No. 779,755. PATENTED JAN. 10, 1905.

J. E. ARMSTRONG.

CAR VENTILATOR.

APPLICATION FILED DEC. 22, 1903.

Fig. 1.

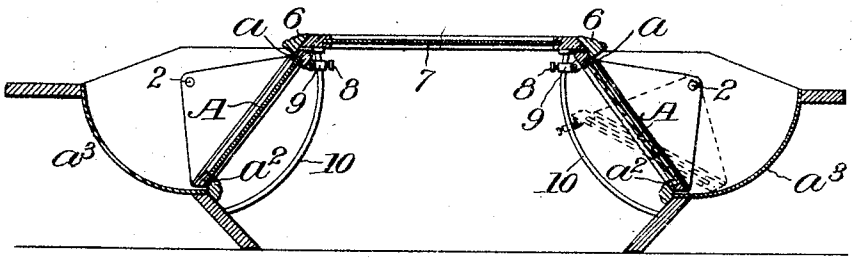
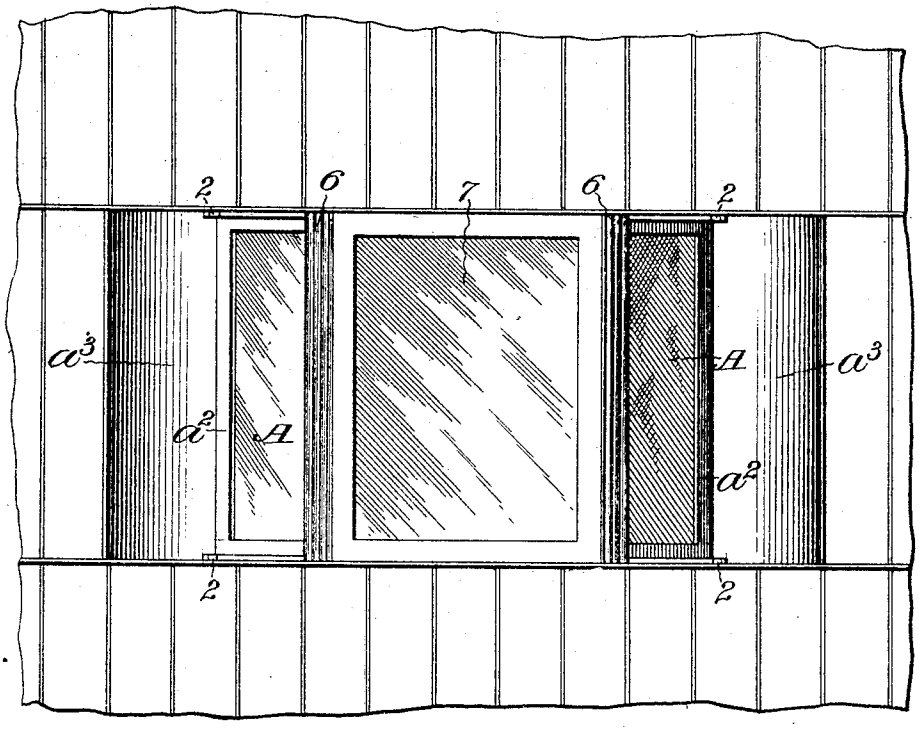


Fig. 2.



WITNESSES:

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No. 779,755. Patented January 10, 1905.

UNITED STATES PATENT OFFICE.

JOHN E. ARMSTRONG, OF SANTA CRUZ, CALIFORNIA.

CAR-VENTILATOR.

SPECIFICATION forming part of Letters Patent No. 779,755, dated January 10, 1905.

Application filed December 22, 1903. Serial No. 186,162.

To all whom it may concern:

Be it known that I, JOHN E. ARMSTRONG, a citizen of the United States, residing at Santa Cruz, in the county of Santa Cruz and State of California, have invented new and useful Improvements in Car-Ventilators, of which the following is a specification.

My invention relates to a means for ventilating cars and the like in such a manner as to remove the vitiated air from the apartment and at the same time prevent the introduction of air in such a manner as to create disagreeable drafts.

My invention consists in so mounting the window or closure of the window-opening that it may be moved either in its entirety or sectionally, so that a proportionately small opening is presented in the direction toward which the train is running or from which the air-draft proceeds, and a larger opening is presented in the opposite direction, so that it will produce a species of suction and remove the air from the compartment, while the suction thus set up through the large and small openings will not be such as to cause a draft within the apartment.

Referring to the accompanying drawings, Figure 1 is a horizontal section showing the preferred form of my apparatus. Fig. 2 is a side elevation of a car, showing my invention applied thereto.

It is not satisfactory to ventilate or freshen the air of ordinary cars or similar vehicles when traveling at a considerable rate of speed by opening the windows in the usual manner, as such opening usually causes disagreeable drafts to the persons next behind the window.

It is the object of my invention to provide a means for changing the air within the car and at the same time avoiding any disagreeable drafts.

As shown in Fig. 1, the sections A A are pivoted in the space formed between the outer and inner walls of the cars, which is of sufficient depth for this purpose. These windows or sashes are pivoted at top and bottom, so as to swing freely, and when closed the edges *a* contact with the fixed uprights or stop-posts 6 at each side of the centrally-glazed portion 7 of the window. In this position the window-opening is closed and the movable sashes A may be locked by means of set-screws 8 in travelers 9, which are movable upon curved rods 10. The curvature of these rods is on the arc of a radius from the pivots or fulcrums 2, about which the sashes A are turnable.

If it be desired to produce a draft through the window, one of the sections or sashes A is moved by loosening the set-screw 8 and sliding the traveler 9 along the rod 10 until a small vertical slit is produced between the edge *a* of the movable sash and the upright or stop-post 6 in the direction toward which the car is moving. The opposite movable sash is in the same manner turned about its pivot, forming a wider vertical slit or opening between the edge *a* of the movable sash and the upright or stop-post 6 upon that side and in the direction away from which the car is moving. The centrally-glazed portion 7 of the window is set out, as shown, from the outside of the car, so that the hinged sashes A present more or less resistance to the air. Consequently a very small opening in the front sash A will cause a considerable draft within the car. Thus the draft caused by the rapid passage of the car through the air will cause a suction through the wider opening which will draw the air out faster than it can enter through the narrower opening at the front. At the same time a circulation will be produced by this operation which will maintain the air within the car in a pure condition, but without disagreeable or unnecessary draft.

In order to prevent an escape of air at the inner edges a^2 of the swinging sash A, I have shown a curved wall or segment a^3, fixed between the outer and inner walls of the car in such a manner that the edge a^2 of the sash will follow the curvature of this arc and form a substantially close joint therewith during the movement of the sashes A, and thus prevent any escape of air in that direction.

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

1. An improved car-window construction comprising a glazed portion set out from the

side of the car, independent sashes occupying the spaces between the edges of the glazed portion and the side of the car, said sashes being pivotally mounted midway of their side edges, and curved guides for opposite edges of the sashes.

2. An improved car-window construction comprising a glazed portion set out from the side of the car, independent sashes occupying the spaces between the edges of the glazed portion and the side of the car and each centrally pivoted at a point located at one side of their vertical plane, and curved guides for opposite edges of the sashes said guides being concentric with the axis of the sashes, and means engaging one of said guides, for locking the sash in its open and closed position.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JOHN E. ARMSTRONG.

Witnesses:
W. N. GARDNER,
ED. MARTIN.