W. H. DOUGHERTY.

VENTILATED PORT.

APPLICATION FILED APR. 16, 1909.

945,764. **Patented Jan. 11, 1910.**

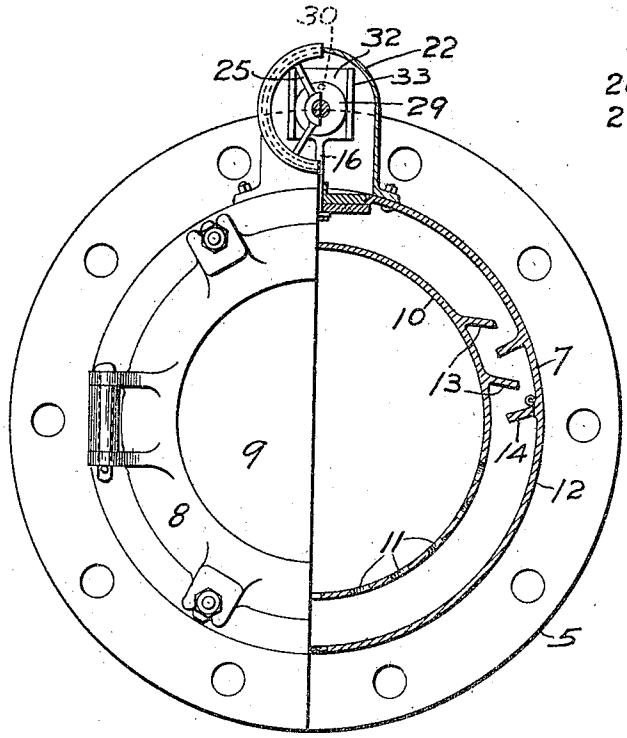

Fig. 1.

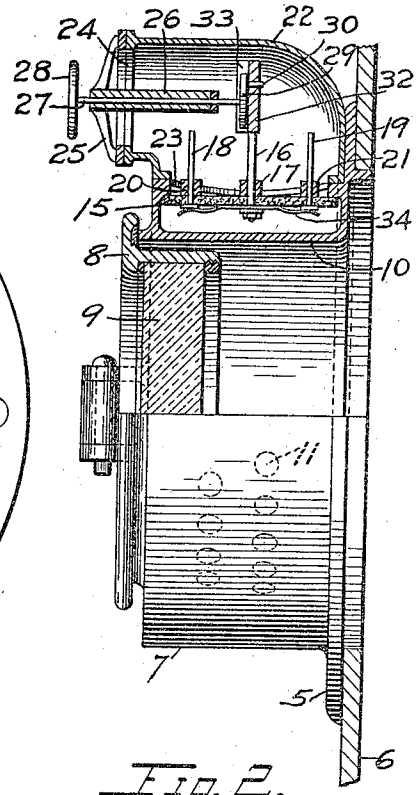

Fig. 2.

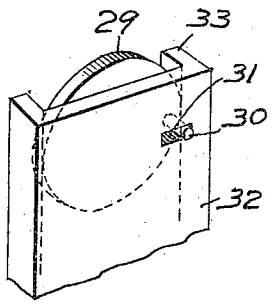

Fig. 3.

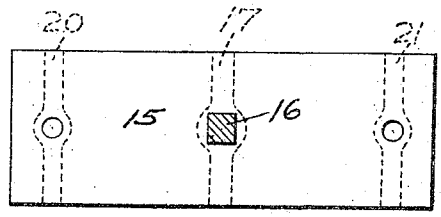

Fig. 4.

Witnesses:
C. H. Berthold
P. A. Conroy.

Inventor
William H. Dougherty.
By his Attorney
Harry P. Van Wyk.

ANDREW. B. GRAHAM CO., PHOTO-LITHOGRAPHERS, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WILLIAM H. DOUGHERTY, OF NEW YORK, N. Y.

VENTILATED PORT.

945,764. Specification of Letters Patent. Patented Jan. 11, 1910.

Application filed April 15, 1909. Serial No. 490,066.

To all whom it may concern:

Be it known that I, WILLIAM H. DOUGHERTY, a citizen of the United States, residing at New York, in the county and State of New York, have invented a new and useful Ventilated Port, of which the following is a specification.

This invention relates to ports for ships; and the object thereof is to provide a port which will admit air therethrough, but which will not admit water, a further object being to provide a port so constructed that the dashing of the waves against the port, or the submersion of the port by the rolling of the ship will assist in forcing air through the port into the ship.

I attain the objects of my invention by the construction and arrangements of parts illustrated in the accompanying drawing, in which—

Figure 1, is a front elevation of a port constructed according to my invention, the right half being partly removed to show the interior construction; Fig. 2, is a side elevation of the same, the upper part being in section; Fig. 3, is an enlarged view of a detail of construction; and, Fig. 4, is a bottom plan view of the float valve.

In the accompanying drawing, like numerals of reference refer to the same parts in each of the views; and in practice I provide a port having a flange 5, by means of which it may be secured to the side 6, of a ship, and on the inner side thereof so that the entire port lies within the ship. The port 5, is provided with a hollow casing 7, to which is hinged the frame 8, carrying the glass 9.

The inner partition 10, of the casing 7, is provided in the lower part thereof with a plurality of perforations 11, and within the casing intermediate between the top and bottom thereof, and alternating on the partitions 10, and 12, are inclined flanges 13, substantially as shown in Fig. 1, at the right of the port, it being understood that similar flanges are provided in the casing on the other side of the port. I also prefer to provide a hinged plate 14, similar in width and inclination to one of the flanges 13, and preferably mounted beneath the lowest of said flanges for reasons hereinafter explained.

In the upper part of the casing 7, I mount a float valve 15, preferably composed of cork, which is mounted slidably on a square shaft 16, which passes through a cross bar 17; and I may secure to the float valve 15, two posts 18, and 19, which are slidably mounted in cross bars 20, and 21, respectively.

On the upper part of the casing 7, I mount a second casing 22, inclosing the opening 23, in the top of the casing 7, and which is angled so that the mouth 24, thereof faces within the ship; and on this open end I mount a spider 25, having an elongated hub 26, through which passes a shaft 27, on the outer end of which is a wheel 28, by means of which it may be rotated; and on the inner end is mounted a disk 29, carrying a pin 30, which engages a slot 31, in a plate 32, which is secured to the top of the shaft 16, and which is provided with flanges 33, the disk 29, being proportioned to turn freely between said flanges, so that as the disk is rotated causing the pin 30, to ascend, the flanges will prevent the lateral movement of the plate 32, and shaft 16, and in consequence, the pin 30, will move inwardly in the slot 31, as the disk 29, is rotated to bring the pin to the highest point thereof, thereby causing the vertical movement of the shaft 16, and with it the float valve 15, until it is seated against the under side of the partition, or wall of the casing 7; and the central parts of the valve 15, will be supported by the bars 17, 20, and 21, as indicated by dotted lines in Fig. 4.

In operation, air enters through the perforations 11, in the inner wall of the casing 7, and passes upward around the flanges 13, and through the opening 23, into the casing 22, and thence out through the spider 25, into the ship, it being understood that normally the disk 29, is rotated to the position shown in Fig. 3, so that the float valve 15, will be normally in a lowered position, and the opening 23, will be open. When a wave strikes the port, or the rolling of the ship carries the port under water, water will enter through the perforations 11, and will pass upward as the air, but the violence of the rush of the water will be checked by the flanges 13; and should the rush be very great, the plate 14, will be carried upward against the adjacent flange 13, so that when the water reaches the float valve 15, it will not rush violently against the same; and will carry the valve up with it until it is seated against the cross bars, and the edges of the casing wall surrounding the opening 23, thereby effectually closing the same so that the water can not enter the casing 22.

As the float is raised by the water, it may either slide on the shaft 16, or carry the shaft 16, with it thereby causing the disk 29, to rotate. As the water rises within the casing 7, it will force all the air out of the casing into the ship and casing 22, so that the rolling of the ship, or the waves will assist in ventilating the ship; and when there are no waves, the air can enter through the port, or may be sucked through by fans drawing the air from the staterooms, thereby filling the staterooms with pure air from outside the ship instead of filling them with air drawn from other parts of the ship. Should it be desired to close the air passageway through the ports, the wheel 28, is rotated, raising the float to the position shown in Figs. 1 and 2, thereby shutting off the water and air both. As a further means of support for the float when in a raised position, I may mount a strap spring 34, on the shaft 16, and have the ends thereof bear against the ends of the float 15, as shown in Fig. 2.

It will be understood that changes may be made in the details of construction without departing from the spirit of my invention, and I reserve the right to make such changes.

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

1. A port for ships comprising a casing having integral therewith concentric walls forming a closed and complete ring-shaped annular passage therebetween, and provided with a flange whereby the same may be secured to a ship, a frame hinged to said casing and carrying the port glass, said casing being provided in the bottom thereof with passageways communicating with the air exteriorly of the ship and being provided with a passageway at the top thereof communicating with the interior of the ship, and having a breakwater intermediate of the top and bottom, as and for the purpose set forth.

2. A port for ships comprising a casing having integral therewith concentric walls forming a closed and complete ring-shaped annular passage therebetween, adapted to be secured in the port opening of a ship, a port glass and frame hinged thereto, said casing having passageways in the bottom thereof communicating with the air exteriorly of the ship, and with a passageway at the top thereof communicating with the interior of the ship, and a breakwater in said casing interiorly of each side and intermediate of the top and bottom, said breakwater comprising downwardly and inwardly inclined flanges alternating from the opposite side walls of the passageway and the ends of said flanges overlapping each other, as and for the purpose set forth.

3. A port for ships comprising a casing having integral therewith concentric walls forming a closed and complete ring-shaped annular passageway therebetween, and adapted to be secured in the port opening of a ship, a port glass and frame hinged thereto, said casing having openings therethrough at the bottom thereof communicating with the air exteriorly of the ship and having a passageway at the top thereof communicating with the interior of the ship, a float valve adapted to close the passageway at the top of said casing, and a breakwater within each side of said annular passageway intermediate of the top and bottom, said breakwater comprising inwardly and downwardly inclined flanges alternating from the opposite walls, and the ends of said flanges overlapping each other, as and for the purpose set forth.

4. A port for ships comprising a casing having integral therewith concentric walls forming a closed and complete ring-shaped annular passage therebetween in communication with the outer air at the bottom thereof and with the interior of the ship at the top thereof, and a breakwater mounted within said passageway comprising a plurality of inwardly and downwardly inclined flanges alternatng therein from the opposite side walls thereof, said flanges overlapping each other, as and for the purpose set forth.

5. In a ventilated port having concentric walls forming an air passageway, a breakwater comprising a plurality of inclined flanges alternating in said passageway from the opposite sides thereof, said flanges overlapping each other, and a hinged plate on one side of said passageway adapted to be raised against one of the flanges on the opposite side of said passageway, as and for the purpose set forth.

6. A port for ships comprising a casing having integral therewith concentric walls forming a closed and complete ring-shaped passage therebetween, and adapted to be secured in the port opening of a ship, a port glass and frame hinged thereto, said casing having openings in the bottom thereof communicating with the air exteriorly of the ship, and having a passageway at the top thereof communicating with the interior of the ship, a float valve adapted to close the passageway at the top of said casing, and a breakwater within each side of said annular passage intermediate of the top and bottom, said breakwater comprising inwardly and downwardly inclined flanges alternating from the opposite sides, and the ends of said flanges overlapping each other, and positive means to operate said float valve, as and for the purpose set forth.

7. In a ventilated port having concentric walls forming an air passageway, a float valve mounted in said passageway, a shaft connected with said float, a slotted plate on the upper end of said shaft, said plate being provided with flanges, a disk mounted be-

tween said flanges, and provided with a pin engaging the slot in said plate, and a shaft connected with said disk whereby the same may be rotated, as and for the purpose set forth.

8. A port for ships comprising a casing having integral therewith concentric walls forming a closed and complete ring-shaped annular passage therebetween, a frame carrying the port glass hinged to said casing at the inner side thereof, said casing having air passageways on the inner circumference of the bottom exteriorly of the port glass, a second casing mounted on the top of said ring-shaped casing, and communicating with the interior thereof, a float valve adapted to close the passageway between said casings, a breakwater mounted within each side of said annular passage intermediate of the top and bottom, said breakwater comprising inwardly and downwardly inclined flanges alternating from the opposite sides, and the ends thereof overlapping each other, and positive means to close said float valves, as and for the purpose set forth.

Signed by me this 5th day of April, 1909.

WILLIAM H. DOUGHERTY.

Witnesses:

H. BRINKMAN,

G. P. VAN WYE.