

N. Jones. Ventilating Cars. PATENTED JUN 27 1871

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Fig. 1.

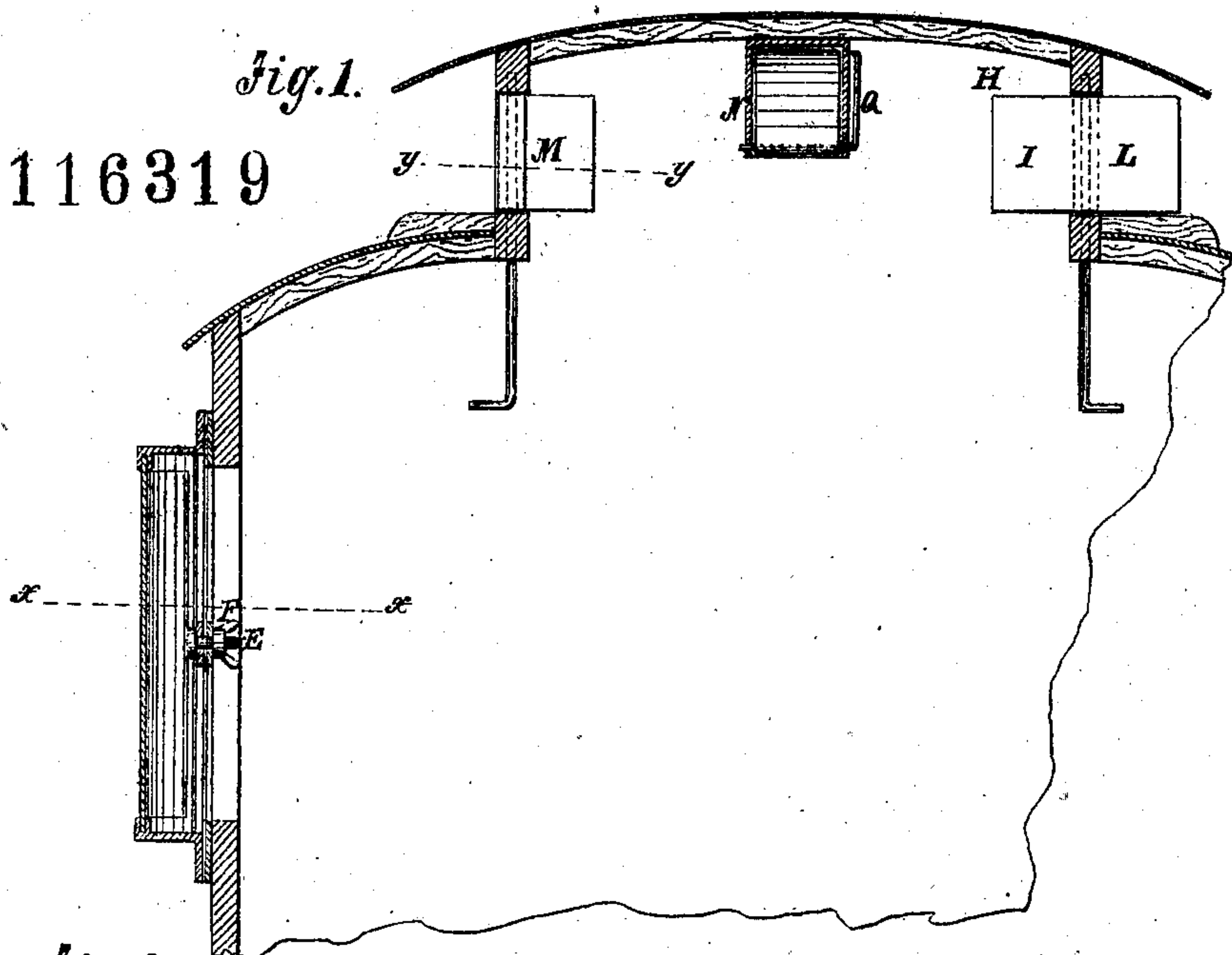


Fig. 2.

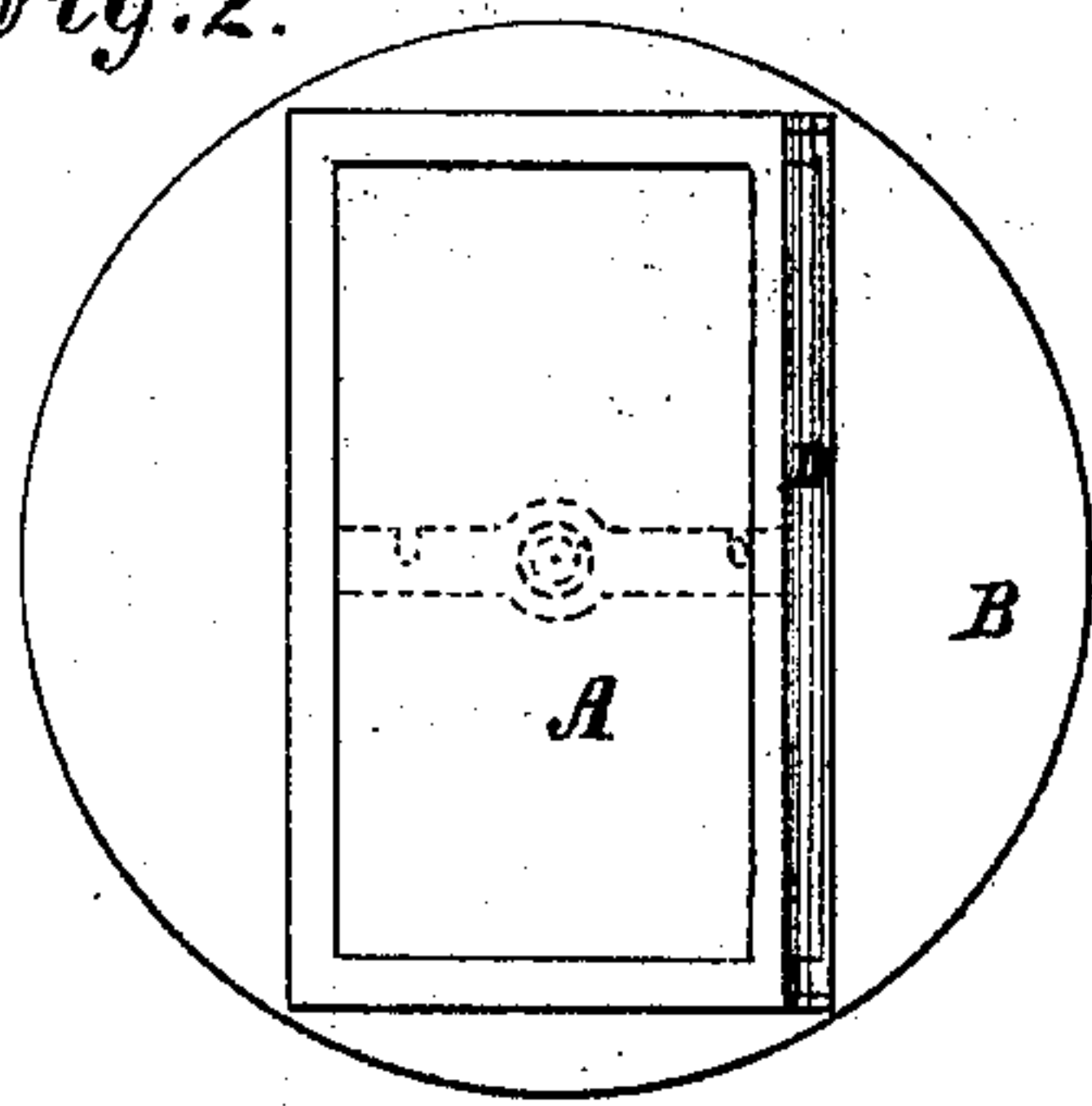


Fig. 3.

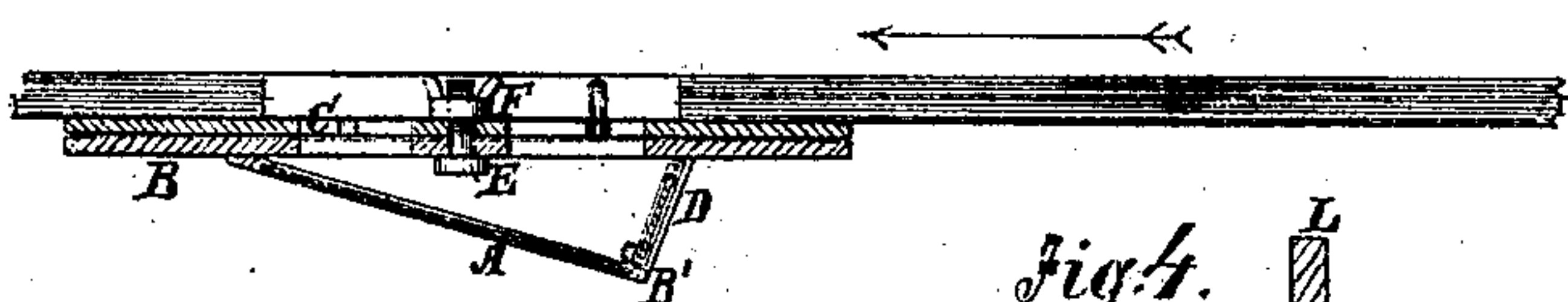


Fig. 4.

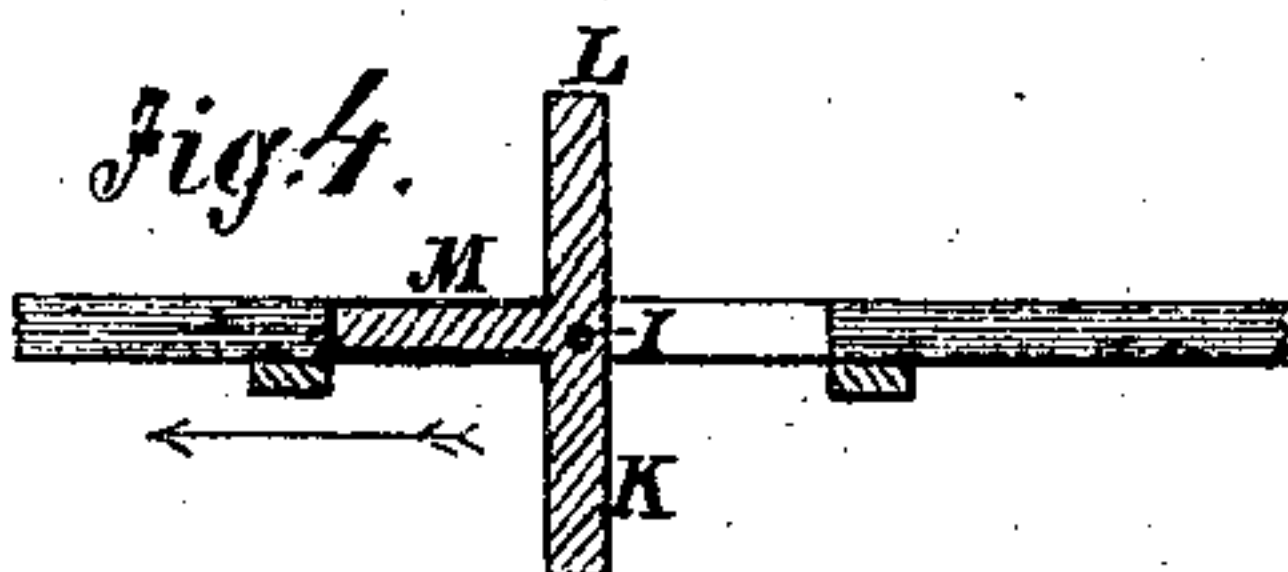
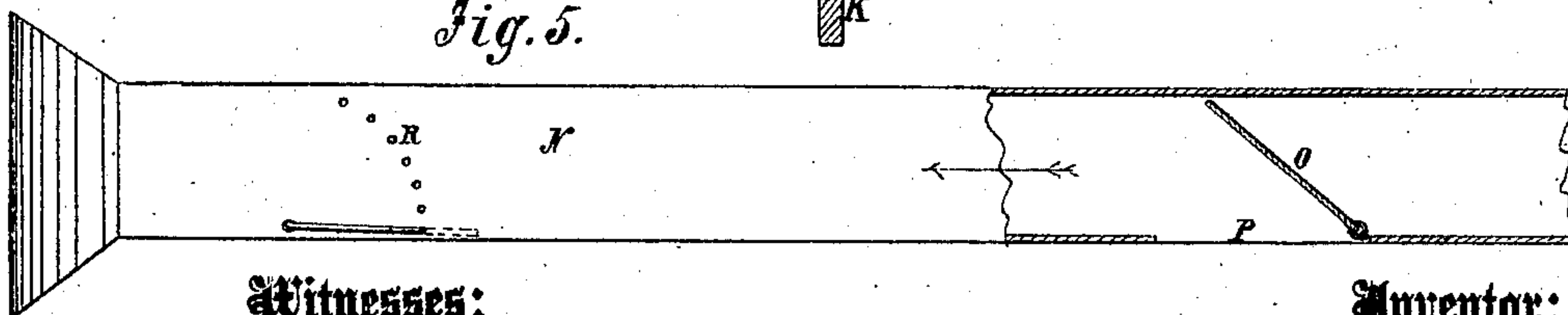


Fig. 5.



Witnesses:

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UNITED STATES PATENT OFFICE.

NATHANIEL JONES, OF BUFFALO, NEW YORK.

IMPROVEMENT IN RAILROAD-CAR VENTILATORS.

Specification forming part of Letters Patent No. 116,319, dated June 27, 1871.

To all whom it may concern:

Be it known that I, NATHANIEL JONES, of Buffalo, in the county of Erie and State of New York, have invented a new and useful Improvement in Ventilating Cars; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification.

This invention relates to improvements in means for admitting fresh air into cars for ventilating them, while excluding the cinders. It consists in certain arrangements of the windows of the car; also, valves calculated to obstruct the cinders while admitting the air.

Figure 1 is a transverse section of a part of a car having my improved ventilating apparatus applied to it. Fig. 2 is an elevation of one of the windows. Fig. 3 is a horizontal section on the line *x x* of Fig. 1, and Fig. 4 a horizontal section on the line *y y* of Fig. 1. Fig. 5 is partly a side elevation and partly a sectional elevation of the tube and valves for admitting the air from the front of the train.

Similar letters of reference indicate corresponding parts.

I propose to mount the window-frame A on a revolving plate, B, with one side, B', projecting outward so as to make a space, C, between it and the said plate B, in which space I arrange a narrow window, D, hinging it to the plate A so as to swing for opening or closing the space. It is arranged to swing inward, and provided with means for holding it more or less open. The plate B is mounted on a pivot-bolt, E, in a cross-bar, C, extending across the window, said bolt having a tightening thumb-nut, F, which, being loosened, will free the plate so that it may be turned to shift the window according to the direction in which the car moves. For example, when moving in the direction of the arrow, Fig. 3, it should stand as represented in said figure, the object being to have the cinders, rushing backward along the car with the air, strike against the window A and be thrown off, while the air, thus cleared of the cinders, will rush in at D to the car. For accomplishing the same thing in

the upper part of the car, as at H, where it is not objectionable to have the doors or valves project into the car, I prefer to employ a three-bladed valve, I, on a pivot in the center of the opening, two of the blades, K L, being in the same plane, and one, M, perpendicular thereto, to be adjusted so as to close the opening on the side of the pivot in the direction in which the car is moving, and have one blade project outwardly, as seen in Fig. 5, to arrest the cinders rushing back along the side wall of the car, while the space at the other side of the pivot, remaining open, will admit the air.

When the air is to be wholly excluded the valve will be turned so as to bring the blades K L into the space and the blade M inside.

For admitting air into a car from a tube, N, bringing it from the front of the engine or the train, I arrange a large square tube in the upper part of the car, as shown, and provide large valves O in openings P in the bottom or sides of said tube with a cranked arm, Q, swinging over one side for adjusting the valves, and swinging into holes or notches R in the side for holding them, as shown.

This device is intended more particularly for admitting the fresh air from the advance of the train, and allowing the air exhausting from the car to pass out at the side windows, which, being arranged as described, are particularly favorable for use in this way, as the cinders cannot possibly enter the openings on account of being thrown off by the oblique windows. The said oblique windows also facilitate the exhaust by creating a partial vacuum behind them and at the openings to be supplied by the air from the tube.

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

1. The projecting frame A, revolving plate B, and window D attached to the cross-bar C by the bolt E, as shown and described, to operate as specified.

2. The employment of the three-bladed valve I in the openings in the upper part of the car, substantially in the manner specified.

Witnesses: NATHANIEL JONES.

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