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WINDOW SCREEN

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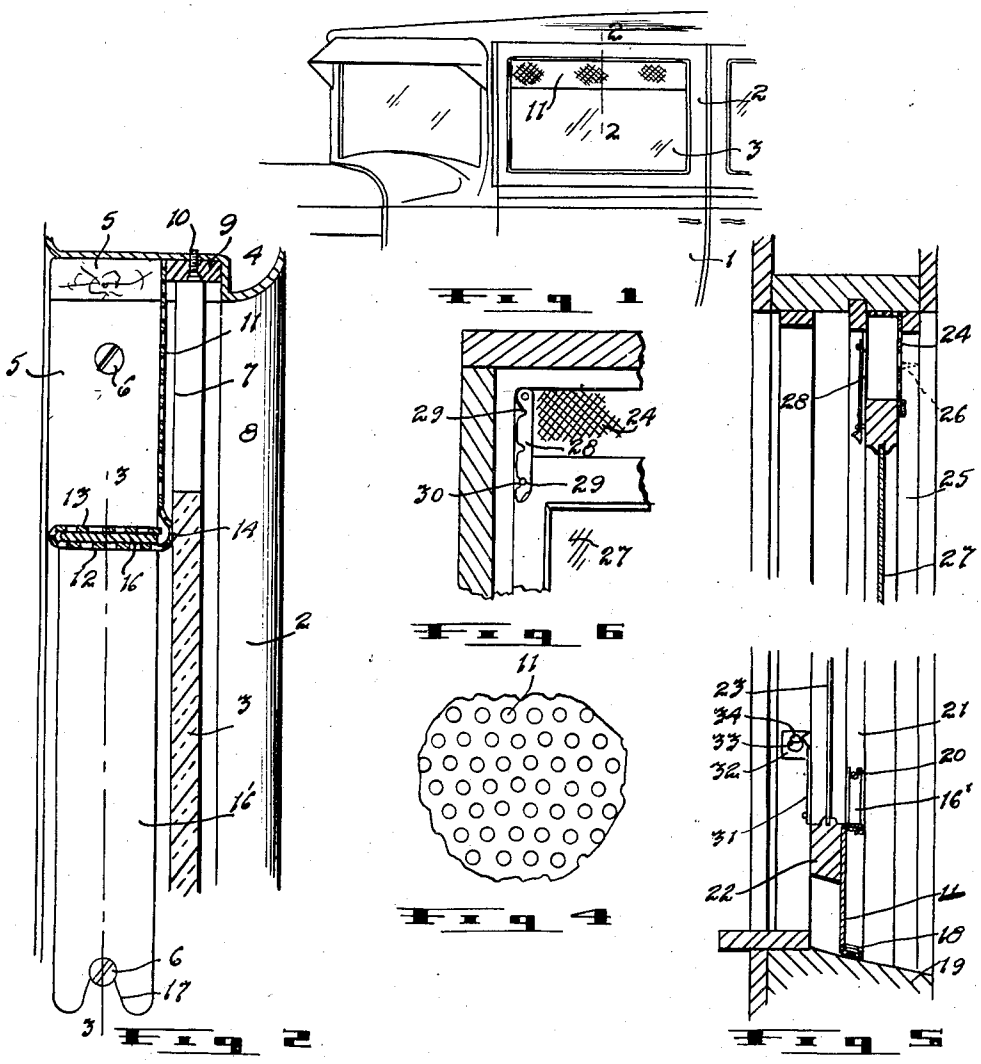


Fig 1

Fig 6

Fig 4

Fig 2

Fig 5

Fig 3

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WINDOW SCREEN

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The invention relates to improvements in window screens and an object of the invention is to provide a screen for ready insertion in a window frame, the entered screen permitting of the ready manipulation of the window for ventilating purposes and acting also to positively exclude insects, bugs and so forth and having sufficient rigidity in the body thereof to prevent bulging and insuring at all times of a neat and pleasing appearance.

A further object is to provide a screen particularly adapted for use on automobiles, aeroplanes and passenger cars of various description and also which can be readily introduced in the ordinary household window frame to good advantage.

A further object is to construct the screen so it can be placed say in an automobile window frame without requiring any alteration whatever in the existing frame construction and a still further object is to construct a screen which can be manufactured easily and quickly and marketed at comparatively small cost.

With the above more important objects in view, the invention consists essentially in the arrangement and construction of parts hereinafter more particularly described, reference being had to the accompanying drawing, in which:—

Fig. 1 is a perspective view of an automobile having one of the windows thereof equipped with our screen.

Fig. 2 is an enlarged detailed vertical sectional view at 2—2 Figure 1.

Fig. 3 is a vertical sectional view at 3—3 Figure 2.

Fig. 4 is a face view of a portion of the screen.

Fig. 5 is a vertical sectional view through a house window frame showing the same fitted with screens.

Fig. 6 is a face view of the catch employed with the upper sash.

In the drawing like characters of reference indicate corresponding parts in the several figures.

We will first describe the invention as it appears in Figures 1 to 4 inclusive in which figures an automobile screen is shown.

The door 1 of the automobile is provided as is usual with an open frame 2 for a vertically slidable and adjustable glass window 3 which can be opened and closed in the usual manner by the car occupant. While we have shown the invention as used in one of the four door windows, it can be installed in any of the door windows in the same manner as herein described. As our invention has nothing to do with the manner in which the window is opened or closed, we have not considered it necessary to show the window adjusting means and in this regard, we may mention that the means used is as commonly employed on the majority of automobiles now on the market.

The metal material forming the door has the upper part thereof fabricated to provide the substantially rectangular window frame and this window frame presents a continuous outer border flange 4 and has wooden strips 5 fastened thereto at intervals by screws 6. Between the flange 4 and the strips 5, there is a continuous channel and in the sides of the channel felt strips 7 and 8 are inserted and it is between these felt strips that the window 3 operates. All the above construction is common practice and forms no part of our invention.

Further than this, within the channel at the top of the window frame, there is a short rubber buffer 9 inserted which is held by a screw 10 and when the window is closed it closes against this buffer. The buffer is also commonly used.

In equipping the window frame described with our invention, we take a piece of perforated sheet metal 11 and cut it into a substantially rectangular shape of the desired length and width, the length being approximately equal to the distance between the opposing felt strips at the sides of the frame and the width being somewhat greater than the distance it is desired to open the glass for ventilating purposes.

The lower edge of the screen is then bent to provide an inturned horizontal flange 12 and an overlying continuous out turned horizontal flange 13, these flanges being spaced apart to receive supporting bars shortly described. At the point where the screen body joins the lower flange, we provide a transverse rib 14, the depth of the rib being approximately equal to the thickness of the felt 7.

Two supporting bars 15 and 16 are slid end on between the flanges 12 and 13, said bars having their inner ends approximately butting and their outer ends down turned to provide end legs 15′ and 16′. It is a very easy matter to initially cut and then shape the screen to provide the flanges and the rib and then subsequently insert the supporting bars. The lower ends of the legs are notched as indicated at 17 and the length of the legs is such that when the screen is in place, the lower ends of the legs can be supported and fastened in position by one of the screws 6 already mentioned.

When one desires to place our screen in the

existing car door window, he first removes the rubber buffer 9 by undoing the screw and then removes the opposing screws 6 located approximately half way up the existing window. He then inserts the upper edge of the screen in place as best shown in Figure 2 and then reenters the buffer and fastens it by its screw and when this is done, the upper edge of the screen is effectively jammed between the buffer and the adjacent cross strip 5. The removed screws 6 are then entered in the notches 17 and screwed back into place and when this is done, the legs are effectively fastened and the lower edge of the screen is accordingly held in place and it will be observed that when the window glass is closed, the rib 14 rides the inner face of the window.

With this screen in place, one can open the window glass in the usual manner a greater or less amount depending on the ventilation required and under normal conditions, the upper edge of the glass would not be lowered beyond the rib. On the other hand, if one desires to open the window such as for making a hand signal, this can be readily done by working it down far enough below the rib to allow of the free passage of the hand outwardly through the frame.

We have made the screen from perforated sheet metal as it is quite rigid and will maintain its shape and accordingly will always have a pleasing appearance. The screen when used on an automobile or other passenger car such as aeroplane, railway cars and so forth permits of the effective ventilation and also excludes bugs, flies, insects and so forth which is obviously very desirable.

The screen as above described can also be used to advantage on house windows and when so used is inserted in the lower part of the window frame in an inverted position as shown best in Figure 5. In this view, the then lower edge of the inverted screen is shown as provided with a reinforcing flange 18 butting the window sill 19 and the inverted leg is shown as fastened by a screw 20 to the parting strip 21 of the window. The lower cross member 22 of the lower sash 23 of the window slides against the screen body.

It is desirable to equip a house window with a somewhat similar screen 24 associated with the upper sash, the screen having the ends fastened to the upper strips 25 of the window by end screws 26 passing through the screen and into the strips 25. The upper cross member of the upper sash 27 slides past the body of the screen as shown in Figure 5.

Where the sashes of the window frames are not balanced, it is necessary to provide means for holding them in an open position and accordingly we have fastened the catch 28 pivotally to one of the upper corners of the window frame, this catch being provided with notches 29 to receive a pin 30 carried by the upper corner of the outer sash. Similarly one of the lower corners of the inner sash is provided with a pivoted catch 31 having an out turned lug 32 provided with a hole 33 adapted to receive a pin 34 carried by the window frame.

When one desires to ventilate, he will raise the inner sash and catch the lug on the pin 34 and will lower the upper sash and catch one or other of the notches of the catch 28 on the pin 30. This gives ventilating openings at the top and bottom of the frame which are provided by the inserted screens.

What we claim as our invention is:—

1. A window screen adapted for use with a window frame having a vertically slidable unframed window therein, comprising a perforated sheet metal screen inserted within and closing one end of the frame and located to the inner side of the window and having one edge thereof provided with an integral transverse rib adapted to be slidably contacted by the inner face of the window.

2. In a window frame of a vehicle having a transparent closure member vertically slidable in the frame, a screen inserted within and closing the upper end of the frame at the inner side of the closure member and having the lower edge thereof provided with an offset riding the closure member for the full width of the latter.

3. In an automobile window frame having a vertically slidable closure glass operatively mounted therein, a perforated sheet metal screen inserted within and closing the upper end of the frame and located to the inner side of the path of travel of the glass and having the lower edge thereof provided with integral transverse rib for sliding contact with the glass.

4. A window screen for insertion in the window frame of an automobile having a vertically slidable glass operatively mounted therein, comprising a perforated sheet metal screen crossing the upper end of the frame and closing the same and located to the inner side of the path of travel of the glass and having the lower edge thereof provided with a transverse rib in riding contact with the glass and formed also with an inturned flange and end legs attached to the side of the frame and supporting the flange.

5. In a window frame of an automobile having a vertically slidable glass operatively mounted therein, a perforated sheet metal screen crossing the upper end of the frame and closing the same and located to the inner side of the path of travel of the glass and having the lower edge thereof provided with a transverse rib in riding contact with the glass and formed also with an inturned extension providing a deep horizontal transversely extending channel and supporting bars entered end to end within the channel and having their outer ends down turned to provide legs and means for detachably fastening the legs to the sides of the frame.

6. An automobile screen comprising a substantially rectangular perforated sheet metal plate provided at one edge with a transversely extending rib and also at that edge with a comparatively deep horizontally extending transverse guide channel and supporting bars entering the channel and having their outer ends down turned to provide opposing end legs.

7. An automobile screen comprising a substantially rectangular perforated sheet metal plate provided at one edge with a transversely extending rib and also at that edge with a comparatively deep horizontally extending transverse guide channel and supporting bars having their adjacent ends slidably entered in the channel and the remote ends down turned to provide end legs, said legs having their lower ends fitted each with an end notch.

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