J. E. RICHARD.

Supply Ventilator.

No. 212,056. Patented Feb. 4, 1879.

Fig. 1.

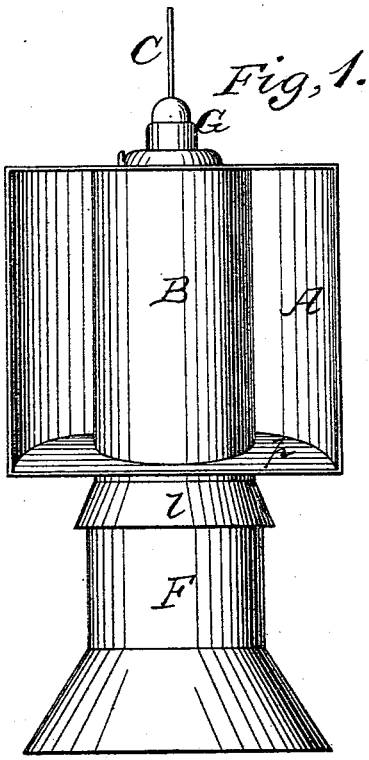



Fig. 2.

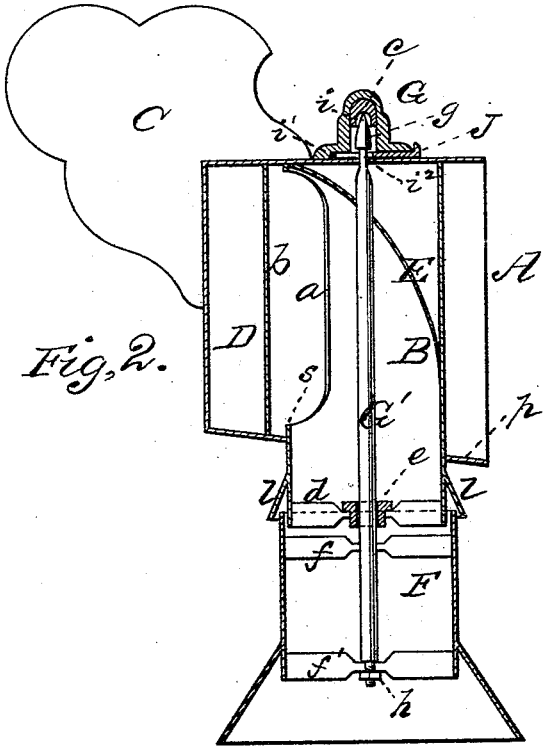



Fig. 3.

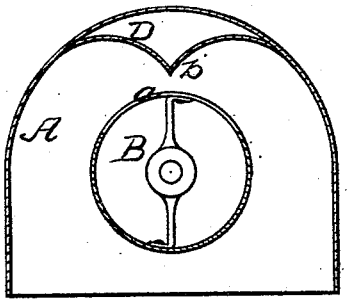



Fig. 4.

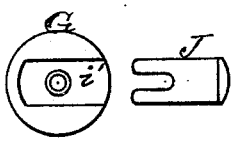



Fig. 5.

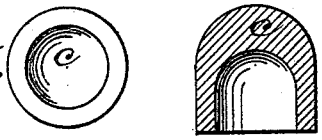
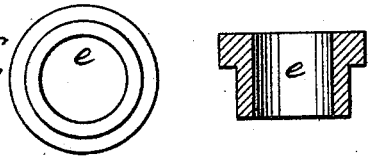



Fig. 6.




WITNESSES

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F. J. Masi.

INVENTOR

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# UNITED STATES PATENT OFFICE.

JEAN E. RICHARD, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF HIS RIGHT TO JOHN S. HULIN, OF SAME PLACE.

## IMPROVEMENT IN SUPPLY-VENTILATORS.

Specification forming part of Letters Patent No. **212,056**, dated February 4, 1879; application filed September 23, 1878.

*To all whom it may concern:*

Be it known that I, JEAN E. RICHARD, of New York, in the county of New York and State of New York, have invented a new and valuable Improvement in Supply-Ventilators; and I 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, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a front elevation of my improved air-supply ventilator. Fig. 2 is a vertical central section of the same. Fig. 3 is a horizontal section of the hood; and Figs. 4, 5, and 6 are details.

This invention has relation to improvements in ventilators for ships' cabins, holds, and for residences.

The object of the invention is to provide an air-supply ventilator that will force the air through a tube into the place to be ventilated without admitting rain into the same, and that will adapt itself automatically and noiselessly to changes of the wind.

The nature of my invention will be fully set forth and claimed hereinafter.

In the annexed drawings, the letter A designates a case or trumpet-mouthed hood, the body of which is semi-cylindrical or cylindroidal, the said hood being made of sheet metal of any suitable description. Within this hood is an upright pipe, B, extending through its bottom a sufficient distance, and provided opposite the rounded back of the hood with an opening, *a*, of suitable size. This pipe is maintained with its solid wall opposed to the wind, and with the opening of the hood in the same position, by a vane, C, secured to the top of the said hood near its back.

Opposite the opening *a* of the pipe B, and inside of the hood, is a second wall, D, arranged vertically, and having an angular ridge, *b*, the sides of which are concave, and its apex in line with the middle of the said opening. This wall may, however, be dispensed with, in which case the back wall of the hood will be bent so as to present or form an inside vertical ridge in all respects similar to that of wall D.

Inside of pipe B, opposite the opening *a* and ridge *b*, is arranged a wall, E, that is vertically concave, as shown in Fig. 2. The air-currents, upon entering the hood, impinge against the solid part of the pipe B, and, being divided, pass around the said pipe, and are directed by the ridge *b* into the opening *a*, passing through which they are directed downward into a stationary conduit, F.

The hood has upon its top an inverted metallic socket, G, in which is inserted a horn or bone plug, *c*, having in its under side a recess, *i*, of conical, conoidal, or other form; and pipe B is braced at its lower end by a bar, *d*, having at the middle of its length an aperture, in which is seated an annular horn or bone bearing, *e*.

The conduit F is likewise braced by the diametric bars *f f'*. The braces *d f f'*, the wall E, and the top of the hood, directly under the socket, are perforated for the passage of a vertical rod, G', the upper end of which is of corresponding form with the recess in the under side of the socket-plug, and is engaged therein. The head *g* of this rod is the pivot upon which the hood and its attachments revolve. This rod also passes through the annular bearing *e* of the brace *d*, and its lower end is stepped in the lower brace, *f'*, of the conduit F, being maintained in position by a nut, *h*, applied below said brace upon its projecting screw-threaded end.

The pipe B passes inside of the conduit F, and rain or snow is prevented from beating through their joint by means of the annular flange *l*, secured to the pipe B, overhanging conduit F, and extending considerably beyond their joint.

The pivot-rod G' is fixed to the braces of the conduit F, and the hood has but two bearings thereon, the one being in the plug *c* of the socket G, and the other in the annular ring *e* of brace *d*. These bearings are readily removed and replaced when worn out, and, being of horn or bone, work noiselessly upon the said rod, not requiring to be lubricated.

The socket G has upon its under side a transverse groove, $i^1$, and the head of the pivot-rod, in line therewith, an annular groove, $i^2$; and the hood is prevented from blowing off of said

rod by means of a forked key, J, that is passed into the groove $i^1$, and straddles the said rod in its groove $i^2$. This key is slightly arched, and is thus sufficiently springy, when in place, to bind upon the hood and retain its position.

The lower wall or floor, $p$, of the hood is inclined downward from its back to its front or mouth, as shown in Fig. 2, thus shedding any moisture that may have blown into it, and preventing its reaching the place ventilated. This construction is the more effective in that the opening $a$ of pipe B does not reach to the floor of the hood, but terminates somewhat short thereof, as shown at $s$, Fig. 2.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a ventilator, the combination, with the conduit F, leading into the place to be ventilated, of a hood, A, facing the wind, and rotating on the said conduit, ridge $b$, pipe B, having opening $a$ opposite said ridge, and the vertically-concave wall E, arranged and operating substantially as specified.

2. The combination, with the conduit F, of the hood A, rotating thereon, and provided at its back with the vertical ridge $b$, and having the inclined bottom $p$, the tube B inside of the hood, and having opening $a$ opposite the ridge, and the concave deflecting-wall E, facing the opening and ridge, substantially as specified.

3. The combination, with the conduit F, having fixed pivot-rod G′, provided with head $g$ and an annular groove, $i^2$, of the socket G, having bearing-plug $c$ and groove $i^1$, and secured to the top of hood A, and a forked key, J, sliding into said groove and straddling the rod at its groove, substantially as set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses

JEAN ELIE RICHARD.

Witnesses:
TH. BÜRCKNER,
J. F. BATES.