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A. J. FRAME

VENTILATOR FOR MOTOR VEHICLES

Filed May 16, 1925

Fig. 1

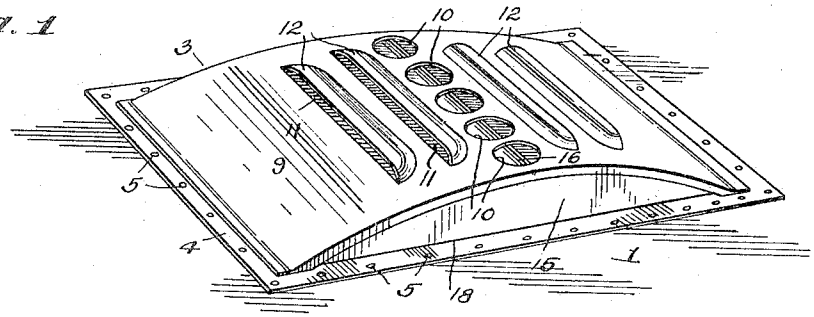


Fig. 2

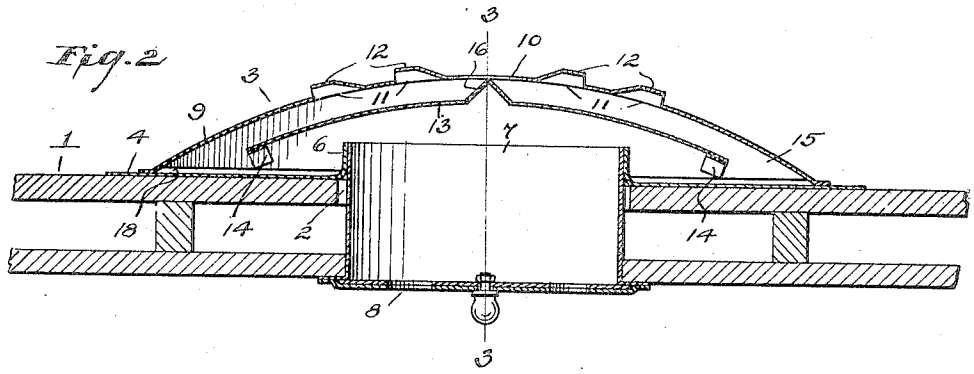
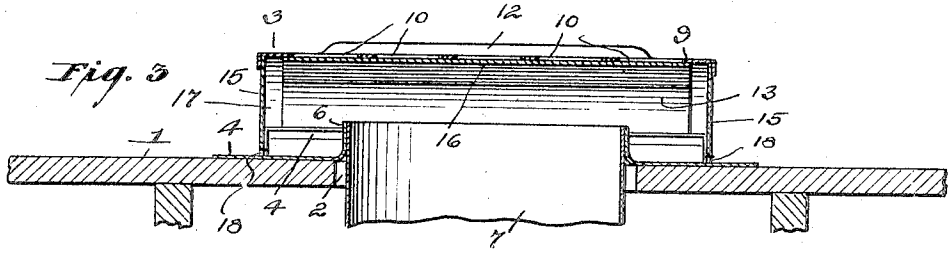


Fig. 3



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VENTILATOR FOR MOTOR VEHICLES.

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This invention relates to an improved form of ventilator for use in connection with the ventilation of enclosures generally but particularly adapted for use in connection with the ventilation of motor vehicles or passenger busses.

The principal object of the invention consists in the provision of an improved simplified form of ventilator consisting of a plurality of associated fixed, non-movable parts and wherein said parts are grouped so as to effectively exclude the weather but to permit of a free and unrestricted circulation of the vitiated air through and from the ventilator.

The invention consists in the provision of a ventilator of the character aforesaid comprising an arcuate casing applied to the roof of a motor vehicle, or other enclosure, and wherein the curved top of the casing is formed with a plurality of fixed air inlet and outlet openings, beneath which is arranged an arch or baffle wall which is interposed between the flue of the ventilator and the inlet and outlet openings in the arcuate top of the casing, the arrangement being such that the movement of the vehicle will set up air circulation within the ventilator producing induced drafts by means of which the vitiated air of the enclosure is positively drawn through the outlet flue of the ventilator and discharged to the atmosphere.

With these and other objects which will appear as the description proceeds, the invention consists in the novel features of construction, combinations of elements and arrangements of parts hereinafter to be fully described and pointed out in the appended claims.

In the accompanying drawing:

Figure 1 is a perspective view of the improved ventilator comprising the present invention,

Figure 2 is a vertical longitudinal sectional view taken therethrough, and

Figure 3 is a transverse sectional view on the line 3—3 of Figure 2.

Referring more particularly to the drawings the numeral 1 designates the roof of a motor vehicle which is formed to include a ventilator opening 2, adapted to be applied to the upper surface of the roof, and adjacent to said opening is the ventilator 3 comprising the present invention.

In its preferred form my improved ventilator consists of a sheet metal structure which comprises a base plate 4 arranged to lie flatly upon the upper surface of the roof and secured thereto as at 5. In this instance the plate 4 is of substantially rectangular configuration and, adjacent to the center thereof, is provided with an upstanding collar 6, arranged in axial registration with the opening 2, and in which is positioned the upper end of an outlet flue 7, which establishes communication between the interior of the motor vehicle and the ventilator 3. The flue 7 may be provided with an adjustable damper or valve structure 8 for regulating air flow therethrough.

In the present form of the invention the ventilator includes an arcuate top 9 of substantially arched or convex configuration. This top is provided adjacent to the center thereof with a plurality of circular outlet openings 10, and adjacent to the openings 10, the top 9 is formed to include slots 11, which are protected by hoods 12, integral with the top 9, so that the hoods will be open along one side thereof only, as shown in Figure 2. Beneath the top 9 and located within the ventilator there is mounted a baffle wall 13. This wall is also of arched construction to correspond with the curvature of the top 9, and the ends of the wall 13 are secured by means of bracket pieces 14 to the vertical sides 15 of the top 9. Centrally of its length the wall 13, immediately beneath the openings 10, is provided with a substantially V shaped rib 16 which extends transversely beneath the under side of the top 9. By reference to Figure 3 it will be observed that the width of the wall 13 is materially less than that of the top 9, so that air circulation spaces 17 will be provided around the side edges of the wall 13 and the inner surfaces of the sides 15. The sides 15 in this instance have their extreme lower edges slightly spaced as at 18 from the upper adjacent surfaces of the plate 4 so as to produce outlet openings by means of which water or moisture is discharged from within the ventilator.

In operation, it will be observed that when the vehicle, upon which the ventilator is mounted, is moving, in a certain direction air will be forced through the hoods 12 on the left side of Figure 2. This air in passing through the ventilator strikes the wall 13, and is deflected by the rib 16 outwardly through the openings 10. This circulation of air results in creating a draft within the ventilator by means of which the vitiated

air is drawn upwardly through the flue 7, around the edges of the wall 13 by way of the spaces 17 and then forced through the openings 10. Also, the hoods 12 on the right hand side of Figure 2 are used to dispel the vitiated air. Thus, due to the direction of movement of the vehicle a suction effect is produced in the slots 11 provided in the hoods 12 shown on the right side of Figure 2. This suction is utilized to draw the air through the flue and to release the same through said last named hoods. Due to the construction of the ventilator the same is readily operative regardless of the direction of movement of the vehicle. The baffle wall 13 is arranged immediately beneath the openings in the top 9, and over the open upper end of the flue 7. Thus the wall 13 serves to prevent water or moisture entering the ventilator from reaching the flue and then the interior of the vehicle. The collar 6 provided at the upper end of the flue also acts as a trap to prevent water or moisture in the bottom of the ventilator from reaching the flue. Due to the openings 18 water accumulation within the ventilator is readily and freely discharged. It will be observed that the present invention provides a ventilator of simple construction, eliminating movable and adjustable parts, is low in height so as not to interfere with vehicle operation or overhead clearance and is of such design as to avoid marring or interfering with the general outlines of the vehicle to which it is applied.

What is claimed is:

1. A ventilator of the class described, comprising a hollow sheet metal body including a substantially flat base and an arcuate top, said top having a discharge outlet located substantially in the center thereof, open sided hoods provided in connection with said top and arranged on opposite sides of said outlet, a baffle wall arranged within said ventilator and arranged beneath said hoods, the ends of said baffle being disposed in spaced relation from the side walls of said ventilator, and a longitudinally extending, inverted V shaped rib provided at the center of said baffle and arranged immediately beneath said outlet.

2. In a ventilator, a substantially hollow body constructed to provide a relatively flat base including an arcuate top and vertical side walls, an inlet in said base and an outlet in said top, said inlet and said outlet being located substantially in axial registration, open sided hoods provided in connection with said top and arranged upon opposite sides of said outlet, and a baffle member arranged within said ventilator beneath said hoods and outlet.

3. A ventilator of the class described comprising a hollow sheet metal body formed to comprise a substantially flat base having an air inlet formed therein, a top including reversely sloping walls and substantially vertical sides, a flue arranged in registration with said inlet, said top having an outlet situated substantially in the apex portion thereof, open sided hoods provided in said top on opposite sides of said outlet, a baffle wall arranged within said ventilator between said inlet and said outlet, said baffle member being constructed to deflect air currents toward said outlet, and means provided in connection with said ventilator for permitting of the draining of moisture from the interior thereof.

4. A ventilator of the class described comprising a hollow sheet metal body including a substantially flat base, reversely sloping top walls and substantially vertical side walls, said base being provided with an inlet arranged in communication with an associated ventilating flue, there being an outlet provided contiguous to the apex portion of said top, open sided hoods provided in said top on opposite sides of said outlet, a baffle wall arranged within said ventilator between said inlet and outlet, a rib provided in connection with said baffle wall and arranged to deflect air currents toward said outlet, and means provided in connection with said ventilator for permitting of the outflow of moisture therefrom and the spacing of such moisture from said inlet.

In testimony whereof I affix my signature.

AUGUSTUS J. FRAME.