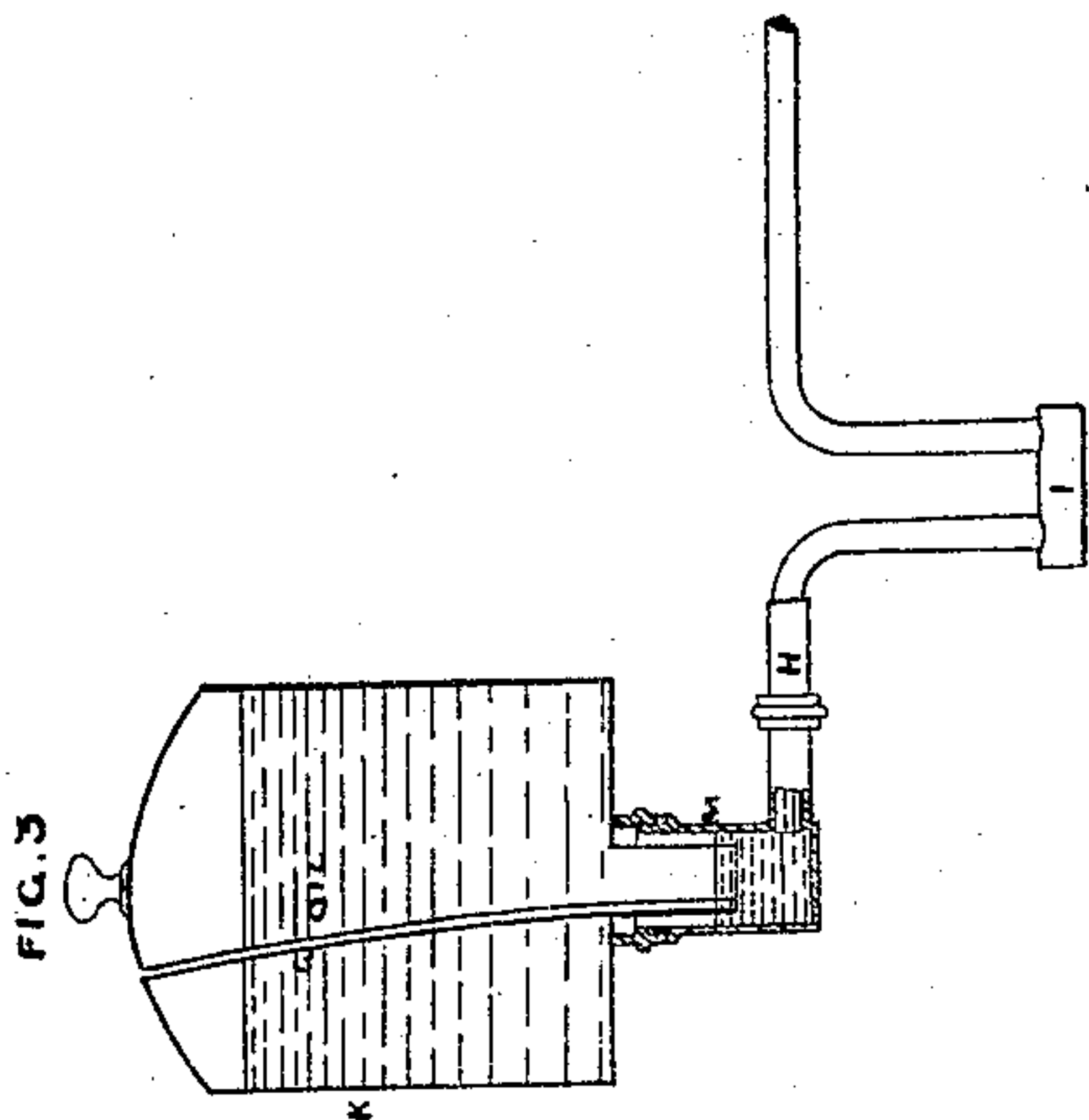
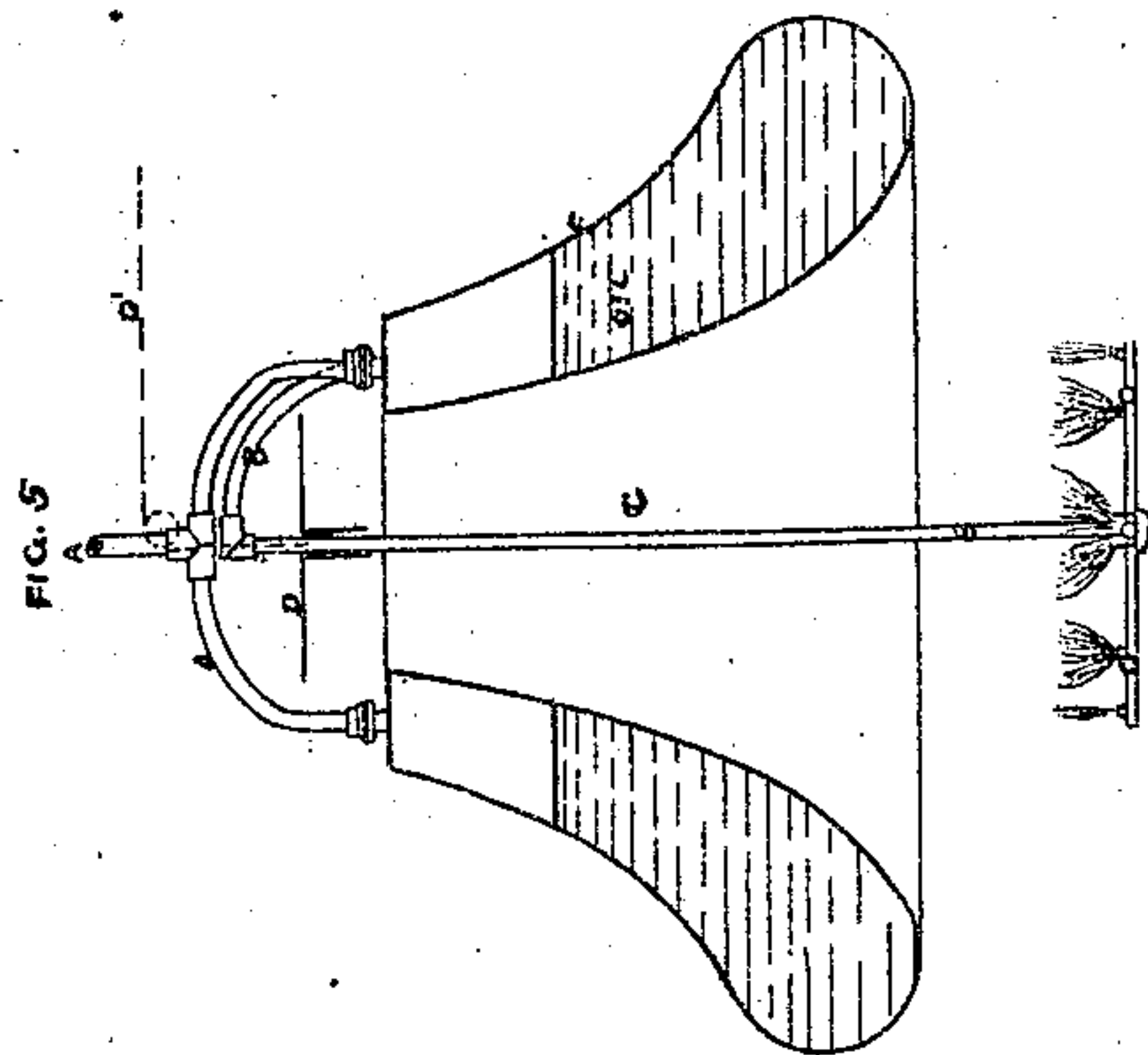
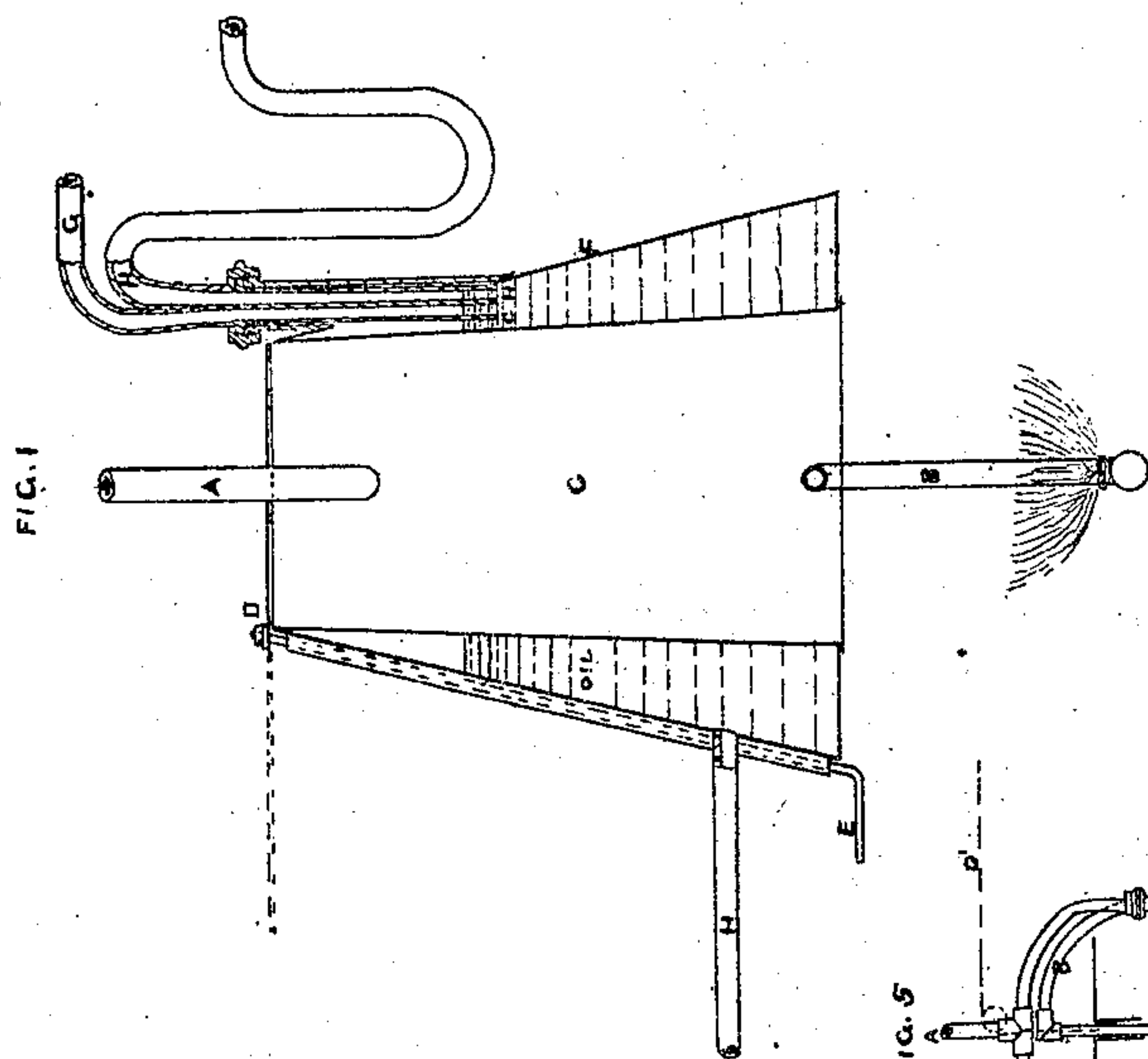
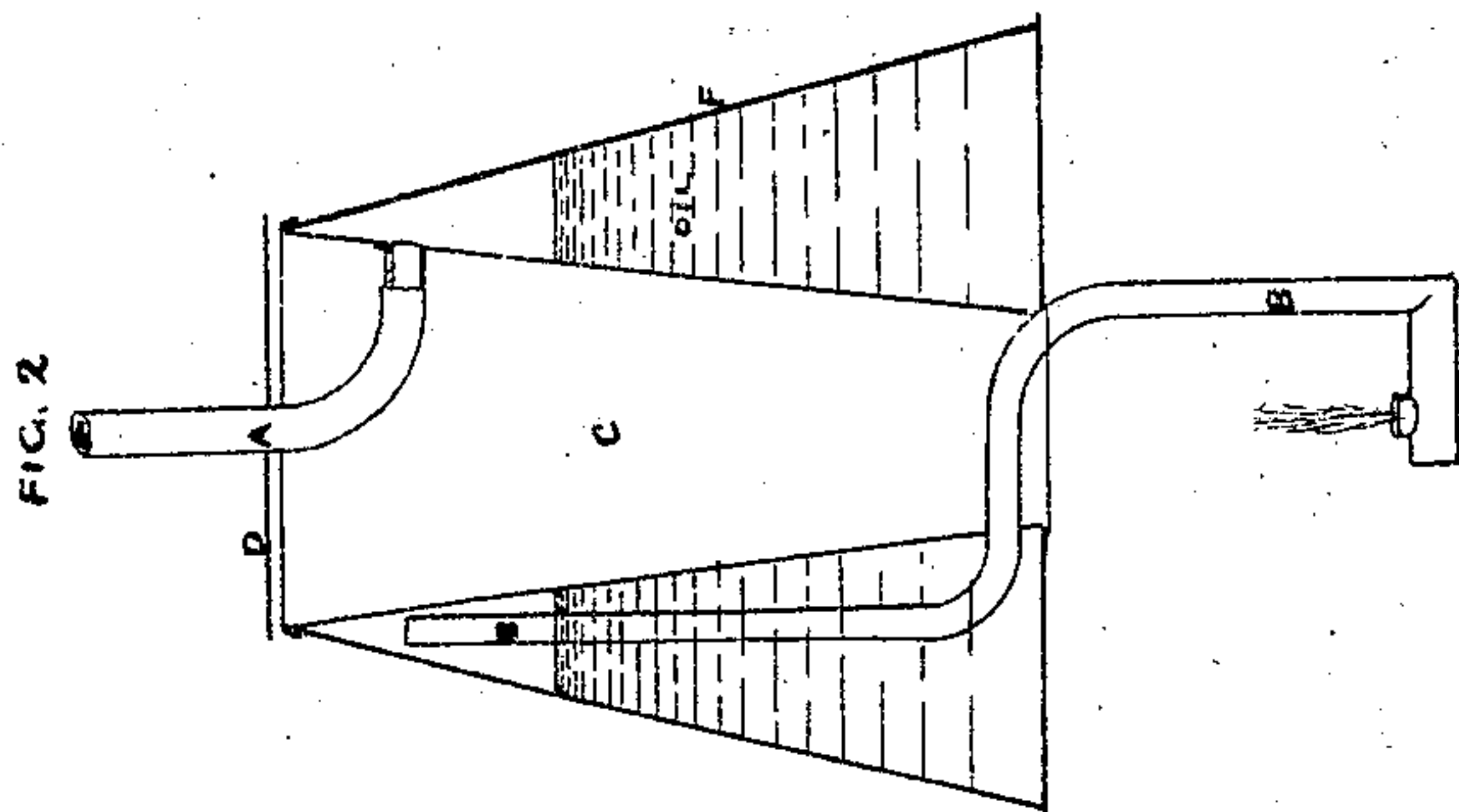
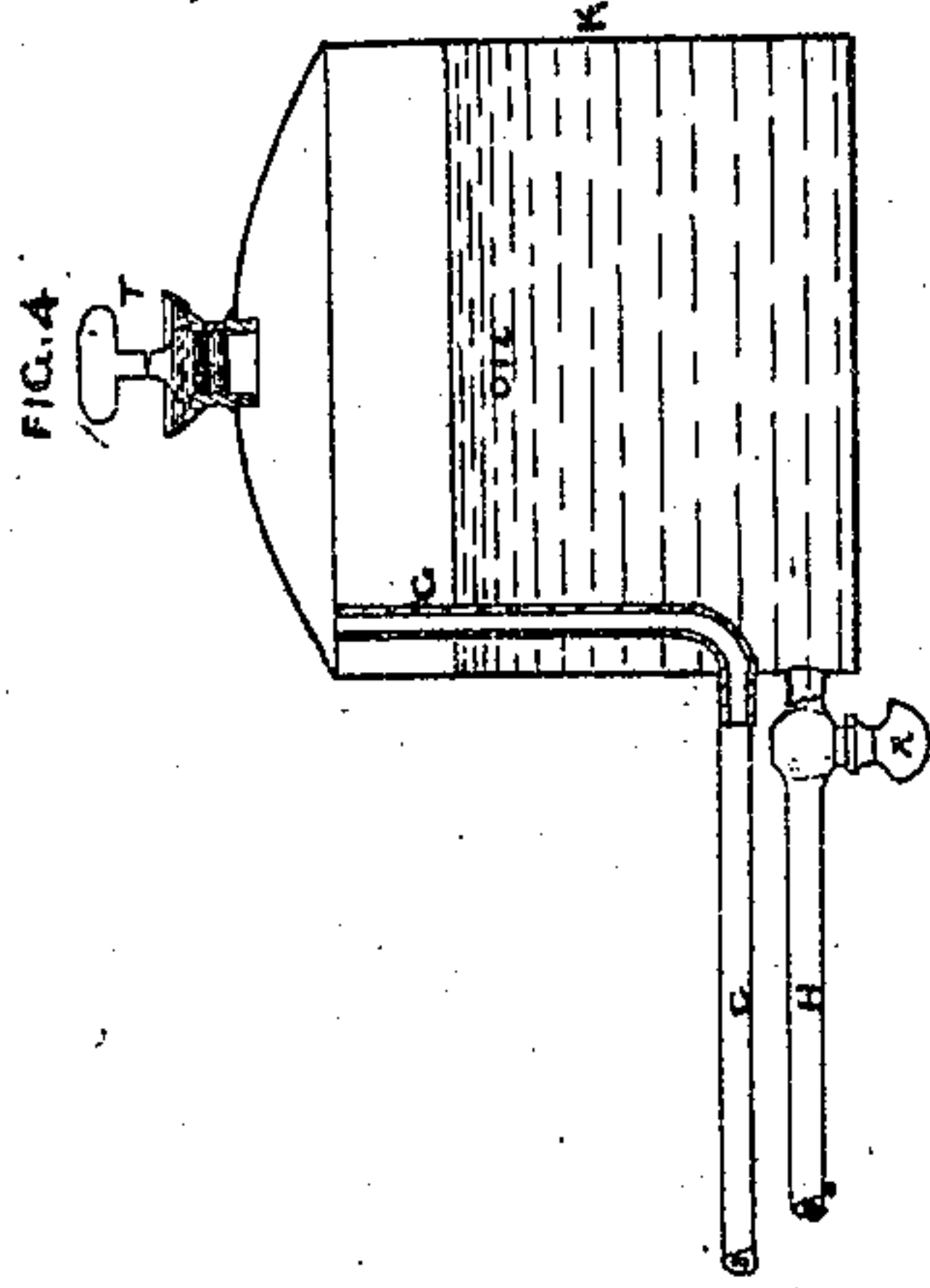


# Joshua Kidd Gas Apparatus.

N<sup>o</sup> 62,855.

Patented Mar 12, 1867.



Witnesses:

Henry Williams, Esq.  
Wm. Robt. Lake

Inventor:

Joshua Kidd

# United States Patent Office.

JOSHUA KIDD, OF LONDON, ENGLAND.

Letters Patent No. 62,855, dated March 12, 1867.

## IMPROVED APPARATUS FOR CARBURETTING GAS AND AIR.

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

### TO ALL TO WHOM IT MAY CONCERN:

Be it known that I, JOSHUA KIDD, gas engineer, of Great Newport street, London, in the county of Middlesex, in that part of Great Britain and Ireland called England, have invented "a new and improved Apparatus for Carburetting Gas;" and I hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the drawings hereunto annexed, making part of this specification.

My improvements consist in the application of a novel form of gas-tight vessel, called a carburettor, for holding heavy non-volatile liquid hydrocarbons, made round, square, or other convenient shape, with a tubular or conical-shaped chimney or aperture through its centre; and in a novel mode of supplying the carburettor with the liquid hydrocarbons which are vaporized by the heat of the gas flame. Hitherto this method of carburetting gas, with the heated vapor of heavy liquid hydrocarbons, has been performed with a circular vessel or boiler made with a light to burn underneath it, and supplied with oil at intervals as required. Experience has shown that when a carburettor thus formed has been in use for a short time it gives off very little vapor to the gas on account of the deposit of tarry matter at the bottom of the vessel, which obstructs the heat. The lighter portion of the oil is also driven off first, so that the light is continually varying in intensity. Those defects, added to the trouble of regulating the heat and replenishing the oil vessel, has caused the process in many cases to be abandoned. This invention is intended to remedy those defects by heating the liquid from the top instead of from the bottom of its vertical column, also by an improved mode of regulating the heat and supplying the liquid to the carburettor, which will be better understood by reference to the drawings annexed, making part of this specification.

#### *Description of Drawings.*

Figure 1 shows a section of the carburetting vessel F, suitable for carburetting the gas for a public street lamp.

A is the inlet and B the outlet pipe. C shows the chimney or heating aperture formed through the apparatus, which may be made circular, conical, oblong or other convenient shape. This chimney is supplied at the top with a cap or hot-air interceptor, D, for regulating the heat; this cap is attached to a wire spindle, E, which turns in a tube or journal attached to the carburettor. By turning this wire the cap, more or less, closes the top of the chimney, and thus increases the heating power of the flame or diminishes it. The carburetting vessel F may be made ornamental, and any desired shape or size, to suit different tastes or requirements; and instead of one jet of gas, any required convenient number of jets may be used. The apparatus may thus be adapted for sun or ceiling lights, or other purposes where a large body of light is required. A section of an apparatus, suitable for a sun or ceiling light, is shown at Figure 5. The heat interceptor D, in this arrangement, may be made to slide up and down upon the outlet pipe B, by any bell-hanging arrangements of wire, as shown at D. I supply the carburettor F with oil by means of an intermittent fountain feeder. A section of two methods of forming this intermittent feeder is shown at Figures 3 and 4; both those feeders are governed by the mechanical laws of atmospheric pressure. Fig. 4 is used to feed the carburettor when it is required to supply it with oil from a position higher than the carburetting vessel. G is a pipe for the passage of gas, and H a pipe for supplying the oil. Those two pipes shown at fig. 4 are connected, from any distant position, to the two pipes represented by similar letters at fig. 1, when the oil falls below the termination of the two pipes G and H in the carburettor. Gas rises through pipe G into the aforesaid vessel K, in fig. 4, and a proportionate amount of oil falls into the carburettor through the pipe H, till the termination of the said pipes G and H is again sealed by the oil. T shows a hydraulic screw-plug for charging vessel K with oil, during which operation the stop-cock R should be closed.

Figure 3 shows a modification of fig. 4. It is preferable to use this description of feeder for street-lamp carburettors, or when it is desired to place the intermittent feeder upon the same level as the carburetting vessel. G is a tube for the supply of air to vessel K. Air enters, when the oil falls below the outlet of this vessel, in the regulating chamber M. The pipe H conducts the oil and is attached to the carburettor; this pipe is made to fall lower than the vessel F and K at I. By this arrangement heat is not communicated from the carburettor to the intermittent feeder. To fill vessel K with oil, it is simply necessary to unscrew the vessel from chamber M.

I claim as new, for carburetting gas or air by heat at the burner, for obtaining light, forming the apparatus with a heating aperture through its centre, also with heat regulator D, together with the application of oil-supplying arrangement, substantially as described.

JOSHUA KIDD.

Witnesses:

HENRY WILLIAM GILBY,

WM. ROBT. LAKE.