

940,036.

G. A. LEWIS.  
VENTILATOR.

APPLICATION FILED FEB. 26, 1908.

Patented Nov. 16, 1909.

2 SHEETS—SHEET 1.

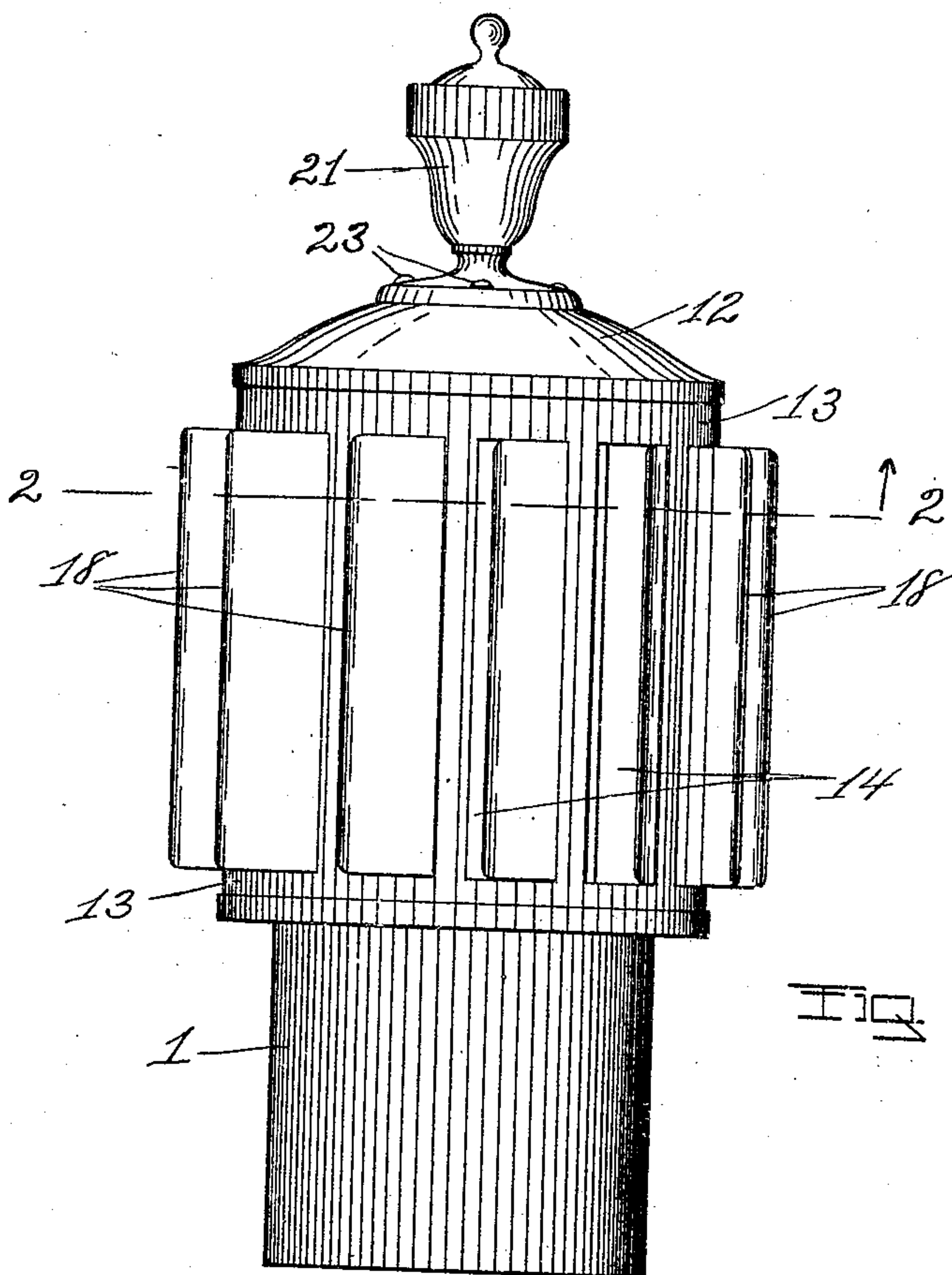


FIG. 1.

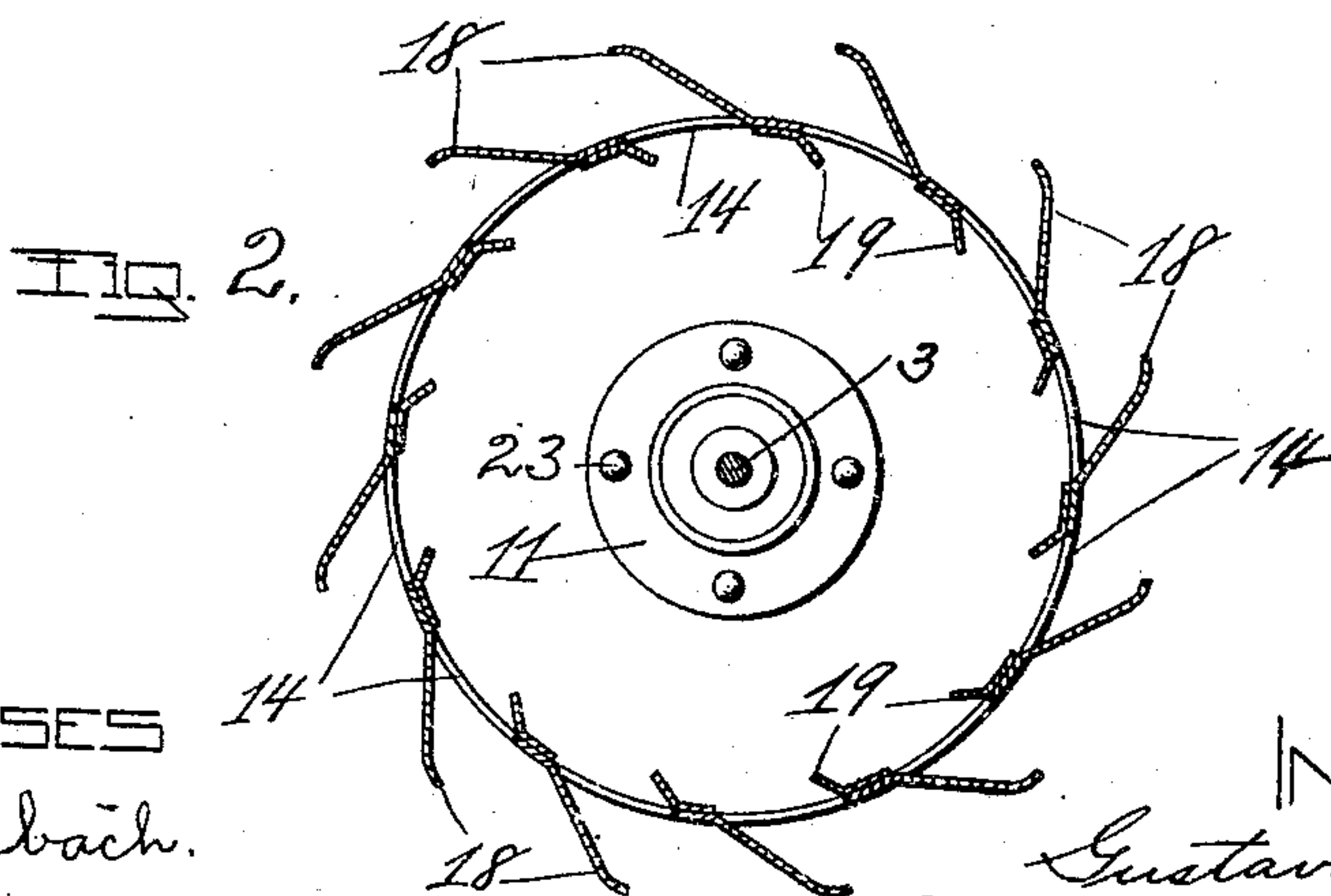


FIG. 2.

WITNESSES  
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INVENTOR  
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by Mosher & Curtis,  
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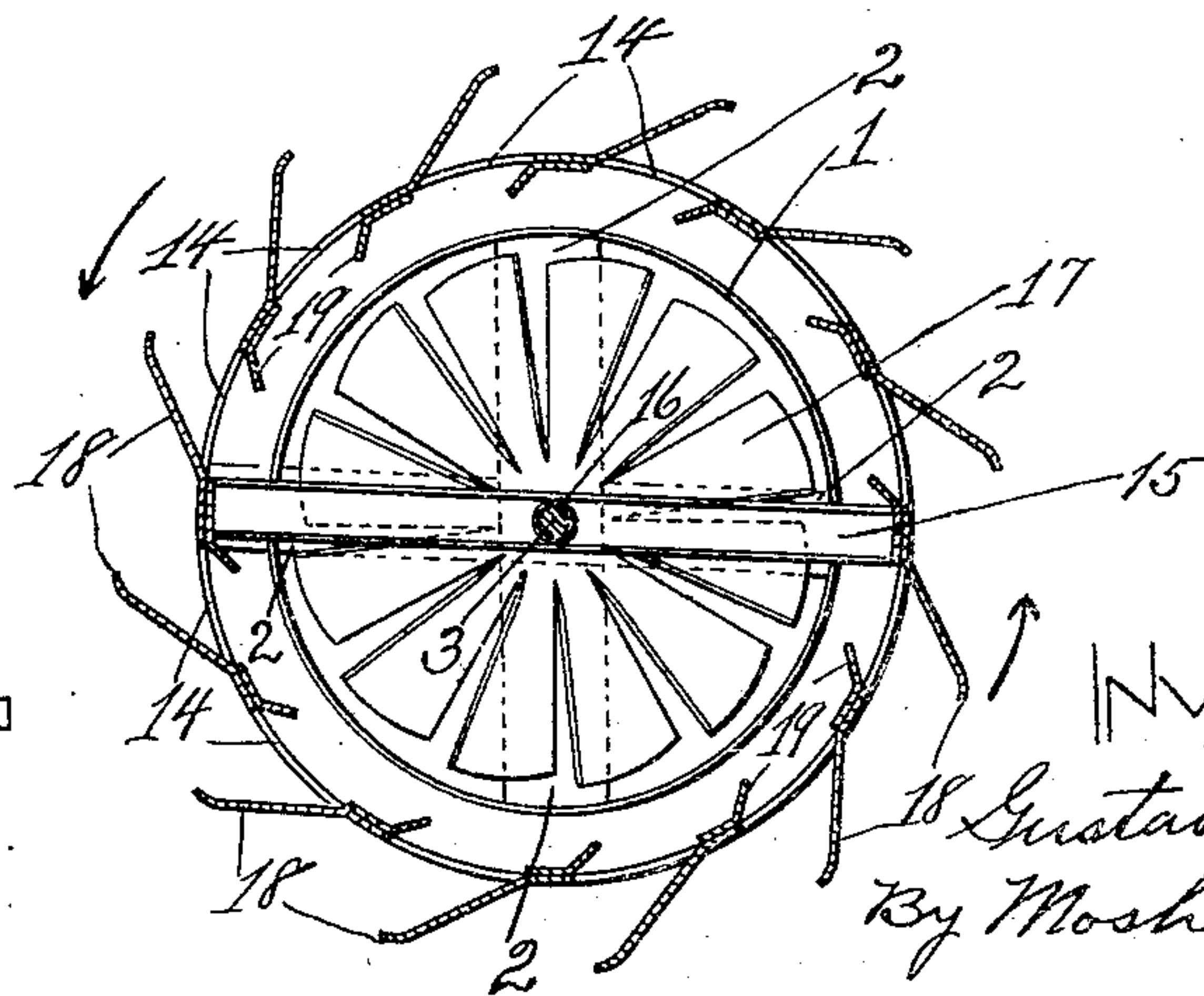
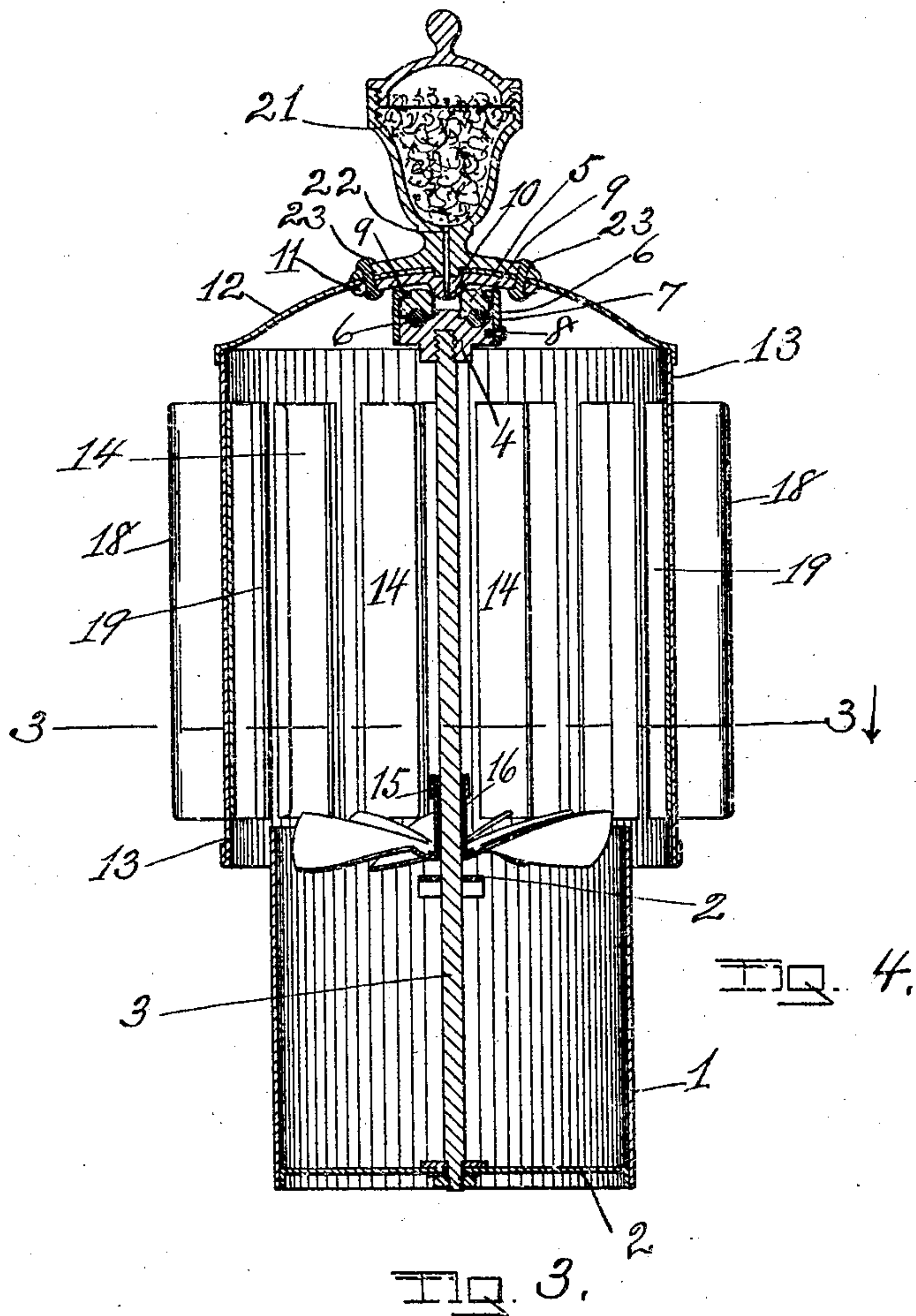
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# UNITED STATES PATENT OFFICE.

GUSTAVE A. LEWIS, OF TROY, NEW YORK, ASSIGNOR OF ONE-HALF TO EDWARD MANOGUE CO., A CORPORATION OF NEW YORK.

## VENTILATOR.

940,036.

Specification of Letters Patent.

Patented Nov. 16, 1909.

Application filed February 23, 1908. Serial No. 417,792.

*To all whom it may concern:*

Be it known that I, GUSTAVE A. LEWIS, a subject of the King of Great Britain, residing at Troy, county of Rensselaer, and State of New York, have invented certain new and useful Improvements in Ventilators, of which the following is a specification.

The invention relates to such improvements and consists of the novel construction and combination of parts hereinafter described and subsequently claimed.

Reference may be had to the accompanying drawings, and the reference characters marked thereon, which form a part of this specification. Similar characters refer to similar parts in the several figures therein.

Figure 1 of the drawings is a view in side elevation of my improved ventilator. Fig. 2 is a horizontal cross-section of the same taken on the broken line 2—2 in Fig. 1 looking upwardly. Fig. 3 is a similar sectional view looking downwardly, taken on the broken line 3—3 in Fig. 4. Fig. 4 is a central, vertical, cross-section of the same.

The invention relates to that type of ventilator from which the ascending gases escape through lateral openings in a rotatory hood or cap.

The principal objects of the invention are to facilitate the rotary movement of the hood or cap and to more effectively expel from the hood the ascending gases.

Referring to the drawings wherein the invention is shown in preferred form, 1, represents the base of the ventilator which may be the upper end of an ordinary ventilator-pipe, and 2, are cross-bars rigidly secured within said base, 1, and extending diametrically across the interior of the same.

Rigidly mounted upon the cross-bar, 2, is a spindle, 3, extending upward therefrom, upon the upper end of which spindle is secured the fixed member, 4, of a ball-bearing, between which fixed member and the upper movable member, 5, of said ball-bearing are interposed balls 6.

Separation of the members of the ball-bearing is prevented by means of the ferrule, 7, secured to the fixed member, 4, by a screw, 8, and having on its upper end an inverted flange, 9, overhanging the upper movable member, 5, of the bearing.

The upper member, 5, of the bearing is provided with a central socket or aperture,

as shown in Fig. 4, adapted to receive a convex boss or stud, 10, secured by means of the plate, 11, integral therewith to the underside of the top, 12, of the hood or cap, 13, of the ventilator, whereby said hood or cap is supported upon the upper member of said ball-bearing with freedom to automatically adjust itself thereupon. In whatever position the hood may be thus supported the force due to its weight will be transmitted in vertical lines to said ball-bearing without exerting thereupon such lateral or transverse force as would tend to cause binding friction of the parts or an irregular action of, or strain upon, the members of the ball-bearing.

The hood or cap, 13, is of cylindrical form, and provided at short intervals in its periphery with openings, 14, to permit the escape of gases which ascend through the base, 1, and enter the hood.

The hood is provided near its lower end with a cross-bar, 15, having at the center of the hood a bearing, 16, adapted to freely receive the spindle, 3, and afford a lateral support for the lower end of the hood.

Fixed upon the cross-bar, 15, is a wind-wheel, 17, presenting inclined blades to the gases ascending through the base, 1, which ascending gases tend to impart to said wheel and to the hood, which is rigidly connected therewith through the cross-bar, 15, a rotary movement. The rotary movement of the hood, 13, is also assisted by a plurality of vanes, 18, which extend outwardly from the periphery of the hood adjacent to the forward edge of the respective openings, 14, and which incline outwardly and rearwardly with relation to the direction of movement of the hood. These vanes project sufficiently to substantially cover and protect the respective openings, 14, against the creation of a back draft therethrough when the hood is subjected to external air-currents which tend to rotate the hood.

The expulsion of the gases through the openings, 14, is facilitated by a plurality of vanes, 19, which project inwardly from the shell of the hood adjacent to the rear edges of the respective openings, 14, and which incline inwardly and forwardly with relation to the direction of movement of the hood. These vanes, 19, thus present to the gases within the hood, as the hood is rotated, an outwardly inclined surface which



by wedgewise action forces the gases out through the respective openings 14.

I have shown an oil-cup, 21, fixed upon the top, 12, of the hood, and a supply aperture, 22, leading from the oil-cup through the boss, 10, to the ball-bearing, for the purpose of lubricating the same.

The base of the oil-cup is secured to the boss-plate, 11, and to the interposed sheet-metal top, 12, of the hood, by means of rivets 23.

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

1. In a ventilator, the combination with a ball-bearing supported upon a vertical axis and having a fixed member, and a movable member provided with a central socket; of a rotatory ventilator-hood having a central convexed boss adapted to rest within said socket in said movable member of the ball-bearing, and self-adjustable therein.

2. In a ventilator, the combination with a ball-bearing supported upon a vertical axis and having a lower fixed member, and an upper movable member; of a rotatory ventilator-hood having its top supported upon the movable member of said ball-bearing, and an oil-cup mounted upon the

outer side of said hood-top and communicating through the hood-top with said ball-bearing.

3. In a ventilator, a rotatively mounted ventilator-hood provided with peripheral openings, and having adjacent to the forward edges of said openings outwardly and rearwardly extending vanes and adjacent to the edges of said openings inwardly and forwardly inclined vanes.

4. In a ventilator, the combination with a ventilator-pipe; of a hood rotatively mounted to inclose the outer end of said pipe, said hood being provided with peripheral openings, and having adjacent to the forward edges of said openings outwardly and rearwardly extending vanes, and adjacent to the rear edges of said openings inwardly and forwardly inclined vanes; and a wind-wheel rotatively mounted within the outer end of said ventilator-pipe in fixed relation to said hood.

In testimony whereof, I have hereunto set my hand this 2nd day of January, 1908.

GUSTAVE A. LEWIS.

Witnesses:

FRANK C. CURTIS,  
J. DONSBACH.