

No. 665,507.

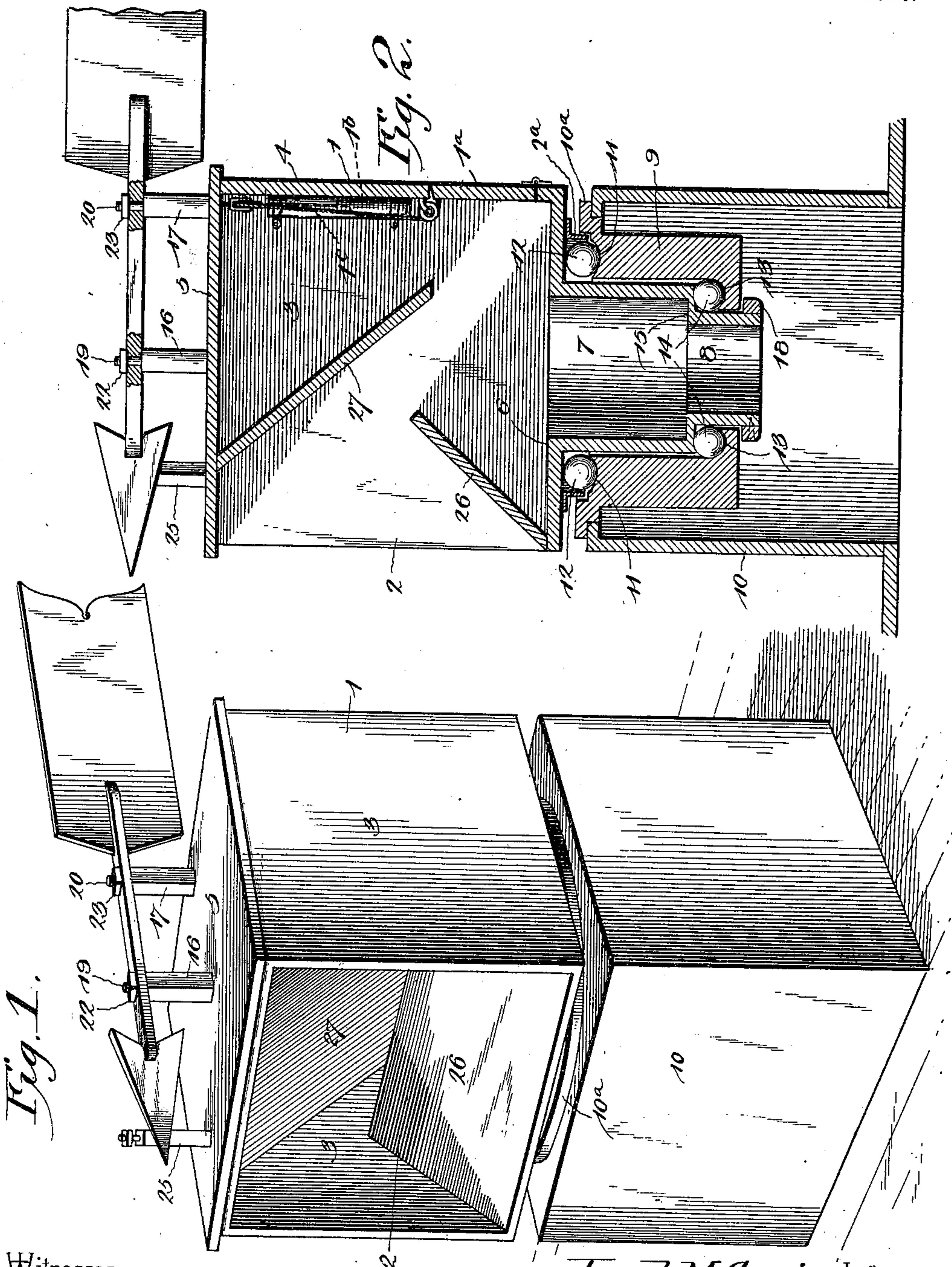
Patented Jan. 8, 1901.

J. M. CARRICO.  
VENTILATOR.

(Application filed Dec. 1, 1899.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses

Krausfleberwell,

By His Attorneys,

Joseph M. Carrico, Inventor.

J. H. P. Piny

C. A. Snow & Co.

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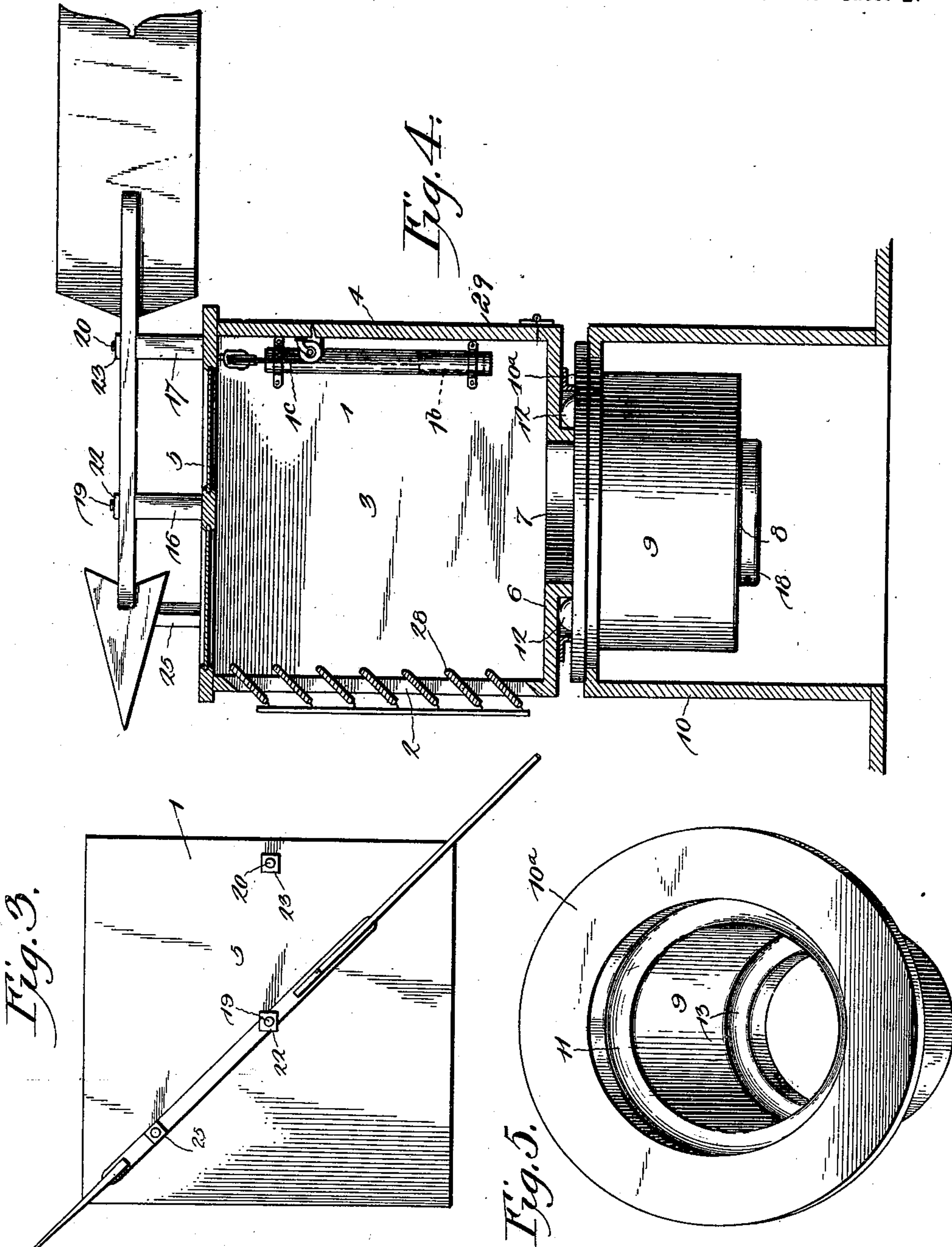
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Witnesses

*John Culverwell.*

By *his* Attorneys,

*J. H. P. C. Co.*

*Joseph M. Carrico,* Inventor.

*C. A. Snow & Co.*



# UNITED STATES PATENT OFFICE.

JOSEPH M. CARRICO, OF WASHINGTON, DISTRICT OF COLUMBIA.

## VENTILATOR.

SPECIFICATION forming part of Letters Patent No. 665,507, dated January 8, 1901.

Application filed December 1, 1899. Serial No. 738,876. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH M. CARRICO, a citizen of the United States, residing at Washington, in the District of Columbia, have invented a new and useful Ventilator, of which the following is a specification.

The invention relates to improvements in ventilators.

One object of the present invention is to improve the construction of ventilators and to provide a simple and comparatively inexpensive one adapted to be readily applied to buildings, ships, mines, and various other places where it is desirable to provide a continuous supply of fresh air and capable of automatically adjusting itself to face the direction of the wind.

A further object of the invention is to provide a ventilator which will shed water and which may be readily arranged to prevent the wind from blowing into it in winter and at the same time afford a limited ventilation.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

In the drawings, Figure 1 is a perspective view of a ventilator constructed in accordance with this invention. Fig. 2 is a vertical sectional view of the same. Fig. 3 is a plan view showing the vane adjusted for holding the open front of the ventilator out of the wind. Fig. 4 is a vertical sectional view illustrating a modification of the invention. Fig. 5 is a detail perspective view of the bearing.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 designates a rotary casing rectangular in cross-section and provided with an open front 2 and composed of sides 3, a back 4, top 5, and a bottom 6, and from the latter depends a tube 7, which forms a spindle or journal for the casing and at the same time serves as a conduit for the air. The depending tube 7 has its lower portion 8 reduced, and it is arranged within a bearing 9, which may be mounted on a support 10 or be arranged in any other suitable manner to adapt it to the structure to which the ventilator is to be applied.

The bearing 9, which is cylindrical, is provided at its top with a horizontal outwardly-extending annular flange 10<sup>a</sup>, and it has an inner annular recess or groove 11, located at the inner edge of the annular flange and forming an upper ball-race for the reception of antifriction-balls 12, upon which the rotary casing rests. At the bottom of the bearing is arranged an inwardly-extending horizontal flange 13, provided at its upper face with an annular groove forming a ball-race and receiving a lower series of antifriction-balls 14, upon which rests the shoulder 15, formed by the reduction of the lower portion of the depending tube. The lower end of the depending tube projects beyond the bottom of the bearing and receives a detachable ring or collar 18, which prevents the depending tube from rising in the bearing. The upper series of balls support the casing, and the lower series receive the shoulder 15, and by this construction the casing is enabled to rotate freely to follow the direction of the air, so that the open front will always be presented to the wind when desired.

In order to protect the bearings from the weather, the rotary casing is provided with a depending annular flange 2<sup>a</sup>, extending below the upper face of the bearing 9. The depending annular flange or shield 2<sup>a</sup>, which may be secured to the rotary casing in any suitable manner, is preferably provided with a horizontal attachment-flange, which is perforated for the reception of suitable fastening devices.

The rotary casing is provided at its top with a centrally-arranged supporting-post 16, and it has a similar post 17 located in rear of the post 16 and in line with the center. The upper ends of the posts are reduced to provide projecting stems 19 and 20, supporting a vane 21 and provided at their upper ends with nuts 22 and 23, whereby the vane is detachably secured to the posts. The vane projects rearward from the rotary casing, and, as will be readily apparent, it is adapted to hold the open front of the same to the wind; but in winter, when it is undesirable to have the wind blow into the casing, the vane, as shown in Fig. 3, is arranged diagonally to present one of the rear corners of the casing to the wind, and it is supported in its diagonal position by the central post 16 and by a front



post 25, located adjacent to one of the front corners of the casing. The post 25 is constructed similar to those before described, and the vane may be readily shifted from a position diametrically of the casing to its diagonal position.

The casing is provided with a front inclined partition 26, extending upward and rearward from the bottom of the casing and adapted to shed water, and it terminates short of an inclined partition 27, which forms a deflector and which is adapted to direct the air downward into the casing, so that it will pass through the depending tube. The partition 27 extends below the plane of the inclined front 26, and the rear wall of the rotary casing is provided with an automatically-opening door 1<sup>a</sup>, hinged at the bottom and normally held closed by a weight 1<sup>b</sup>, connected with the upper edge of the door by a cord or rope 1<sup>c</sup> or other suitable flexible connection. The weight, which may be of any desired size or power, is adapted to hold the door closed under a given force of the wind; but when the force of the wind exceeds the power of the weight the door is adapted to open automatically to permit the wind to pass through, whereby the ventilator is relieved of pressure and is prevented from being injured by high winds or storms. The weight is preferably arranged in the well or casing, and the rope or cord passes over suitable guide-pulleys, as illustrated in Fig. 2 of the accompanying drawings.

The depending tube of the rotary casing is designed to communicate with suitable conduits or pipes for conveying air to different rooms of a building, or different portions of a ship or other structure, or to the various parts of mines, and the ventilator may be made of any desired size to suit the character of the place to be ventilated, and such pipes or conduits may extend from the support or box 10, or they may be connected with the tube 7 in any other suitable manner, as these and analogous changes in the form, proportion, size, and the minor details of construction within the scope of the appended claim may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Should it be desired, the top of the casing may be made transparent to serve as a skylight, and in such a construction the partitions 26 and 27 will be omitted and pivoted slats 28 will be employed, as illustrated in Fig. 4 of the accompanying drawings. This form of the invention is also provided with an automatically-opening door 29, which is controlled by a weight and which may be made of any desired area, as the inclined partition 27 is omitted.

The invention has the following advantages: The ventilator, which is simple and comparatively inexpensive in construction,

automatically adjusts itself to the direction of the wind, and it is adapted to shed water, and may be advantageously employed on ships, buildings, and various other constructions. It is also adapted to be readily arranged so that its closed rear portion will be held toward the wind, thereby obviating the necessity of closing the front of the casing in winter, and at the same time it provides for a limited ventilation.

What I claim is—

1. A device of the class described comprising a casing open at the front and provided with means for holding the same more or less in the wind, the box or support 10 provided at its top with an opening, the cylindrical bearing depending within the box or support 10 and terminating short of the bottom thereof and provided at its top and bottom with flanges extending respectively outward and inward, the upper flange being arranged upon the upper face of the box or support 10, whereby the cylindrical bearing is removably supported in position, said cylindrical bearing being provided with upper and lower ball-races consisting of grooves formed in the upper face of the bearing and in the upper face of the lower flange thereof, the depending tube 7 arranged within the bearing and extending from the bottom of the casing and having a reduced lower portion forming a shoulder, the ring or collar arranged upon the lower end of the depending tube and engaging the bottom of the bearing and detachably securing the casing on the box or support 10, the upper series of balls interposed between the bottom of the casing and the bearing and arranged in the upper ball-race, and the lower series of balls arranged in the lower ball-race and fitting against the shoulder of the tube and the outer face of the reduced portion thereof and assisting in supporting the casing, substantially as described.

2. A device of the class described comprising a rotary box or casing open at the front and provided at its bottom with an opening, the partition 26 extending upward and inward from the front of the casing at the bottom thereof and terminating short of the center, the partition 27 offset from the front edge of the box or casing and inclining downward from the top thereof to a point below the upper edge of the partition 26, and an automatically-opening door arranged at the back of the casing and located below the partition 27, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JOSEPH M. CARRICO.

Witnesses:

J. M. NAEKER,  
M. PERRY HAHN.