P. M. Pyfer,

Car Ventilator,

No. 16,806. Patented Mar. 10, 1857.

Fig. 1.

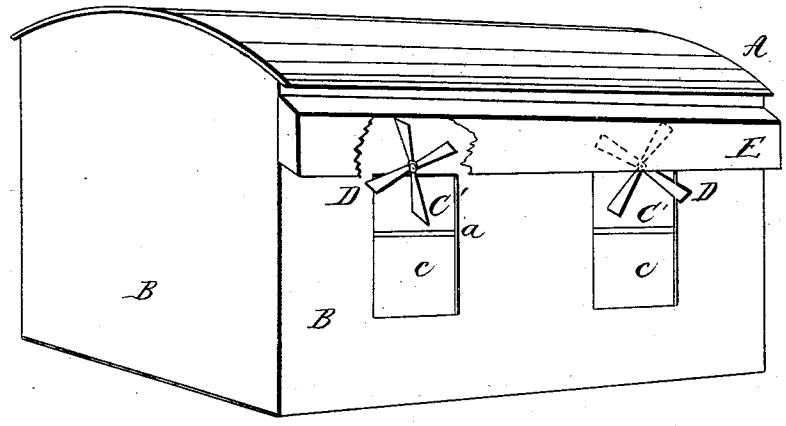
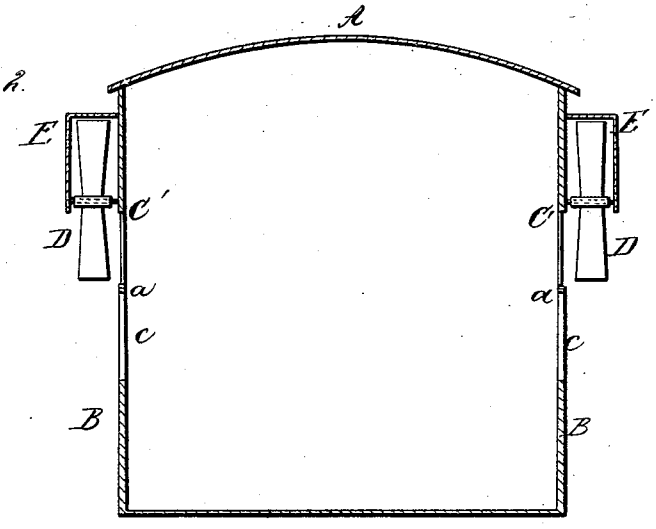


Fig. 2.



UNITED STATES PATENT OFFICE.

PHILIP M. PYFER, OF BALTIMORE, MARYLAND.

METHOD OF PREVENTING DUST, &c., FROM ENTERING THE WINDOWS OF RAILROAD-CARS.

Specification of Letters Patent No. 16,806, dated March 10, 1857.

To all whom it may concern:

Be it known that I, PHILIP M. PYFER, of the city and county of Baltimore and State of Maryland, have invented certain new and useful Improvements in Excluding Dust, &c., from Railroad-Cars, &c.; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification.

The nature of my improvement consists in an arrangement of rotary fans or vanes placed on the outside of the body of the car at or in connection with the windows usually employed, so that by the movement of the cars or otherwise, the vanes or fan may be rotated and thus produce a current of air across the outside of the window when open, and also induce the exit of air from the inside of the car, for the purpose of preventing the entrance of dust or cinders into the car, and improving the ventilation thereof.

The drawings exhibit a section of a car body, Figure 1, being in perspective and Fig. 2 a transverse section.

The car in its construction resembles those in common use, the improvement I have made being applied thereto and to enable others to understand its use and operation I will proceed to describe it as follows.

A represents the roof and B B the side of an ordinary passenger car; C C′ and C, C′ are the windows, the upper sash C′ represented as closed with glass or otherwise, while the lower ones C, C, are open; D, D, are rotary fans mounted on horizontal axles whose bearings may be in a frame work attached to the outside of the car body; E is a hood or covering placed over the upper portion or upper arms of the fan.

It is the design to have the arms of the fan in their rotation to descend to the middle bar *a* of the window. In the usual construction of the windows this bar limits the height thereof. By thus limiting the descent of the arms it prevents accidents to the heads or arms of persons looking or reaching out. This arrangement of the fans on the outside of the body and in immediate connection with the windows is simple and efficient for the purposes designed. Its mode of operation is as follows: When the cars are propelled against and through the air, it strikes the wings or vanes of the fan projecting beyond the hood and causes their rotation in proportion to the velocity of the cars; thereby generating a rapid current of air across the lower portion (C) of the windows and directs the cinders from above and dust of the road downward, thus preventing their entrance through the window when the sash is raised.

Should it be desirable to run the fans faster than the velocity of the cars would by the wind impel them bands and pulleys from the car wheels may be employed, but it is deemed unnecessary, as the current of air will be sufficient. Should it be desired to place the fans at the side of the windows or vary their character it may be done as a modification of this arrangement.

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

The arrangement of rotary fans D, D, or their equivalent, upon the outside of the body of the car, when employed in conjunction with the windows thereof, substantially in the manner and for the purposes set forth.

In testimony whereof I have hereunto signed my name before two subscribing witnesses.

P. M. PYFER.

Witnesses:

JOHN F. CLARK,

JOHN S. HOLLINGSHEAD.