least the same size as the inside contour of said rubber frame 2 in which the window-pane is engaged.

The screen *b* is formed of a transparent synthetic resin sheet colored in light blue or light green in its entirety or in gradation from the top toward the bottom and, as shown in FIG. 3, a layer composed of pulverized metal foil 3 such as aluminum foil can be inserted within the material so as to form an intermediate stratum of pulverized metal foils.

As shown in the drawings, a pair of bosses 4 may be provided on both sides of the screen *b* to be inserted into the rubber frame 2, but are not necessarily required.

In affixing said screen to the window-pane of the rear window of a motor-car, the screen is applied to the rubber frame 2 for a window-pane, slidably holding the both ends of said screen along the surface of the curved window-pane. Then the screen being bent inside the room is pushed with hand in its mid portion toward the window-pane so as to tightly adhere to said window-pane. On account of the rigidity of a synthetic resin sheet itself, the screen tends to be restored to the original state from the curved form, and the both ends thereof act on the inner line of said rubber frame in strut bridging.

Being thus constructed, the screen of the present invention can be easily attached to the rear window of a motor-car without any other special means such as adhesion or screwing and can be kept in almost permanent engaging against said window.

The affixed screen is bent in surface to surface contact with the curved window-pane of the rear window adopting the entire contour thereof, said window-pane and screen construct, in combination, a double window to prevent the formation of mist on the window-pane which is inevitably caused by extreme difference in temperature between the inside and the outside of the room and by excessive temperature inside the room.

A screen for a window-pane according to this invention which is formed of a sheet of transparent and rather rigid synthetic resin such as acrylic resin and cut in a determined shape, that is, the shape of the curved rear window of a motor-car in its extended state with at least the same size as the inner contour of a rubber frame holding the window-pane can be finished with its cut face cross-stitched or hemmed with rubber etc., and therefore, easily manufactured and sold in large quantities at reasonable cost.

A screen for a window-pane according to this invention which is formed of a colored transparent plate can effectively intercept direct sunlight and due to the flexibility of the material employed, the same can have exactly the same figure as the curved window-pane and therefore, can be suitably attached to the rear window of any type of a motor vehicle of the like.

Since a single sheet of the screen covers the entire area of the window pane in surface to surface contact, it gives anyone outside the motor-car an illusion that the window-glass itself is colored thereby to elevate gracefulness of the appearance of the motor-car.

Moreover, the screen of this invention has an advantage that it can keep the inner surface of the window-pane away from humidity inside the room to

prevent the formation of mist on said window-pane and assure the driver safe driving with a thorough view of the outside.

The screen of this invention has various other advantages that it can prevent fragments of a broken glass from scattering inside the room, and that it can be easily attached to the rear window of a motor-car without employing any special means for fixing the same.

What is claimed is:

1. A screen for a window, such as the rear window of a motor-car, comprising a curved window frame, a curved window-pane fitted within said window frame, a sheet of rigid colored transparent synthetic resin having a peripheral edge contour conforming to the inner edge contour of said curved window frame and a surface area conforming to the surface area of the inside surface of said curved window-pane inwardly of the inner edge of said window frame, said sheet of synthetic resin having sufficient flexibility for placing the peripheral edge thereof in contact with the inner edge of said curved window frame and then deflecting the surface of said sheet into surface contact with the surface of said curved window-pane with the edge of said sheet contacting the inner edge of said window frame so that said sheet is held in resilient engagement against the inner edge of said window frame and in surface contact with the inner surface of said window.

2. A screen for a window, as set forth in claim 1, wherein said sheet of synthetic resin includes an intermediate layer of pulverized metal foil located within said sheet spaced inwardly from its surfaces for preventing the passage of direct sunlight and thermic rays therethrough.

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