BIBBY & LAPHAM.

Oil Still.

No. 48,896. Patented July 25, 1865.

Fig. 1.

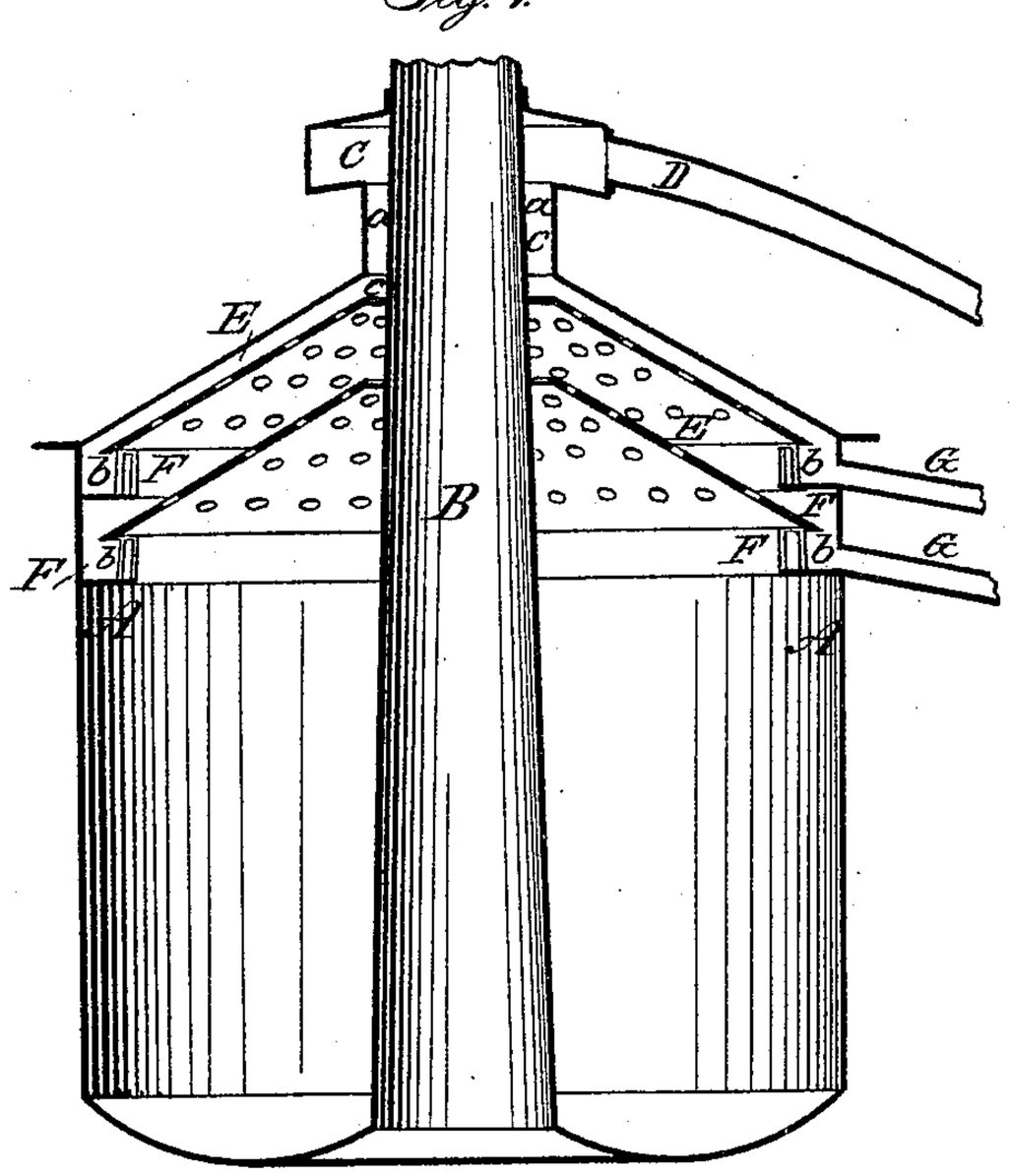
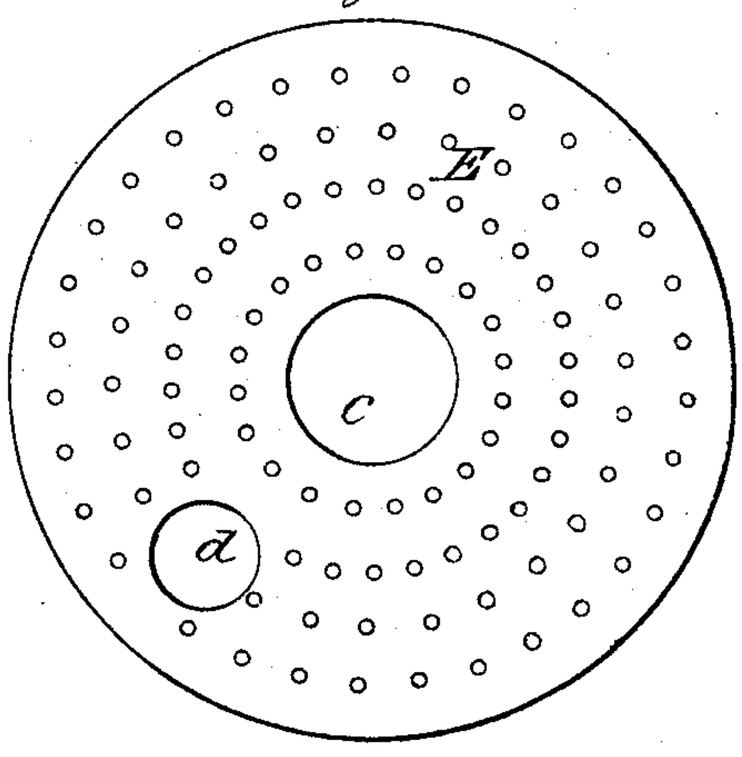


Fig. 2.



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UNITED STATES PATENT OFFICE.

JOHN BIBBY AND ALLEN LAPHAM, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN STILLS FOR DISTILLING PETROLEUM.

Specification forming part of Letters Patent No. **48,896**, dated July 25, 1865.

To all whom it may concern:

Be it known that we, JOHN BIBBY and ALLEN LAPHAM, both of the city of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Stills for the Distillation of Petroleum and other Substances; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a central vertical section of a still with our improvements. Fig. 2 is a plan of one of the cone-shaped perforated plates employed to collect the heavier oils.

Similar letters of reference indicate corresponding parts in both figures.

One object of our invention is to keep the upper part of the still heated in such manner as to prevent as far as practicable the condensation therein of the heavier vapors evolved by the heat in the lower part of the still; and another object is to collect and carry off from the still the heavier oils resulting from any condensation which may, and will unavoidably to some extent, occur in the upper part of the still; and the invention consists in certain means of accomplishing these results.

To enable others skilled in the art to make and use our invention, we will proceed to describe its construction and operation.

A is the retort or body of the still, having its sides of cylindrical form and its head conical or dome-shaped.

B is an upright chimney running directly through the vertical center and head of the still, to heat the central and upper parts by the escaping flame and gaseous products of combustion from the fire below.

Above the head, and communicating with the interior of the still, is an exit chamber, C, which surrounds the chimney B, and the upper part of the said chamber, with which the goose-neck or outlet-pipe D is connected, is enlarged laterally for the collection of the vapors which rise into the said chamber from the oil or other substance undergoing distillation. The vapors as they rise to the top of the still are drawn by the conical or dome shape of the head toward the chimney B and into the narrow annular space *a* left around the chimney in the lower part of the exit-chamber C, and thereby kept so warm by the heat radiated from the chimney that the heavier portions of them, which condense at the exit of an ordinary still, are for the most part in a vaporized state until they have entered the goose-neck or exit-pipe D, and so prevented from returning to the lower part of the still. In this way we are enabled to effect the distillation more rapidly and obtain a larger product than is obtained by distillation in a still of the ordinary kind.

E E, Figs. 1 and 2, are perforated cone or dome shaped plates of metal, the external diameters of which are somewhat smaller than the cylindrical interior of the body of the still, in the upper part of which they are arranged. These plates have central openings, *c*, which are somewhat larger than the exterior of the chimney B, and they are supported at their outer edges by attached feet *b b* on the bottoms of annular gutters F F, which are attached to the walls of the still. These plates, while they offer no material obstruction to the ascent of the vapors to the top of the still, collect upon their surfaces the condensed products of such of the heavier vapors as are unavoidably condensed before they can arrive at the top of the still and drop down therefrom; and these condensed vapors, running down the said plates, are collected in the gutters F F, whence they are drawn off through pipes G G, attached to openings provided in the walls of the still above the bottom of each gutter. One or more of such plates and gutters may be used. The plates E E are each provided with a man-hole, *d*, Fig. 2, through which a man can descend to clean out the lower part of the still, when necessary.

Instead of the single central flue or chimney, two or more flues running vertically through the retort or still may be used.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. The elevated exit-chamber C, in combination with the chimney or flue B, which passes through the center of the still, substantially as and for the purpose herein set forth.

2. The perforated cone or dome shaped plates E and gutters F F, applied, in combination with each other, within a still, substantially as and for the purpose herein specified.

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Witnesses:
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