

W. H. REED.
Gas-Carbureters.

No. 156,820.

Patented Nov. 10, 1874.

Fig. 1.

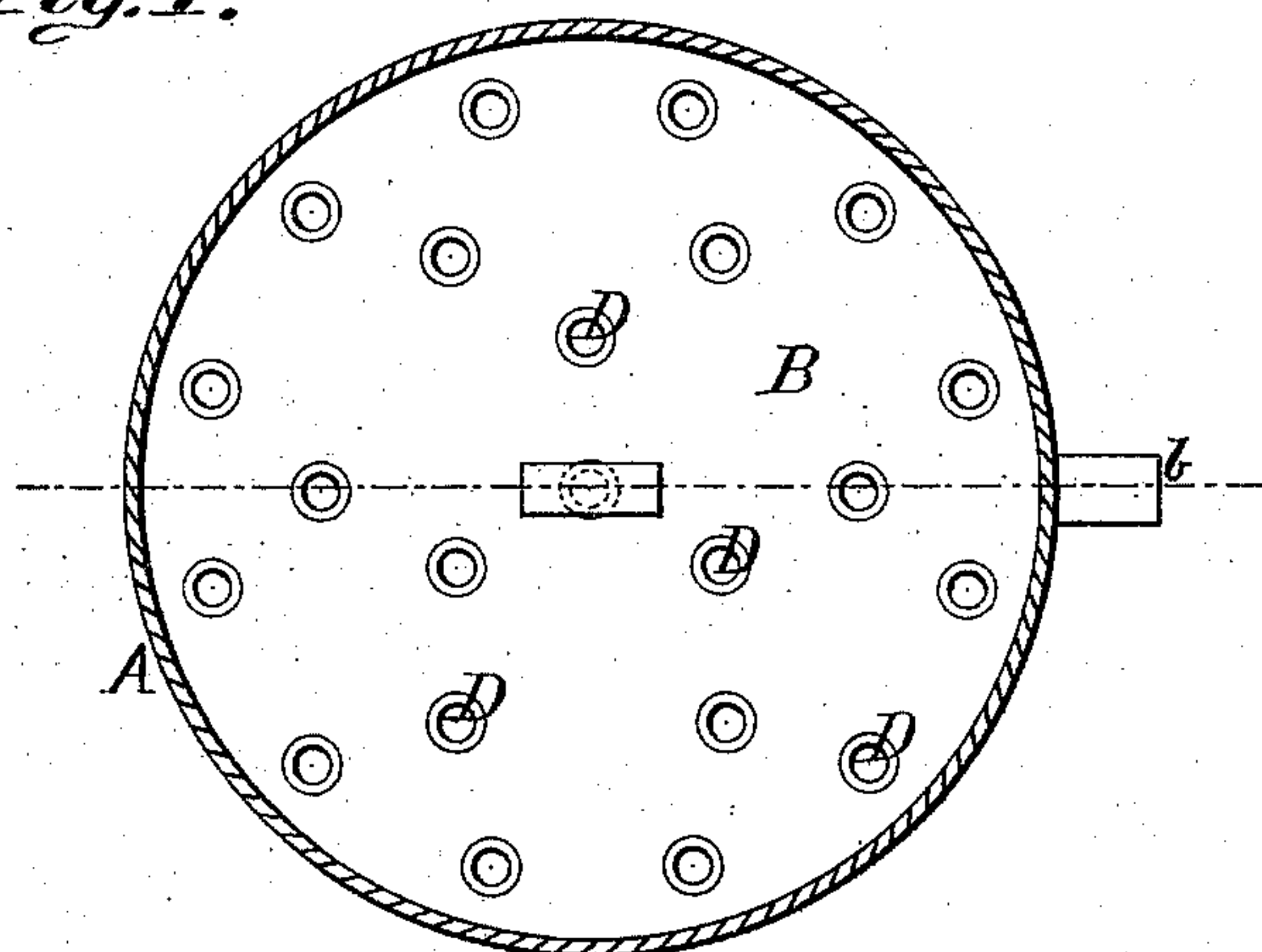
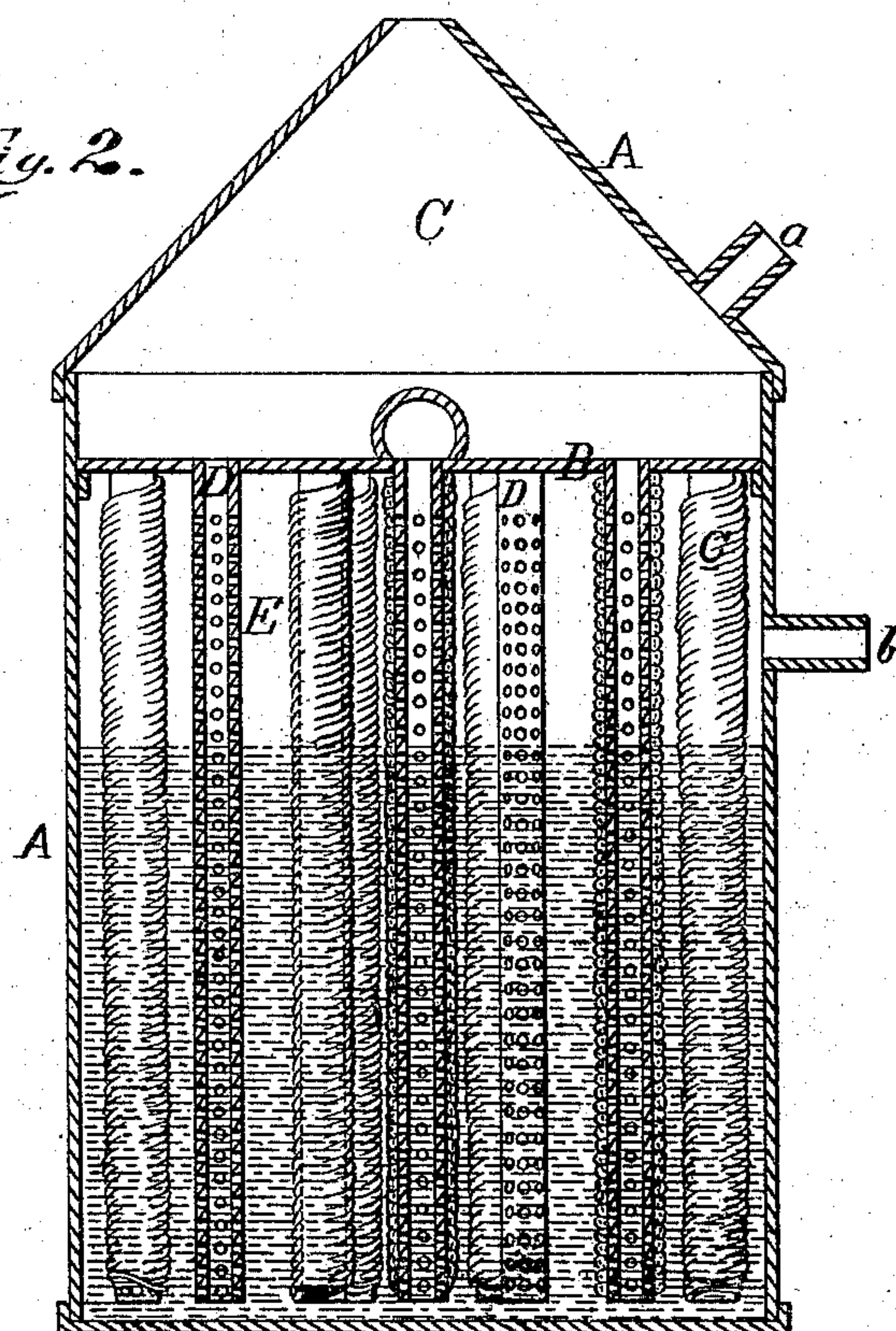


Fig. 2.



WITNESSES.

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IMPROVEMENT IN GAS-CARBURETERS.

Specification forming part of Letters Patent No. 156,820, dated November 10, 1874; application filed November 3, 1874.

To all whom it may concern:

Be it known that I, WILLIAM H. REED, of Fort Wayne, in the county of Allen and State of Indiana, have invented a new and valuable Improvement in Gas Carbureters and Generators; and I do 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 annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a representation of a horizontal section of my carbureter, and Fig. 2 is a central vertical sectional view of the same.

This invention has relation to the manufacture of an illuminating-gas from gasoline or other light hydrocarbon fluids, and also for enriching the common illuminating-gas.

The nature of my invention and improvement consists in the combination, in a suitable tank, of a number of perforated tubes, which are surrounded by cotton wicking, or any other suitable capillary or absorbing substance, which tubes extend down into the fluid hydrocarbon in the tank, and serve as means for thoroughly distributing air or gas into the body of the said fluid, and cause a rapid evaporation thereof, as will be understood from the following description.

In the annexed drawings, A designates a tank of any suitable capacity and of any desired shape. Near the top of this tank a diaphragm, B, is applied, which forms a chamber, C, into which air or gas is forced through a pipe, *a*. From this diaphragm B depend a number of tubes, D, which are thickly perforated, and which extend nearly to the bottom of the tank A. Between the diaphragm and the fluid is a space, E, above the level of the fluid contained in the tank, from which space the carbureted air or enriched gas escapes through a pipe, *b*, for consumption. I apply about the exterior of each one of the perforated tubes D cotton wicking *c*, or any

other suitable absorbing or capillary substance which will take up the fluid and carry it above the surface thereof into the space E. The wicking *c* is preferably wound helically around the tubes D, as shown in the drawings, Fig. 1, for the reason that by such an arrangement the fluid will rise more rapidly than it would do if the strands of wicking ran directly up and down the tubes. I do not, however, confine myself to the helical arrangement of the wicking.

It will be seen from the above description that air or gas forced into the chamber C will be equally distributed into the several pipes D, and will be diffused through the perforations in these pipes, and through the wicking *c* into the body of the fluid hydrocarbon in the tank A, and also into the space E above the fluid. The passage of the air or gas through the pipes above the fluid will cause a very rapid vaporization of the fluid which is carried up by capillary attraction, and the air or gas which is discharged directly into the body of the fluid will take up large quantities thereof, and be recharged by the evaporation of the fluid in the chamber E.

By these means I am able to thoroughly charge air or gas with the vapor of gasoline or other fluid hydrocarbon, and to accomplish this result in a comparatively small space, and without the use of mechanical agitators.

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

In combination with the perforated tubes D, suspended from a diaphragm, B, and covered with wicking wound helically around them, the air or gas distributing chamber C and the vaporizing-chamber E, substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

WILLIAM H. REED.

Witnesses:

GEORGE E. UPHAM,
JOHN B. CORLISS.