

F. BRENZINGER.

Ventilators.

No. 147,095.

Patented Feb. 3, 1874.

Fig. 1.

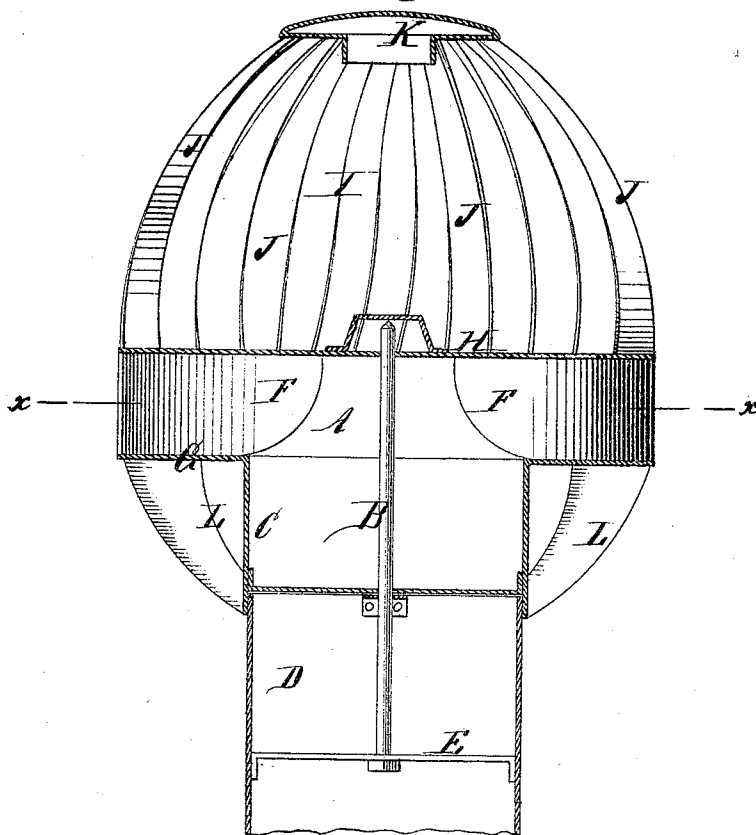
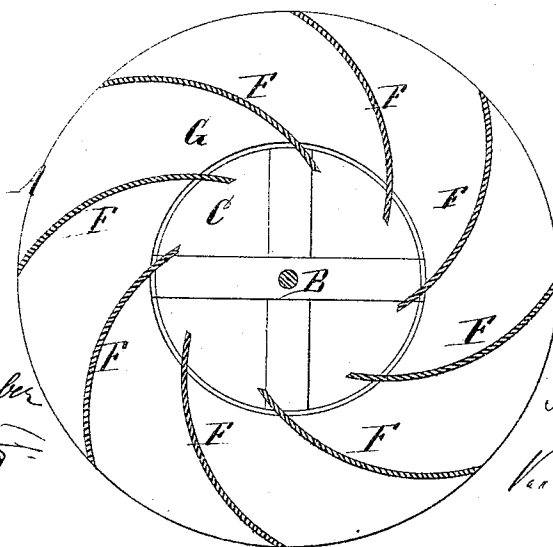


Fig. 2.



Witnesses.
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IMPROVEMENT IN VENTILATORS.

Specification forming part of Letters Patent No. **147,095**, dated February 3, 1874; application filed December 17, 1873.

To all whom it may concern:

Be it known that I, FRANCIS BRENZINGER, of the city, county, and State of New York, have invented a new and Improved Ventilator; and I do hereby declare the following to be a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification, in which drawing—

Figure 1 represents a vertical central section of this invention. Fig. 2 is a horizontal section of the same in the plane *x x*, Fig. 1.

Similar letters indicate corresponding parts.

This invention consists in the employment of a centrifugal exhaust-fan arranged horizontally above a chimney or other flue, in combination with an atmospheric motor-fan arranged above and below said exhaust-fan, in such a manner that, by the action of the external air upon said motor-fan, a revolving motion is imparted to the exhaust-fan, whereby a suction is created within the flue, and by these means a uniform and constant ventilation is insured.

In the drawing, the letter A designates a ventilator or exhaust fan revolving on a vertical shaft or spindle, B, and the inner end of which communicates, through a cylinder, C, formed beneath it, with a flue or conduit, D. This flue is fitted within the loose or revolving cylinder C, and contains a cross-bar, E, that forms the step of the spindle B. Said ventilator-fan is composed of a series of curved blades, F, (see Fig. 2,) which are held upright between a flange, G, of the cylinder and a top plate, H, by which latter the ventilator is made to shed water. The inner ends of the curved blades F terminate within the circle of the cylinder C and of the flue, and their lower edges are rounded off from the top edge of said cylinder. By these means the air in the flue D is brought within the scope of the blades F of the fan, and by revolving said fan such air is taken up and expelled by centrifugal force at the outer ends of said blades, so as to

create a suction within the flue. Motion is imparted to the ventilator-fan A by a secondary fan, I, through the medium of the atmosphere—that is to say, such motor-fan receives a revolving motion when exposed to the action of a current of air or wind. This latter fan is secured upon the ventilator-fan A, and is also composed of a series of curved blades, J, whose direction, however, is opposite to that of the blades of said ventilator-fan. The motor-fan I has a larger effective area than the ventilator-fan, so as to insure its operation. The blades I of the motor-fan are arranged in a circle on the edge or rim of the top plate H, and, extending spirally upward and inward, terminate beneath a cap, K, whereby they are held in position. Auxiliary blades or vanes L are also arranged beneath the flange G on the side of the cylinder C, to further increase the surface or area of the motor-fan. By this arrangement the operation of this atmospheric motor-fan is insured at all times, being exposed, when in the open air, on all of its sides to the direct action of the air or wind. If desired, the spindle B may be made to extend through the top plate.

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

1. The lower and upper plates G and H, connected together by the curved blades F to form the exhaust-fan, and supporting on top the motor-fan I, and on the bottom the motor-fan L, all constructed and combined to operate substantially as described.

2. The curved blades F of the exhaust-fan, confined between the lower and upper plates G and H, and their ends terminating within the revolving cylinder C above the flue D, in combination with the curved blades J, arranged above the exhaust-fan, and the curved blades L below the exhaust-fan, the whole being constructed to operate substantially as described.

FRANCIS BRENZINGER.

Witnesses:

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