R. S. LITTLE.

BILGE-WATER EJECTOR.

No. 185,115. Patented Dec. 5, 1876.

Fig. 1.

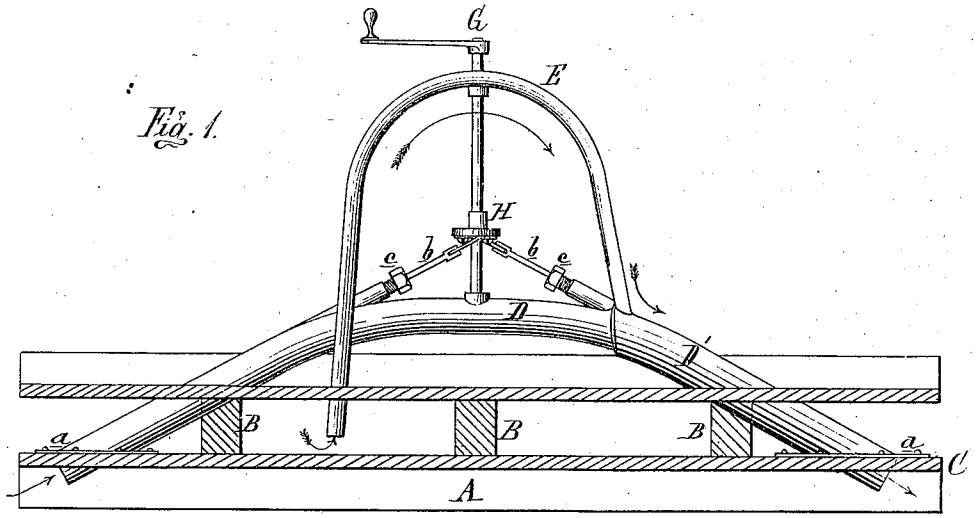
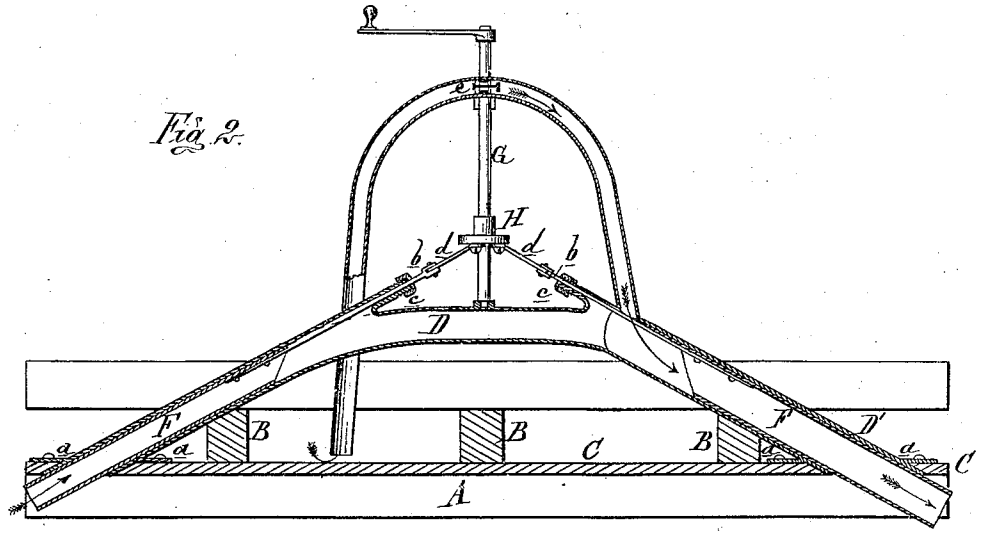


Fig. 2.



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UNITED STATES PATENT OFFICE.

RICHARD SCOTT LITTLE, OF CHATHAM, ONTARIO, CANADA.

IMPROVEMENT IN BILGE-WATER EJECTORS.

Specification forming part of Letters Patent No. **185,115**, dated December 5, 1876; application filed June 6, 1876.

To all whom it may concern:

Be it known that I, RICHARD SCOTT LITTLE, of Chatham, in the county of Kent and Province of Ontario, Canada, have invented an Improved Bilge-Water Ejector, of which the following is a specification:

My invention has for its object to remove the bilge-water from the limbers of a vessel by the action of an induced current through an arched-pipe opening at both ends through the bottom of the hull, and a siphon, one leg of which communicates with the said arched pipe, and the other is open to the limber or bilge-water receptacle.

Figure 1 is a side elevation of the device and a partial longitudinal section of a ship's hull, showing the telescopic sections of the pipe retracted. Fig. 2 is a vertical section, showing the said sections protruded.

In the drawing, A represents a portion of the keel; B, portions of the frames; and C, a portion of the planking under a ship's or steamer's hull. D is an arched pipe, open at both ends, each of which has a flange, *a*, for bolting to the floor of the hull, through holes in which the ends pass flush with the outer surface. A part of each end of said pipe is straight, and the sternmost straight part D′ is somewhat larger in diameter than the remainder. E is a siphon-tube, one leg of which opens into the limbers, where the bilge-water collects, while the other leg communicates with the upper end of the stern part D′, as shown.

Within the straight ends of the arch-pipe a telescopic section, F, is sleeved in each, each having a cross-bar in its upper end, to which is secured one end of a rod, *b*, passing through a stuffing-box, *c*, in the angle of the pipe, by means of which rods the said sections may be retracted within the arched pipe, or be caused to protrude therefrom below the bottom of the hull, in which case, as the vessel moves through the water, a current will be induced through the arched pipe, creating a vacuum in the siphon, through which the bilge-water will be ejected by the pressure of the atmosphere mingling with the current passing through the arched pipe, the after part of which is enlarged in capacity so as to carry the increased volume.

The top of the siphon should be above the water-line, and be provided with a check-valve, *e*, so as not to fill the ship by the water backing up when not under weigh. A vessel navigating deep waters may have the ends of the arched pipe permanently projected; and the telescopic sections may then be dispensed with; but in shallow water the retractile telescopic sections are essential, owing to the liability of protruding pipes to fill up with mud or clay, and to be broken off in grounding.

To simultaneously operate the telescopic sections various devices may be used, the one to which I give preference being a vertical shaft, G, stepped on the crown of the arched pipe, and extended up through the main deck, where it is provided with a crank to operate it. On the lower part there is keyed a face-plate, H, having two wrist-pins on the under side, diametrically opposite each other, and to each of which one of the rods *b* is connected by a link, *d*, as shown.

What I claim as my invention is—

1. In a bilge-water ejector, substantially as described, the arched or bent pipe passing through the bottom of the hull, in combination with the siphon, substantially as and for the purpose set forth.

2. In a bilge-water ejector, substantially as described, the combination of the siphon, the arched or bent pipe, the telescopic sections in the ends thereof, and a means for protruding and retracting them, substantially as described.

RICHARD SCOTT LITTLE.

Witnesses:

H. S. SPRAGUE,

H. F. EBERTS.