

S. E. KIRKPATRICK.
Car Ventilator.

No. 125,461.

Patented April 9, 1872.

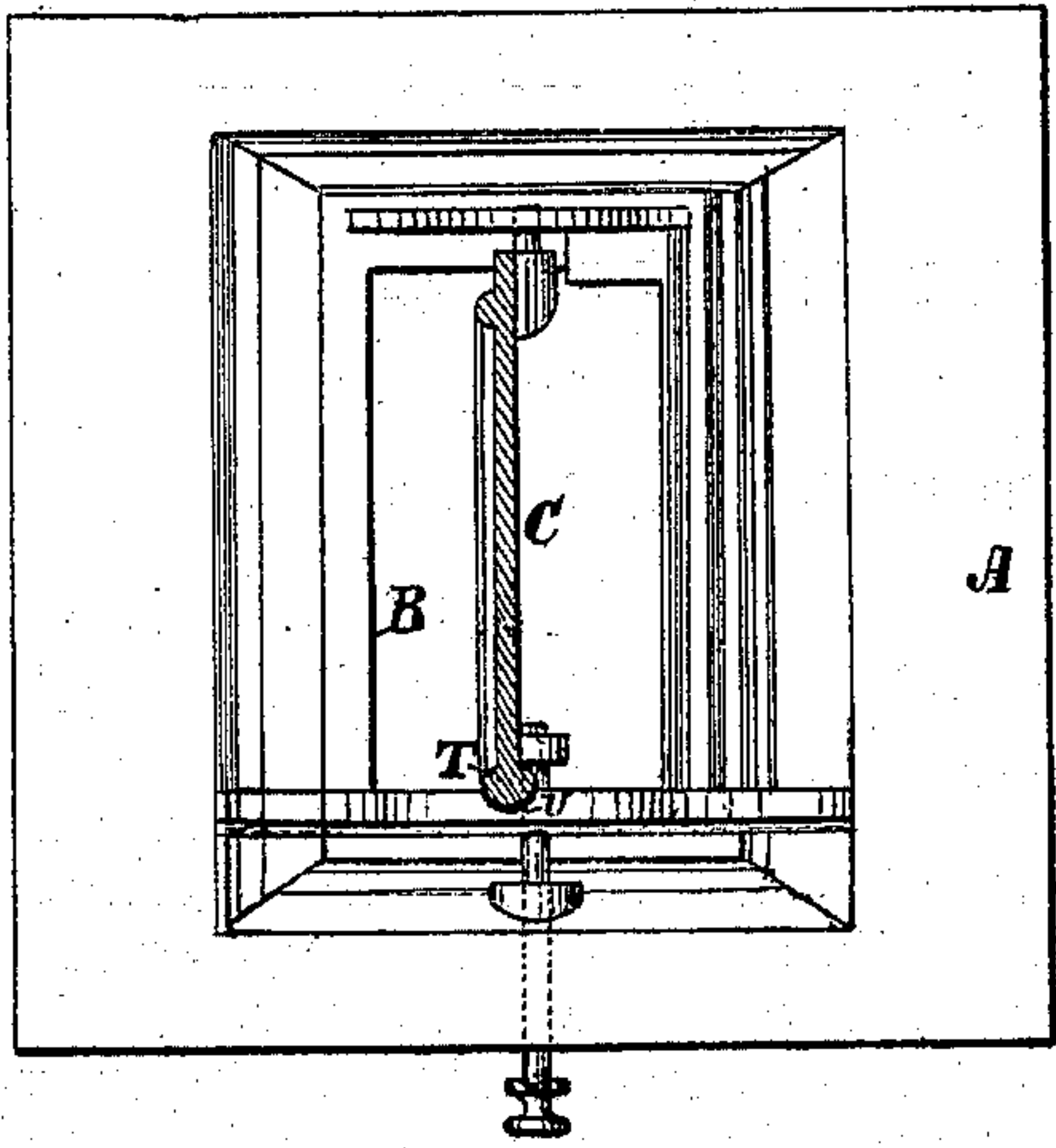


Fig. 4.

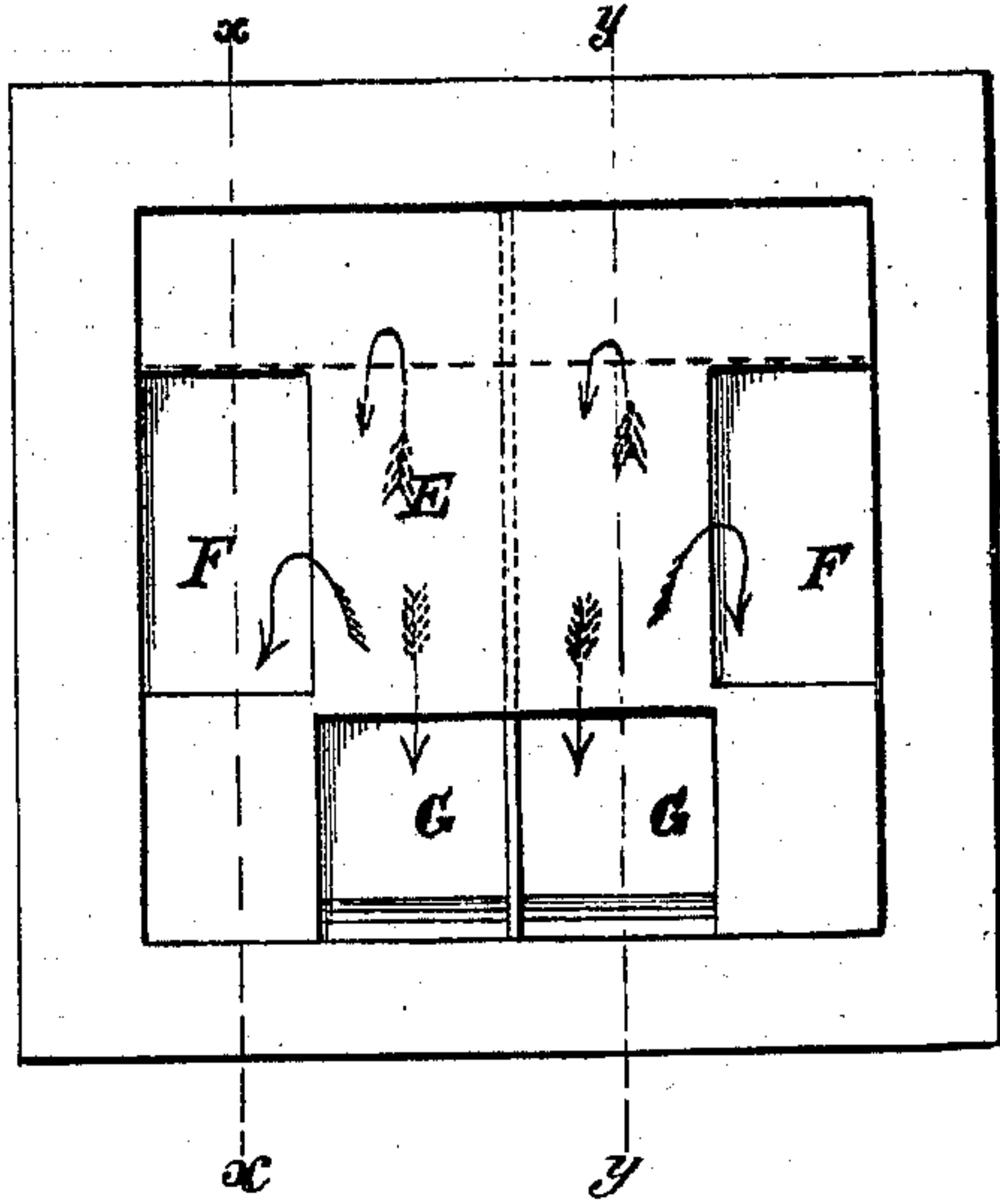


Fig. 2.

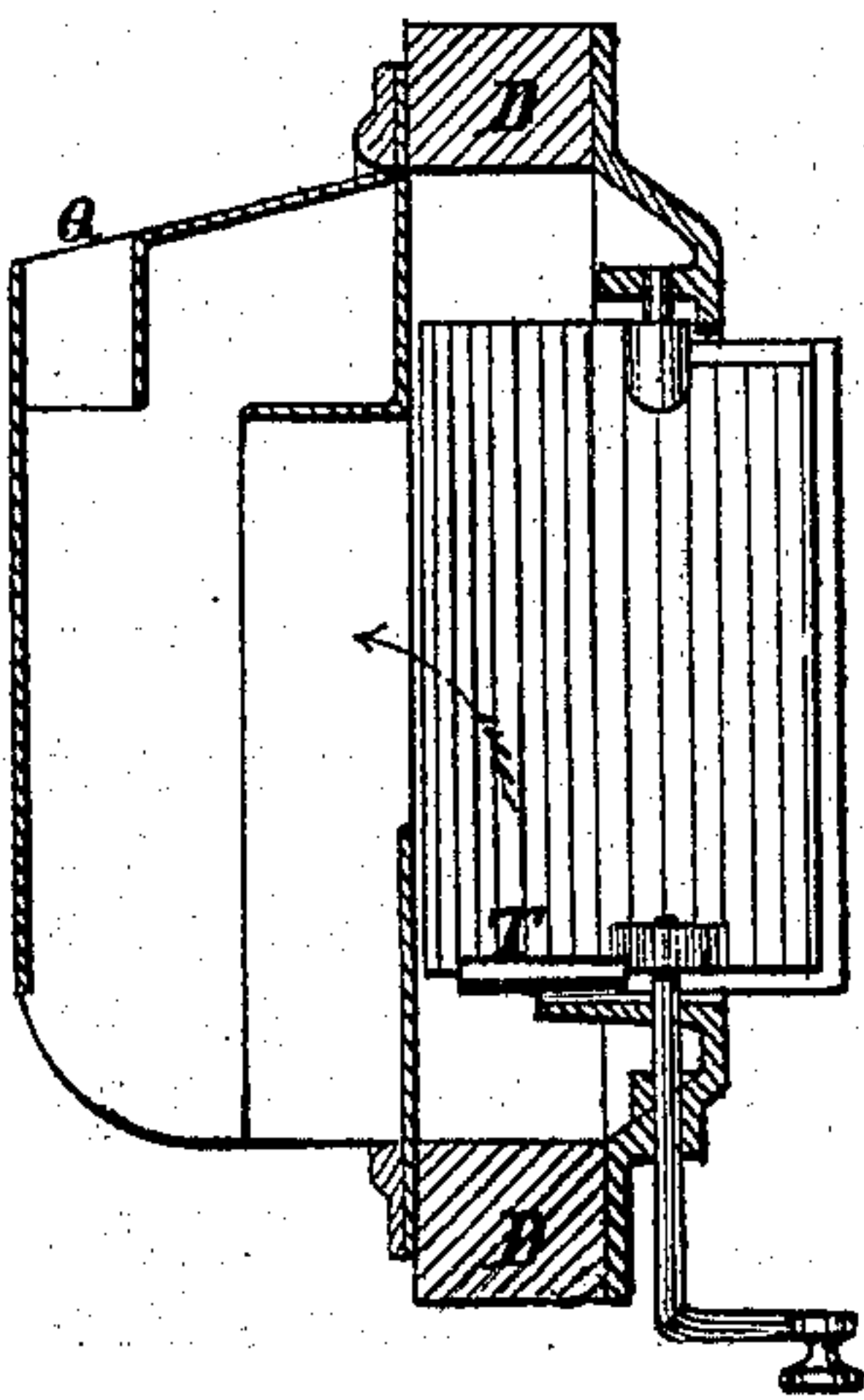


Fig. 5.

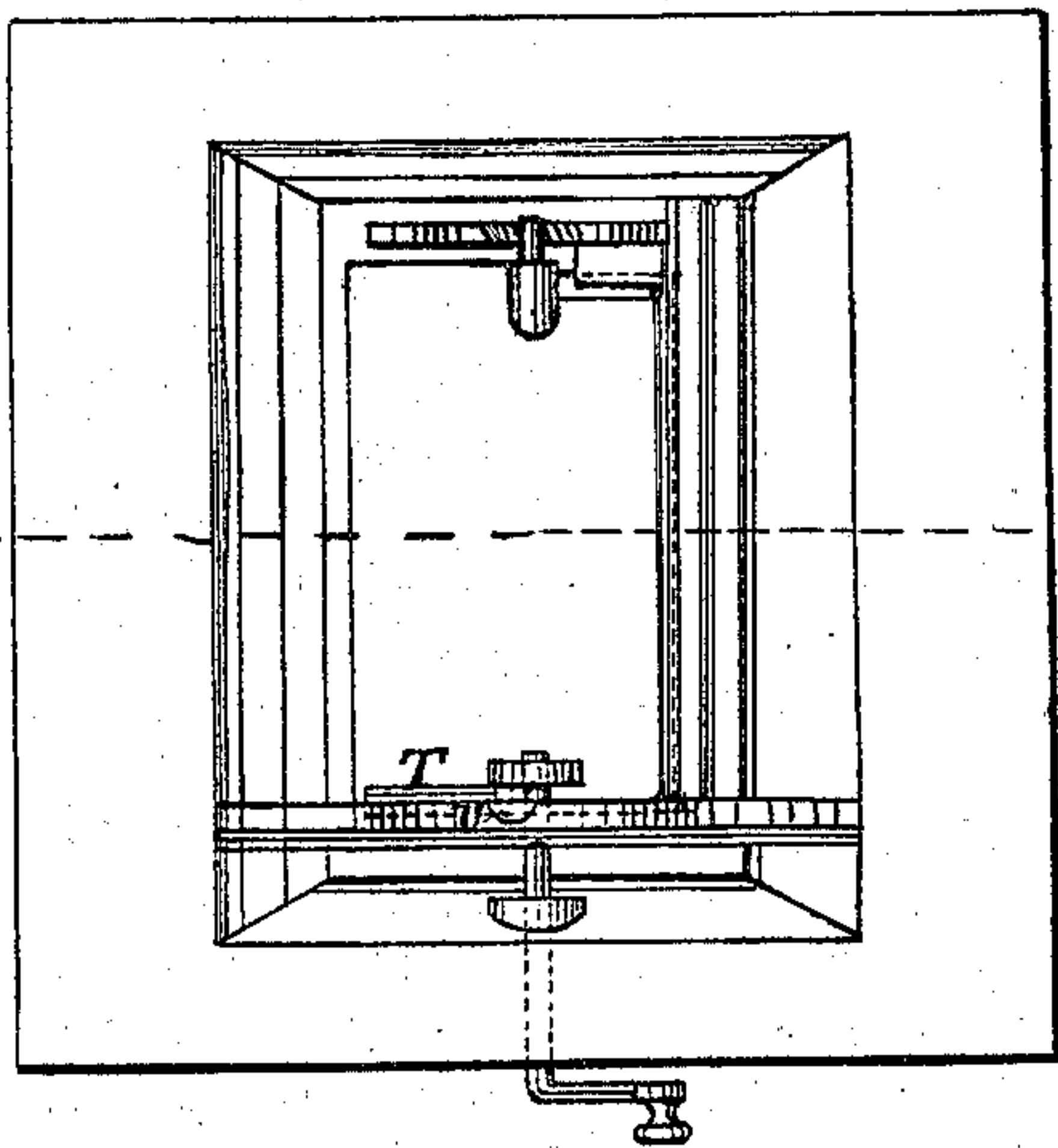
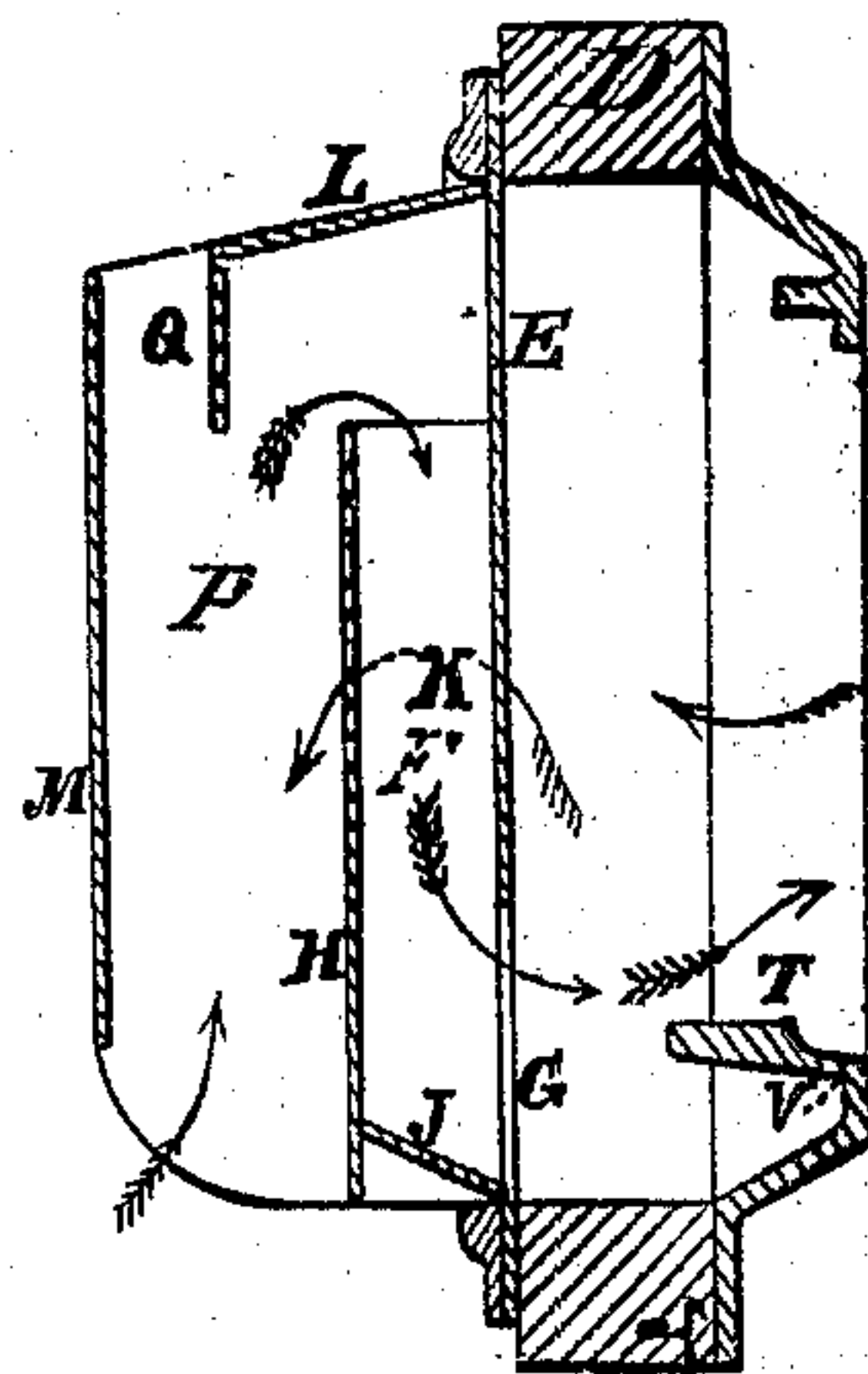
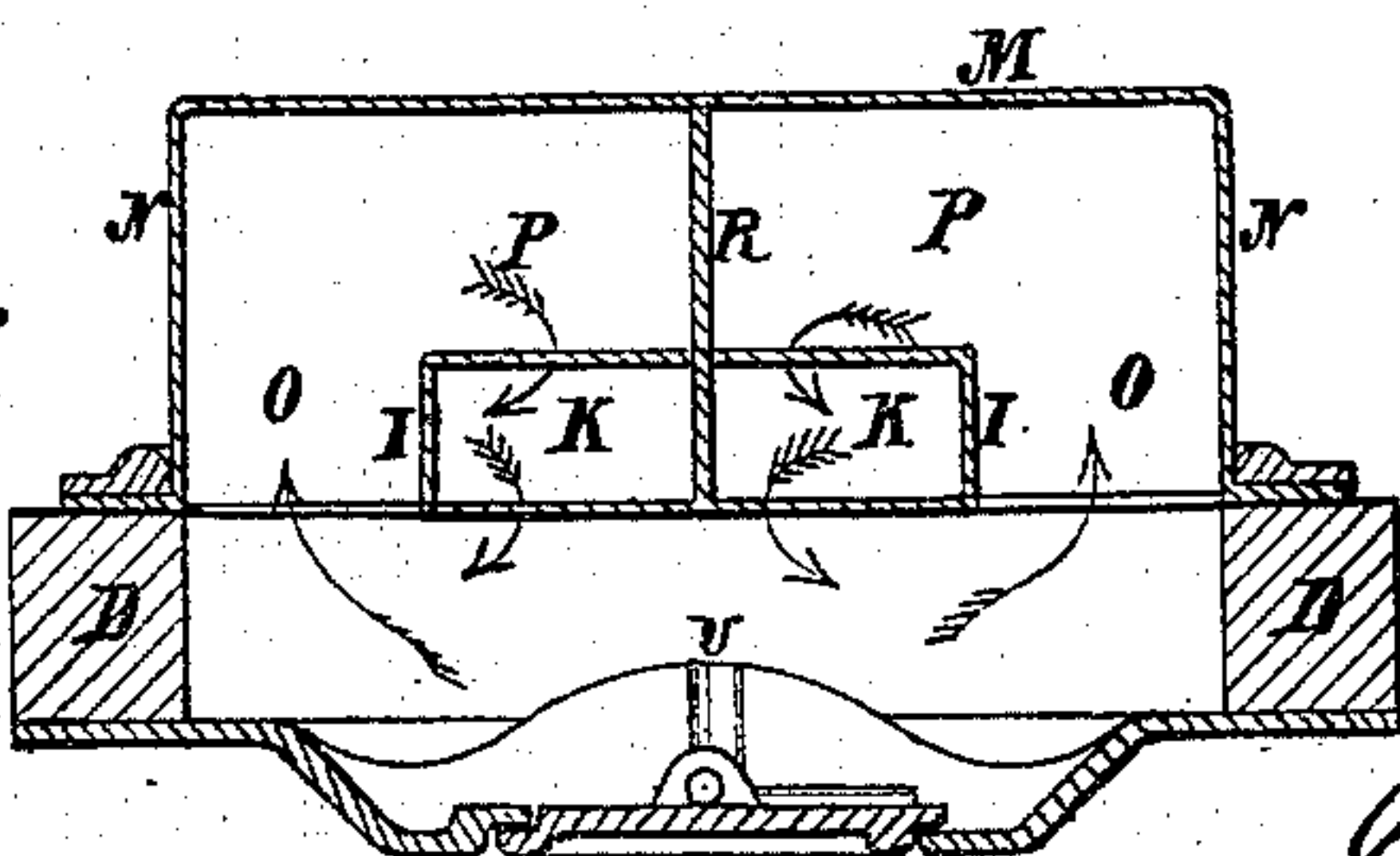


Fig. 6.



← warm air.
← cold air.



Witnesses:

A Bennekenhoff.
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UNITED STATES PATENT OFFICE.

SAMUEL E. KIRKPATRICK, OF ST. ALBANS, VERMONT.

IMPROVEMENT IN RAILROAD CAR-VENTILATORS.

Specification forming part of Letters Patent No. 125,461, dated April 9, 1872.

Specification describing a new and Improved Car-Ventilator, invented by SAMUEL E. KIRKPATRICK, of St. Albans, in the county of Franklin and State of Vermont.

My invention consists of an arrangement of passages adapted to promote the inflowing of pure air and escape of heated and foul air through openings similar to the ordinary ones used in the upper parts of the sides of cars and controlled by one valve. It also consists of an arrangement for locking the valve open or shut, all as hereinafter described.

Figure 1 is an inner front elevation of my improved ventilator with the valve opened. Fig. 2 is a similar view with the door closed. Fig. 3 is an elevation with the valve and front plate removed. Fig. 4 is a section on the line *xx* of Fig. 3. Fig. 5 is a section on the line *yy* of Fig. 3, representing the passage of air through the ventilator when the car is in motion. Fig. 6 is a horizontal section on the line *zz* of Fig. 2.

Similar letters of reference indicate corresponding parts.

A is a cast-metal plate, with a large ventilating-passage, B, and a valve, C, for closing and opening said passage similar to those commonly applied to the insides of the side walls for ventilating cars. Behind this plate and valve, or on the outside of the car-wall, which may be considered to be represented by the block D, I arrange a thin plate of metal or other substance, as shown, with two large springs, F, about midway between the top and bottom and another, G, at the center of the bottom. Behind this plate E, and at a suitable distance from it, is another, H, extending from the bottom nearly to the top, as shown in Figs. 5 and 6, but only as wide as the width of spring G, and connected to plate E, on each side of the said opening G, by the strips I forming a passage, K, from below said opening to the top of said plate H, discharging under the roof L, a plate, J, being arranged at the bottom of said passage to close the discharge in that direction; and behind this plate H is still another, M, connected to the sides N, inclosing the spaces O P on three sides, which said spaces

are not closed at the bottom, and only partially at the top, there being an opening, Q, through the roof L. In this example the spaces P and K are divided by a plate, R; but this is immaterial, except as a means of making a stronger apparatus than would be without it.

By this arrangement I have the uppermost escape-passages F for the warm and light air discharging under the roof, which prevents the cinders from falling in through said passages, while the said warm air either escapes up through Q when the cars are not running, or downward through P when they are running, by reason of the down-draught caused by the motion; and I have the lower passages G K for the inflowing air, which, coming over the top of H, will be freed from the cinders.

For fastening the valve open and shut, I provide it with the rib T, and arrange it to rise and fall slightly on its pivots, and provide the notch U in the plate A for said rib to fall into to hold it open, and another notch, V, for holding it shut.

I do not limit myself to the construction of the apparatus which I have here shown for forming the said passages; but consider the arrangement of passages with protecting-walls L M Q to be the essential feature however produced; and therefore,

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

1. The arrangement of escape-passages F, supply passages G K, and the walls L N M for effecting a supply and exhaust through an ordinary ventilating-opening, B, and excluding the cinders, all substantially as specified.

2. I also claim the valve, arranged to rise and fall on its pivots, and provided with the rib T, and the grooves U and V in the frame for locking said valve either closed or open, substantially as specified.

The above specification of my invention signed by me this 23d day of January, 1872.

SAMUEL E. KIRKPATRICK.

Witnesses:

T. B. MOSHER,
GEO. W. MABEE.