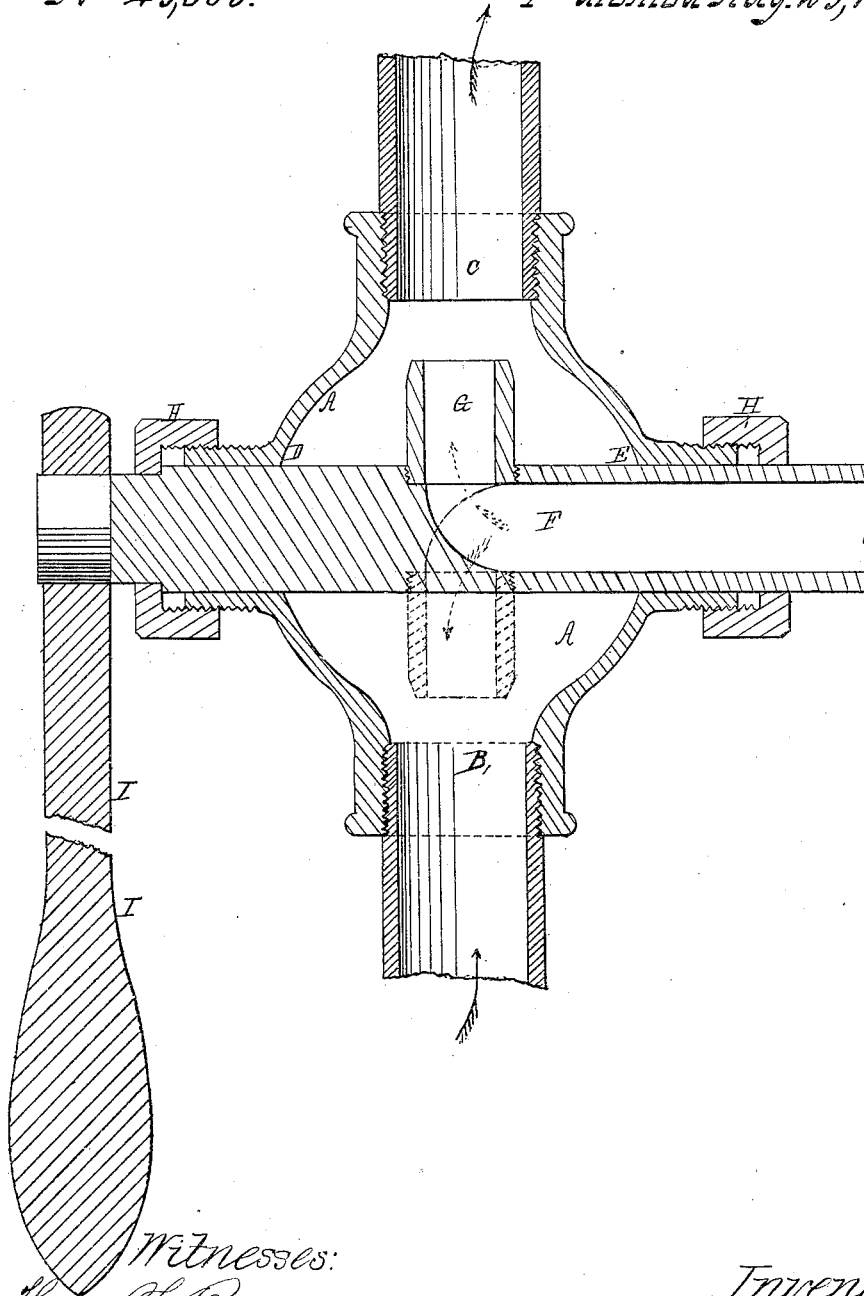


N. L. Chappell,

Ejecting Pump.

N^o 49,603.

Patented Aug. 29, 1865.



Witnesses:

Henry T. Brown
Lawrence Nelson Jr

Inventor:

N. L. Chappell

UNITED STATES PATENT OFFICE.

N. L. CHAPPELL, OF NEW YORK, N. Y.

IMPROVEMENT IN WATER-EJECTORS.

Specification forming part of Letters Patent No. **49,603**, dated August 29, 1865.

To all whom it may concern:

Be it known that I, N. L. CHAPPELL, of the city, county, and State of New York, have invented certain new and useful Improvements in Ejectors for Discharging Bilge-Water, and for other purposes, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, which forms a part of this specification, and which represents a vertical section of an ejector constructed on my new and improved plan.

Ejectors as constructed heretofore have been very defective, as there was no provision made in their construction for the removal of obstructions in the induction-pipe. When the induction-pipe became obstructed the ejector had to be removed for the purpose of cleaning it or for removing the obstructions, thereby causing considerable labor and loss of time.

The object of this invention is to make a simple and effective provision for the removal of obstructions from the induction-pipe while the ejector remains in its position.

I will now describe the construction and operation of an ejector constructed on my new and improved plan, with reference to the drawing.

A is a round hollow globe with four openings, of which B is the induction-port and C is the eduction-port. These ports B and C are in line with an axis passing through the center of the globe A. In a line at right angles to B and C are two openings, D and E, in the sides of the hollow globe A. Into the openings D and E a steam-shaft, F, is fitted in such a manner that it can revolve, and by means of stuffing-boxes H H and proper packing the said fittings at D and E are made air and water tight, for the purpose of preventing the air from being drawn in between the steam-shaft and the bearings of the globe A, and also for the purpose of preventing leakage of water, both of which would be injurious to the operation of the ejector.

The steam-shaft F is made hollow from one end to about one-half of the length thereof, and near the point where the solid and hollow parts meet is provided with a steam-nozzle, G, which is fitted and screwed into the hollow part in line with the eduction-port C.

I is a lever or handle attached to the solid end of the steam-shaft F, by means of which the action of the ejector is changed or reversed.

A steam-pipe is connected with the hollow end of the steam-shaft F by means of proper-faced couplings, so that the said shaft can be turned or reversed. The induction-port B is connected by any well-known means to a pipe through which the water and other matter is to be drawn into the ejector, and the eduction-port C is connected with another pipe through which the water and other matter is to be ejected.

When the nozzle G is placed with its port toward the port C of the globe, and steam or compressed air is admitted at the outer hollow end into the steam-shaft F, as the steam or air issues through the nozzle G it will cause the water or other matter to enter at the port B and be discharged through the port C and the pipe connected therewith.

Should the induction-pipe B become obstructed, then it will be simply necessary to reverse the steam-shaft F so as to bring the nozzle G in line with the port B, and as the steam passes through the port B and the pipe attached thereto it will force any obstructions out of the pipe.

The ejector may be used for filling tanks or other vessels with water, in which case it must be provided with another induction and another eduction port, which may be located on the sides of the globe A. The action of the ejector in such case will be substantially the same as before mentioned—that is to say, when the nozzle G is turned toward the port which leads to the tank, and the steam is made to pass through the said nozzle into the pipe which leads to the tank, then the water will enter at the induction-port and will be ejected through the eduction port and pipe into the tank or any other vessel by the force of the steam.

Compressed air may be used instead of steam in this ejector, and the ejector may be used for other liquids than water.

What I claim as my improvement, and desire to secure by Letters Patent, is—

The removable or reversible shaft F, having an attached nozzle, G, or outlet, in combination with an ejector, substantially as and for the purpose herein specified.

N. L. CHAPPELL.

Witnesses:

HENRY T. BROWN,
J. W. COOMBS.