Robt. Hitchcock,
Car-Ventilator.

No. 75,910. Patented Mar. 24. 1868.

Fig. 1.

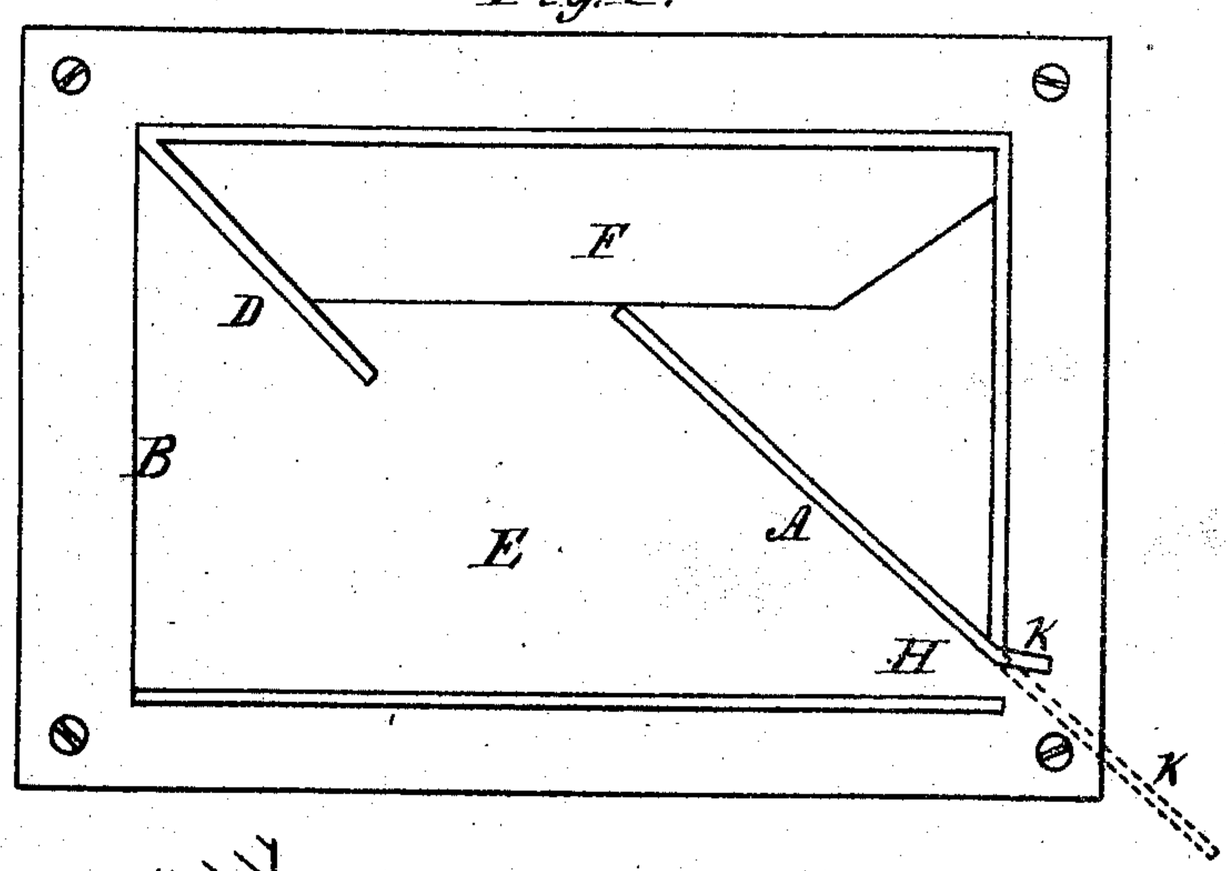


Fig. 3

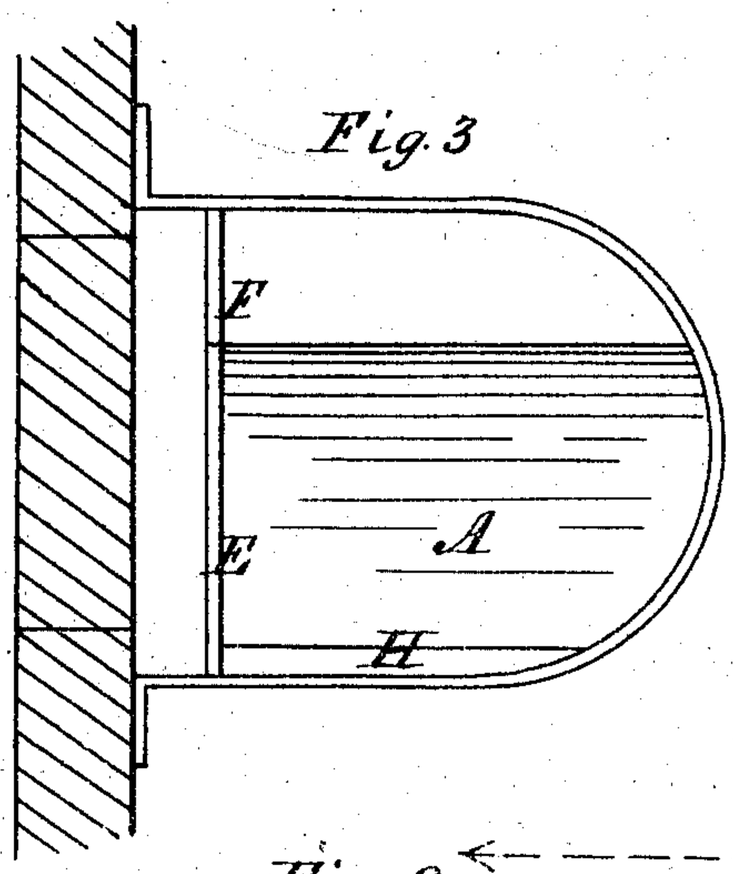
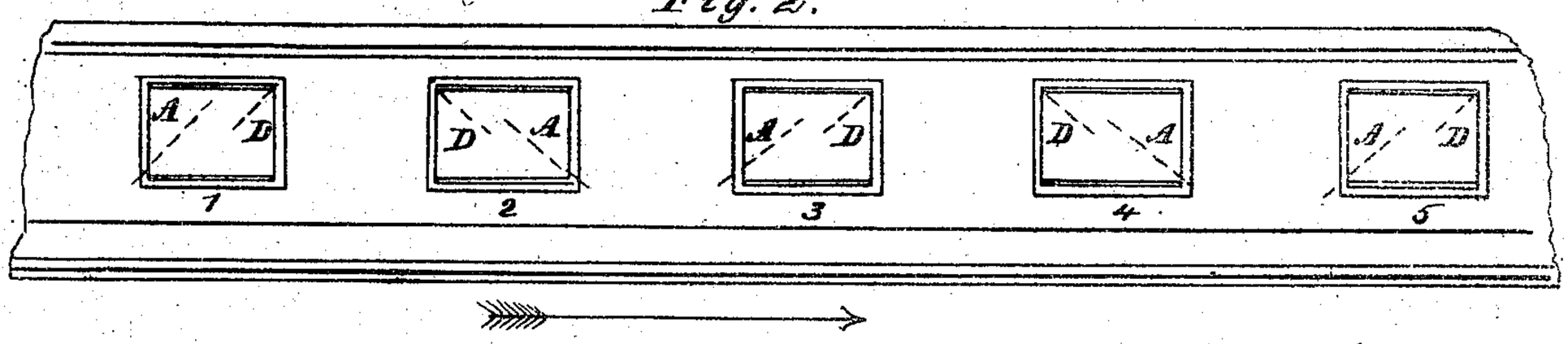


Fig. 2.



Witnesses
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ROBERT HITCHCOCK, OF SPRINGFIELD, MASSACHUSETTS.

Letters Patent No. 75,910, *dated March* 24, 1868.

IMPROVEMENT IN CAR-VENTILATORS.

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

TO ALL WHOM IT MAY CONCERN:

Be it known that I, ROBERT HITCHCOCK, of Springfield, Hampden county, Commonwealth of Massachusetts, have invented a new and useful Improved Car-Ventilator; and I do hereby declare that the following is a full and clear description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon. In the drawings—

Figure 1 is a sectional view of my ventilator, and

Figure 2 is a diagram, showing the manner of applying it.

This invention consists of a car-ventilator, which has for its principle an indirect passage for the air, and a deflector for the cinders and dirt, and so arranged upon the car that two essential offices for ventilation—the exhausting of the inner atmosphere, and supplying of fresh from the outside—are performed by the same construction of ventilator in different relative positions.

In the drawings, it is seen that the fig. 1 shows a deflector, A, opposite to the main opening B, and extending downwards, in a slanting direction, to the lower part, H, of the passage, at the other end from the opening B. At the part H is a small opening left for the cinders and trash in the air to go through. The deflector H does not reach the top part of the passage, but a space is left open above its upper edge at C. A front deflector, D, reaches from the front top edge of the case or passage to about a third of the distance between it and the lower side, slanting also in about the same angle as the deflector A. This brings the lower edge of the front deflector D on a lower plane than the top edge of the one, A, and thus produces a lap that may be varied at discretion. In the side, E, of the case where it is placed to the car, and is opposite the vent in the same, is an opening, F, to let the air through, in or out of the car, as the case may be. A lip, K, is attached to or forms part of the lower edge of the deflector A, and projects to the rear of the ventilator. This, however, when the device is an exhaust, prevents the air from going into the hole H, and may be extended, as shown by red lines, (fig. 1,) until it is long enough to produce a suction at this end of the case. This lip may be varied, however, in angle and length, to suit the requirements of the occasion.

The manner of applying this device to the car, so as to produce the exhaust and supply, is as follows: The ventilators are arranged alternately with their main openings facing each other, the rest of the ventilator being correspondingly reversed in construction. Now, when the car travels in the direction shown by the red arrow, the ventilators indicated by the even numbers, 2, 4, &c., catch the air, and force it into the car through the vent-holes F, the cinders being deflected by the deflector A, and passing through the hole at H. The other ventilators, 1, 3, 5, &c., are now acting as exhausts, and, by means of the suction produced by their rapidly moving against the air, they draw the air from the car. When the car travels, however, in the direction shown by the black arrow, the action of the ventilators is reversed, 2, 4, &c., now becoming exhausts, and 1, 3, 5, the supply.

The case of ventilator may be made of any convenient form, although I prefer, for the sake of appearance, a semi-cylindrical form, as shown in the sectional end view of Figure 3.

The advantages of this ventilator are that it, by proper arrangement, performs two offices; and it is not liable to get out of order, having no valve to work in it; and it makes no noise.

Now, having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a car-ventilator, the combination of the deflector A, deflector D, and vent F, arranged in an outside case, substantially as shown.

2. The arrangement of alternately-reversed ventilators, 1, 2, 3, 4, &c., producing alternately exhaust and supply, as the car moves in either direction, respectively.

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Witnesses:

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