J. E. RICHARD.

Ventilator for Houses.

No. 202,869. Patented April 23, 1878.

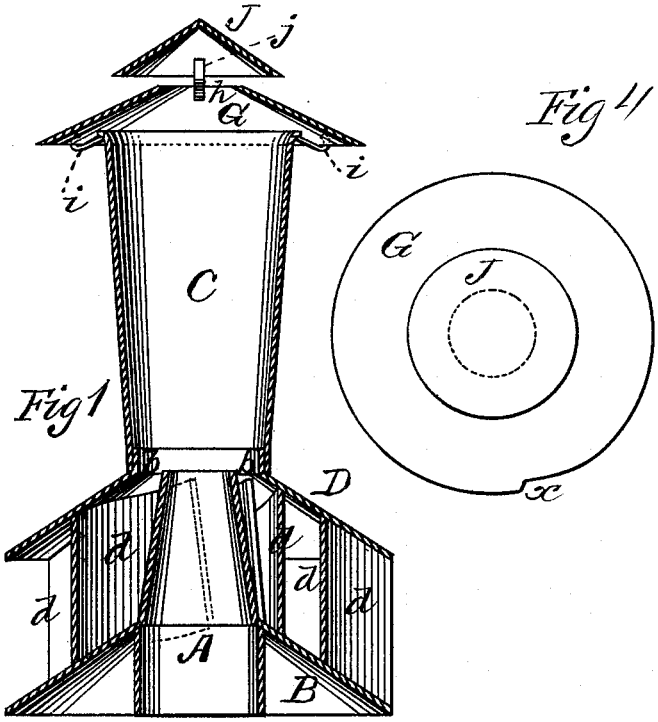

Fig 1

Fig 4

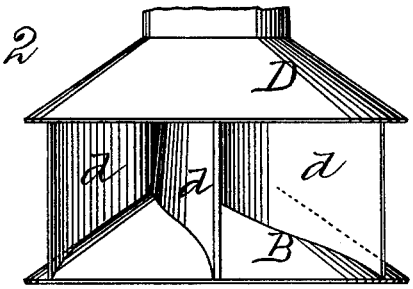

Fig 2

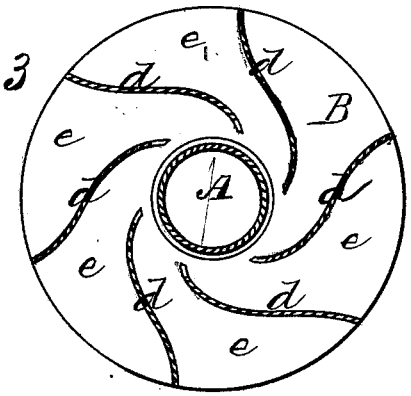

Fig 3

WITNESSES

Villette Anderson.

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ATTORNEY

UNITED STATES PATENT OFFICE.

JEAN ELIE RICHARD, OF NEW YORK, ASSIGNOR OF ONE-HALF HIS RIGHT TO JOHN S. HULIN, OF BROOKLYN, N. Y.

IMPROVEMENT IN VENTILATORS FOR HOUSES.

Specification forming part of Letters Patent No. **202,869**, dated April 23, 1878; application filed September 29, 1877.

To all whom it may concern:

Be it known that I, JEAN ELIE RICHARD, of New York, in the county of New York, and State of New York, have invented a new and valuable Improvement in Ventilators for Houses; 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 vertical central section of my improved ventilator. Fig. 2 is a detail side view thereof; and Fig. 3 is a horizontal section of the same. Fig. 4 is a detail, showing the notch.

This invention has relation to improvements in ventilators for houses, cars, and other places; and it consists in combining, with a flue leading into the place to be ventilated, a discharge-flue, extending below the former and communicating with a number of spirally-arranged air-passages at the sides of the said ventilating-flue, whereby a whirling current of air is created above the same, extending upward, which will draw the foul air up the lower flue, as will be hereinafter more fully explained.

In the annexed drawings, the letter A designates the main ventilating-flue, the lower end of which extends down into the place—as a vault, car, or residence—to be ventilated. This flue tapers upward, and is of less diameter at top than at bottom, and it extends through the apex of a conical metallic disk or plate, B, of cast or sheet metal. C indicates the discharge-flue, extending through the apex of a second metallic disk or plate, D, of the same size and construction as disk B. The flue C is of the form of an inverted cone, having a flaring upper end. Its lower end is of greater diameter than the flue A, and is on a level with it, as shown at *a*, Fig. 1, thereby forming an air-passage, *b*, between the said flues, for a purpose hereinafter explained.

The disks B D are spaced and connected together by means of spaced curved partitions *d*, terminating at their inner ends somewhat short of the main flue A.

When the conical disks are of cast metal, they will have curved ribs formed thereon, to which the upper and lower edges of the partitions *d* will be secured by rivets or bolts and nuts.

As shown in Fig. 3, the passages *e* between the partitions *d* flare outward. The air blowing through these passages forms a strong upward draft at the upper end of the main flue A, causing the foul air of the place ventilated to be carried up the discharge-flue into the open air. The upper end of the flue C is provided with a number of upturned horizontally-projecting hooks, *i*, that sustain a metallic capping, G, of the form of a truncated cone, and extending, after the manner of a pent-house, beyond the said flue. This capping is provided upon its edge with a notch, *x*, which readily permits it to be placed upon the hooks aforesaid and to be removed therefrom; but by turning the said cap until the hooks escape from the notch, the former bind upon the edge of the said capping, and hold it firmly in position. It may, however, be permanently secured to the tube A, if I so elect. The apex of this capping is open, as shown at *h*, and is surmounted by a conical hood, J, spaced therefrom and connected thereto by rods *j*, the edges of which overlap those of the opening *h*. The passage of foul air is thus amply provided for, but the penetration of rain, snow, and other foreign matter is effectually prevented.

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

1. The ventilator device, consisting of the conical main flue A, the discharge-flue C, forming therewith the air-passage *b*, the conical disks B D, having flaring curved partitions *d*, forming air-passages *e*, opening into passage *b*, and the overhanging capping G, substantially as specified.

2. The combination, with the flue C, having projecting hooks *i*, of the capping G, having a peripheral notch or notches, substantially as specified.

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

JEAN ELIE RICHARD.

Witnesses:
GEO. C. POULTON,
F. J. MASI.