No. 858,123. PATENTED JUNE 25, 1907.

H. VAN NESS.

VENTILATOR FOR CARS.

APPLICATION FILED APR. 23, 1907.

Fig. 1

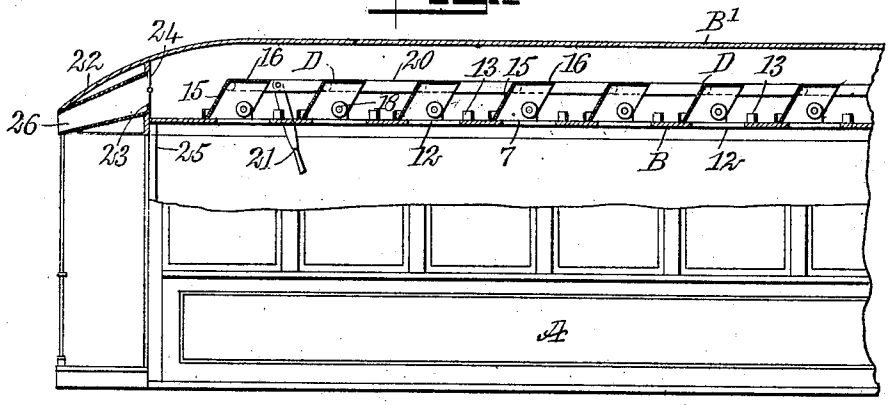


Fig. 2

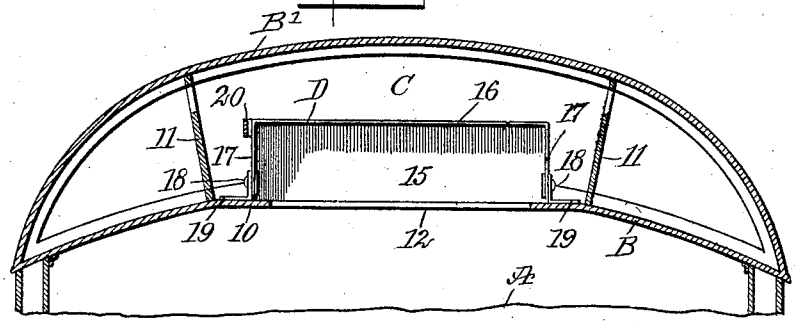
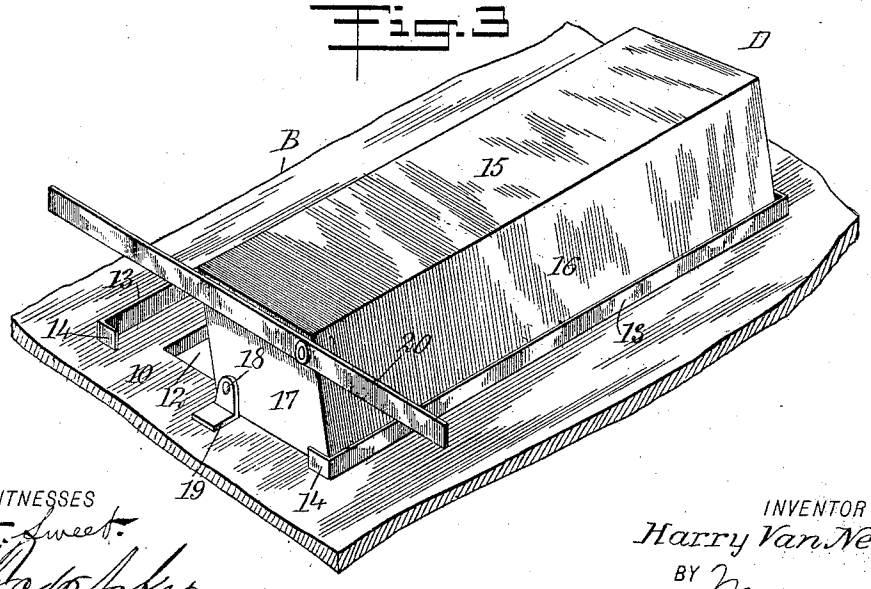


Fig. 3



WITNESSES

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VENTILATOR FOR CARS.

No. 858,123. Specification of Letters Patent. Patented June 25, 1907.

Application filed April 23, 1907. Serial No. 369,844.

To all whom it may concern:

Be it known that I, HARRY VAN NESS, a citizen of the United States, and a resident of the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and useful Improvement in Ventilators for Cars, of which the following is a full, clear, and exact description.

The purpose of the invention is to provide a very simple form of ventilator attachable to the roof of any car, so constructed with reference to the interior of the car that when properly set and particularly when a car is in motion, a current of air will enter the ventilating chamber at one end and pass over the ventilators, creating a suction whereby to draw all the foul air upward from the body of the car and conduct it to an exit at the opposite end of the car, thus providing for a perfect ventilation of the car or like conveyance, without subjecting the occupants to drafts.

A further purpose of the invention is to provide a construction of ventilator, capable of being conveniently and quickly operated from the interior of the car and which will lie completely beneath the roof, enabling the top of the car to be made somewhat lower than customary, and the roof to be given an unbroken curvature from side to side.

The invention consists in the novel construction and combination of the several parts as will be hereinafter fully set forth and pointed out in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a sectional side elevation of a portion of a car and a longitudinal section through the ventilating attachment; Fig. 2 is a transverse section through the upper portion of a car and the ventilating attachment, the view being drawn upon an enlarged scale; and Fig. 3 is an enlarged detail perspective view of a portion of the ceiling of the car and a section of a ventilating attachment.

A represents the body of a car, which body is provided with a ceiling B extending from side to side, and the central portion 10 of the ceiling B is a flat, as is shown best in Fig. 2. The roof B′ of the car is arched from side to side thereof above the ceiling B, and longitudinal partitions 11 extend one from each side of the central portion 10 of the ceiling to the inner face of the roof B′, the partitions 11, which serve as braces, being given preferably an outward and upward inclination, and the said partitions 11 form, at a central portion of the space between the ceiling and roof, a ventilating chamber C that extends from end to end of the car.

A series of transverse openings 12, preferably rectangular in general contour, is produced in the central portion 10 of the ceiling B, and these openings 12 are at regular and predetermined intervals apart, as is clearly shown in Fig. 1. Adjacent each side edge of each opening 12 an upwardly extending guard strip 13 is secured to the upper face of the ceiling B, the said guard strips being an equal distance from the longitudinal edges of the openings 12, which edges are parallel with the said guards, and the end portions 14 of the opposing guards are bent in direction of each other or at right angles to their body, as is clearly shown in Fig. 3 of the drawings.

A hood D is provided for each opening 12 in the ceiling and these hoods are adapted to partially cover the openings to which they are assigned. Each hood D consists of two longitudinal members 15 and 16, which members are secured in any approved manner at their abutting edges, or the two members 15 and 16 may be made from one piece of material, but the members 15 and 16 are at acute angles to each other, and end sections 17 of substantially diamond-shape are secured to the longitudinal sections or members 15 and 16, closing the end portions thereof. Thus it will be observed that each hood is provided with two closed faces and a combined open portion corresponding to the closed portions, namely, the members 15 and 16.

Each hood D is pivoted by means of suitable pins 18 to the lower central portions of their end sections 17, as is best shown in Fig. 3, which pins are mounted to turn in brackets 19 attached to the upper faces of the central section 10 of the ceiling B, one bracket opposite the central portion of each end of an opening 12, as is shown in Fig. 2, and the various hoods D are connected by a bar 20, the said bar being pivotally attached to one end of each hood D at a point adjacent to where the members 15 and 16 connect. Thus each hood D is pivoted over an opening 12, and either the outer longitudnal edge of a member 16 of the hood or the corresponding edge of a member 15 of the hood is, in an operation of the ventilator,

made to engage with the upper face of the ceiling B adjacent the inner side portion of a guard strip 13, which guard strips 13 prevent a current of air passing through the chamber C from working beneath the hood D. It will further be observed that while the ventilator attachment is in operation, one side and the top of each hood will be closed; that is, the side that is presented to the incoming current, while the opposite side and the bottom of each hood is open, permitting free communication between the ventilating chamber C and the interior of the car through the medium of the aforesaid openings 12. The hoods are collectively adjusted by shifting the connecting bar 20, and this is usually accomplished through the medium of a lever 21 attached to the connecting rod and extending down within the car within convenient reach of a person therein.

The roof B′ of the car is provided with the customary hood 22 at each end of the car, and in the end wall of the body of the car just below each hood 22, a transom opening 23 is located, which opening may be of corresponding lengths to the width of the ventilating chamber C or may be somewhat shorter, as desired. The transom opening 23 is opened or closed through the medium of a pivoted panel 24, the said panels for the said openings 23 being by preference pivoted at their central portions, and each of the panels 24 is provided with a handle 25, or its equivalent, that extends down into the interior of the car so that either panel 24 may be opened or closed as occasion may require. A chute 26 is located beneath each hood 22 of the roof of a car, and these chutes at their inner ends are secured to the marginal portions of the transom openings 23, and extend downward and outward to the outer edges of the said hoods 22, as is illustrated in Fig. 1.

In the operation of the attachment, supposing the car to be traveling to the left, as is shown in Fig. 1, the panels 24 will be opened and the lever 21 will be shifted so as to cause the closed side portions 15 and 16 of the various ventilator hoods D to face in direction of the left-hand end of the car, or the direction of the motion of the car, therefore the current of air entering the forward chute 26 in its passage through the ventilating chamber C to the opposite end of the car will create a suction in the said ventilating chamber C and thereby draw the foul air from the interior of the car upward into said ventilating chamber through the openings 12, the foul air escaping from their hoods at their rear open portion and the incoming current of air mingling with that drawn from the body of the car will find its escape through the chute 26 at the rear of the car.

It will be observed that the attachment is exceedingly simple, that it is adaptable to any type of car or like vehicle, and that the ventilating hoods D may be quickly shifted so as to produce proper results no matter in what direction the car may be traveling. Furthermore the usual clear story at the roof of a car is not necessary when the improved ventilator attachment is employed, and therefore the roof of the car may be uniformly arched presenting no obstructions at its exterior, enabling the car to be better adapted for passage through tunnels and under comparatively low bridges.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. The combination with the body of a car, the ceiling therefor and the roof arched over the same, the said ceiling being provided with series of openings therein, a ventilating hood pivoted at each opening having a side and upper face closed including its ends, and the opposite side and bottom face open, and means for simultaneously shifting all of the said hoods.

2. The combination with a car, a ceiling therefor and a roof located over the ceiling, the ceiling being provided with a series of transverse openings therein, a hood pivotally mounted on the ceiling over each opening, each hood consisting of a closed side and top, closed ends and an opening opposing side and bottom, guard strips located at each side edge of each opening, the ventilating hoods being adapted for movement between the guard strips, a bar connecting all the hoods, and means for imparting end movement to the bar simultaneously to cause the closed portion of the hoods to face in the direction of either end of the car.

3. The combination with the body of a car, the ceiling therefor, having a flat central portion and provided with a series of transverse openings therein, a roof arched over the said ceiling and spaced therefrom, longitudinal partitions extending from the ceiling to the roof at each side of the central flat portion of the ceiling, forming thereby a central ventilating chamber, and pivoted panels adapted to cover and uncover the openings at the ends of the said chamber, of ventilating hoods pivoted one over each of the openings, and extending from end to end thereof, each hood consisting of a closed side and top member, said members being at acute angles to each other, and end sections closing said portions of the hoods, the opposing side and bottom portions of the hoods being open, a connecting bar pivotally attached to each of the said hoods, and a lever connected with the said bar and extending into the interior of the car.

4. The combination with the body of the car, a ceiling therefor extending from side to side having a flat central portion and transverse openings in said portion, a roof arched over the said ceiling, partitions connecting

the ceiling and the roof and located at the sides of the central flat portion of the ceiling, providing a central ventilating chamber, the said chamber being provided with openings located in the end portions of the car body beneath the roof and above the ceiling, a pivotally mounted panel for each of the said openings, adapted to cover and uncover the same, means for operating the said panels, and hoods leading from the openings in the ends of the car downwardly and outwardly beneath the hood of the roof of the car, of ventilating hoods pivoted one over each of the openings in the ceiling, the hoods extending the length of the said openings, the pivotal connection between the hood and the ceiling being at the end portions of the openings in said ceiling, each hood consisting of a side and a top, the two members being at acute angles to each other, and substantially diamond-shaped end members, each hood having an open side portion and an open lower portion, guard strips located at each side of each opening in the ceiling, a connecting bar pivotally attached to an end portion of each hood, and means for operating the said connecting bar from the interior of the body of the car.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HARRY VAN NESS.

Witnesses:
HENRY P. HELCK,
PAUL FELS.