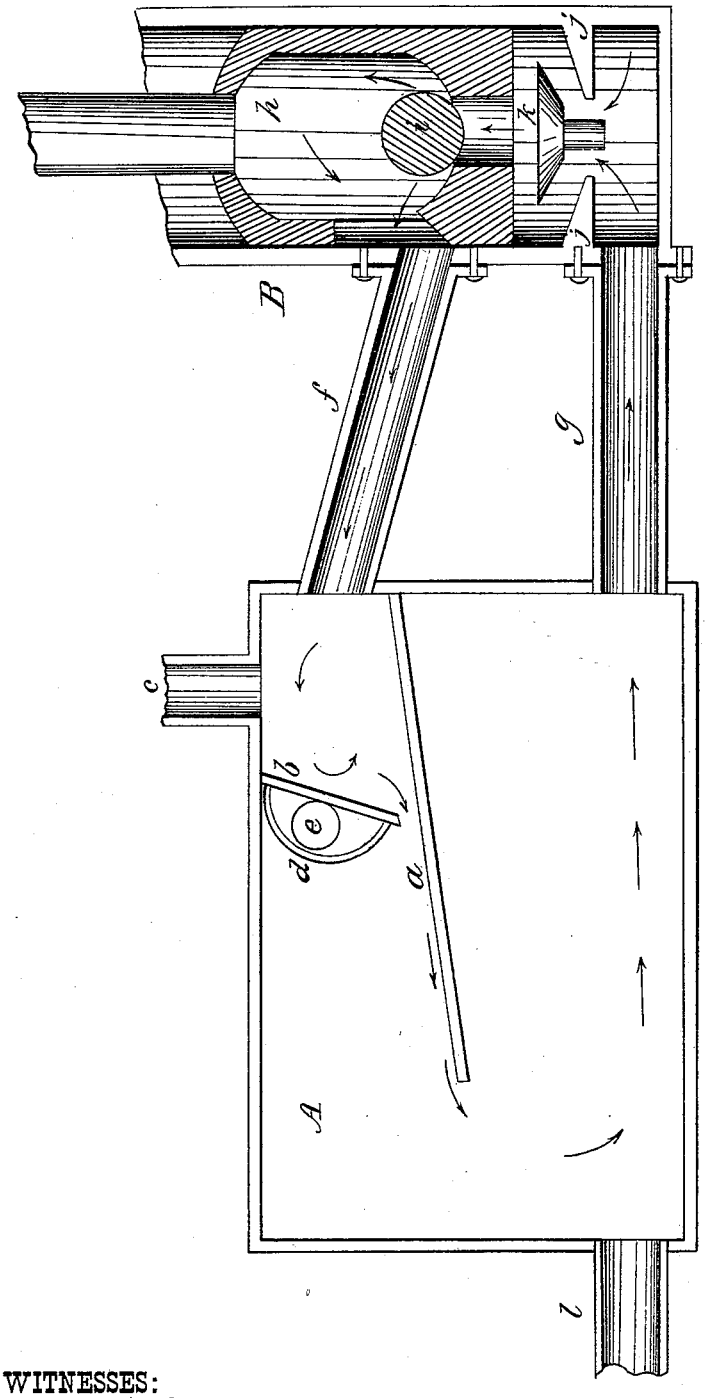
J. C. DICKEY.

Oil-Stills.

No. 166,349. Patented Aug. 3, 1875.



WITNESSES:
Nat. E. Oliphant
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UNITED STATES PATENT OFFICE.

JULIUS C. DICKEY, OF FRANKLIN, PENNSYLVANIA.

IMPROVEMENT IN OIL-STILLS.

Specification forming part of Letters Patent No. **166,349**, dated August 3, 1875; application filed November 4, 1874.

To all whom it may concern:

Be it known that I, JULIUS C. DICKEY, of Franklin, Venango county, and State of Pennsylvania, have invented a new and useful Improvement in Oil-Stills; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing forming a part of this specification, and to the letters of reference marked thereon.

This invention has relation to oil-stills; and consists, in combination with a suitable forcing apparatus, of a tank provided with an inclined partition; also, in a deflecting-plate, against which the oil is projected in its course, as will be hereinafter more fully set forth.

The accompanying drawing is designed to represent a vertical section of my invention, in which A is the tank, provided near its center with a flat inclined partition, *a*, and above the same a deflecting-plate, *b*, against which the oil is projected in its course, the vapor therefrom passing up through a condensing-pipe, *c*, which may be also used to supply the tank with oil; or, if desired, an additional pipe for that purpose may be connected to the tank at any convenient point at the top of the same.

The deflecting-plate *b* may be, if desired, provided with a convex body, *d*, and an opening, *e*, running its entire length, and passing through one side of the tank A, the purpose of which will be more fully described hereafter. Communicating with the tank A, above and below the inclined partition *a*, are pipes *f g*, the same being also connected to a suitable pump-cylinder, B, in which a hollow piston, *h*, works, carrying a ball-valve, *i*, the cylinder B having near its lower end an annular seat, *j*, and check-valve *k*.

This pump, which I have shown and described, is of the ordinary construction, and may be operated by steam or other power; or other forms of pumps may be employed, such as rotary pumps, when it is found necessary to project the oil with greater force against the deflecting-plate *b*.

Having now carefully described the construction of my invention, the operation of the same will be readily understood from the following explanation: Heat being applied directly to the bottom of the tank A, or by passing pipes containing hot water into the tank, the oil is introduced through the pipe *c*, or other suitable pipe for that purpose, and when the desired quantity of oil is supplied to the tank, and the oil brought to the required degree of heat, the pump is put in operation, the piston on its upward stroke taking the oil from the bottom of the tank A, forcing up the check-valve *k*, and allowing the oil to pass through the opening formed by the annular valve-seat *j*, and upon the downward stroke of the piston the oil is forced against the ball-valve *i*, raising the same, and admitting the oil above the valve into the chamber formed by the hollow piston *h*, from whence it is forced out through an opening in the side thereof into the pipe *f*, and projected against the deflecting-plate *b*, and compelling the oil to fall upon and pass down the inclined partition *a* back into the bottom of the tank A, when it again undergoes the same process. The heated oil striking the deflecting-plate *b* has the effect to force off the lighter particles of the oil, the vapor therefrom passing out into the pipe *c*.

The pipes *f g* may be inclosed in a suitable receptacle or pipes containing hot water or steam, to prevent the danger of the pipes being clogged by the oil, and thereby admit at all times of its free passage.

In some cases I desire to use chemicals or pass a continuous stream of cold water through the opening *e* in the convex body *d*, or, as the oil is run out of the tank A, through the discharge-pipe *l*, to which a suitable stop-cock may be connected. The heated oil suddenly coming in contact with a cold surface has the effect to change its color; or, if desired, the heated oil may be made to pass through pipes immersed in cold water.

Having now fully described the construction, and operation of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The tank A, provided with an inclined partition, *a*, in combination with a pump or other forcing apparatus, substantially as and for the purpose set forth.

2. The tank A, provided with a deflecting-plate, *b*, and inclined partition *a*, in combination with a suitable pump or forcing apparatus, substantially as and for the purpose described.

JULIUS C. DICKEY.

Witnesses:
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