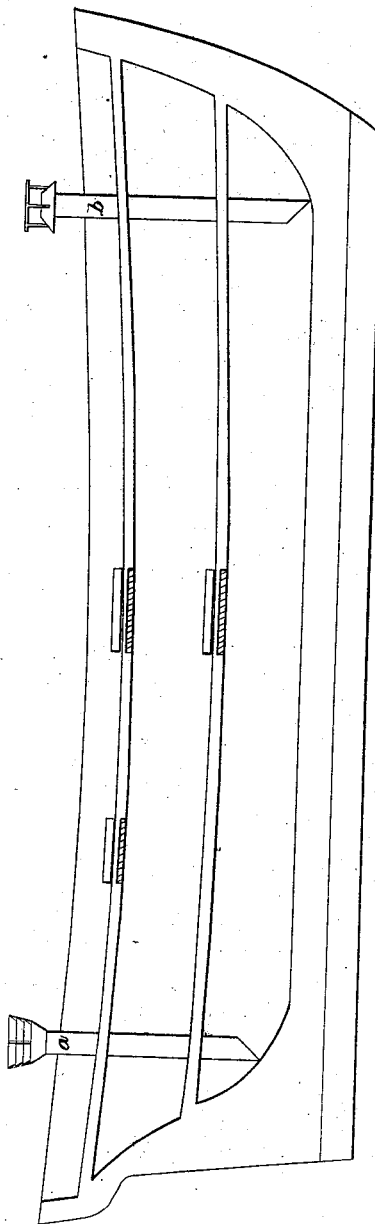


F. Emerson,

Ventilating Ships,

N^o 5842.

Patented Oct. 10, 1848.



UNITED STATES PATENT OFFICE.

FREDERICK EMERSON, OF BOSTON, MASSACHUSETTS.

VENTILATING SHIPS.

Specification of Letters Patent No. 5,842, dated October 10, 1848.

To all whom it may concern:

Be it known that I, FREDERICK EMERSON, of Boston, in the county of Suffolk and State of Massachusetts, have invented an
5 Improved Method of Ventilating the Interior of Ships by Means of Ventilators, which I denominate "Corresponding Ventilators," and that the following is a full, clear, and exact description of the principle
10 or character which distinguishes it from all other things before known and of the usual manner of making, modifying, and using the same, reference being had to the accompanying drawing, which shows an elevated
15 section of a ship with the ventilators attached.

My improved method of ventilating ships and other water craft consists in placing, injecting ventilators, and ejecting ventilators in different parts of the craft, for
20 removing the foul air therefrom, and supplying its place with pure air from the atmosphere above.

In the drawing the section of the ship is shown, cut in a vertical plane through the center, and exposing the interior. Near the
25 stern, an "injecting ventilator" (a) is placed, constructed in the manner described in Letters Patent granted to me on the 3d
30 July, 1847, and which is now on record in the United States Patent Office.

The tube leading down from said injecting ventilator passes through the decks in any convenient part thereof, and extends
35 into the lower part of the hold, where it opens and discharges a supply of fresh air from above. Near the bow of the vessel I place another description of ventilator, (b), which is denominated an "ejecting ventilator," and for which also I have Letters
40 Patent, granted the day and year above named; the pipe from which likewise extends down to the lower part of the hold; this is for the purpose of withdrawing the
45 foul gases, that by their gravity ordinarily

accumulate at that level, in ships' holds. It will be seen that, by this arrangement, the corresponding operation of the two ventilators must produce a movement of air through the ship, from the place where the
50 injecting pipe introduces the pure air, to the place from which the ejecting pipe withdraws the vitiated air.

Although, in the drawing the ejecting ventilator is placed in the forward part of
55 the ship, and the injecting in the after part, their places may be exchanged without injury to their effect. And although the pipes of these ventilators, as shown in the drawing, both terminate and open in the lower
60 part of the hold, they may be made to terminate and open at any two places in the ship, between which places it is desired to product a movement of air from the one
65 place to the other.

Where a very thorough ventilation is required, I employ an additional number of these ventilators, letting the pipes of some of them open near the upper deck, thereby
70 displacing the lighter gases that are generated in a ship. Any practicable number may be adopted, and they may be made of any practicable size.

Having thus fully described my improved method of ventilating ships, and other water
75 craft, what I claim therein as new, and for which I desire to secure Letters Patent, is—

The employment of two or more certain ventilators, constructed in the manner specified, in combination with water craft, substantially as herein described for the purpose of removing all noxious and unpleasant
80 gasses therefrom, and introducing in their place pure atmospheric air.

FREDERICK EMERSON.

Witnesses:

JACOB KEOBEL,
T. C. DONN.