July 24, 1951 J. M. KLINE 2,562,103

PORTHOLE TO LOUVER CONVERTER

Filed April 6, 1949

FIG. 1.

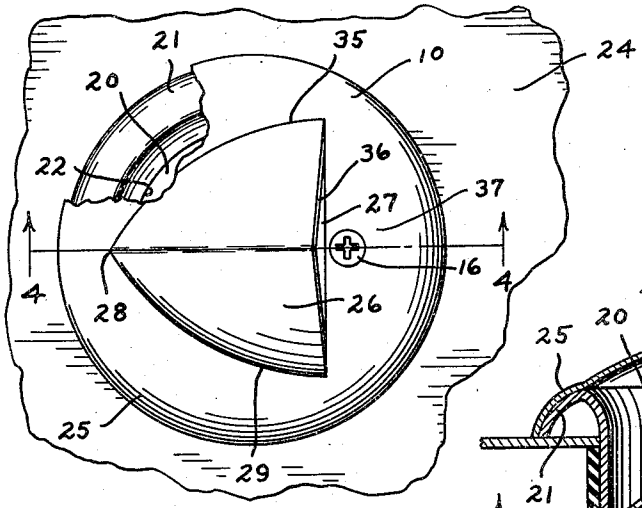


FIG. 4.

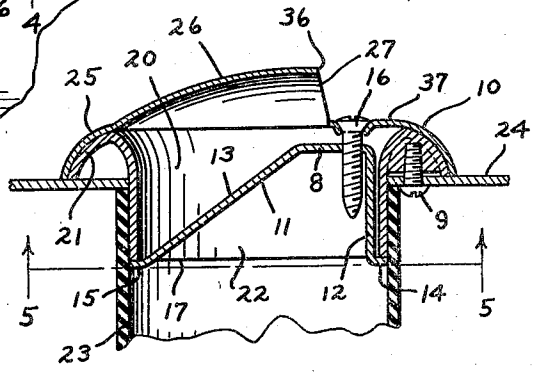


FIG. 2.

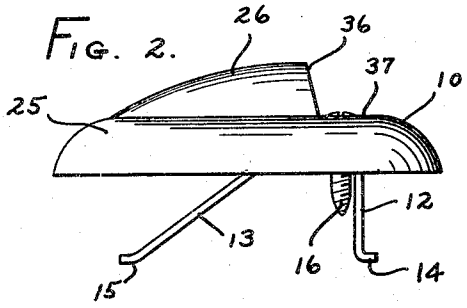
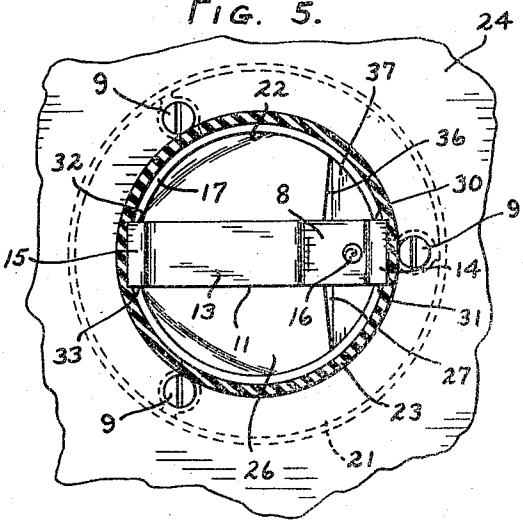


FIG. 5.



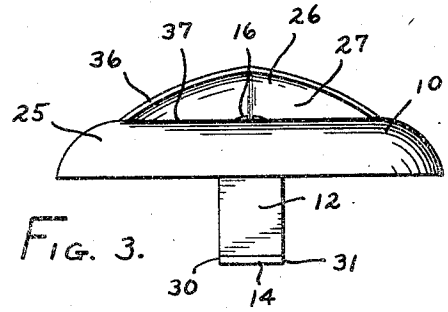


FIG. 3.

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PORTHOLE TO LOUVER CONVERTER

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2 Claims. (Cl. 98—2)

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This invention relates to a porthole ejector head and more particularly to a means for securing the head to an open porthole. The device is particularly well adapted for use with a porthole fitted with an interior hose connection, such as the ventilating portholes in the side walls of automobile fenders which are hose connected to the automobile engine chamber. The installation of the invention on an automobile porthole tends to reduce wind resistance, to intensify vacuum at the chamber end of the hose and thereby to create a better air flow through the porthole; to reduce the possibility of foreign matter entering the porthole; to hide the opening and thereby remove the temptation for pranksters to stuff the portholes with rags, paper or other refuse, and to improve the appearance of the vehicle.

An important object of the invention is to provide a device which can be installed in a porthole without access being had to the interior side of the porthole carrying wall. A further important object is to provide a device which can be installed in a hose connected porthole without removing the connecting hose. Further objects of the invention are to provide a device which can be installed with no special tools; which can be installed in a matter of minutes; and which can be installed by an ordinary automobile mechanic without special training.

These and many other objects and advantages of the invention including the unique and simplified parts forming the structure and assembly thereof will become apparent to those versed in the art from the following description of one particular form of the invention as illustrated in the accompanying drawing, in which

Fig. 1 is a view in side elevation of a structure embodying the invention as applied to an automobile venting porthole;

Fig. 2 is a bottom plan view of the structure;

Fig. 3 is a view in rear elevation of the structure;

Fig. 4 is a view in horizontal section on the line 4—4 in Fig. 1; and

Fig. 5 is a view in section on the line 5—5 in Fig. 4.

Referring to the drawing in which similar numerals indicate similar parts throughout the several views, the porthole 20 shown in Figs. 1, 4 and 5, is defined by a cylindrical inner sleeve 22, from which there extends externally an annular outer rim 21. A rubber connecting hose 23 telescopes by an end over the sleeve 22. The rim 21 is fixed by any suitable means such as by screw 9 to a wall 24 to have the hose extend inwardly therefrom.

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A head 10 is formed to fit snugly over the outer rim 21.

The head 10 is formed to comprise essentially the collar 25 to fit snugly over the outside of the rim 21 as a centering means, and a hood 26 raised from this collar 25 to provide an open window 27 across the rear side. The hood slopes from the collar 25 from a forward point 28 and arcuate lines 29 and 35 upwardly therefrom in the nature of a louver, opening from the rear side only. The rear edge 36 of the hood 26 extends in spaced relation outwardly from a substantially planar apron 37 which is turned from the collar 25.

A spring 11 is provided to have a short arm 12 and a long arm 13 extending from a short intervening length 8. Hook portions 14 and 15 extend laterally outwardly in opposite directions from the ends of arms 12 and 13 respectively. As indicated in Figs. 2, 4 and 5, the arm 12 is turned at right angles from the length 8, and the arm 13 extends in a diagonal direction, relatively downwardly and away from said arm 12. A self-threading screw 16 passes freely through the apron 37 of the head 10 to screw-threadedly engage through the spring length 8. The hook portions 14 and 15 are of sufficient length to extend over the edge 17 of the shell 22 and engage the hose 23, but said hook portions 14 and 15 should not be long enough to pierce the hose 23. The side edges 30, 31, 32, and 33 of the hook portions 14 and 15 respectively are flat and normal to the faces of the hooks 14 and 15 in order to prevent circumferential movement of those hook portions after they have become embedded in the hose 23, as will be presently described.

The shape of the spring 11 is made to position the length 8 adjacent one side of the shell 22 to have the arm 12 extend inwardly therealong in close proximity, and to have the arm 13 extend diagonally across the shell toward its inner terminal end 17. The outer ends of the hook portions 14 and 15 are spaced apart a distance exceeding the internal diameter of the shell 22, whereby they must be retracted one toward the other to insert the spring 11 within the shell 22.

To install the structure, the self-tightening screw 16 is started in the spring 11. The spring arms 12 and 13 are then compressed and inserted through the porthole 20, into the sleeve 22, with the longitudinal axis of the spring at a right angle to the desired final position of the louver opening 27 and with the hook portion 14 of the shorter arm 12 pointing in the direction the louver opening 27 is to face. After insertion, the entire device is pushed inwardly until the hook por-

tions 14 and 15 snap over the edge 17 of the porthole inner rim 22. The screw 16 is then tightened until the louver head 10 is snugly secured over the porthole 20. The structure is normally installed on a vehicle with the louver head opening 27 facing the rear of the vehicle, as in this position the streamlined shape of the vehicle is preserved and the ejecting action of the head 10 is secured when the automobile is under way.

While I have herein shown and described my invention in one particular form it is obvious that structural changes may be made without departing from the spirit of the invention, such as in the position of the screw on the louver head, the number and shape of the spring arms, and the various proportions of the parts, and therefore I do not desire to be limited to that precise form beyond the limitations which may be imposed by the following claims.

I claim:

1. For mounting over a porthole presented as an opening in the end of a cylindrical sleeve having an externally presented surrounding rim, and a resilient hose telescoped over and extending from the sleeve, an ejector head formed to seat snugly over said rim to center the head; a hood rising from one side of the head to terminate beyond the mid-portion of the head and short of the other side; a planar surface extending beyond the termination of the hood; a screw revolubly extending through said surface; a leaf spring having a length substantially parallel to said surface and screw-threadedly receiving said screw therethrough; a leg of said spring extending from one end of said spring length parallel and in close proximity to the wall of said sleeve; a foot on the end of said leg outturned to engage under the end of said sleeve; a second leg of said spring extending diagonally from the other end of said spring length and from said head within said sleeve; and a foot on said second leg outturned to engage under the end of said sleeve diametrically across from the foot of said first leg; the distance from outside to outside of said feet being normally greater than the internal diameter of the sleeve.

2. For mounting over a porthole presented as an opening in the end of a cylindrical sleeve having an externally presented surrounding rim, and a resilient hose telescoped over and extending from the sleeve, an ejector head formed to seat snugly over said rim to center the head; a hood rising from one side of the head to terminate beyond the mid-portion of the head and short of the other side; a planar surface extending beyond the termination of the hood; a screw revolubly extending through said surface; a leaf spring having a length substantially parallel to said surface and screw-threadedly receiving said screw therethrough; a leg of said spring extending from one end of said spring length parallel and in close proximity to the wall of said sleeve; a foot on the end of said leg outturned to engage under the end of said sleeve; a second leg of said spring extending diagonally from the other end of said spring length and from said head within said sleeve; and a foot on said second leg outturned to engage under the end of said sleeve diametrically across from the foot of said first leg; the distance from outside to outside of said feet being normally greater than the internal diameter of the sleeve; said spring being rectilinear in cross-section, and said feet having corners engaging said hose to prevent slippage of said feet circumferentially of the sleeve.

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