W. Thompson,

Ventilating Ships.

No. 11,276. Patented July 11, 1854.

Fig. 1.

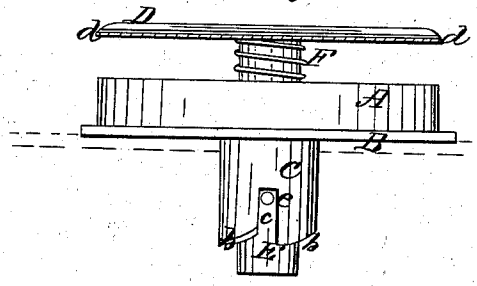


Fig. 2.

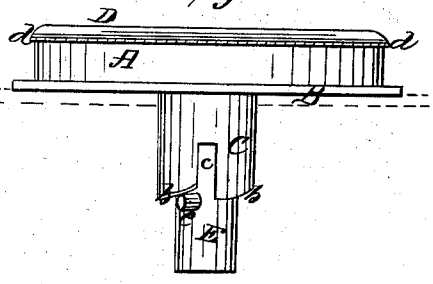


Fig. 3.

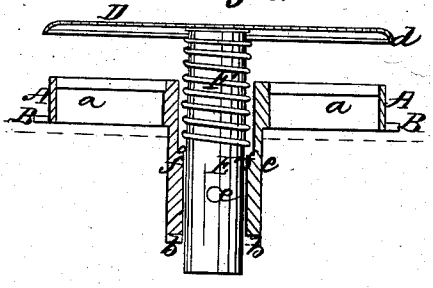
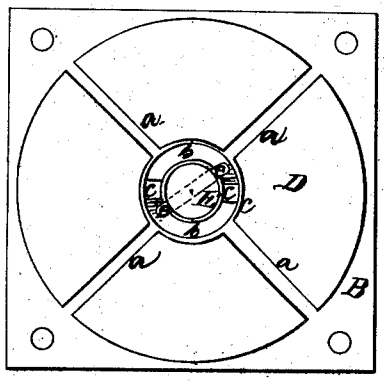


Fig. 4.



UNITED STATES PATENT OFFICE.

WILLET THOMPSON, OF NEW HAVEN, CONNECTICUT.

SHIP-VENTILATOR.

Specification of Letters Patent No. 11,276, dated July 11, 1854.

To all whom it may concern:

Be it known that I, WILLET THOMPSON, of New Haven, in the county of New Haven and State of Connecticut, have invented a new and Improved Ship-Ventilator; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1, is an external view of my improved ventilator, the cap being elevated. Fig. 2, is also an external view of ditto, the cap being depressed and secured over the top of the flanch. Fig. 3, is a vertical section of the cap, flanch, and tube, the plane of section being through the center. Fig. 4, is an inverted plan, or under view of ditto.

Similar letters of reference indicate corresponding parts in the several figures.

To enable others skilled in the art to make and use my invention, I will proceed to describe fully its construction.

A, Figs. 1, 2, and 3, represents a circular flanch or rim having a bottom plate, B, which is secured to the deck of a vessel by screws or bolts. The deck is represented by dotted lines in Figs. 1, 2, and 3. The flanch or rim projects upward a suitable distance from the deck and surrounds an aperture in the deck. At the center of the flanch or rim, A, there is a tube, C, connected to the flanch or rim by radial arms, (*a*), see Fig. 3. The tube, C, projects some distance below the flanch, A, and plate, B, but does not project above the upper surface of the flanch, see Fig. 3. The lower end of the tube, C, is so cut as to form two inclined surfaces or planes, (*b*), (*b*), opposite to each other, and in reverse positions, see shading in Fig. 4, which will probably give a better idea of the inclines that can be obtained by reference to the other figures. The tube, C, is provided with slots, (*c*), (*c*), directly opposite to each other, and extending upward about half the height of the tube.

D, is a cap, provided with a rim, (*d*), which, when the cap is depressed, fits tightly over the flanch, A, as shown in Fig. 2.

E is a shank which projects downward from the center of the cap and passes through the tube, C, as shown in Figs. 1, 2, and 3, and (*e*), is a pin which passes transversely through the shank. The shank, E, has a spiral spring, F, around it, the upper end of the spring bearing against the cap, and the lower end against a shoulder, (*f*), within the tube, C, see Fig. 3.

When the pin, (*e*), is in line with the slots, (*c*), (*c*) the spiral spring, F, will keep the cap, D, elevated, the pin, (*e*), being at the upper part of the slots, as shown clearly in Fig. 1. And the cap will offer no resistance to obstacles being moved over the deck of a vessel, because the spring, F, will be depressed by the weight of an object upon the cap, and will force the cap upward again when the weight is removed. Consequently, barrels, casks, boxes and merchandise of all kinds may be rolled or moved over the deck without receiving any impediment from the ventilator.

When ventilation is not required, the cap is depressed by the hand down upon the flanch, and the pin, (*e*), will then be below the bottom of the tube, C. By slightly turning the cap, D, the pin will pass underneath the inclines, (*b*), (*b*), which draw down the cap firmly upon the flanch, see Figs. 2 and 4.

I am aware that inclines have been previously used for a similar purpose, but combined with other arrangements, see Warren Robinson's patent, in which the cap is secured by inclines in a raised as well as in a depressed position, requiring to be operated in both cases, by hand; but such an arrangement is very inconvenient and less secure, as the ventilator, when open, admits of no "yield," as mine does, and forms too high an obstacle or projection on the face of the deck to allow of casks, boxes, merchandise or other goods being rolled or passed easily over it in loading and discharging cargo or moving goods about or over the deck. Also in passing goods over the ventilator (when open) as constructed and arranged by Warren Robinson, the ventilator is very liable to injury by strainage of the cap stem or flange hub on account of the cap having no "yield," and to close the ventilator, by turning it, each time that goods or any of the heavy ship gear (both during the voyage and when in port) has to be passed over it, is very inconvenient. But, by my arrangement the ventilator is protected from strainage, injury or breakage by the "yield" which the cap posseses, and, in passing a cask or goods over it, it is shut almost the moment the cask touches it by a slight portion of the weight of the cask being brought to act upon the cap, so that it presents no higher obstacle to the moving

of goods over it than it would if altogether closed, and immediately after the passage of goods over it, it opens (of itself) without any loss of time or labor, thereby insuring greater certainty of constant ventilation than if it were required to be opened by hand. The projection from the deck of the rim (A) of the ventilator is a necessary evil in each arrangement to prevent water on the deck washing down or through the ventilator, but the projection is so small as to be of little account in moving goods over it,—the raised caps (D) forms the only material obstacle, and, by the yielding arrangement I propose, it ceases to be an obstacle. The spring (F) also serves, by its pressure upward of the cap to hold the cap (D) more securely from turning and opening, as it will cause the projecting stop or pin (*e*) to bite tighter against the inclined planes (*b*) and thereby effectually restrain the cap from being accidentally turned and opened when it is important or, in a rough sea, necessary, that it should remain closed; but while the action of the spring (F) gives greater security to the lock of the ventilator when closed, it does not materially impede the opening of the ventilator, as upon the slightest movement of the cap, by turning, to open it, the taper of the inclines (*b*), forming the lock; combined with the weakening of the spring as the lock pin (*e*) begins to move on or over the inclines and the cap (D) slightly to rise, will render the turning of the cap to its proper position for the spring to throw up or ope the ventilator, an easy operation.

Now in this described arrangement, I do not claim anything new in it as a method of ventilating ships, as such method is old both as applied to the deck and sides of ships. I am also aware that a movable or rising and lowering cap locked both in its open and closed position by turning it so as to bring pins or projections in its stem under and over inclined planes on the flange or stationary box part has before been employed in deck ventilators, and that such is a common mode of fastening down or making tight, when closed, side lights for ships, lamps in their holders also lamp tops and other lids or covers, and I therefore do not claim as new the cap or lid, tightened, when closed, by projections from it biting against inclined planes beneath. But

I do claim as both new and useful, and desire to secure by Letters Patent,—

In the construction of deck ventilators for ships, the combination and arrangement herein specified of the elevating spring (F) with the cap (D) and its tightening inclines (*b*) for locking the cap when closed, the whole being constructed and operating as shown and described and whereby the cap of the ventilator is not only made self rising and held open by the spring beneath to insure ventilation while loading and discharging cargo without loss of time or labor in opening and closing the ventilator as goods are passed on or over it and the deck, but whereby greater convenience and facility is afforded for rolling or passing casks or goods over the ventilator by reason of the specified yield or easy depression which the cap is made capable of when the cask, in touching the cap, throws part of its weight thereon, and whereby the ventilator is rendered less liable to strainage, injury or breakage of its stem or other part, when open, and is more securely locked, when closed, and the cap protected from accidental turning or opening by reason of the upward pressure of the spring causing the locking projections of the cap to bite firmly against the stationary inclines (*b*) as herein set forth.

WILLET THOMPSON.

Witnesses:
O. D. MUNN,
JNO. W. HAMILTON.