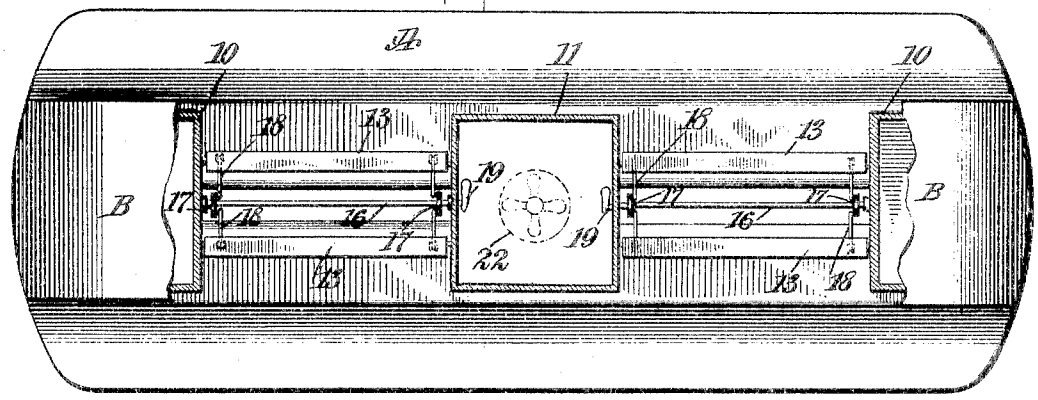
No. 793,982. PATENTED JULY 4, 1905.

C. P. BONNETT.

VENTILATING MEDIUM FOR CARS.

APPLICATION FILED MAY 9, 1904.

FIG. 1.



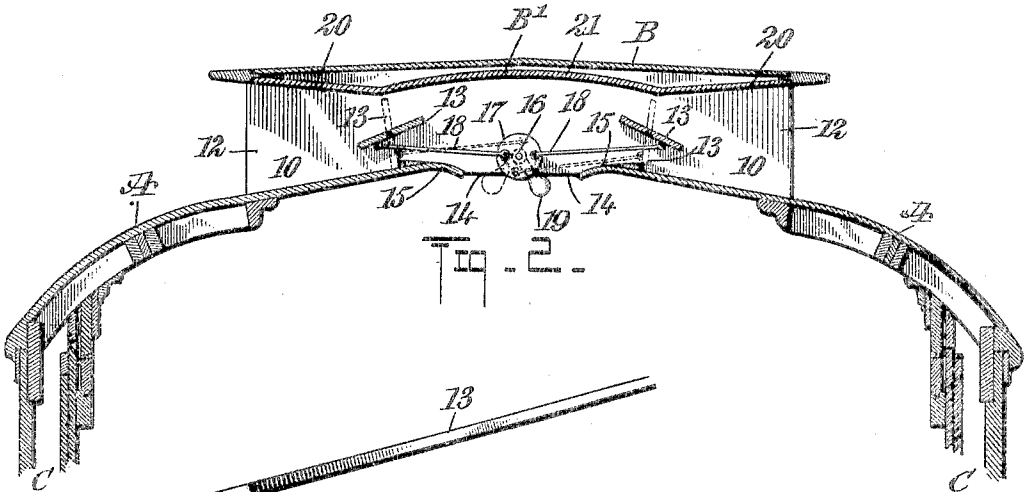


FIG. 2.

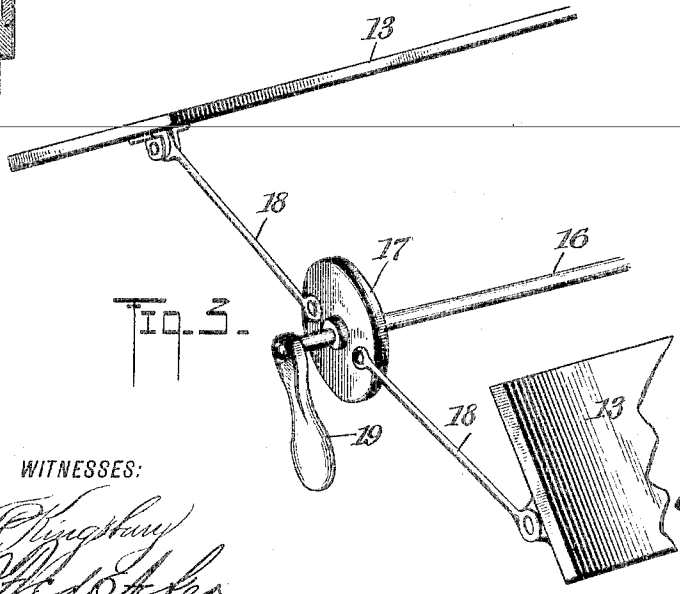


FIG. 3.

WITNESSES:

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PHOTO-LITHOGRAPHED BY SACKETT & WILHELMS LITHO. & PTG. CO. NEW YORK.

No. 793,982. Patented July 4, 1905.

UNITED STATES PATENT OFFICE.

CHARLES P. BONNETT, OF NEW YORK, N. Y.

VENTILATING MEDIUM FOR CARS.

SPECIFICATION forming part of Letters Patent No. 793,982, dated July 4, 1905.

Application filed May 2, 1904. Serial No. 205,918.

To all whom it may concern:

Be it known that I, CHARLES P. BONNETT, a citizen of the United States, and a resident of the city of New York, Williamsbridge, borough of the Bronx, in the county and State of New York, have invented a new and Improved Ventilating Medium for Cars, of which the following is a full, clear, and exact description.

The purpose of the invention is to provide means for ventilating cars in a thorough manner and without subjecting the occupants to drafts, and in the construction of the appliance to provide means for regulating the amount of air to be admitted, the said means being conveniently operated from the interior of the car, and further to so construct the upper portion of the car that the foul air will be sucked out from the interior of the car and fresh air admitted.

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 plan view of the upper portion of a car and a plan view of the applied improvement. Fig. 2 is a cross-section through the roof portion of the car and the applied device, the section being drawn on an enlarged scale; and Fig. 3 is a detail perspective view of portions of the device.

A represents the roof of a car, which may be of the ordinary construction.

B represents the clearstory of the car, and C a portion of the side construction.

The space between the roof of the car and the clearstory is open at the side portions of the clearstory, with the exception of the ends of the space, which are practically closed by box-partitions 10. Furthermore, also, in the construction of the upper portion of the car a box-partition 11 is formed at the central portion thereof, extending from the clearstory down to the main roof portion A, which central box-partition is shown in Fig. 1. The open space at the sides of the clearstory is indicated in Fig. 2 by the reference-numeral 12, and this open space may be partially closed at any time by means of transoms 13 of any approved construction; but the said space between the roof of the car and the opposing portion of the clearstory is never thoroughly closed, so that a weak current of air will pass through the clearstory and above the main roof structure A even when the transoms have been brought to an upright or closed position. This main roof structure A at its central portion is provided with a longitudinal opening 14, extending the length of the clearstory—that is to say, the length of the clearstory between the end partitions 10—and the edges of the main roof structure A, forming the side walls of the said opening 14, are given a downward and inward curve, as is shown at 15 in Fig. 2, so that the fresh air which enters between the main roof structure and the clearstory will pass from one side of the clearstory to the other, causing an ejector-like suction to draw the foul air from the interior of the car, especially when it is closed, and this foul air is replaced by the pure air from outside.

A shaft 16 extends through the central portion of the clearstory, being journaled in the partitions 10 and the central partition 11, and the said shaft has suitable journals at the said points. The transoms 13 extend from the end partitions 10 to the central box-partition 11 and are suitably journaled, and at convenient points on the shaft 16 disks 17 are secured. These disks are connected with the end portions of the transoms 13 by means of links 18, as is shown best in Figs. 1 and 3. The shaft 16 is provided with any desired number of handles 19, extending down into the car, so that they are readily accessible and may be conveniently operated from the interior of the car to bring the transoms to their approximately closed position (shown by dotted lines in Fig. 2) and to their open position, (shown by positive lines in the same figure.)

The clearstory B is provided with an inner shell B′, and this shell at its ends is inclined from the outer end of the upper portion of the clearstory downwardly and inwardly, as is shown at 20 in Fig. 2. The central portion of the said shell B′ is upwardly arched as shown at 21 in Fig. 2. Under this construction it is obvious that the air or wind entering at one side of the clearstory is directed downward by the slope 20 of the inner shell, and at the same time upward by the slope of the roof, thereby receiving a compression and going out of the opposite side of the clearstory with an ejector-like action sucks the foul air in the car-body with it. The object of the upward arch B′ in the shell or ceiling of the clearstory is to act on the air coming through the open space 12, in conjunction with the curves 15, to prevent a downward draft into the body of the car, ventilating the said car altogether by suction of the foul air therein contained, fresh air replacing it through the doors, which in a street-car are frequently opened and shut.

This improvement is adapted to any form of car or vehicle of like type, and it is evident that when applied a car or like vehicle will be effectually ventilated without the occupants being necessarily subjected to drafts. Electric lights 22 or other illuminating mediums may be applied to the upper portion of the clearstory in the customary manner.

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

1. A car the roof of which is provided with a longitudinal opening, the side walls of said opening being downwardly and inwardly inclined, a clearstory erected on the said roof above the opening therein and open at its sides, the said clearstory being provided with an inner shell having side sections inclined downwardly and inwardly and a central upwardly-arched section, transoms mounted in the clearstory, adapted to open or to practically close the open sides of the said clearstory, a shaft common to all of the transoms, means for turning the said shaft from the interior of the car, disks secured to the said shaft, and links pivotally connected with the disks and with the transoms, as described.

2. A car the roof of which is provided with a central longitudinal opening, the side walls whereof are curved downwardly and inwardly, a clearstory erected on the roof over the opening therein, the clearstory being closed at its ends and open at its sides, an inner shell for the upper portion of the clearstory, having side sections downwardly and inwardly inclined and a central arched section, transoms for the open side portions of the clearstory, bearings for the said transoms, a shaft adapted to operate all of the transoms, handles attached to the shaft, extending down below the inner face of the roof of the vehicle, disks secured on the said shaft, and links pivotally connected with the disks and having pivotal connection with the transoms, all arranged for operation in the manner described.

3. In cars and similar vehicles, a roof having a central longitudinal opening therein, the edges of the opening being curved downwardly and inwardly, a clearstory on the roof above the opening thereof, and having side openings, the inner shell of the clearstory being upwardly arched at its center and downwardly and inwardly inclined at its ends, and transoms in the side openings of the clearstory.

4. In cars and similar vehicles, a roof having a longitudinal opening therein, a clearstory on the roof above the opening and having open sides, a central box-like partition extending from the clearstory to the roof of the car, longitudinal shafts mounted in the box-partition and the outer end walls of the openings of the clearstory, pivoted transoms on opposite sides of each shaft, and connections between the transoms and shafts for operating the former from the latter, as set forth.

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

CHARLES P. BONNETT.

Witnesses:
J. Fred Acker,
Everard Bolton Marshall.