

117076

PATENTED JUL 18 1871

Fig. 1.

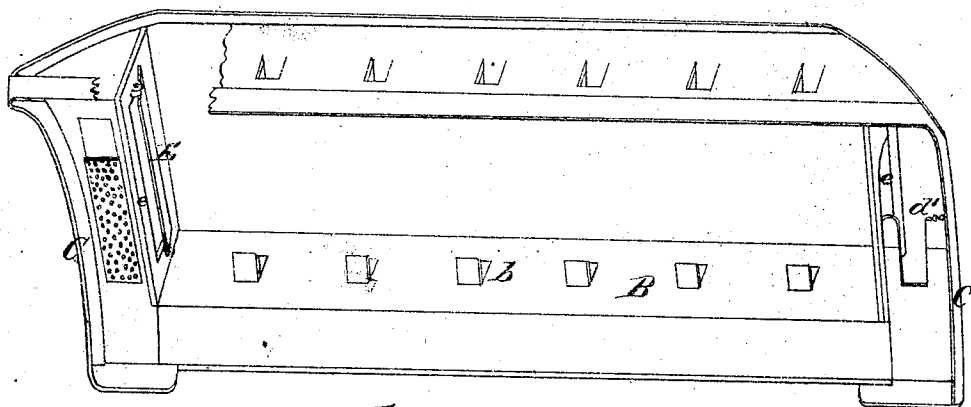


Fig. 2.

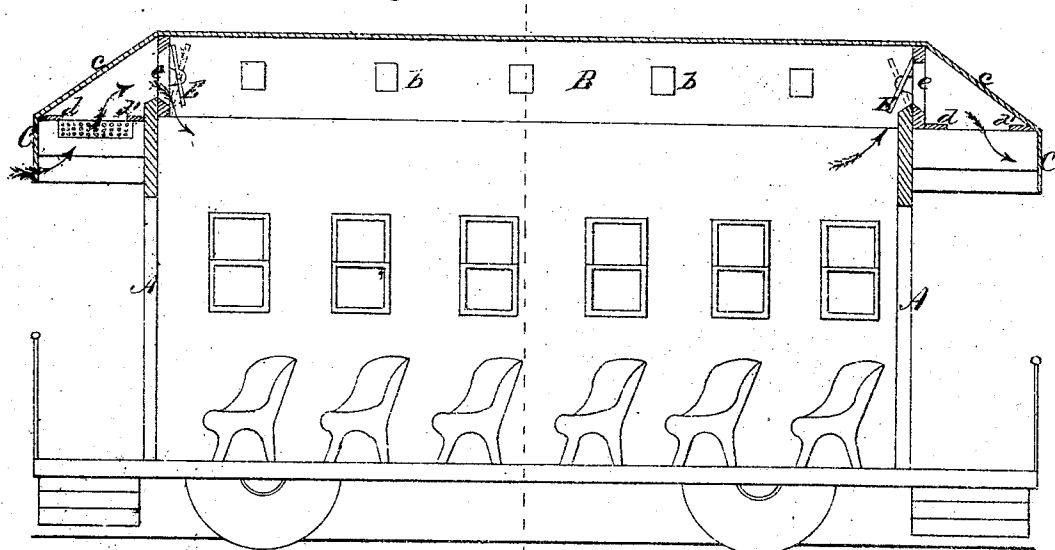
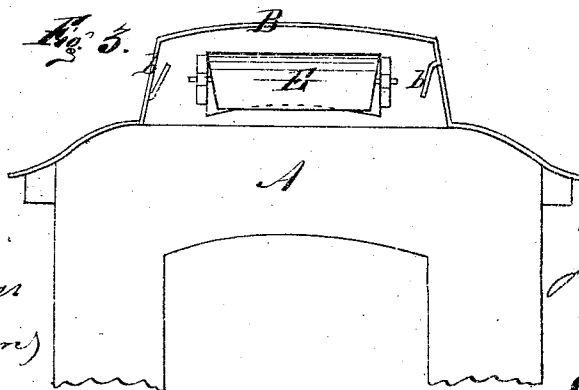


Fig. 3.



Witnesses.
H. L. Bennett
Louis Seaman)

Inventor
Jas. L. Howard
by his atty.
C. L. Brewick

UNITED STATES PATENT OFFICE.

JAMES LELAND HOWARD, OF HARTFORD, CONNECTICUT.

IMPROVEMENT IN RAILROAD-CAR VENTILATORS.

Specification forming part of Letters Patent No. 117,076, dated July 18, 1871.

To all whom it may concern:

Be it known that I, JAMES LELAND HOWARD, of the city and county of Hartford, in the State of Connecticut, have made an invention of a new and useful Improvement in the Construction of Railroad Cars; and that the following is a full, clear, and exact description and specification of the same.

The object of this invention is to supply the car with fresh air, free from dust; and my invention consists of the combination of the raised central portion of the roof of the car, and the hood over the platform, by means of a ventilating air-passage or aperture provided with a register or valve. This invention is based partly upon the discovery that the dust and sparks do not enter the said hood, (probably because they move in directions approximately horizontal, and are deflected by the exterior surface of the hood, while those below the mouth of the hood would have to rise to enter it,) and partly upon the fact that the quantity of air passing into the car from the interior of the hood is so small, as compared with the area of the mouth of the hood, that the upward current of that air in the mouth of the hood is extremely slight, and consequently the dust and sparks are not carried upward by it. One mode of embodying my invention is represented in the accompanying drawing, in which—

Figure 1 represents a view in perspective of the upper portion of a car. Fig. 2 represents a vertical longitudinal section of the car. Fig. 3 represents a transverse section of a portion of the car.

The car-body A and roof B may be constructed in the usual manner now customary, the central part of the roof being raised and fitted with ventilating-apertures *b* at its sides for the escape of foul air. At each end of the car-body there is a

hood, C, which extends over the platform, and is open at its under side. The ventilating-aperture or air-passage *e* for the entrance of fresh air to the car-body is formed in the upper part of the end of the car which is overlapped by the hood, and is arranged by preference in the central part of the end of the car-body. This aperture also is fitted with a register, E, by which the air passing through the opening is controlled. When the car thus fitted is in motion, air enters at the forward ventilating-aperture or passage, and tends to escape at the rear aperture. The register or valve may be arranged, if deemed best, to direct the entering air upward or downward; and if the rear aperture be closed the whole of the entering air will escape at the side apertures of the roof, thus affording a very efficient ventilation. The presence of the hood over and in advance of the forward aperture deflects the sparks and dust that would otherwise tend to enter that aperture; and, if deemed best, the risk of the entrance of sparks or dust may be still further lessened by means of a perforated guard, *d'*, applied to an opening in the ceiling *d* of the hood.

What I claim as my invention, and desire to secure by Letters Patent, is—

The combination of the central raised portion of the roof of the car, the hood over the platform, and the air-passage connecting the spaces under the hood and in the raised portion of the roof, substantially as before set forth.

Witness my hand this 13th day of June A. D. 1871.

JAMES L. HOWARD.

Witnesses:

ALBERT L. BURKE,
GEO. H. CAREY.