

No. 749,368.

PATENTED JAN. 12, 1904.

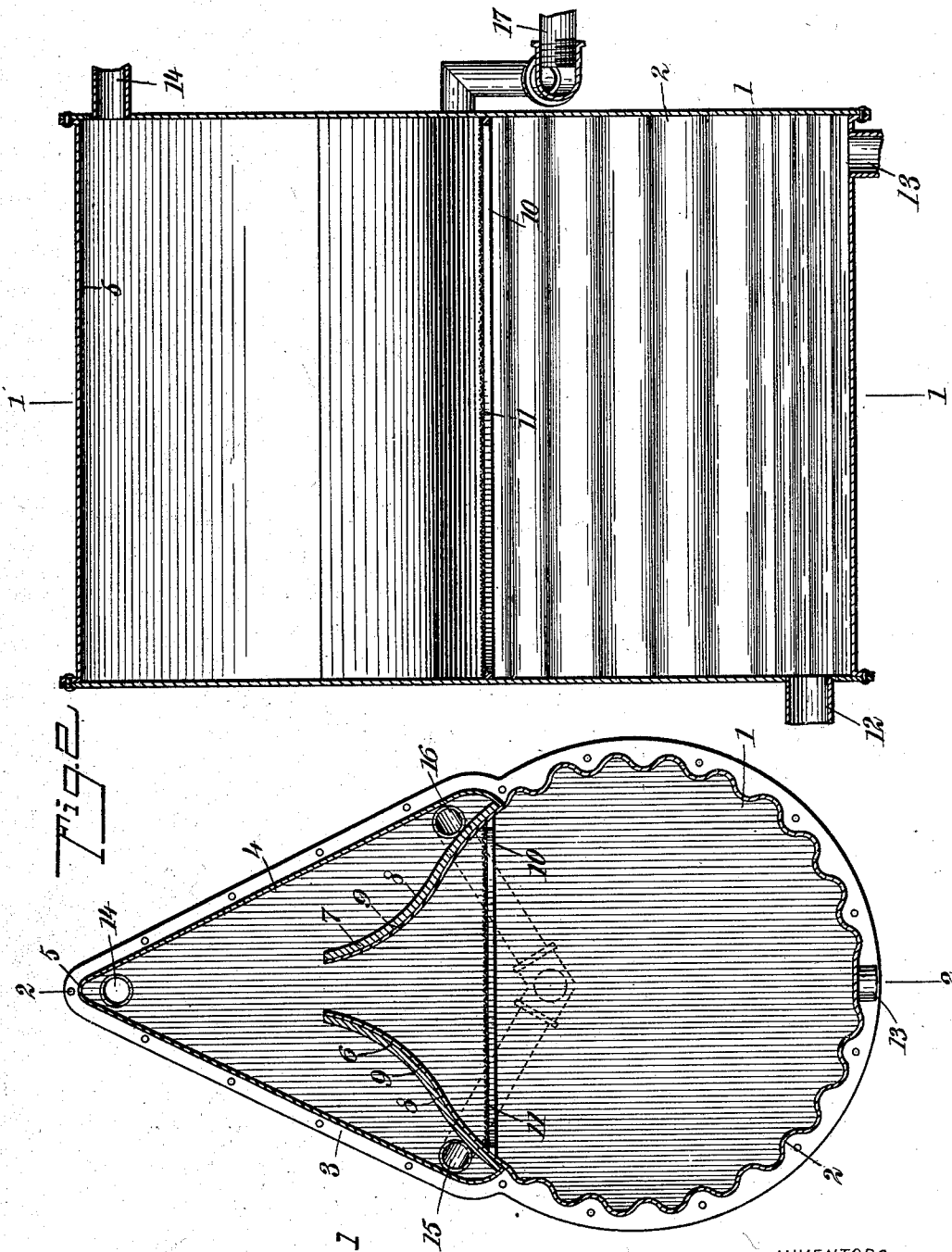
A. C. G. DUPUIS & W. S. FELL.

DISTILLING APPARATUS.

APPLICATION FILED FEB. 18, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



WITNESSES:

J. A. Brophy
R. B. Cavanagh

Fig. 1

INVENTORS
Adolphe C. G. Dupuis
William S. Fell

BY *Munn & Co.*

ATTORNEYS.

No. 749,368.

PATENTED JAN. 12, 1904.

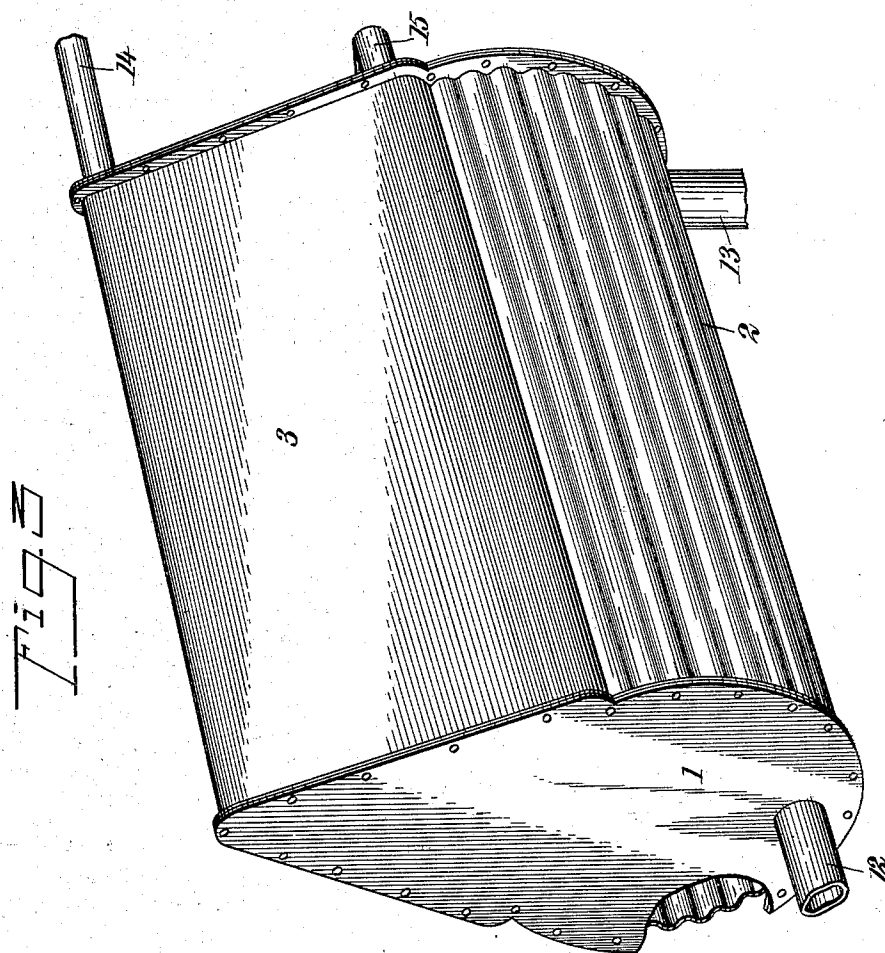
A. C. G. DUPUIS & W. S. FELL.

DISTILLING APPARATUS.

APPLICATION FILED FEB. 18, 1903.

NO MODEL.

2 SHEETS—SHEET 2.



WITNESSES:

J. A. Brophy
R. B. Carranagh

INVENTORS
Adolphe C. G. Dupuis
William S. Fell

BY *Munn & Co.*

ATTORNEYS.

UNITED STATES PATENT OFFICE.

ADOLPHE C. G. DUPUIS, OF NEW ORLEANS, LOUISIANA, AND WILLIAM S. FELL, OF WAVELAND, MISSISSIPPI, ASSIGNORS TO FREDERICK P. MORRILL AND GEORGE E. PITCHER, OF NEW ORLEANS, LOUISIANA.

DISTILLING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 749,368, dated January 12, 1904.

Application filed February 18, 1903. Serial No. 143,951. (No model.)

To all whom it may concern:

Be it known that we, ADOLPHE C. G. DUPUIS, a resident of New Orleans, in the parish of Orleans and State of Louisiana, and WILLIAM S. FELL, a resident of Waveland, in the county of Hancock and State of Mississippi, citizens of the United States, have invented new and useful Improvements in Distilling Apparatus, of which the following is a full, clear, and exact description.

The present invention relates to certain novel and useful improvements in distilling apparatus, and has particular application to an apparatus for distilling oil, petroleum, or the like.

In carrying out the present invention we have particularly in view as an object the construction of a still or alembic which shall be exceedingly simple, positive in its operation, and one which shall cause the lighter vapors generated during the course of distillation to escape from the chamber of the still, while the heavier vapors thereof shall be conducted from said chamber by conduits and shall leave the casing or chamber by different exits than the lighter vapors.

A further object of the present invention is to construct a still which shall prevent the return of the condensed oils or other materials into the retort, thereby preventing the redistillation of the same with the entire mass.

A further object of the invention is to force the vapors into and through a peculiarly-constructed passage-way running the entire length of the still which shall cause the lighter vapors to be separated from the heavier vapors, whereby the lighter and heavier oils may be obtained in a comparatively short time.

If desired, the walls of the conical or vapor chamber may be double or formed of two separate walls and the space between the same filled with a non-conductible cement, asbestos, or the like which shall prevent the premature condensation of the vapor upon the walls of the still, thereby preventing the dropping of the distilled oils back into the retort.

With these and other objects of a similar nature in view our invention consists in the construction, combination, and arrangement

of parts, as is described in this specification, delineated in the accompanying drawings, and set forth in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a central vertical longitudinal section of an apparatus embodying our improvement, taken on the line 1 1 of Fig. 2. Fig. 2 is a transverse vertical sectional view of the same, taken on the line 2 2 of Fig. 1; and Fig. 3 is a perspective view of a still embodying our improvements.

Referring now to the accompanying drawings, 1 designates the main casing or body portion of the still, which forms a retort for the oils or other liquids to be vaporized. While this portion 1 of the still may be of any suitable shape or form, yet we prefer to make the same substantially cylindrical or semicylindrical in cross-section, and the wall of said retort or the portion exposed to the heat or fire is formed with a corrugated surface 2, which may be of any desired character and thickness and serves a purpose to be hereinafter described. From the upper portion of said cylindrical retort extend the converging walls 3 and 4, preferably formed integral with the cylindrical body, which walls come to a point or apex 5, the chamber thus formed by the walls 3 and 4 being approximately conical in shape. The shape and relation of these walls forms a very important feature of the present invention, as will be hereinafter noted.

Converging upwardly from the points of juncture of the inclined walls 3 and 4 with the cylindrical retort 1 are two plates 6 and 7, which are slightly curved, as at 8 8, the upper ends of said plates 6 and 7 being spaced apart and extended in substantially parallel lines. These walls, which are used to conduct the heavier vapors, may be single or double and when double are preferably filled, as at 9 9, with a coating of non-conductible cement, asbestos or the like which will prevent the premature condensation of

any vapor on the walls of the still, thereby preventing the dropping of the distilled oil back into the body of the retort. Extending transversely of the body of the apparatus and secured approximately at the point of juncture of the walls 3 and 4 with the retort is a horizontally-disposed framework 10, which forms a support for a number of perforated screens composing the mattress or partition 11, which mattress or partition is filled or loaded with any suitable chemical reagent. The body portion 1 of the retort or still is provided with an intake duct or conduit 12, through which the oil or petroleum is admitted, and may also be provided with any suitable outlet, as at 13. After the oil has been admitted to the still the cylindrical portion thereof is exposed to a fire or other suitable heating agency and vapors are generated from the fluids, the corrugated bottom preventing the bottom from cracking while expanding and contracting through the influence of the heat and in addition thereto increasing the heating-surface, thereby effecting a saving of fuel, time, labor, and chemicals. The vapors on rising from the fluids pass upward through the screens, which are loaded with the chemicals, and are filtered, decolorized, and deodorized before condensation, thereby yielding a high grade of commercial oil. The lighter vapors ascend to the apex 5 of the still and are drawn or forced out through a pipe or other suitable outlet 14, communicating with said apex, while the heavier vapors, clinging or following the converging walls of the conical portions, travel downwardly and pass through the pipes or conduits 15 and 16 to a communicating outlet 17. Both the outlet at 17 and that at 14 may be connected with any suitable refrigerating or condensing apparatus. (Not shown.)

It will be observed that the conical passage-way running the entire length of the still, in connection with the conical hood, prevents the return of condensed vapors to the body of the still in addition to obviating the possibility of premature condensation, thereby greatly decreasing the time necessary for the performance of the act of distillation. The conical hood, which is a part of the still, forms a superior condenser and by its form of construction carries the vapors at once from

the conical passage-way to the several discharge-pipes, which results in the immediate distillation of the several grades of oil.

While we have shown and herein described one particular embodiment of our invention, we wish it to be understood that we do not limit ourselves to the precise details of construction herein, as there may be modifications and variations in some respects without departing from the principle of the invention or sacrificing any of the advantages thereof.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. A distilling apparatus, comprising a liquid-containing receptacle, the wall of said receptacle having corrugations formed therein, a conical vapor-chamber mounted above said receptacle, a foraminous chemical-containing partition between the chamber and the receptacle, upwardly-extending converging plates mounted in said chamber, a filling of non-conducting material for said plates, an outlet for the lighter vapors at the apex of said chamber, and outlet-conduits for the heavier vapors, lying between the walls of the chamber and the aforesaid converging plates, said conduits converging and joining a common duct outside said chamber, substantially as set forth,

2. A distilling apparatus, comprising a liquid-containing receptacle having an inlet and an outlet for the liquid, the wall of said receptacle being corrugated, a foraminous chemical-containing partition separating the receptacle from the chamber, upwardly-extending converging curved plates mounted in the chamber above said screen, said plates being spaced apart at their upper ends, an outlet for the lighter vapors at the apex of said chamber, and outlets for the heavier vapors, formed at the bottom of said chamber between the upwardly-extending plates and the walls of said chamber, substantially as set forth.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

ADOLPHE C. G. DUPUIS.
WILLIAM S. FELL.

Witnesses:

CHARLES H. BLACK,
HARRY H. HALL.