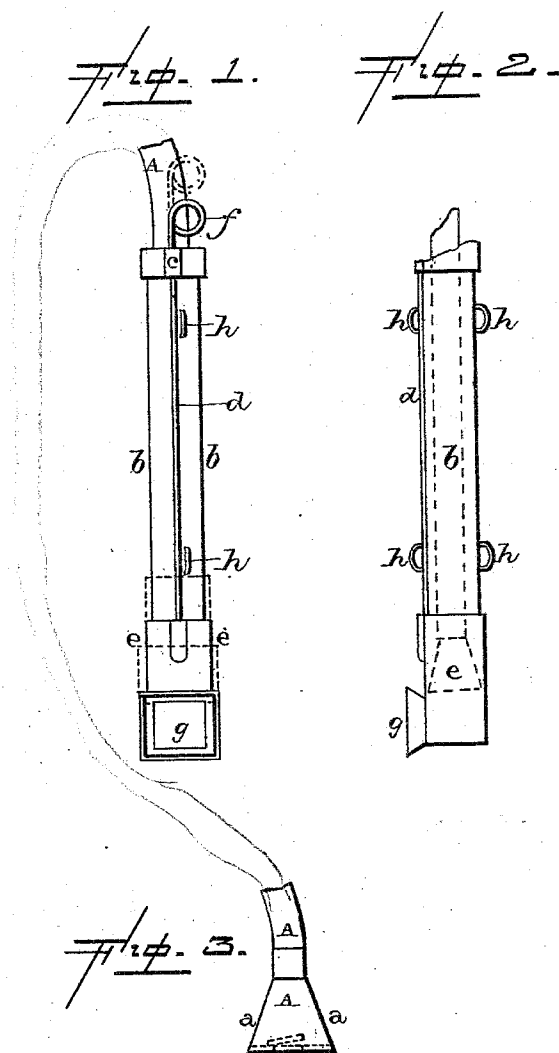


(No Model.)

F. J. FLOCKER.
SIPHON FOR VESSELS.

No. 290,561.

Patented Dec. 18, 1883.



— Witnesses. —
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per
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UNITED STATES PATENT OFFICE.

FRANK J. FLOCKER, OF ALLEGHENY CITY, PENNSYLVANIA.

SIPHON FOR VESSELS.

SPECIFICATION forming part of Letters Patent No. 290,561, dated December 18, 1883.

Application filed February 28, 1883. (No model).

To all whom it may concern:

Be it known that I, FRANK J. FLOCKER, a citizen of the United States, residing at Allegheny City, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Siphons, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to an improvement in siphons by which, from a boat or vessel in motion, water can be raised and ejected, although the surface of the water in the boat be lower than that at the outside; and it consists in furnishing one end of the siphon with a check-valve for admitting water, but preventing it from flowing out, and the other end with a movable sleeve in which is an opening surrounded by an outspreading flange, through which the water automatically escapes when in a position to be affected by a current, as will be fully described hereinafter.

The accompanying drawings represent my invention.

Figures 1 and 2 are side elevations of a siphon embodying my invention, taken from opposite sides. Fig. 3 is a detail view.

A represents the body of a siphon, made of rubber hose or any other suitable material.

To one end of the hose is attached a funnel-shaped device, *a*, having a check-valve in its bottom, through which water can enter into the siphon, but is prevented from escaping from it. The other end of the siphon terminates in an open metallic tube, *b*, attached to the hose, and around the upper end of the tube *b*, where it is attached to the hose, is a collar provided with a guide, *c*, for a rod, *d*, that extends downward, and can be moved up or down by a handle, *f*. The lower end of the rod *d* is rigidly attached to a short sleeve, *e*, that incloses the lower end of the tube *b*, and is provided with a bottom, by which the tube is closed when the sleeve is drawn up by the rod *d*.

In one side of the sleeve, from the bottom upward, is an opening, *g*, that, when the sleeve is pushed down, allows the water to flow out of the siphon, but prevents its outflow when the sleeve is drawn up, when the opening becomes closed by the lower end of the

tube. Around the opening *g* is a flange expanding outwardly.

On the outside of the tube *b* are eyes for the attachment of cords to hold the siphon in position when the boat or vessel is in motion, and a pin passes through the rod *d*, above the guide *c*, to prevent the rod from sliding and displacing the sleeve when raised.

The manner of using the siphon is as follows: The sleeve *e* being pushed down by means of the rod *d*, water is pumped in at the opening *g* until the siphon is filled, after which it is closed by drawing up the rod. The funnel-shaped end *a* is then placed on the bottom of the vessel in the water that is to be removed, and the other end is let down into the water outside. The closed opening *g* is turned toward the opposite direction in which the vessel moves or is to move, and secured in that position by cords at the eyes *h*. If the vessel is in motion, even at the slow rate of two miles per hour, and the rod *d* be pushed down to open the siphon, the vessel's progress exceeding the swiftness of the current of the water upon which it floats, a pressure is brought to bear against the submerged end of the siphon at the side of the vessel that is in proportion to the vessel's velocity. The resistance of the water to the passage of the vessel and siphon causes the water to rise in front of them, and to recede as rapidly as it had arisen when the pressure has ceased, creating thereby a downward and backward current at the rear of the boat and siphon. This current at the rear of the siphon is increased by the outward-bent flanges around the opening *g* on the submerged end of the siphon. The water in the opened siphon, having a tendency to escape, and becoming involved in the current created by the motion of the siphon, is rapidly drawn out through the opening *g*. The escape of the water from the siphon would create a vacuum within, were the other end of the siphon closed, and the outflow cease; but as soon as any water is drawn out through the opening the check-valve in the part *a* admits an equal quantity to replace the water that is escaping at the other end.

When the vessel is brought to a standstill, the passing current being arrested, the siphon ceases to operate, because the force that at-

tracted or caused the water to flow out of it has disappeared.

Having thus described my invention, I claim—

- 5 1. In a siphon for raising water in and discharging it from a vessel, the combination of the tube *A*, provided with a valve at its lower end, the tube *b*, connected thereto, the sleeve *c*, connected to the tube *b*, and provided with an opening, and the means for raising and lowering the sleeve, substantially as shown.
- 10 2. In a siphon for raising water in a vessel

and discharging it therefrom, the combination of the tube *A*, provided with a funnel and a valve at its lower end, a metallic tube, *b*, and 15 vertically-moving sleeve *c*, the rod *d*, and the eyes *h*, for securing the siphon in position, substantially as set forth.

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

FRANK J. FLOCKER.

Witnesses:

T. F. LEHMANN,

I. E. HIRSCH.