

No. 834,551.

PATENTED OCT. 30, 1906.

H. V. ACKERT.
COWL AND VENTILATOR.
APPLICATION FILED MAY 24, 1906.

2 SHEETS—SHEET 1.

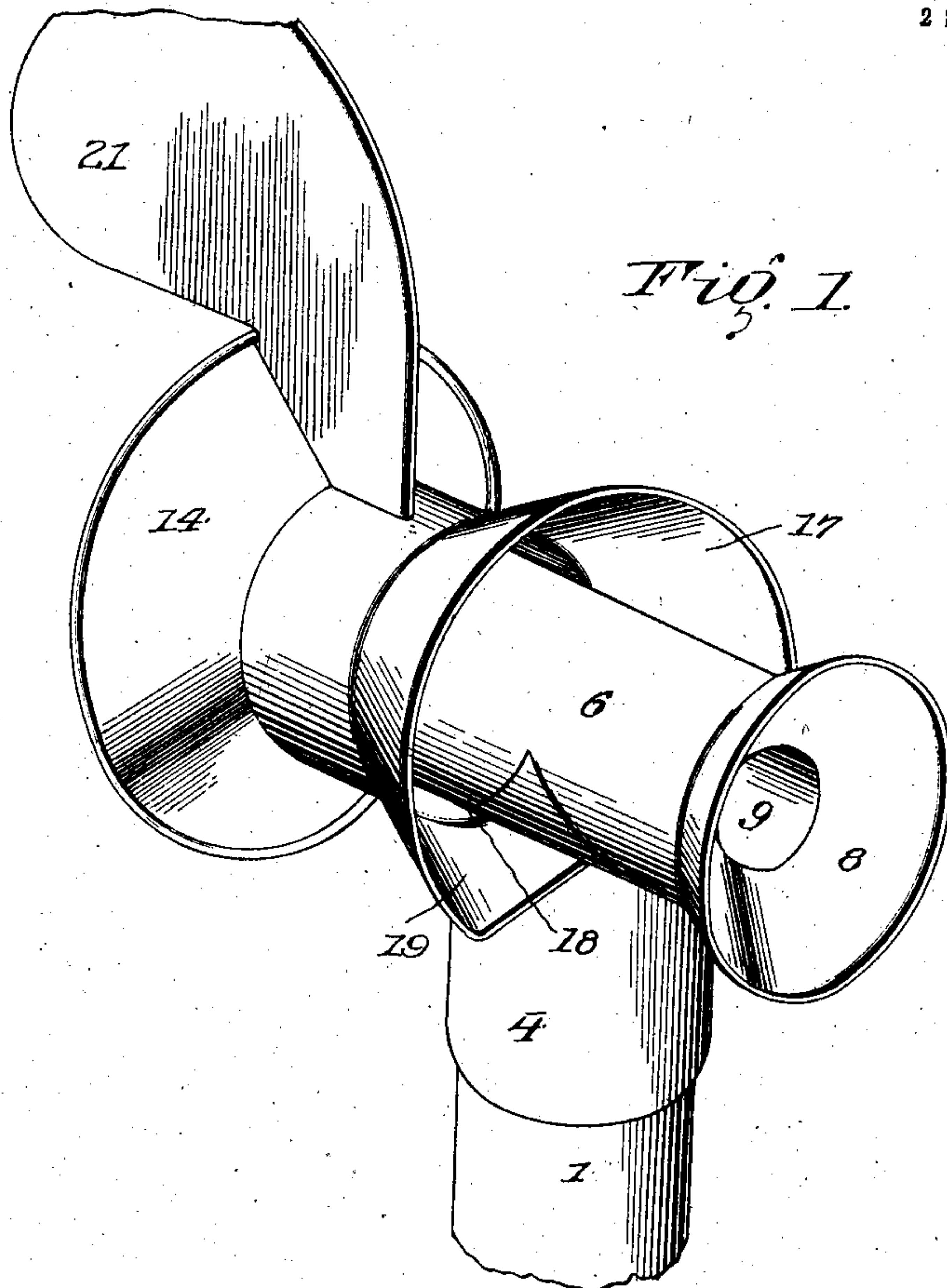


Fig. 1

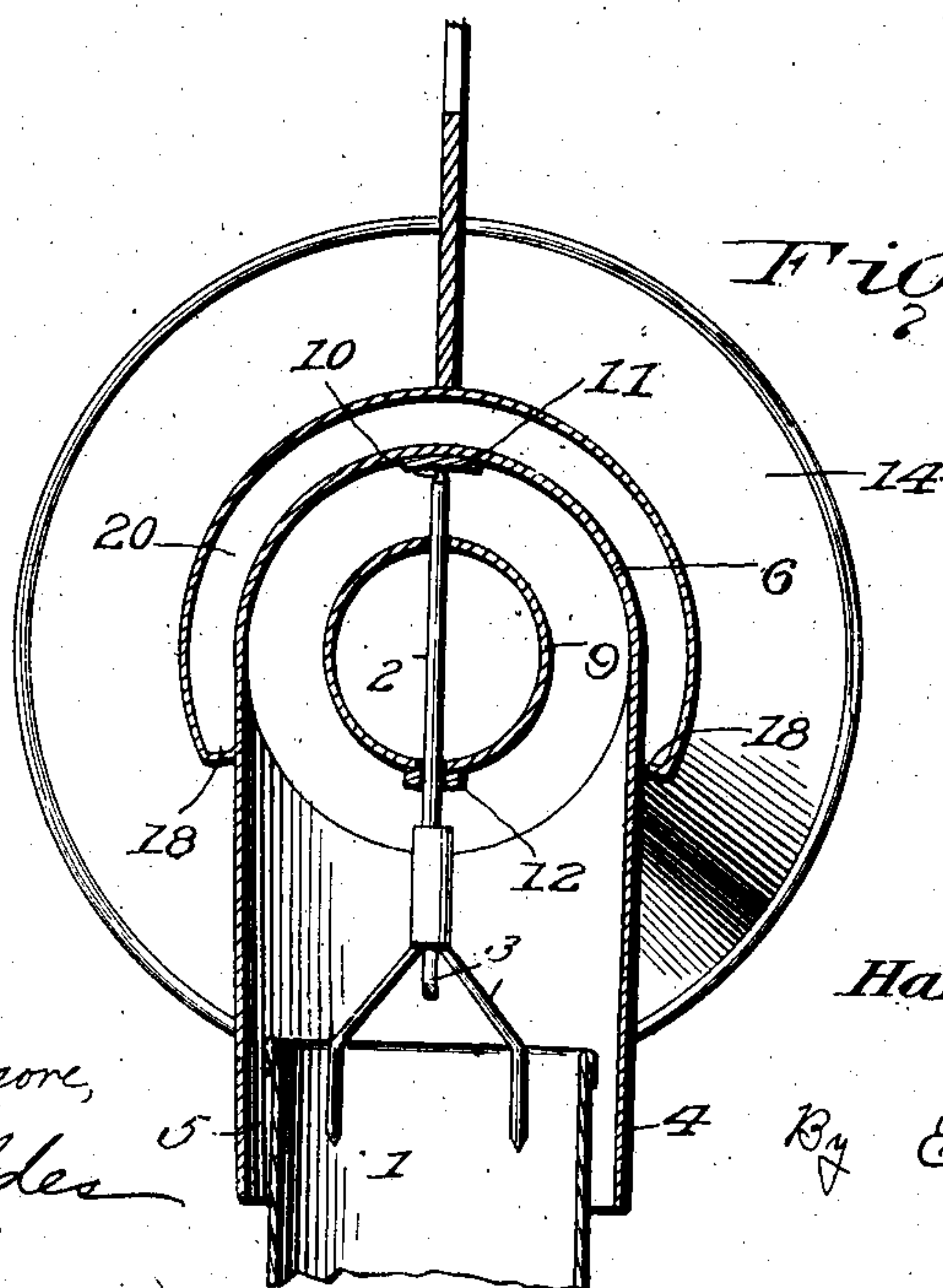


Fig. 2.

Witnesses

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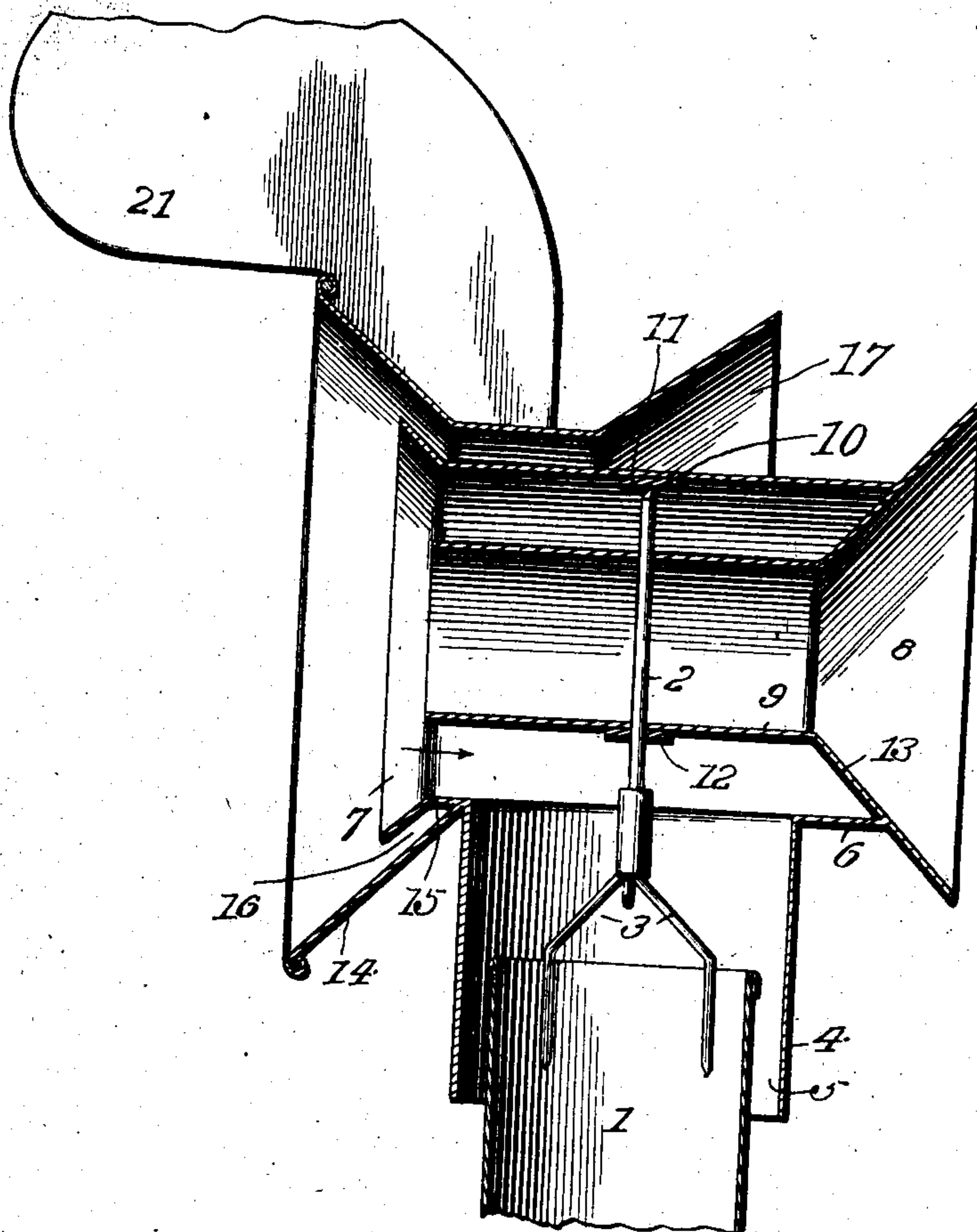


Fig. 3.

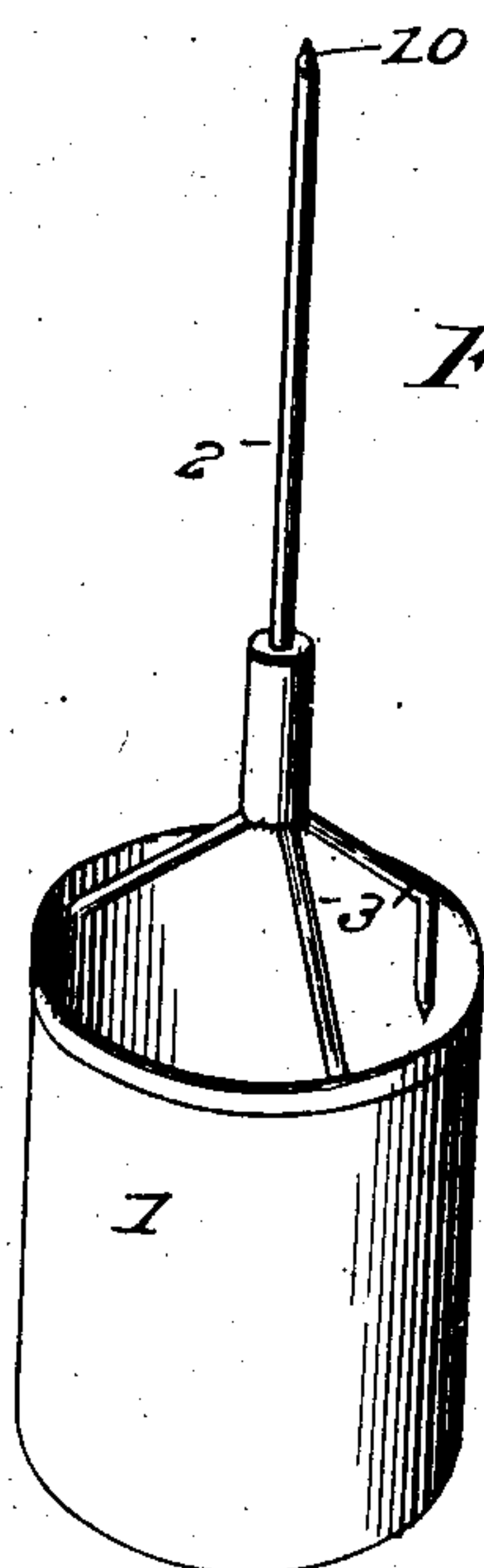


Fig. 4.

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HAROLD V. ACKERT, OF ROCHESTER, NEW YORK.

COWL AND VENTILATOR.

No. 834,551.

Specification of Letters Patent.

Patented Oct. 30, 1906.

Application filed May 24, 1906. Serial No. 318,542.

To all whom it may concern:

Be it known that I, HAROLD V. ACKERT, of Rochester, in the county of Monroe and State of New York, have invented a new and useful Improvement in Cows and Ventilators, which improvement is fully set forth in the following specification and shown in the accompanying drawings.

This invention relates to certain new and useful improvements in chimney cowl or ventilators of that class designed to be placed upon the top of a chimney for accelerating the draft and it has for its objects, among others, to provide an improved device of this general character having means for condensing the wind, so as to cause it to increase its velocity and produce an accelerated draft upward through the chimney.

The ventilator comprises a vertically-disposed flue adapted to be arranged concentric with the upper portion of the chimney flue or passage and rotatable about the same and a horizontal tube of the same diameter as the vertical tube, the said two tubes forming a T. Outside of the horizontal tube is a concentric band terminating in funnels, while the horizontal tube also terminates in funnels, the latter being a narrow rim within the funnel of the said band. The other funnel of the horizontal tube is provided with a horizontal tube concentrically within the said horizontal tube. The upper portion revolves on a vertical spindle coaxial with the chimney flue or passage and supported thereon. Means are provided for giving a broad bearing for the bearings of the spindle to prevent wear. The funnels and the flaring portions soon to be described serve to condense the wind at the front end of the ventilator where the wind enters, and slightly rarefy it where it passes out at the funnel as it leaves the device.

Other objects and advantages of the invention will hereinafter appear, and the novel features thereof will be specifically defined by the appended claims.

The invention is clearly illustrated in the accompanying drawings, which, with the numerals of reference marked thereon, form a part of this specification, and in which—

Figure 1 is a perspective view of my improved cowl or ventilator in position. Fig. 2 is a substantially central vertical section through the same. Fig. 3 is a vertical section at right angles to Fig. 2. Fig. 4 is a

perspective view of the supporting-spindle with the cowl removed.

Like numerals of reference indicate like parts throughout the several views.

Referring to the drawings, 1 designates the upper portion of a chimney or a flue, upon which the ventilator is designed to be supported.

2 designates a spindle upon which the cowl is designed to revolve. This spindle is carried by the forked support 3, which is secured to the member 1, and its upper end is preferably pointed, as shown, for an obvious purpose.

The cowl or ventilator is constructed as follows: 4 is a vertically-disposed tube of greater diameter than that of the flue 1 and disposed concentric therewith, so as to leave a passage 5 therearound, as seen clearly in Figs. 2 and 3. This vertical tube may be of any desired height, but not necessarily so as to extend a great distance above the upper end of said flue.

At the upper end of the tube 4 is the horizontally-disposed tube 6, which is of substantially the same diameter as the said tube 4, but extending at right angles thereto, as seen best in Fig. 3. This horizontal tube is practically short and extends in both directions from the tube 4. At one end it terminates in the funnel or flared mouth 7, as seen best in Fig. 3, while at the other end it has secured thereto the flared mouth or funnel 8 of the inner tube 9 concentric therewith, the said funnel extended beyond the end of the tube 6 and enlarged to an extent greater than the diameter of the tube 6, all as seen clearly in Fig. 3.

The spindle 2 passes through the tube 9, as shown, and its upper end is pointed, as seen at 10, having a bearing on the plate 11, secured to the inner face of the upper portion or wall of the tube 6, while upon the under side of the tube 9 is a similar plate through which the said spindle also passes. These plates 11 and 12 prevent wear on the tubes, and the upper one serves to keep the end of the spindle from wearing a hole through the upper wall of the tube 6.

It will be noticed that there is a passage for the air through the space between the tubes 6 and 9, as indicated by the arrow, this space being open at one end, but closed at the other, 13, which closure is formed by the inclined portion of the funnel 8.

14 is a funnel which embraces the funnel 7, extending back of the latter, as seen at 15, leaving a space 16 between the same, and this funnel is extended at its upper half to a point beyond the axial center of the tube 4, as shown, where it terminates in a funnel 17, which extends, however, for only that portion above the lower wall of the tube 6, as seen in Figs. 1 and 3. Thus there is a passage from front to rear between the tube 6 and the funnel 14 and the funnel 17, which passage is closed at the bottom, as seen at 18 in Figs. 1 and 2. The rear portion of this bottom wall 18 flares outward, as seen at 19. The passage 20, above referred to, is segmental in shape, as seen clearly in Fig. 2.

21 is a vane secured to the upper part of the funnel 14 for keeping the device in the right position with reference to the wind and allowing it to be easily turned on the spindle as a vertical pivot by the wind.

The parts may be formed of galvanized iron or any other material suited to the purpose. The diameter and other dimensions of the device may be varied according to the use to which the ventilator or cowl is to be put and the size of the flue in connection with which it is to be employed.

In use the device is placed upon the upper end of the chimney or flue, as shown in Figs. 1, 2, and 3, free to rotate upon the spindle as a pivot. The funnels 8 and 17 act to condense the wind, so to speak, causing it to increase its velocity through the tube 9 and the passage 20, resulting in an accelerated draft out through the annular opening around the tube 9 and between the same and the tube 6 around the discharge end of the tube 9. The conical flange 7 has its largest diameter just a little larger than the diameter of the annular portion connecting the funnels 14 and 17, so that it covers the annular space between the said annular portion and the tube 6. By this means the wind coming through said annular space is deflected by the said flange 7, tending to cause a slight vacuum, or rather a rarefaction of the air, around the annular discharge-opening between the tubes 6 and 9, thus also enhancing the upward draft through the flue 1.

Modifications in detail may be resorted to

without departing from the spirit of the invention or sacrificing any of its advantages.

What is claimed as new is—

1. In a ventilator, concentric members with oppositely-disposed flaring end portions, with means for condensing the wind at the entrance and for rarefying it at its discharge end.

2. In a ventilator, concentric members with flaring portions at opposite ends of the ventilator, means within one end for condensing the wind, and means within the opposite end for rarefying the air and enhancing an upward draft through the flue.

3. In a ventilator, concentric members with oppositely-disposed funnels at the ends, the annular space around the inner tube being closed at one end, and a flange at the opposite end of greater diameter than the space between adjacent members as and for the purpose specified.

4. In a ventilator, an inner tube with open ends, an outer tube concentric therewith, a funnel on one end of the inner tube closing the end of the outer tube, a funnel on the opposite end of the outer tube, a vertical tube supporting the outer tube, and a member having a funnel extended beyond the end of the funnel of the outer tube.

5. In a ventilator, an inner tube, an outer tube, funnels at opposite ends of the inner and outer tubes, a vertical tube supporting the outer tube, and means at one end of the ventilator for condensing the wind at that end and means for rarefying the wind at the opposite end.

6. In a ventilator, inner and outer concentric tubes, funnels at opposite ends thereof, a vertical tube communicating with the space between said tubes, a member inclosing the outer tube and having funnels at opposite ends, one of which extends for a portion only of the circumference of the outer tube.

In witness whereof I have hereunto set my hand, this 21st day of May, 1906, in the presence of two subscribing witnesses.

HAROLD V. ACKERT.

Witnesses:

E. B. WHITMORE,
A. M. WHITMORE.