

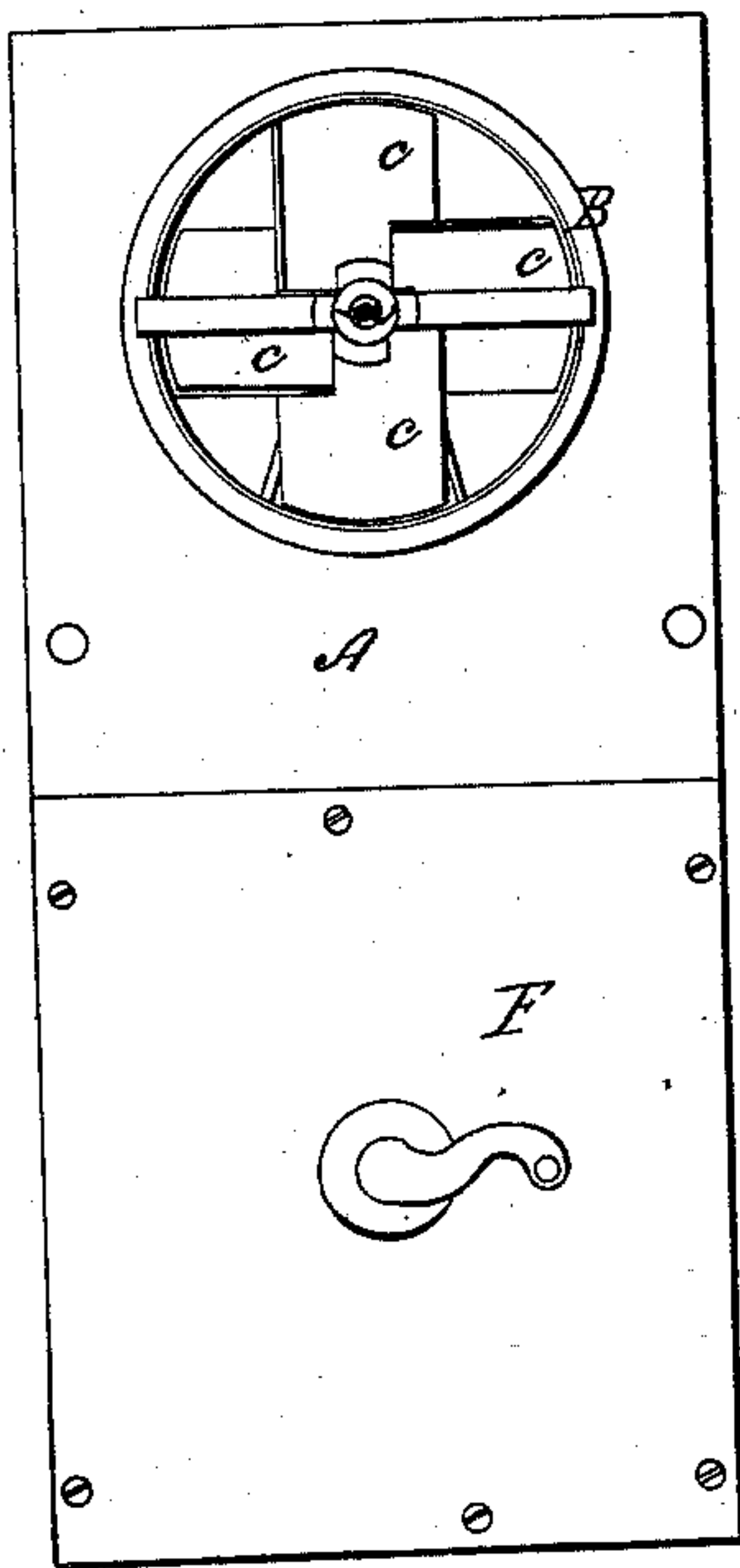
*I. Buckingham,*

*Car Ventilator,*

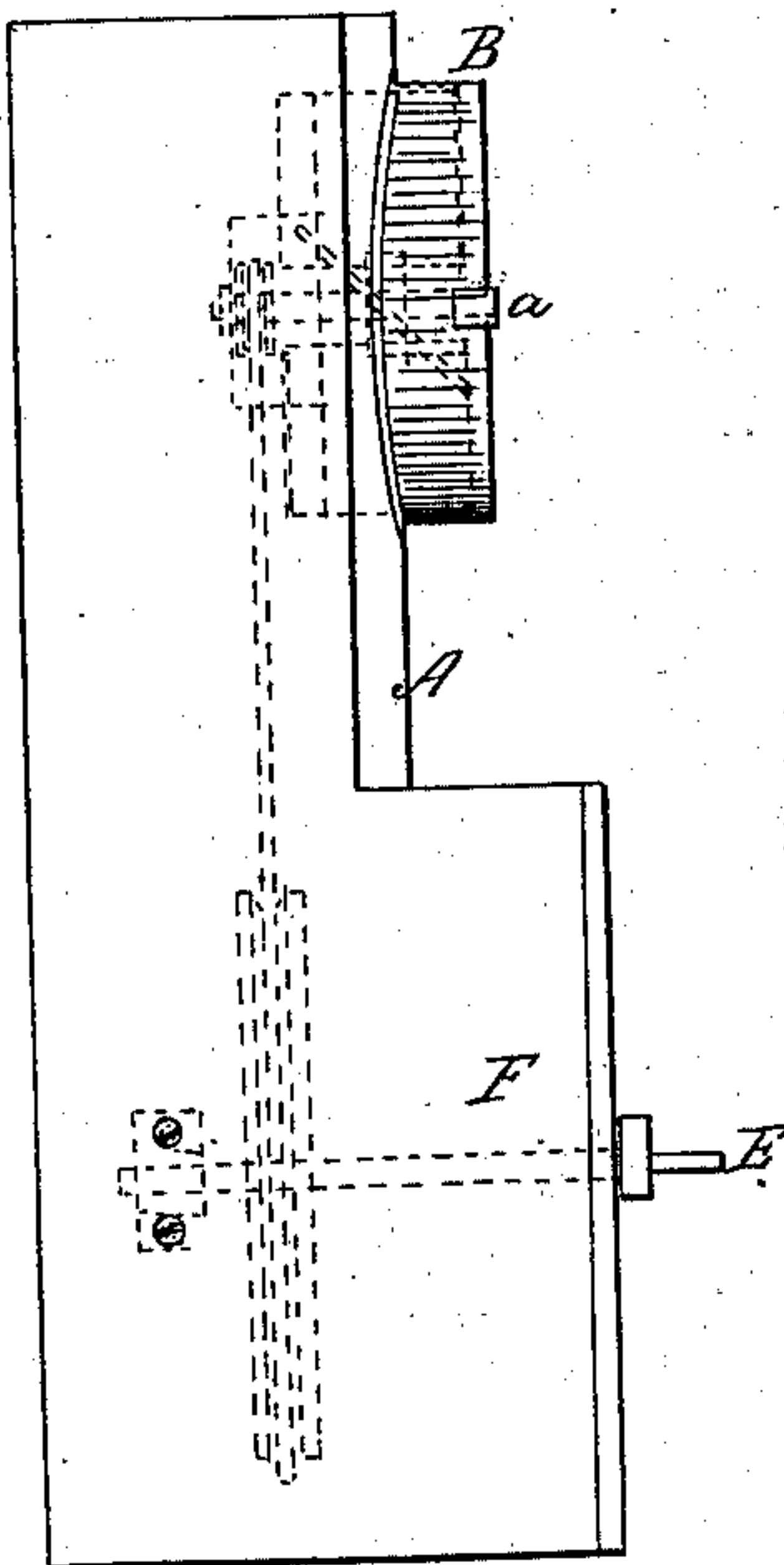
*Patented May 12, 1868*

*No. 77,867.*

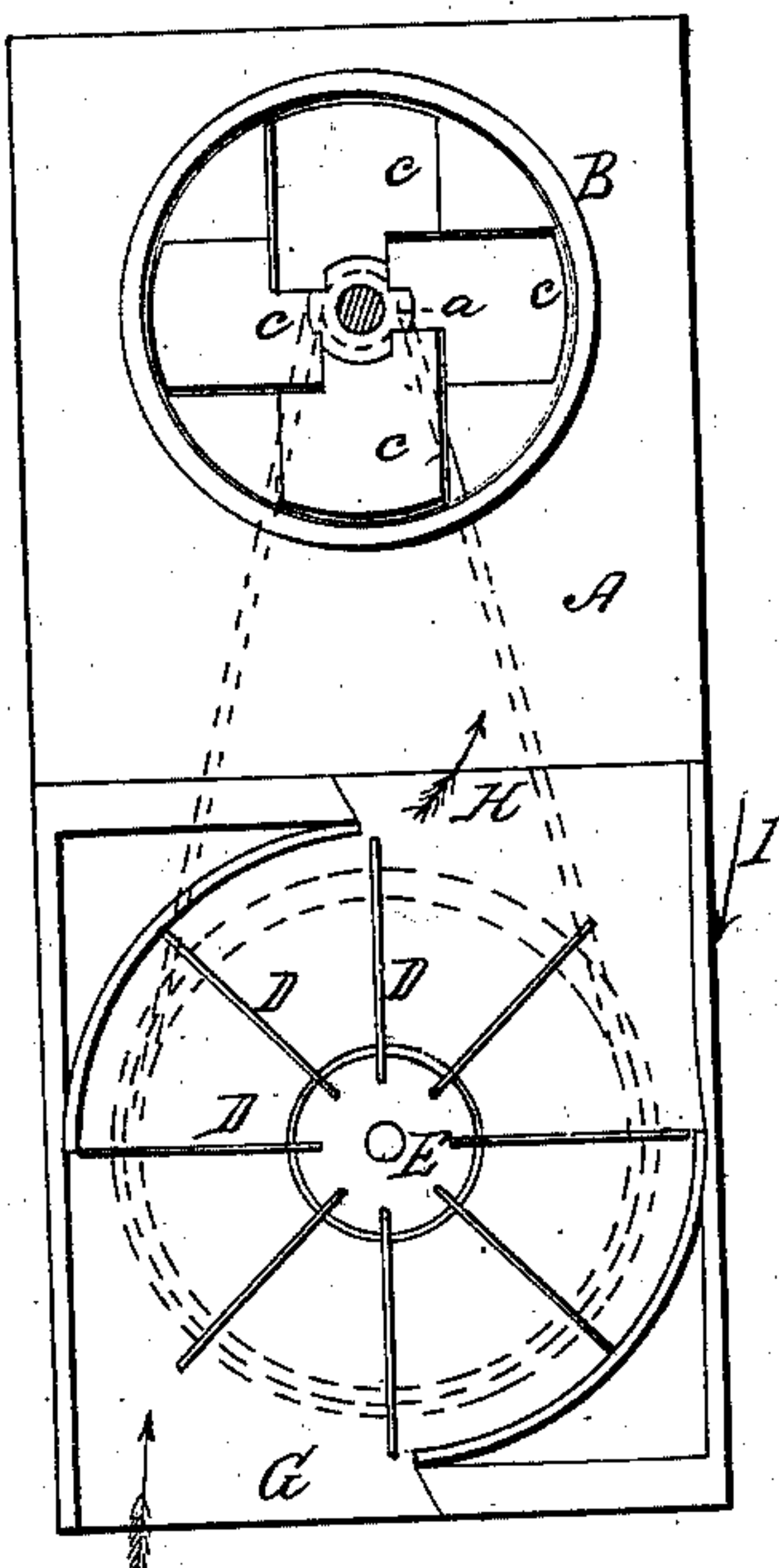
*Fig. 1*



*Fig. 2*



*Fig. 3*



*Witnesses*

*John M. Shumway*  
*A. J. Libbit*

*Inventor,*

*Isaac Buckingham*  
*By his Attorney*

*John E. Earle*

# United States Patent Office.

ISAAC BUCKINGHAM, OF SEYMOUR, CONNECTICUT, ASSIGNOR TO HIMSELF  
AND H. W. RANDALL, OF SAME PLACE.

*Letters Patent No. 77,867, dated May 12, 1868.*

## IMPROVEMENT IN AUTOMATIC 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, ISAAC BUCKINGHAM, of Seymour, in the county of New Haven, and State of Connecticut, have invented a new Improved Automatic Car-Ventilator; and I do hereby declare the following, when taken in connection with the accompanying drawings, and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a top view,

Figure 2 a side view, and in

Figure 3 a sectional view looking down.

This invention is designed for the purpose of ventilating cars, or creating a draught of air therethrough, the circulation produced by a revolving fan, and the power required is induced by the movement of the car.

In order to the clear understanding of my improvement, I will proceed to describe the same as illustrated in the accompanying drawings.

A represents the top of the car, through which is formed a round hole, and into this is set a cylinder, B, and within the said cylinder, and supported in proper bearings, is a vertical shaft, *a*, upon which are fixed several blades, C, more or less in number, and set at an angle, as seen in fig. 1, so that, by the revolution in one direction, the tendency is to draw the air from the car, while the reverse would be to force the air into the car, the object of this invention being to draw out the air from the car, relying upon any known device for the admission of fresh air, and the blades are thus caused to revolve by several blades, D, supported upon a vertical shaft, E, arranged within a covered case, F, above the top of the car, the said case open in front at G, and in the rear at H, and so as to revolve freely.

From a pulley on the shaft E to a corresponding pulley of less diameter on the shaft *a*, as denoted in figs. 1 and 3, runs a band, so that the revolution of the shaft E will cause the blades C to revolve more rapidly.

Supposing the car to be advancing in the direction of the arrow I, air will enter through the opening G, and, striking the blades upon that side of the shaft E, will cause their revolution until the air escapes through the opening H, and so will continue to keep the blades D in revolution, and consequently the blades C of the fan; or, if the car be going in the opposite direction, then the air will enter the opening H upon the opposite side, and cause the revolution of the fan C in the same direction, so that the same result is attained, whichever way the car moves.

Having thus fully described my invention, what I claim as new and useful, and desire to secure by Letters Patent, is—

The arrangement of the driving-blades D within the case F, the said case provided with openings G and H, so that the said driving-blades will revolve in the same direction, into whichever of the said openings the air enters, and having combined therewith, and so as to be operated thereby, the spiral blades C, upon a vertical shaft within a cylinder, B, substantially in the manner and for the purpose described.

ISAAC BUCKINGHAM.

Witnesses:

JOHN H. SHUMWAY,

A. J. TIBBITS.