(No Model.)

F. H. WILKS.

VENTILATOR FOR SHIPS, &c.

No. 414,621. Patented Nov. 5, 1889.

Fig. 1.

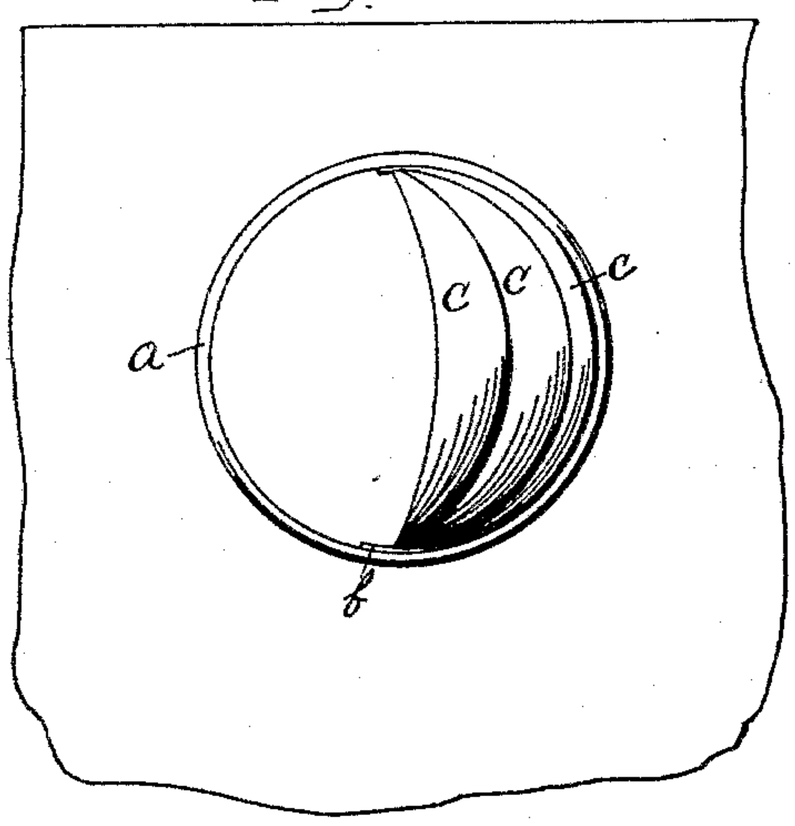


Fig. 2.

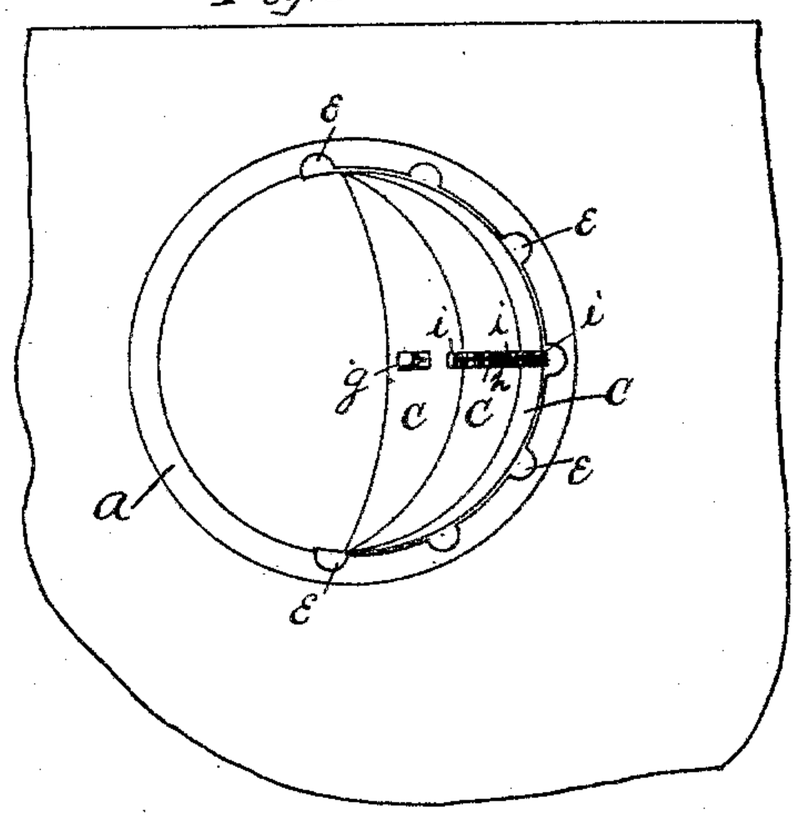


Fig. 3.

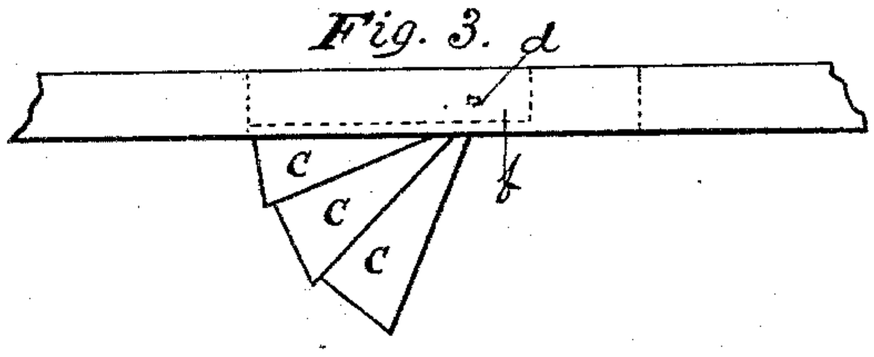
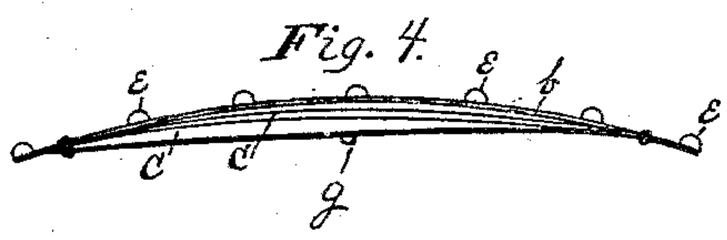


Fig. 4.



Witnesses
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VENTILATOR FOR SHIPS, &c.

SPECIFICATION forming part of Letters Patent No. 414,621, dated November 5, 1889.

Application filed August 5, 1889. Serial No. 319,784. (No model.)

To all whom it may concern:

Be it known that I, FRANK H. WILKS, a citizen of the United States, residing at Newport, in the county of Newport and State of Rhode Island, have invented a new and useful Ventilator to be Used in the Air-Ports in the Sides of Vessels, or, in other words, the ports through which air and light are admitted to the interior of the vessel, of which the following is a specification.

In the accompanying drawings, in which similar letters refer to similar parts, Figure 1 represents an air-port in a section of the side of a vessel having my improved folding ventilator adjusted therein in such a position as to catch the moving air outside of the vessel and convey it to the interior thereof. Fig. 2 represents a view of Fig. 1 from the interior of the vessel. Fig. 3 is a top view of the same, and Fig. 4 is a view of the ventilator as it appears when removed from the air-port and folded together.

b represents a thin strip of spring sheet metal having the projections *e* turned at right angles thereto.

c c c represent strips of the same material as *b* and pivoted to it at *d*. The holes in the ends of the strips *c c* are elongated in the direction of the length of the strips in order to allow them to accommodate themselves to the curved form of the strip *b* when it is sprung into the air-port *a*, or its nearly-straight position when removed therefrom, as shown in Fig. 4.

h represents a chain secured to the inner surfaces of the strips *c c* and also to the strip *b* by means of the rivets *i i*, and in such a manner as to limit their movement and also allow them to fold one upon the other.

g represents a finger-catch secured to the outermost strip *c*, by means of which the strips *c c* are extended or folded together.

The operation of the device is as follows: The ventilator, when folded together, as shown in Fig. 4, is taken and sprung into the air-port, with the projections *e* resting against the inside of the rim of the air-port, as illustrated in Fig. 2. The strips *c c* are then extended by means of the finger-catch *g*.

The ventilator being composed of spring metal, it will conform itself to a great variety of sizes of air-ports.

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

A folding ventilator for the air-ports in the sides of vessels, consisting of the strips of spring sheet metal *c c c*, pivoted to the strip of spring sheet metal *b*, having the projections *e*, and provided with means for limiting the movement of said strips, substantially as shown and described.

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