

(No Model.)

G. HAYDN.

BILGE WATER EJECTOR.

No. 349,497.

Patented Sept. 21, 1886.

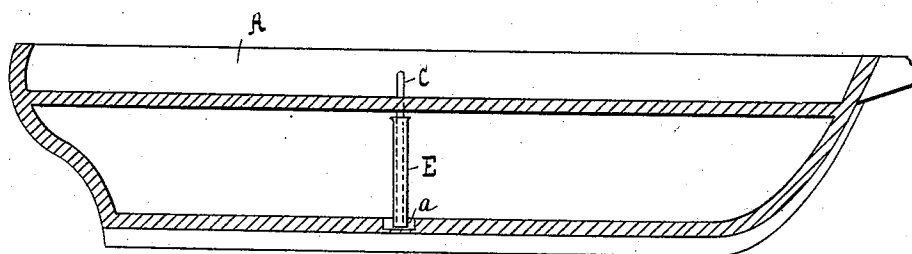


Fig. 1.

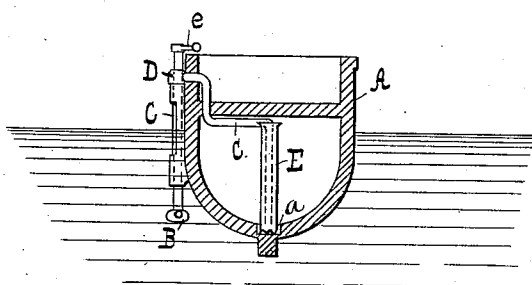


Fig. 2.

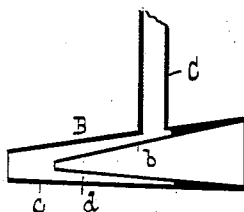


Fig. 3.

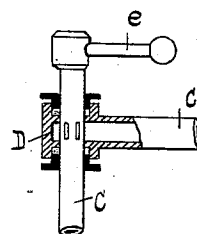


Fig. 5.

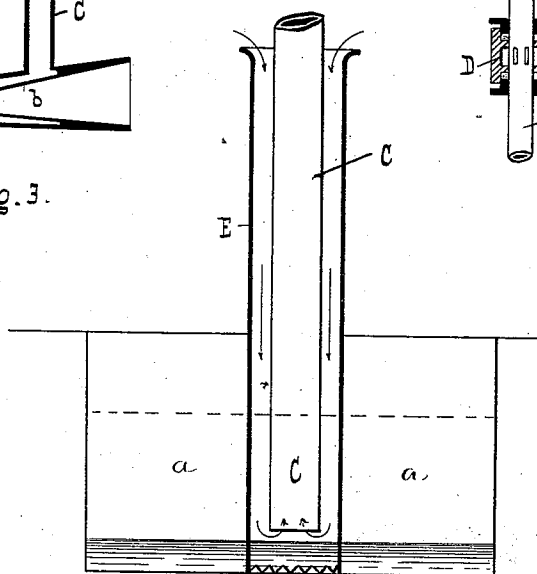


Fig. 4.

Witnesses:

Hilson Ringle

Gen. F. Boyden

Inventor:

George Hayden

By G. A. Boyden Atty.

UNITED STATES PATENT OFFICE.

GEORGE HAYDN, OF BALTIMORE, MARYLAND, ASSIGNOR TO WILLIAM L. DEMING, OF SALEM, OHIO.

BILGE-WATER EJECTOR.

SPECIFICATION forming part of Letters Patent No. 349,497, dated September 21, 1886.

Application filed January 5, 1886. Serial No. 187,734. (No model.)

To all whom it may concern:

Be it known that I, GEORGE HAYDN, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Bilge-Water Ejectors, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to improvements in bilge-water ejectors, as illustrated in the accompanying drawings, in which—

Figure 1 is a sectional view of a vessel; Fig. 2, a cross-section of the same; Fig. 3, an enlarged view of the ejector; Fig. 4, an enlarged detail view of the bilge-well and ventilating-pipe; Fig. 5, a detail view of the joint in the discharge-pipe.

Similar letters refer to similar parts throughout the several views.

The letter A designates the vessel with the ejector B connected thereto by the pipe C, which extends from the submerged ejector to the bilge-well *a* by extending up the outside of the vessel above the water-line thereof, and passing over or through the bulwarks to the deck, from thence to the bilge-well *a*. By this arrangement any holes below the water-line of the vessel are obviated, and thereby any risk from leakage insured.

The ejector B, as shown in Fig. 3, consists of an inner cone-shaped shell, *b*, and an outer one, *c*, secured together at their large end, by which the chamber *d* is formed. To the chamber *d* is attached the discharge-pipe C, which leads to the bilge-well *a*.

The ejector B is placed in relation to the vessel with its large end facing the fore part of the vessel, by which, when the same is under way, a stream of water is ejected from the small end of the inner cone, *b*, which as it passes through the chamber *d* forms a vacuum therein, and likewise in the discharge-pipe C, which causes the water to flow from the bilge-well *a* and be ejected from the same by passing out of the small end of the outer cone, *c*. As the inner cone, *b*, is liable to become clogged or stopped up with sea-weed, &c., I arrange the ejector to be reversed by having the pipe C passing through a joint, D, which

will permit it to be turned by the handle *e*, thereby placing the small end of the ejector to the front of the vessel, which passes the water therethrough and cleans the cone *b* from any obstructions, after which it is placed in its normal position.

When the water has been all, or nearly so, ejected from the bilge-well, the device is arranged to ventilate the hold of the vessel by having the end of the discharge-pipe C which is in the vessel increased by the pipe E. The pipe E is arranged to extend from the bottom of the bilge-well *a* nearly up to the deck of the vessel, with its lower end corrugated to permit the water to pass in and come in contact with the discharge-pipe C when there is sufficient to do so; but as the pipe C does not extend to the bottom of the well *a*, that portion of the water that remains therein forms a seal between the lower part of the pipe D and the hold of the vessel, which confines the vacuum in the pipe D and permits it to act on the upper portion of the said hold, thereby drawing into the pipe D the foul air, which, being the lighter, rises to the said upper portion of the hold, from which it is discharged by way of the discharging-pipes C and D and the ejector B.

Having described my invention, what I claim is—

1. In a bilge-water-ejecting device, the combination of the vessel A, the bilge-well *a*, arranged in the vessel, the discharge-pipe C, having one end communicating with the bilge-well and extending up and over the side of the vessel above the water-line, with the other end connected to the chamber *d* of the ejector, and the submerged ejector B, constructed with an inner cone, through which outside water passes, and an outer cone arranged around the inner one, whereby the chamber *d* is formed and the bilge-water ejected by the action of the water passing through the inner cone, as set forth.

2. The combination of the vessel A, the submerged ejector B, arranged on the outside of the vessel, the pipe C, connected to the ejector and extending up above the water-line of the vessel and communicating with the bilge-well,

the bilge-well *a*, and the joint D, arranged to permit the ejector to be turned, as set forth.

3. The combination of the vessel A, the ejector B, arranged on the outside of the vessel, the discharge C, extending up above the water-line and to the bilge-well, the bilge-well *a*, and the pipe E, arranged to permit the bilge-water to form a seal between it and the bilge-

well, and to exhaust the foul air from the upper portion of the hold, as set forth. 10

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE HAYDN.

Witnesses:

G. A. BOYDEN,

JNO. T. MADDOX.