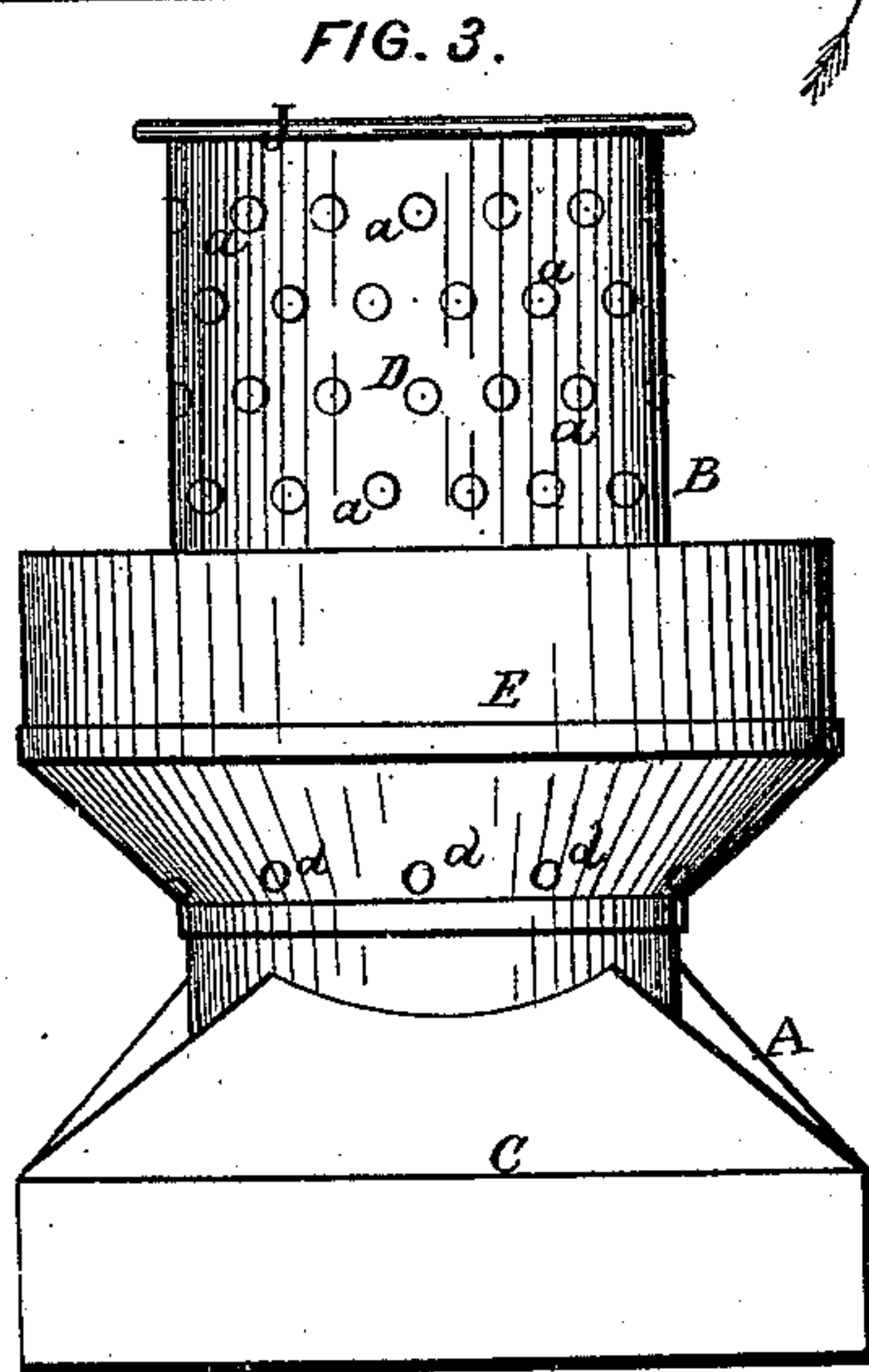
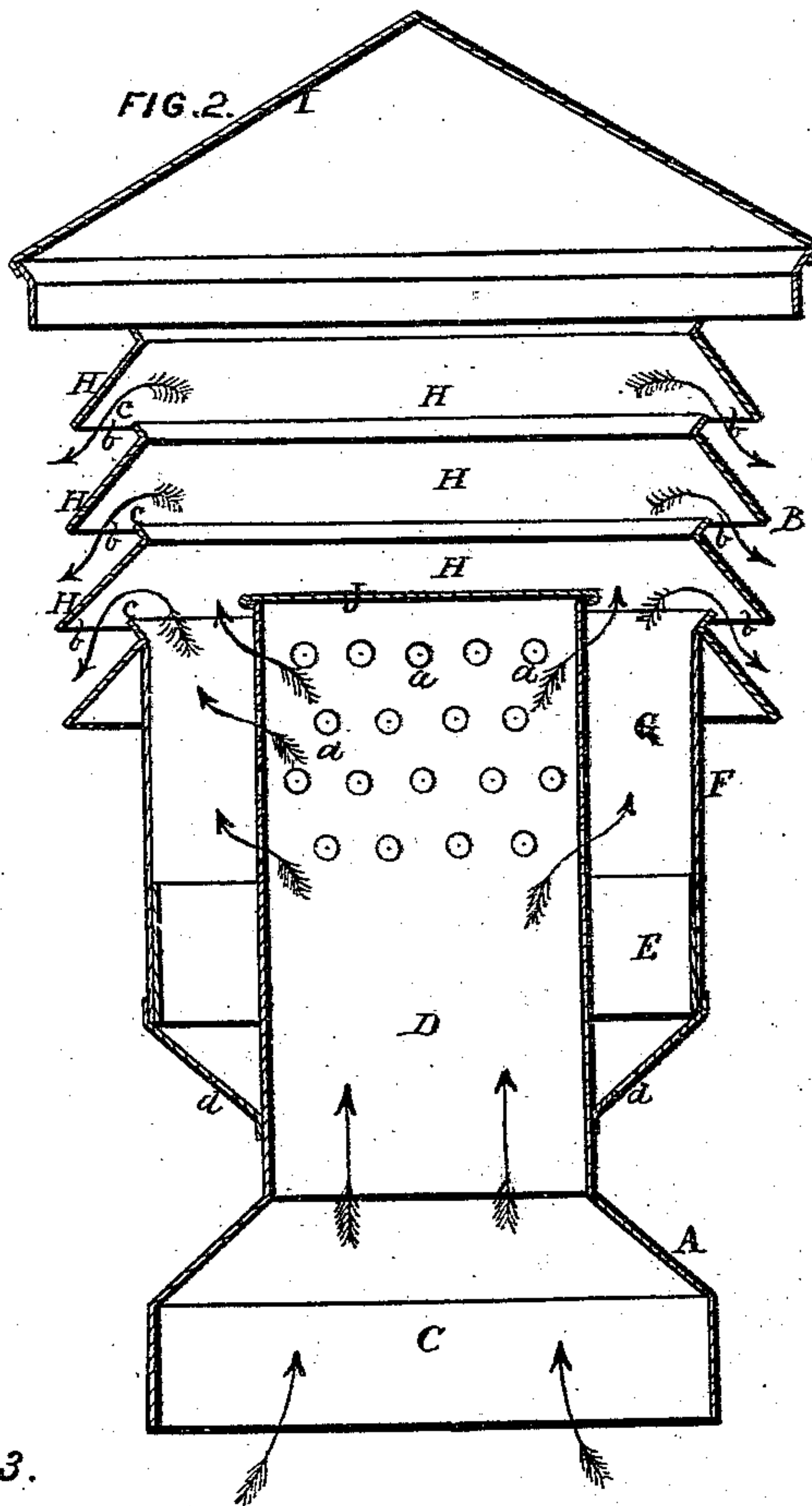
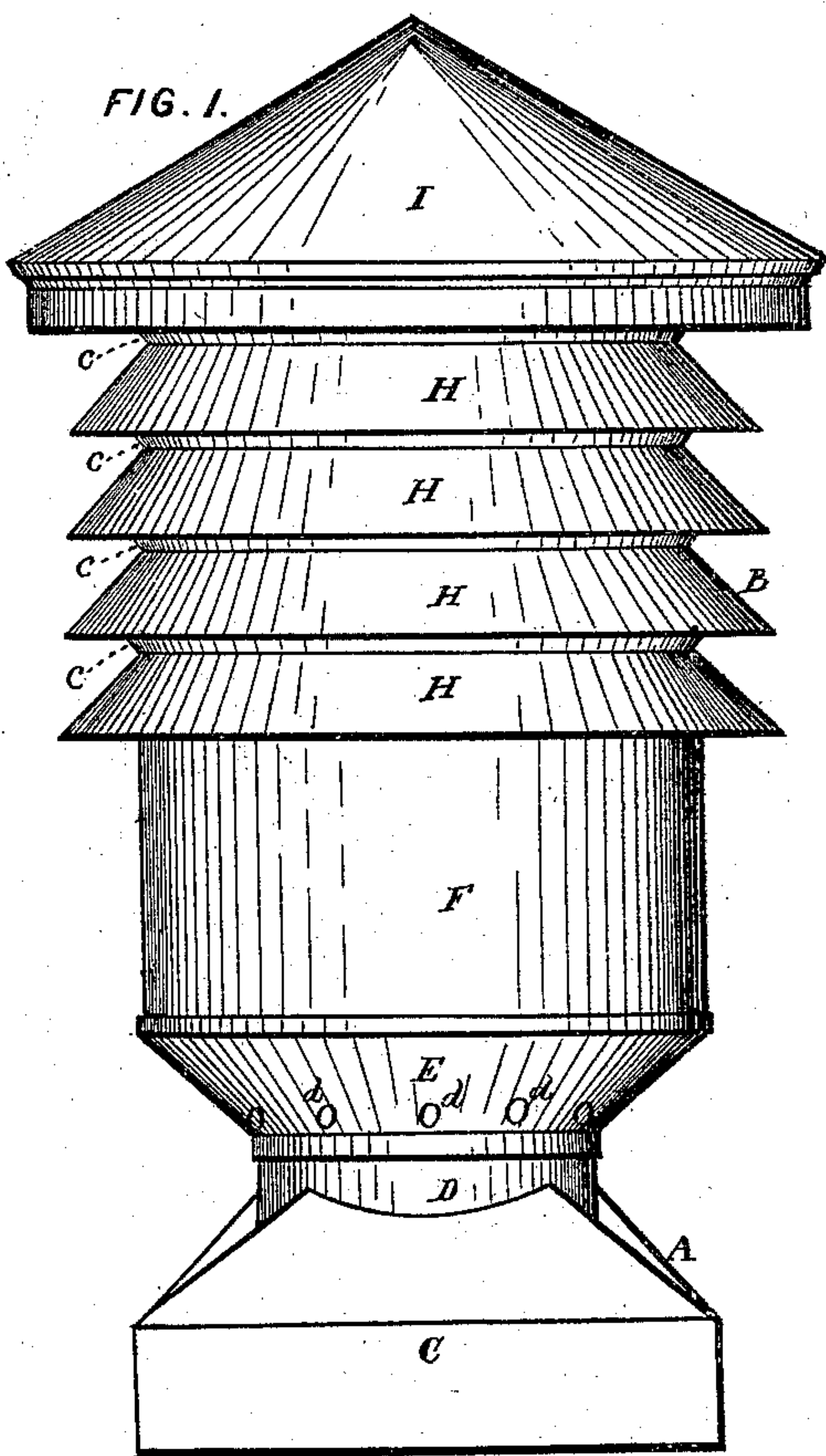


L. A. HEARD.
VENTILATORS FOR CHIMNEYS.

No. 174,237.

Patented Feb. 29, 1876.



WITNESSES.
A. F. Cornell.
E. W. Prosser

INVENTOR.
Lucas A. Heard.
Per. Burridge & Co.
Atty's.

UNITED STATES PATENT OFFICE.

LUCAS A. HEARD, OF CLEVELAND, OHIO, ASSIGNOR OF ONE-HALF HIS
RIGHT TO JACOB W. SMITH, OF SAME PLACE.

IMPROVEMENT IN VENTILATORS FOR CHIMNEYS.

Specification forming part of Letters Patent No. **174,237**, dated February 29, 1876; application filed
December 27, 1875.

To all whom it may concern:

Be it known that I, LUCAS ALLEN HEARD, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and Improved Ventilator, of which the following is a complete description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a side view of the ventilator. Fig. 2 is a vertical section. Fig. 3 is a detached section.

Like letters of reference refer to like parts in the several views.

This invention is a ventilator for the ventilation of railway-cars, buildings, &c., the construction and operation of which are as follows: Said ventilator consists of two sections, A and B, of which A is the base, whereby it is secured to the building. Said base consists of a square pedestal, C, from the center of which projects upward a cylinder, D, the upper half of which is perforated with holes *a*, as will be seen in the drawings. The unperforated part of the cylinder is surrounded by a flanged shoulder, E, to which is secured a cylindrical case, F, which, together with the shoulder referred to, forms the body of the ventilator, between which and the said perforated cylinder is an annular chamber, G, Fig. 2. To the top of the body is attached a series of deflectors, H, arranged one above the other, as shown in Fig. 1, wherein it will be seen that the face of the deflectors slope downward, so that the lower edge of those above in the series projects over the upper edge of the one immediately below, and so on down to the lowest in the series, which projects over the sides of the body F. Between the upper edge of one deflector and the lower edge of the deflector above are air-passages *b*, Fig. 2. The upper edge of each of the deflectors is turned at an angle to the face thereof, forming a narrow flange, *c*, around the edge. I is a bonnet covering the deflectors.

The practical operation of the ventilator is

as follows: When used in connection with a railway-car, or other place as a ventilator, the air from the room passes out therefrom into the cylinder D, thence through the perforations into the annular space G, from which it escapes to the outside through the air-passages *b* between the deflectors. The course of the air is indicated by the arrows.

It will be obvious that when it is used as a smoke-jack, the smoke from the chimney will follow the same course through the ventilator, and that while the smoke can freely escape therefrom the wind cannot enter the ventilator from the outside, it being excluded therefrom by the deflectors. As it strikes upon them it is turned away both by the face of the deflectors and the flange *c* around their upper edge, so that the smoke can have free exit from the opposite side from that on which the wind may blow. Also, in consequence of the annular space G being open to the outside by means of perforations *a* around the base E, a current of air flows upward in the space, causing a draft therein, which facilitates the escape of the smoke. In the event a blast of wind should enter the ventilator between the deflectors, it cannot pass down into the cylinder D, for the top thereof is closed by a cover, J, so that no air can enter except through the perforations in the side, which it could not well do. The cylinder D is shown as being circular, which, however, may be made of any other form, as may be desirable.

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

The perforated cylinder D, annular chamber G, having an inclined base provided with openings *d*, in combination with the deflectors H, and conical cap I, substantially as and for the purpose set forth.

LUCAS A. HEARD.

Witnesses:

W. H. BURRIDGE,
A. F. CORNELL.