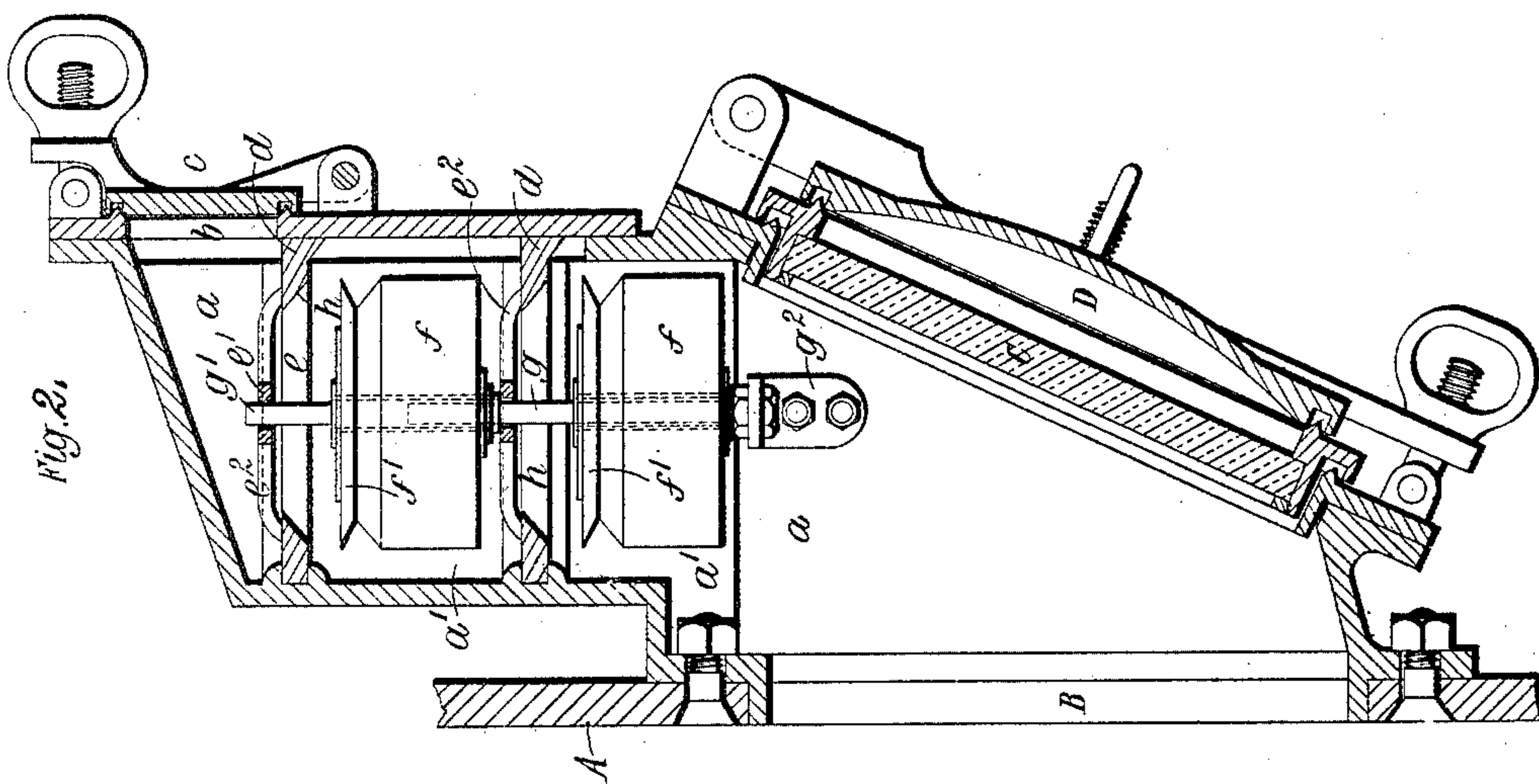
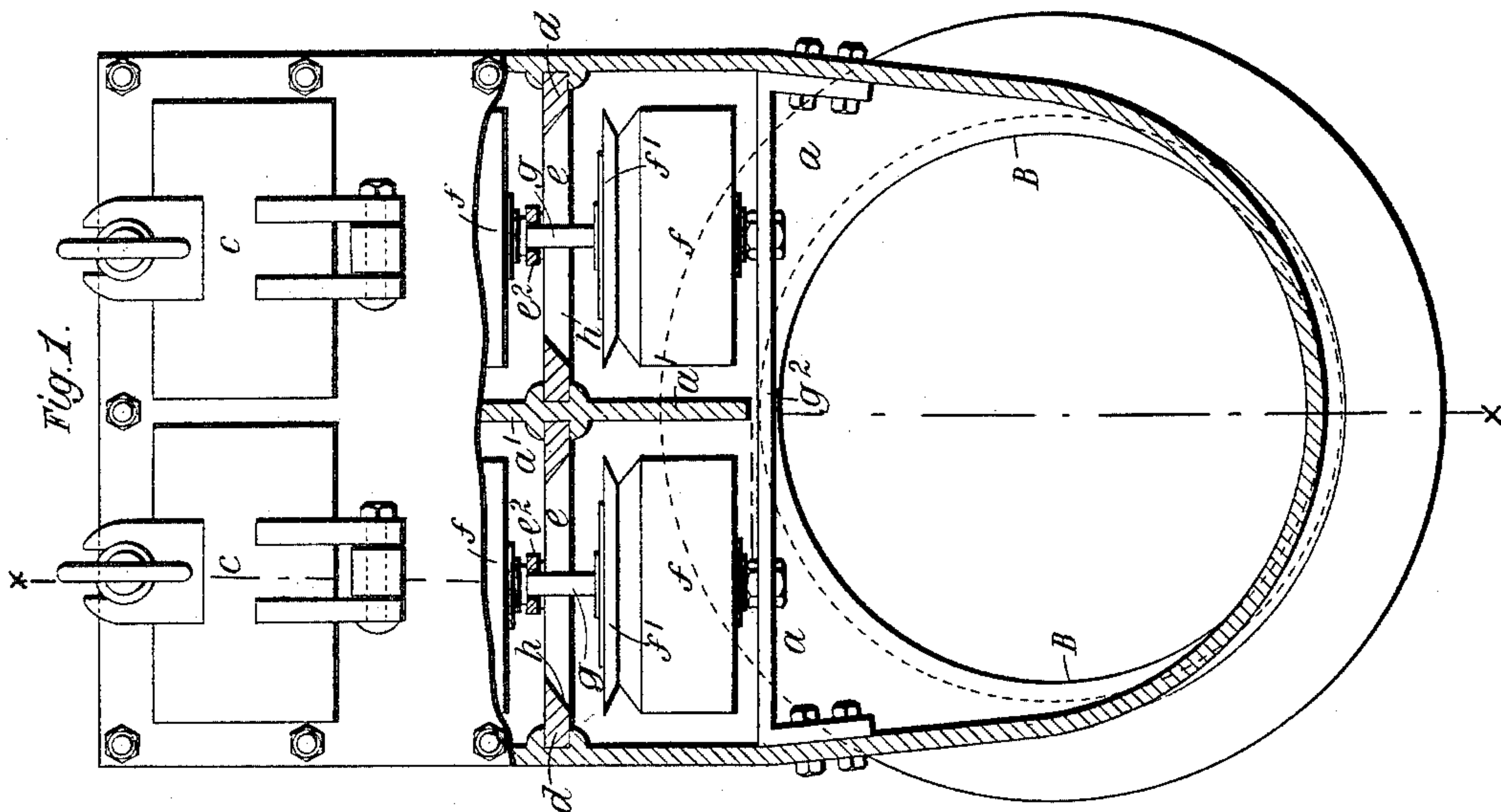


(No Model.)

T. UTLEY.
VENTILATOR.

No. 462,604.

Patented Nov. 3, 1891.



Witnesses.

J. A. Rutherford.
Albert Bennett.

Inventor.

Thomas Utley.

By

James L. Norris.
Atty.

UNITED STATES PATENT OFFICE.

THOMAS UTLEY, OF LIVERPOOL, ENGLAND.

VENTILATOR.

SPECIFICATION forming part of Letters Patent No. 462,604, dated November 3, 1891.

Application filed June 18, 1891. Serial No. 396,754. (No model.) Patented in England November 29, 1888, No. 17,422.

To all whom it may concern:

Be it known that I, THOMAS UTLEY, engineer, a subject of the Queen of Great Britain, and a resident of Stoneycroft, Liverpool, England, have invented certain new and useful Improvements in and Relating to Ventilators chiefly designed for use in connection with ships' side lights, (for which I have obtained a patent in Great Britain, No. 17,422, dated November 29, 1888,) of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to ventilators chiefly designed for use in connection with the cabins, holds, and other compartments of ships, where ventilation is essential or desirable; and my said invention comprises improvements in the ventilators described in the specification of a former United States patent granted to myself and John Fawcett, No. 301,538, dated July 8, 1884.

An important feature of my present invention consists in providing for the ventilation of two or more cabins, compartments, or holds through a single side-light port or other opening, or the ventilation of one cabin, compartment, or hold through more than one aperture. For this purpose I combine with the side-light port or other opening, one or more air-chambers, each provided with a float or valve, or with a set of floats or valves, and I connect the said chamber or chambers by means of suitable pipes, passages, or apertures with two or more cabins, compartments, or holds. In some instances, however, I apply my present improvements to apparatus for the ventilation of a single cabin, compartment, or hold.

Another important feature of my said invention is the combination, with a single side-light port or other opening, of two or more separate or distinct air-chambers provided with floats or valves, and so constructed that, should the valve or valves in one chamber get out of order, this chamber can be closed without preventing or interfering with the action of the other chamber or chambers. I thus obviate the necessity for discontinuing the use of the ventilator, in case one valve or set of valves should become inoperative through leakage or otherwise.

My said invention, moreover, comprises other improvements hereinafter set forth.

In the accompanying drawings I have shown how my said invention may be conveniently and advantageously carried into practice. 55

Figure 1 is a front elevation, partly in vertical section, and Fig. 2 is a vertical section on the line xx , Fig. 1, some of the parts being shown in side elevation showing my improved ventilator. 60

Like letters indicate corresponding parts throughout the drawings.

A is the wall or side of the vessel. B is the side-light port or opening. C is the interior side light. D is the shutter therefor. 65

a is a casing divided by partitions a' into compartments or air-chambers. These air-chambers are in communication on the outside of the vessel with the open air through the side-light opening or port B, (or other convenient opening,) and upon the inside by means of apertures b , provided with fluid-tight doors c with one or more cabins, holds, or other parts of the vessel which it is desired to ventilate. 75

When my improved ventilator is applied to a side-light port the side light C is preferably inclined, as shown in the drawings, for the sake of economizing space and obtaining as much light as is practicable. 80

Each air-chamber is provided with horizontal partitions d , having suitable apertures e for the passage of air, and provided with floats or valves f for preventing the admission of water through the said apertures e in the event of the side light or port B being temporarily immersed, substantially as described in my said former specification. The valves f are provided with vertical spindles or guides g , and are so arranged that they can move freely to or from valve-seatings h in the horizontal partition d . The guide g is attached to the upper float or valve f , and is adapted to move freely in a hole e' in one of the cross-pieces or cross-bars e^2 , which are firmly attached to or form part of the partitions d . The lower cross-piece or cross-bar e^2 serves to support the upper extremity of the spindle or guide g , the lower extremity of which is supported in a bracket g^2 , attached to the side of the chamber a , and the lower valve f is arranged to move freely up and down on the said spindle or guide g . The floats or valves f are preferably provided with valve-rings or washers f' , 100

of india-rubber or other suitable material intended to bear against the seatings *h* when the said floats or valves *f* are raised by water entering through the port B. These rings or washers can be easily and expeditiously replaced when desired.

By dividing the casing *a* into two or more distinct air-chambers, I am enabled in case of leakage or for other reasons to shut off one or more of the said chambers, leaving the other chamber or chambers open for the admission of air. The partitions *a'* in some instances extend downward from the top of the air-chambers to or below the lower horizontal partitions *d*, or down to the upper edge of the side, light or other opening or port, as shown. In other instances they are arranged so that the portion of each vertical partition below the upper horizontal partition *d* is dispensed with. It is preferable, however, that the casing *a* should be divided throughout its entire height, as otherwise (in cases where two or more cabins, compartments, or holds are ventilated through a single ventilator) a greater quantity of the air which passes through the casing might be drawn into one of the said cabins, compartments, or holds than into another of the same, thus causing deficient ventilation of the latter.

It is obvious that I can employ any suitable number of air-chambers in connection with a single side-light or other convenient port or opening in the side or other part of the vessel. It is obvious, moreover, that I can somewhat further modify the construction of my improved ventilator without departing from the nature of my said invention. For instance, I can employ other suitable floats or valves,

and means for guiding the same. I can, if desired, employ a single valve in each air-chamber, suitable means being provided, as hereinbefore described, for permitting the closing of one air-chamber while leaving the other chamber or chambers in operation. Moreover, I can, if desired, apply my improvements to ships' ventilators provided with a single valve, so that the air from a single side-light or other opening may be conducted to two or more holds or compartments.

What I claim is—

1. A ship's ventilator consisting of a casing divided by a vertical partition into two distinct air-chambers located side by side, a vertically-movable float-valve arranged in each air-chamber, and a pair of independent fluid-tight doors at the upper portions of the air-chambers for delivering air to separate cabins or compartments, whereby either one of the air-chambers may be closed independent of the other, substantially as and for the purposes described.

2. A ship's ventilator consisting of a casing divided by a vertical partition into two distinct air-chambers, a side light located below the divided casing, and a vertically-movable float-valve located in each air-chamber, substantially as and for the purposes described.

In testimony whereof I have hereunto signed my name in the presence of two subscribing witnesses.

THOMAS UTLEY.

Witnesses:

JOHN H. KENION,
Solicitor, Liverpool.
CHAS. CREBBIN,
His Clerk.