

(No Model.)

M. R. RUBLE.
VENTILATING WHEEL.

No. 497,413.

Patented May 16, 1893.

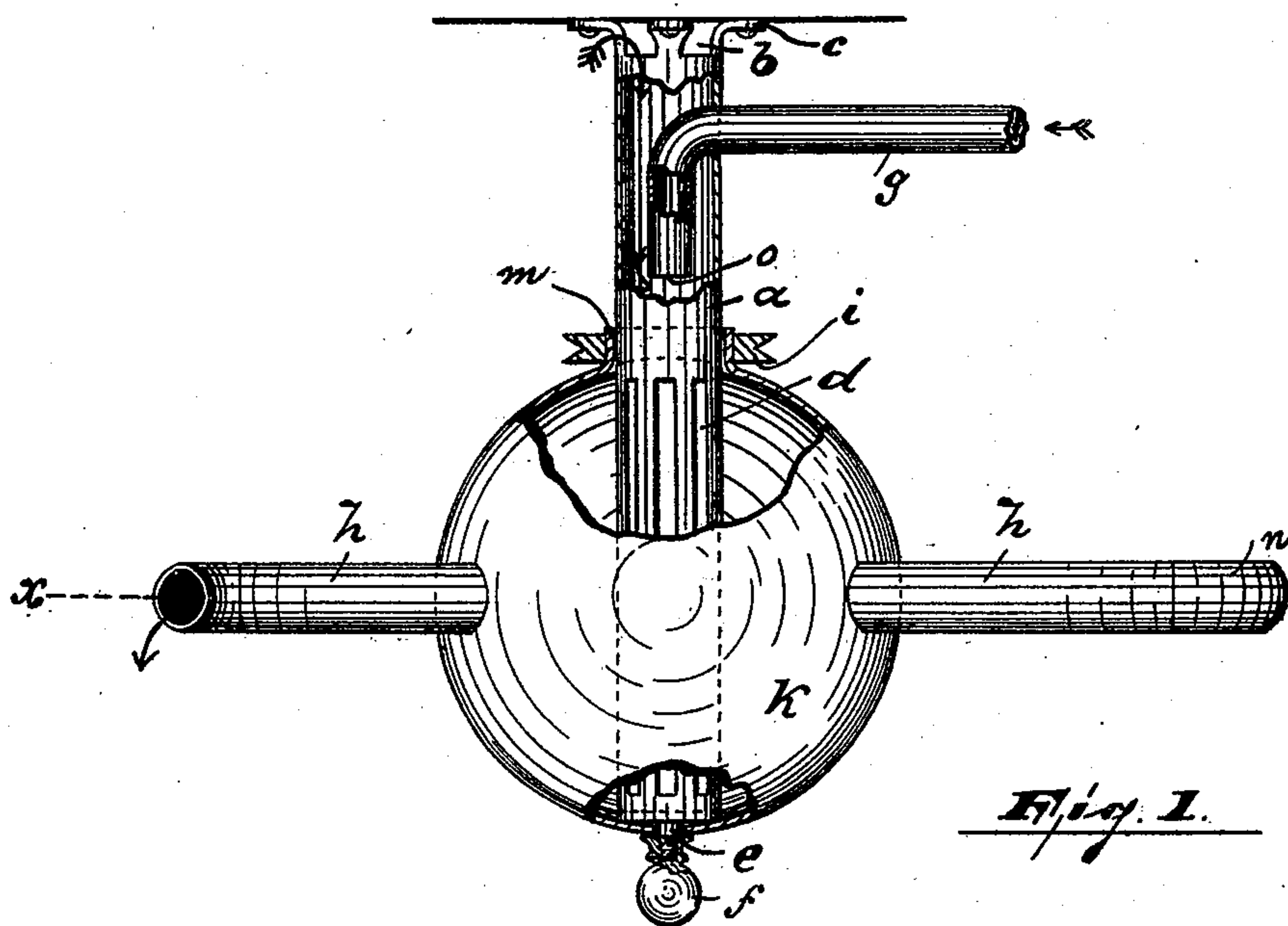


Fig. 1.

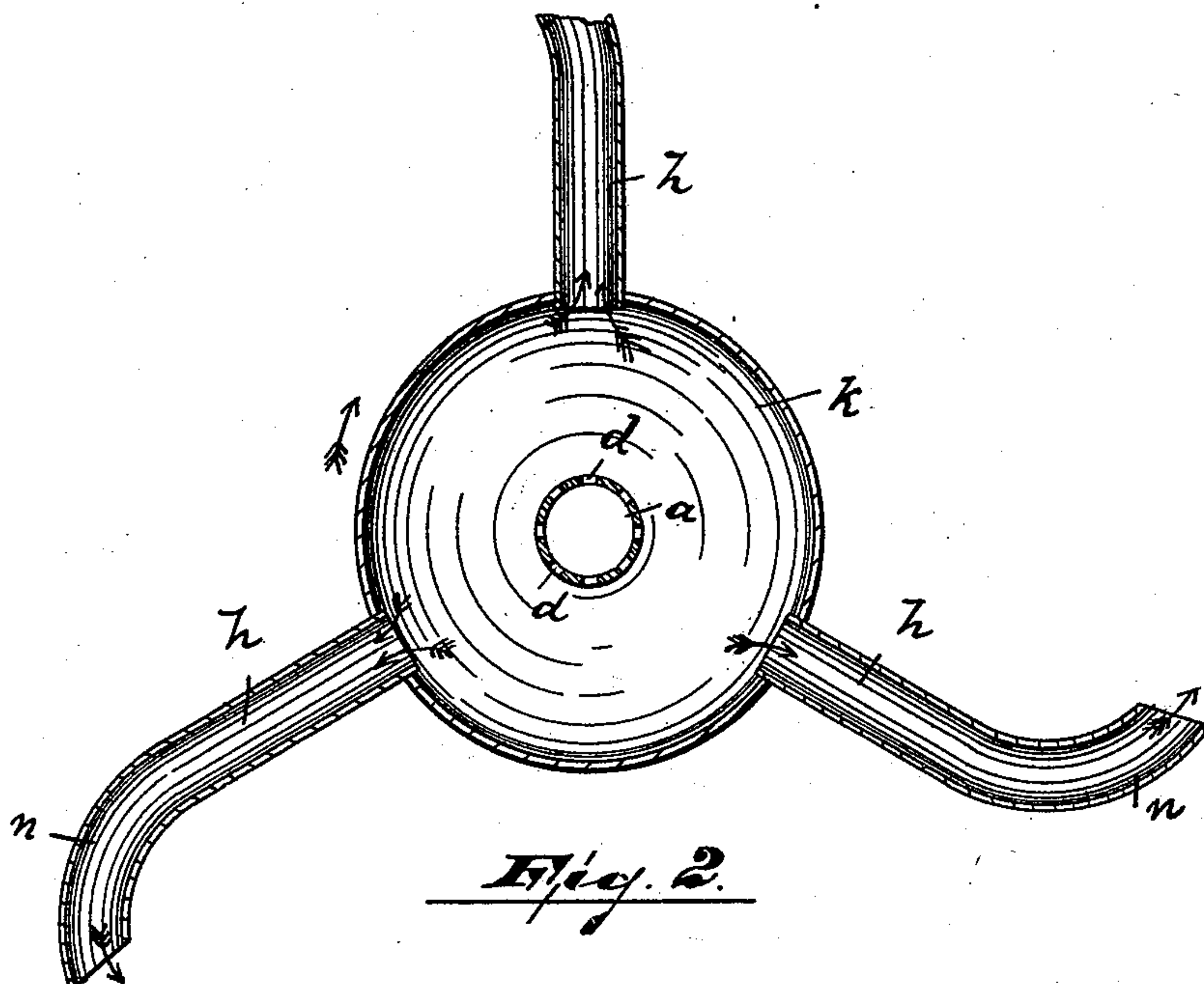


Fig. 2.

WITNESSES:

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INVENTOR:

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UNITED STATES PATENT OFFICE.

MARTIN ROSE RUBLE, OF NEWARK, NEW JERSEY, ASSIGNOR OF ONE-FOURTH TO JEREMIAH VREELAND, OF SAME PLACE.

VENTILATING-WHEEL.

SPECIFICATION forming part of Letters Patent No. 497,413, dated May 16, 1893.

Application filed July 13, 1892. Serial No. 439,877. (No model.)

To all whom it may concern:

Be it known that I, MARTIN ROSE RUBLE, a citizen of the United States, residing at Newark, county of Essex, and State of New Jersey, have invented certain new and useful Improvements in Ventilator-Wheels; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The object of this invention is to provide an apparatus for ventilating rooms, &c., simple and durable in construction, neat in appearance and easily operated.

The invention consists in the improved ventilator, its connections, and the arrangement and combination of the various parts thereof, substantially as will be hereinafter more fully described and finally embodied in the clauses of the claim.

Referring to the accompanying drawings, in which like letters of reference indicate corresponding parts in each of the two views; Figure 1. is a side elevation of my improved ventilator and Fig. 2. a sectional view on line *x* Fig. 1.

In said drawings *a* represents a hollow tube, provided at its upper end with a series of rectangular flanges *c*, and air inlets *b*, arranged alternately with each other. The lower end of said tube is provided with a series of elongated slots *d*, and also with a threaded pin *e*, the latter being adapted to receive an internally threaded knob *f*, serving as bearing for the hollow ball *k*. To the upwardly extending flange *m* of said ball, is secured a grooved wheel or pulley *i*,—and to the outer periphery—two or more radially extending tubes *h* provided at their outer ends with elbows *n*. The pipe *g* connects the ventilator with a blower; or it can be cut off (disconnected), and serves then as an additional air inlet,) if said ventilator is operated by belt or spring motor power) as will be hereinafter more fully explained.

There are two modes of operating said ventilator. When the pipe *g* is connected with a blower, the air from said blower is forced

through said pipe into the hollow tube *a*, and through slots *d* into the ball *k*, from where it enters the radial tubes *h*, and, based on the principle of the well known "turbine wheels," causes said ball to rotate; when the tubes are passing through or cutting the atmosphere, a certain vacuum or suction is produced, at their outlets, said suction releasing the blower of a certain pressure or strain, as will be manifest. As the inflowing current of air at the outlet (*o*) of pipe *g* produces a suction, additional air is siphoned in through openings *b* of tube *a*.

In case no steady air current can be obtained, for operating said ventilator, the pipe *g* is left open (disconnected) and the ball *k* may then be revolved by means of the pulley *i*, or in any desired manner. The revolving tubes *h* will, when traveling through the air, produce at their outlets a vacuum, thus sucking the air through openings *b*, and siphoning the air through pipe *g* as will be manifest.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a ventilator, the combination with a hollow ball, of a series of radially extending tubes, arranged on said ball and provided at their outer ends with elbows, a tube arranged in, and extending a certain distance above said ball, said tube being provided at its lower end with a series of elongated slots, and at its upper end with a series of air inlets, and a pulley secured to and adapted to operate said ball, all said parts substantially as described and for the purposes set forth.

2. In a ventilator the combination of the tube *a*, having at its upper end a series of air inlets *b* and at its lower end a series of elongated slots *d*, with the ball *k* incasing the slotted end of said tube *a* and carrying the curved radially extending outlet tubes *h* and with the pipe *g* leading from a blower or other source of air supply to and within the upper end of said tube *a*, said pipe *g* being of smaller diameter than tube *a*, and adapted when the air passes from the outlet end of said pipe *g* into said tube *a* to create a suction in said tube, all arranged substantially as and for the purposes set forth.

3. In a ventilator the combination with a

tube, provided at its upper end with rectangular flanges and openings arranged alternately to each other and at its lower end with a series of elongated slots, of a threaded pin
5 secured to the lower end of said tube, an internally threaded knob, secured thereto, a hollow ball adapted to be revolved on said tube and supported by said knob, two or more radially extending tubes arranged at the
10 outer periphery of said ball, and provided at their outer ends with elbows, and a pipe ar-

ranged in said hollow tube and adapted to conduct the air from a blower into said ball, all said parts substantially as described and for the purposes set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 28th day of June, 1892.

MARTIN ROSE RUBLE.

Witnesses:

ALFRED GARTNER,
D. ROBERTSON.