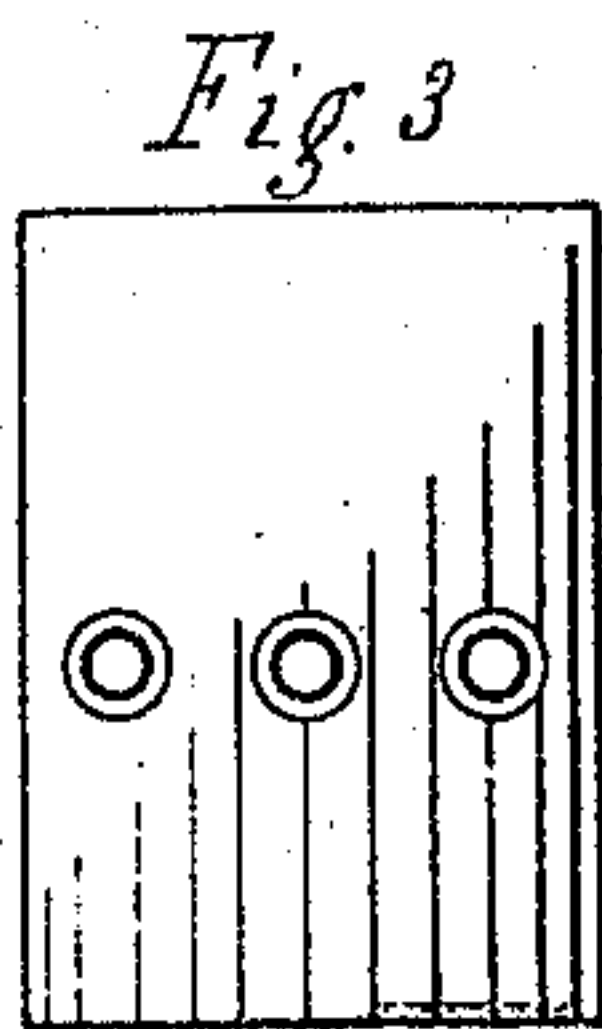
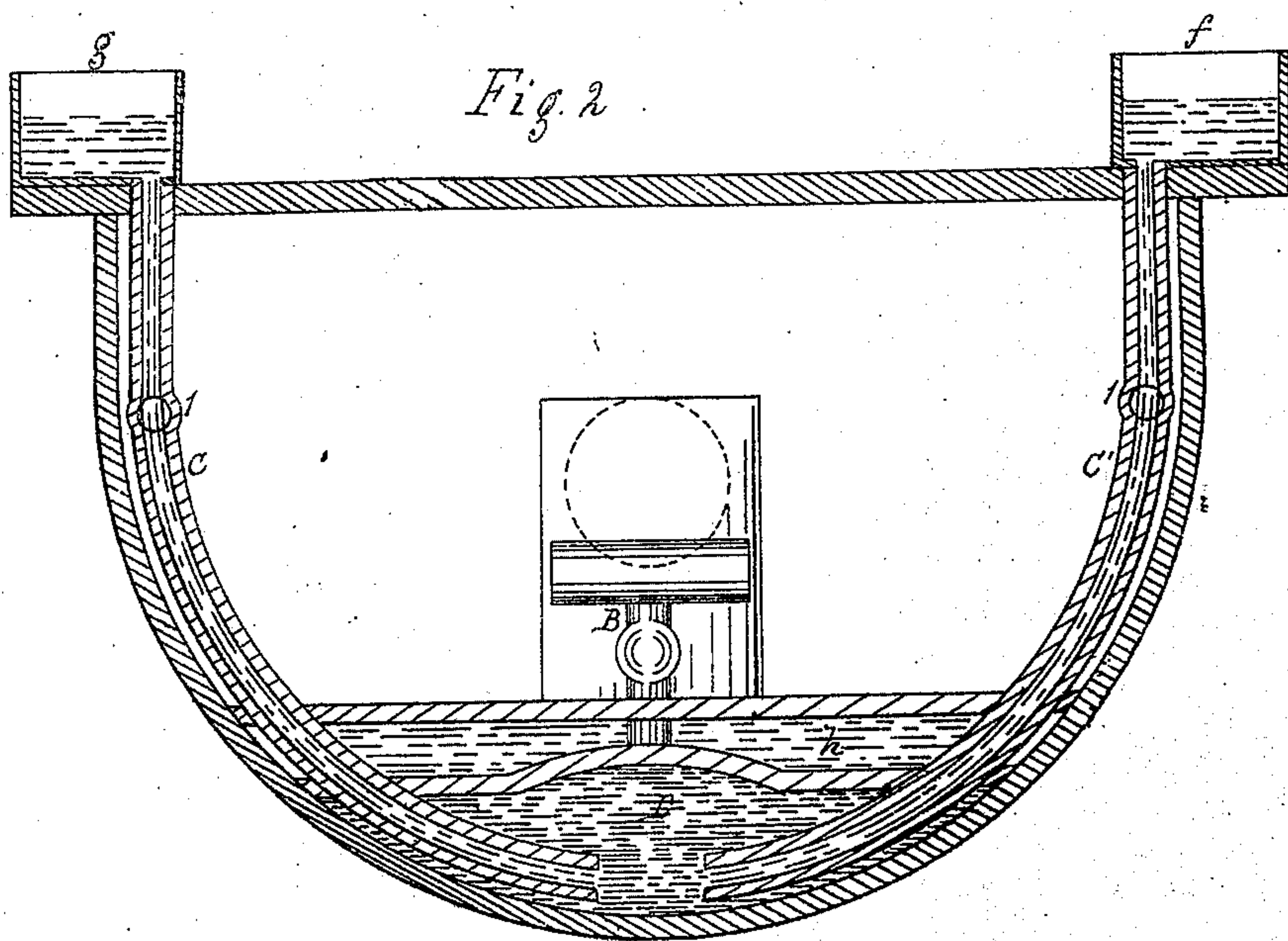
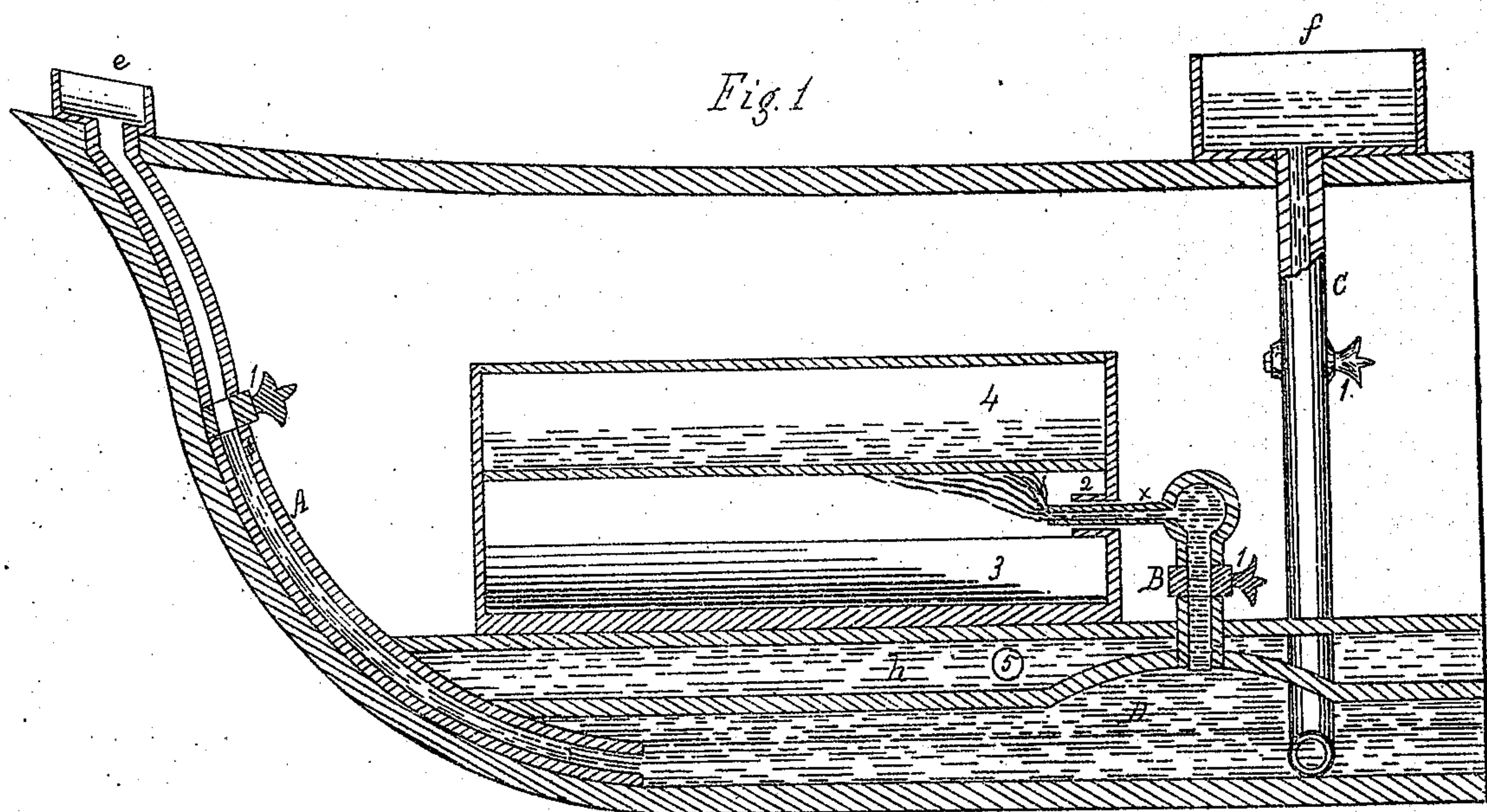


J. H. Smith.

Imp<sup>d</sup> Ship for Transporting Petroleum.

N<sup>o</sup> 72102

Patented Dec. 10, 1867.



Witnesses

James I. Johnston  
John Johnston

Inventor

John Henry Smith



# United States Patent Office.

JOHN HENRY SMITH, OF ALLEGHENY CITY, PENNSYLVANIA.

*Letters Patent No. 72,102, dated December 10, 1867.*

## IMPROVEMENT IN SHIPS FOR TRANSPORTING PETROLEUM.

*The Schedule referred to in these Letters Patent and making part of the same.*

### TO ALL WHOM IT MAY CONCERN:

Be it known that I, JOHN HENRY SMITH, of the city and county of Allegheny, and State of Pennsylvania, have invented a new and useful Improvement in Vessels for Transporting Oils and Burning-Fluids; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon.

The nature of my invention consists in providing the hulls of ships and other vessels with a compartment for oils and burning-fluids, said compartments being furnished with supply and discharge-pipes, and protected with water, in the manner hereinafter described.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation. In the accompanying drawings, which form part of my specification—

Figure 1 is a longitudinal section of a ship provided with my improvements.

Figure 2 is a transverse section of the same.

Figure 3 is an end view of a furnace, which may be used for burning oil, or other inflammable matter, in the boiler-furnace of the ship or other vessel.

I provide the hull of the ship with a compartment for the oil, and cover it with a water-chamber. D represents the oil-compartment, and h represents the water-chamber, which is provided with small ports, marked 5, for keeping the water fresh. On the deck or covering of the water-chamber h is the boiler-furnace, marked 3. The boiler-furnace consists of a shallow iron vessel, made in the form represented in the drawings, which will readily be understood by the skillful mechanic. This vessel should be so constructed that it will resist the action of the fire. This may be done by the use of fire-brick, or the application of "water-lining." In one end of this boiler-furnace I make a number of flanged openings, marked 2, into which enter small pipes, marked x, which are connected to a T-shaped pipe, B, which passes through the water-chamber to the oil-compartment D, entering the oil-compartment in the convexed part of the bottom of the water-chamber h. On the upper deck of the ship are placed an oil-reservoir, e, and water-reservoirs f and g, to which are attached pipes A, C, and C', which lead down into the oil-compartment D. All the pipes leading to the oil-compartment are provided with valves, marked 1; the steam-boiler is marked 4.

As the construction and arrangement of the several parts of my invention will readily be seen and understood by the skillful mechanic, by reference to the accompanying drawings, I will therefore proceed to describe the operation of my improvement, which is as follows: The oil or burning-fluid is put in the reservoir e, and passes down the pipe A, and, when the compartment D is filled, the valve 1 of the pipe A is closed. I then fill the reservoirs f and g with water, and open the valves of the pipes C and C', which will bring a pressure to bear on the oil which will be in proportion to the height of the reservoirs from the oil-compartment. When I desire to "raise steam," by the use of the oil or burning-fluid that is in the compartment D, I open the valve 1 of the pipe B, and the oil or other inflammable matter will flow upwards through the pipe B, and through its branches x. I then ignite the oil by any of the known means. The flanged openings 2 will direct the air to the desired points, around the branches x of the pipe B, and the flow of the oil to the furnace and fire can be regulated and controlled by the valve 1, in pipe B. The supply of water to the reservoirs f and g will depend on the consumption of the oil from the department D. When the oil is all consumed, or otherwise withdrawn from the compartment D, the water which has taken its place can be pumped out at will.

From the above description, and by reference to the accompanying drawings, the mechanic will see at a glance that inflammable oils and fluids can be carried on ships and other vessels with safety to all on board of such ships and vessels, and also that inflammable liquid matter of less gravity than water can be used as fuel for any heating purpose, with ease and perfect safety to the ship and vessel, and all on board the ship or vessel.

The size, form, and the arrangement of the several parts of my invention, I leave to the taste, judgment, and skill of the mechanic, and those who may use it for the purpose set forth and described.

Having thus described the nature, construction, and operation of my improvement, what I claim as of my invention is—

Providing the hulls of ships and other vessels with a compartment for oils and burning-fluids, said compartment being protected with water, and furnished with supply and discharge-pipes, substantially as herein described and for the purpose set forth.

JOHN HENRY SMITH.

Witnesses:

JAMES J. JOHNSTON,  
JOHN JOHNSTON.