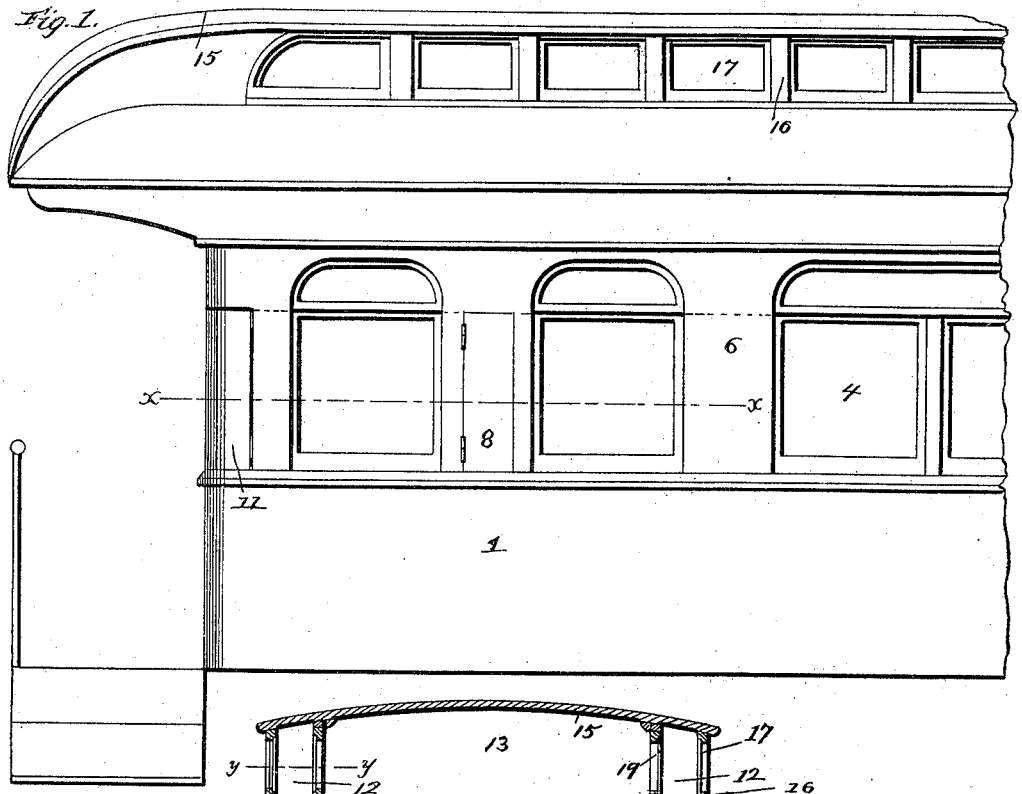
(No Model.) 2 Sheets—Sheet 1.

W. CURLETT.

CAR VENTILATION.

No. 584,331. Patented June 15, 1897.

Fig. 1.



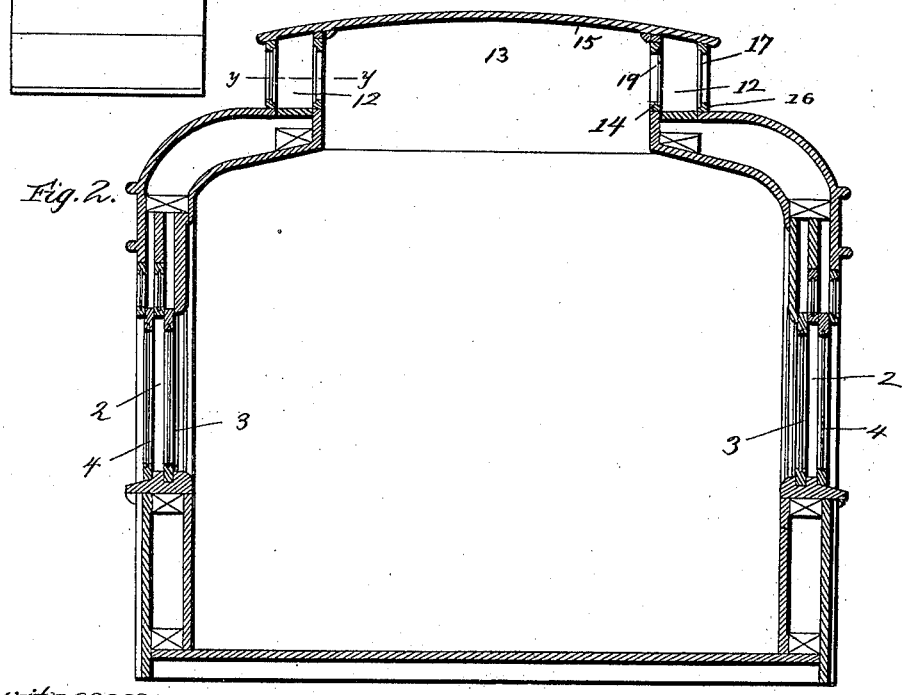


Fig. 2.

Witnesses:
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W. A. James.

Inventor
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(No Model.)

2 Sheets—Sheet 2.

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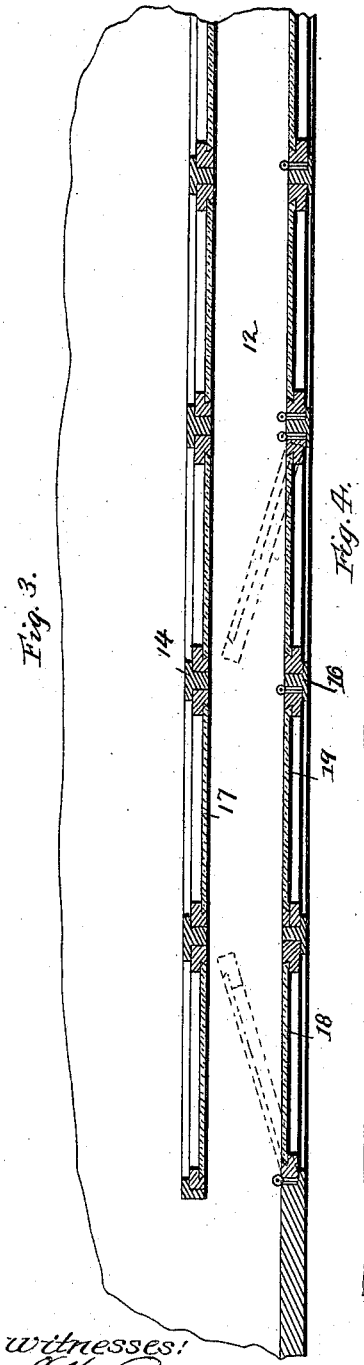

Fig. 3.

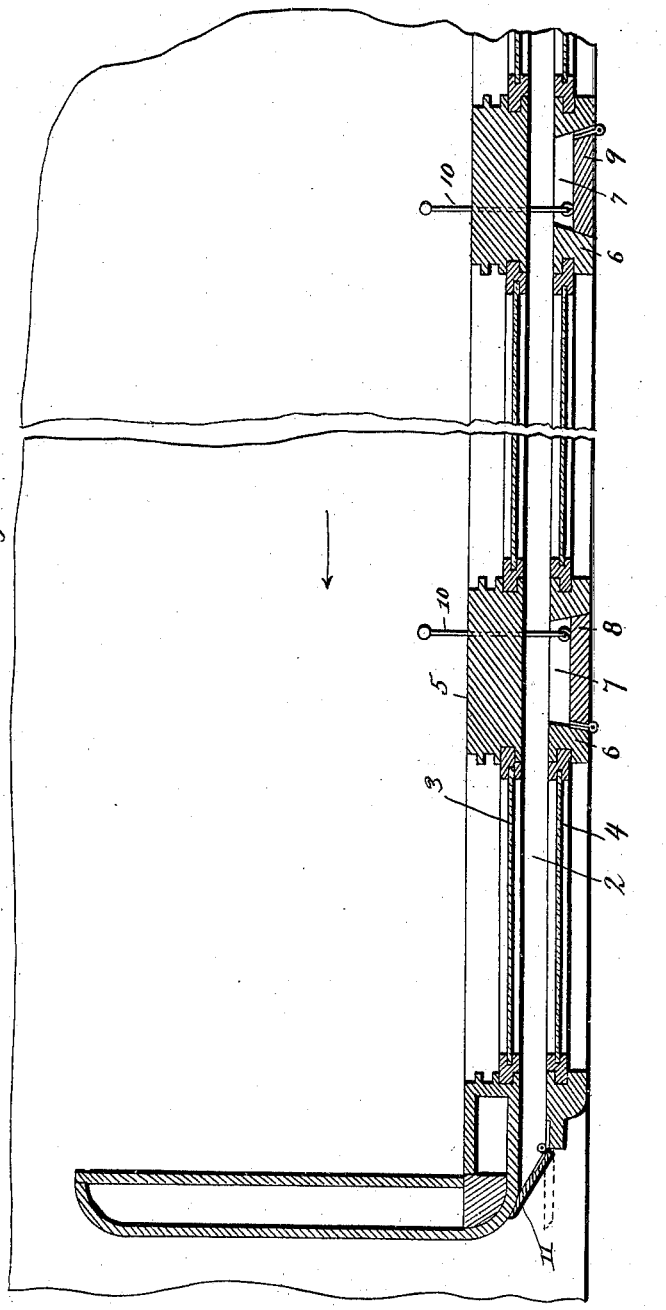

Fig. 4.

Witnesses:
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UNITED STATES PATENT OFFICE.

WILLIAM CURLETT, OF SAN FRANCISCO, CALIFORNIA.

CAR VENTILATION.

SPECIFICATION forming part of Letters Patent No. 584,331, dated June 15, 1897.

Application filed August 12, 1896. Serial No. 602,552. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM CURLETT, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented certain new and useful Improvements in Car Ventilation; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to the ventilation of railway-cars, more especially passenger-cars, and its novelty and advantages will be fully understood from the following description and claims when taken in conjunction with the accompanying drawings, in which—

Figure 1 is a side elevation of the end portion of a car-body embodying my invention. Fig. 2 is a vertical transverse section of the same. Fig. 3 is a horizontal section taken in the plane indicated by the line *y y* of Fig. 2, and Fig. 4 is a broken section taken in the plane indicated by the line *x x* of Fig. 1.

In the said drawings similar numerals designate corresponding parts in all of the several views, referring to which—

1 indicates a car-body which is of the ordinary general construction and configuration. This body 1 is provided in its opposite side walls with the longitudinal air-passages 2, which extend its full length, and it is also provided upon opposite sides of the said passages 2 with the inner and outer sliding sashes 3 4, which are arranged opposite each other, as shown, so as not to obstruct the view from the inside of the car. The sashes 3 and 4 are, as better shown in Fig. 4, arranged flush with the inner or contiguous sides of the walls 5 6, in which they are adapted to slide vertically in the usual manner, and the said inner sides of the walls 5 6 are made smooth, as shown, so that no obstruction will be offered to the free passage of air through the passages 2.

7 indicates openings which are formed in each outer wall 6 between sashes 4 and preferably adjacent to the ends of the body, as shown, and 8 9 indicate doors for controlling said openings, which have handles 10 extending within the car, so as to enable an attendant to conveniently open or close them. The door 8, adjacent to one end of the body 1, has its edge nearest said end connected in a hinged manner to the wall 6, and the door 9, adjacent to the opposite end of the body, has its edge nearest to that end connected in a hinged manner to the wall 6, for a purpose presently described.

The opposite ends of the passages 2 are controlled by doors 11, which are connected in a hinged manner to the ends of the walls 6. These doors 11 are designed in the position shown by full lines to close the ends of the passages 2, and they are also designed, as shown by dotted lines, to be opened, so as to admit air to the passages 2, and are further designed to be swung outwardly, so as to form flaring entrances to lead the air into the passages 2.

In virtue of the construction described it will be seen that with the inner sashes 3 up and the outer sashes 4 down and the door 8 adjacent to the forward end of the car open when the car is traveling in the direction of the arrow in Fig. 4 the suction of air, rushing past the door 8, will exhaust all the impure air from the interior of the car, and are designed when raised to take into the inner and outer pockets formed in the side walls of the car above and in communication with the passages 2, as better shown in Fig. 2, and yet the entry of dust, cinders, &c., into the car will be effectually prevented. When the car is traveling in the direction opposite to that indicated by arrow, the same result may be accomplished by closing the door 8 and opening the door 9. The result described may also be accomplished by closing all the doors 8 and 9 and opening the doors 11, so as to enable the air to rush through the entire length of the passages 2, and it may be accomplished in a greater degree by opening both the doors 11 and the door 8.

With the construction of ventilating appliances described it will be seen that a cool and pure atmosphere may be maintained in a car without the entry of dust, cinders, or the like and without subjecting the passengers to a draft, and this notwithstanding the fact that the car may be traveling through a dusty and windy country.

While I have shown and described but one door 8 and one door 9 in each side of the car-

body, I prefer in practice to provide a plurality of such doors, so as to gain a greater suction for the purpose before described.

For the purpose of further ventilating the interior of the car I provide the air-passages 12 at the top of the same and on opposite sides of the clearstory 13. These passages 12, which extend the full length of the clearstory, are formed by the side walls 14 and the roof 15 thereof and the outer wall 16, which is provided with lights 17, as shown. The side walls 14 of the clearstory are also provided with lights, some of which may be arranged in fixed sashes, although I prefer to arrange them all in outwardly-swinging sashes 18 and 19, as shown, the sashes 18 being hinged at one end and the sashes 19 hinged at the opposite ends, so that when the car is traveling in the direction indicated by arrow the sashes 18 may be swung partly open, and when it is moving in the opposite direction the sashes 19 may be partly opened. When the sashes 18 or 19 are so opened, according to the direction in which the car is traveling, it will be seen that air entering the forward ends of the passages 12 will rush through the same with great force and, by creating a strong suction, will draw all impure air out of the car and thoroughly ventilate the same, and this without any dust or cinders entering the car or lodging in the passages 12, inasmuch as the draft of air will be sufficient to carry such dust and cinders as enter the passages entirely through the same.

I have in some respects specifically described the construction and relative arrangement of the parts of my improvements in order to impart a full, clear, and exact understanding of the same. I do not desire, however, to be understood as confining myself to such specific construction and arrangement, as such changes or modifications may be made in practice as fairly fall within the scope of my invention.

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

1. A car-body having the longitudinal passages in its side walls extending the full length thereof, doors for closing the opposite ends of the said passages, movable sashes arranged in the inner and outer walls of the passages, openings arranged in the outer walls of the passages between the sashes thereof, and hinged doors for controlling said openings having handles extending through the inner walls of the passages into the car, substantially as and for the purpose set forth.

2. A car-body having the longitudinal passages in its side walls extending the full length thereof, vertically-movable sashes arranged opposite each other in the inner and outer walls of the longitudinal passages and having their inner sides arranged flush with the side walls of the passages so as to offer no obstruction to the passage of air, openings arranged in the outer walls of the passages between the sashes thereof, hinged doors for controlling said openings, and means whereby said doors may be opened and closed by a person within the car, substantially as specified.

3. A car having a clearstory provided in its side walls with hinged sashes; the said sashes being connected to the said side walls in such a manner as to permit of them being swung outwardly in a horizontal plane and so that when closed their outer sides will be flush with the sides of the clearstory, and walls arranged parallel to the side walls of the clearstory and serving in conjunction with said side walls and the roof of the clearstory to form longitudinal passages open at their opposite ends, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM CURLETT.

Witnesses:
R. BLUM,
GEO. E. TERRY.