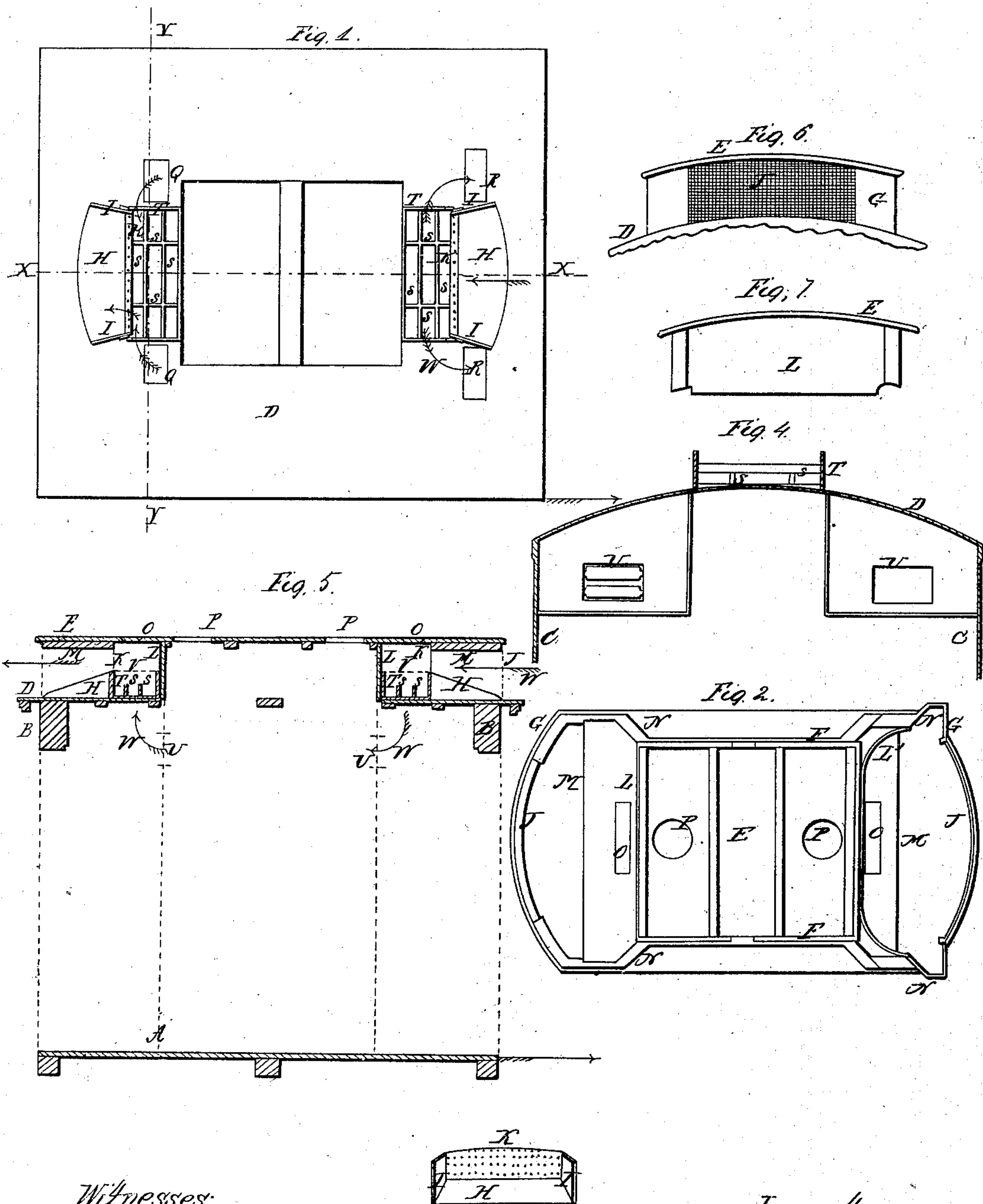


Peniff & Buttolph,

Car Ventilator.

N^o 62,225.

Patented Feb. 19, 1867.



Witnesses;

*J. C. Stout
Jon. R. Larimore*

Inventors;

*Wm. R. Peniff
Wm. W. Buttolph*

United States Patent Office.

R. RENIFF AND WILLIAM W. BUTTOLPH, OF BLOOMINGTON, ILLINOIS.

Letters Patent No. 62,225, dated February 19, 1867.

RAILROAD CAR VENTILATOR.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that we, R. RENIFF and WILLIAM BUTTOLPH, of Bloomington, in the county of McLean, and State of Illinois, have invented a new and useful improvement on Spark Arrester and Car Ventilator; and we do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a plan view of that portion of our spark arrester and car ventilator which is attached to the main roof of the car, the elevated roof being removed in order to clearly show this part of our invention.

Figure 2 is a view of the under side of the elevated roof and that part of our invention attached to the same.

Figure 3 is a longitudinal central section, taken vertically through the red line *x x*, fig. 1, showing our invention as adjusted between the principal and elevated roof.

Figure 4 is a broken section of the upper part of the car with the elevated roof removed, taken through the red line *y y*, fig. 1, showing the registers through which the air passes and the water-tank for receiving the dust.

Figure 5 is a longitudinal elevation of the inside spark arrester, attached to the receiving-cap of the ventilator.

Figure 6 is an elevation of the outside spark arrester, attached to the end of the outside of the elevated roof.

Figure 7 is an elevation of the metallic back lining of the spark arrester.

The nature of our invention consists, first, in covering the outside opening of the ventilator with a wire screen or net-work, for the purpose of preventing sparks and cinders from passing into the ventilator; second, in attaching a perforated metallic plate to an inclined receiving-cap, in order that a large portion of the dust which might pass through the outside screen may be prevented from entering the water tank; third, in attaching a metallic lining to the back of the water-tank for the purpose of receiving the dust passing through the perforated plate, and causing it to fall into the water-tank.

A represents the bottom, B the ends, C the sides, and D the roof of a common passenger car. E shows the sides and G the ends of the elevated roof; the whole representing a very common construction of ventilated passenger cars. H represents what I term a receiving-cap, made of wood or other suitable material, and is attached to the main roof of the car D in a substantial manner. This cap is inclined downward toward the wire net-work J, in order that the dust which accumulates between the screen and perforated plate K may settle down against the screen J and pass through the same when the cars are run in the opposite direction. I are the sides of the receiving-cap, the edges of which fit closely against the outside screen J, thus causing the air to pass directly through the perforated plate K, figs. 1, 3, and 5. This plate we generally make of zinc, with such a number of holes and size as to allow the air to pass through freely and yet form a barrier against the passage of any considerable amount of dust. M, fig. 1, is the thin metallic plate secured to the under side of the elevated roof, used for the purpose of closing the top of the receiving-cap H. L L', fig. 1, is the metallic back lining, against which the small particles of dust strike before settling into the water-tank. T shows the water-tank, which should be lined with zinc and thoroughly painted in order to prevent the possibility of leakage. s shows the small strips secured to the bottom of the tank in order to form a series of chambers of such depth as will prevent the water contained in the same from being too much agitated by the motion of the cars. These strips, s, are very important in keeping the water in the tank T in such a position as to cover the bottom of the same, notwithstanding the irregular motion of the cars, and are absolutely necessary, when keeping any considerable body of water in said tank, for receiving the dust. O shows small trap-doors, arranged in the elevated roof E, directly over the water-tanks, for the convenience of filling the tank T and cleaning the same. When there is no elevated roof above the main roof, the receiving-cap H, with the necessary devices, may be placed on each end of the car and covered with a short section of roof, which will fully answer the purpose of ventilation. P P show holes made through the elevated roof, in which may be placed the common ventilator. N shows the enlargement of the ends of the elevated roof, made for the purpose of covering the ventilating holes Q R. It will be seen that the holes Q are made through the principal roof D, at a greater distance from the end of the car than the holes R. This is done for the purpose of causing the current of air to pass into the car near the inner partition of the saloon, so that it may readily pass through the registers U. In this case the back lining necessarily has to be curved, as seen at L, fig. 2.

Operation.

In order to use my invention the tanks T must be filled about two-thirds full of water, by means of the trap-doors O, after which the doors can be closed and the car may be run in either direction, and the ventilator will be operated by the force of atmosphere passing through the screen J. The fine dust which passes through the perforated plate K will fall into the water-tank T. It will be seen by the dotted lines V, fig. 3, representing the top of the water-tank, that a space is left between it and the elevated roof E of sufficient size for the air to pass over the ends of the tank into the holes Q R, and out through the registers U, into the car, at which time it will pass through the same and out by means of the register and ventilator attached to the opposite end of the car, as seen by the direction indicated by the darts W. When the direction of the car is changed, the small amount of dust accumulated in the receiving-cap H will be immediately blown out through the screen J, and the ventilator will operate as before. When desirable, holes may be made in the ends of the tank T, and also through the projections N, and pipes inserted for the purpose of drawing the water out of the tank.

Having thus fully described our invention, what we claim, and desire to secure by Letters Patent of the United States, is—

The use of the vertical screens J, covering the mouths of the receiving-caps H, in combination with the inner perforated plate K, and water-tank R, having the partitions s constructed substantially as and for the purpose set forth and described.

Witnesses:

J. H. STOUT,

JOHN R. LARREMORE.

R. RENIFF,

WM. W. BUTTOLPH.