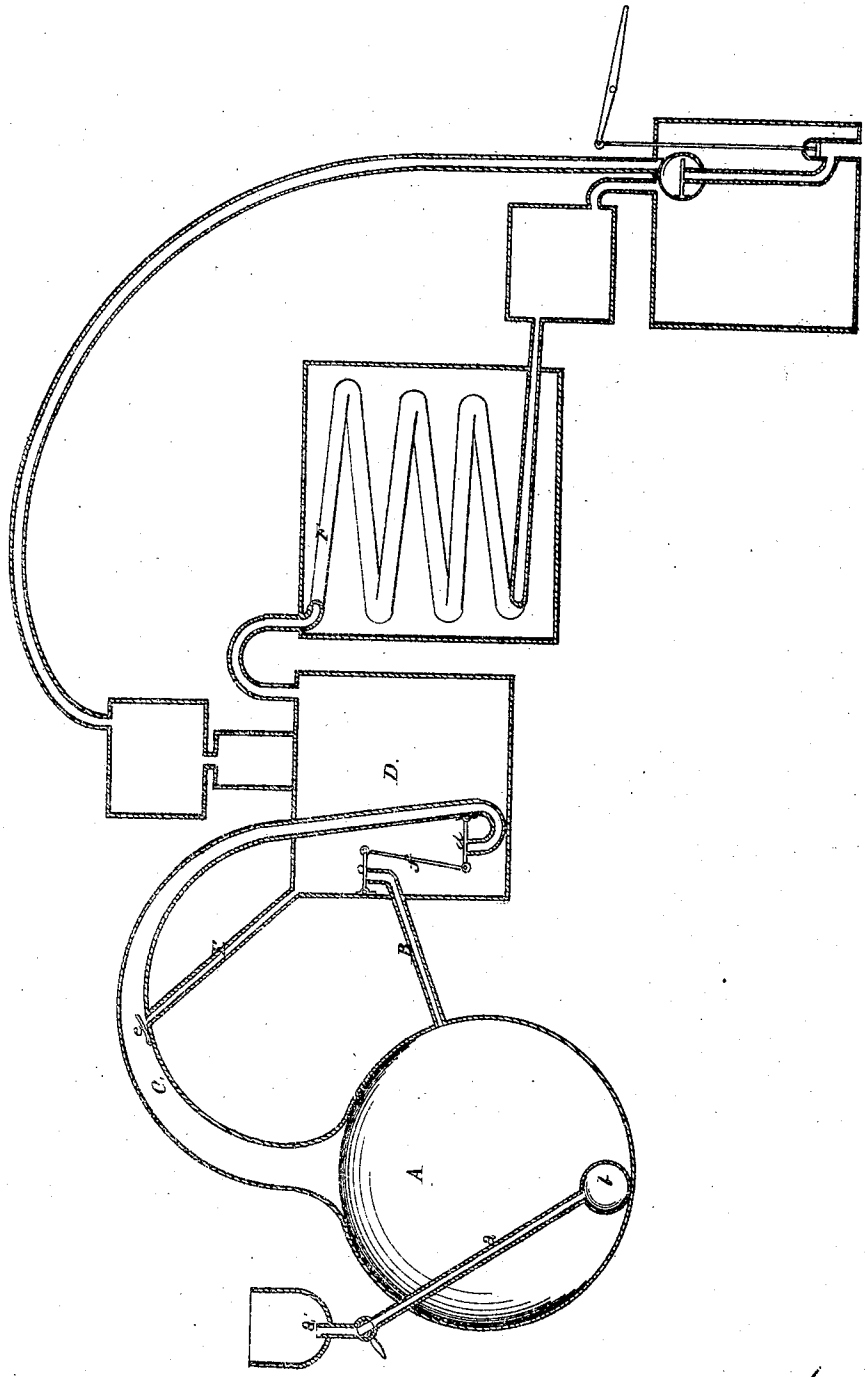
I. P. Tice.

Stills.

No. 72241

Patented Dec. 17, 1867.



Witnesses
Joseph Brown
E. J. Davis

Inventor
Isaac P. Tice

United States Patent Office.

ISAAC P. TICE, OF NEW YORK, N. Y.

Letters Patent No. 72,241, *dated December* 17, 1867.

IMPROVEMENT IN STILLS.

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

TO ALL WHOM IT MAY CONCERN:

Be it known that I, ISAAC P. TICE, of the city, county, and State of New York, have invented certain new and useful Improvements in Stills; and the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which the figure represents a sectional view through the arrangement of the still-doubler, condenser, and meter, showing the means by which the still is charged and emptied of its contents.

The object of my invention is so to arrange a copper or other still as to admit of the still being charged with the wash and emptied without the distiller being enabled to divert the alcoholic vapor, through openings, from its legitimate channel through the doubler-worm and meter.

The means by which the still is charged and emptied consists of a pipe, which passes, through the top of the still, to nearly the bottom of the same.

My invention consists in the arrangement of the various pipes with their connections, valves, and cut-off, as shown, and hereinafter more fully described.

It will be seen that, when the still A is charged with beer, the end of the pipe *a* will be submerged; consequently no vapor can pass out of the still through this pipe at the same time. The application of a pump to the outer end of the pipe *a'* enables the distiller to discharge the wash after the spirits have been driven off. The object of passing the pipe *a* through the top of the still is to prevent the joints from being exposed to the action of the fire. It is not essential to the working of this plan that this pipe passes through the top of the still. It may pass up through the bottom, and theoretically accomplish the same end.

The lower end of the pipe *a* terminates in an enlarged perforated vessel, *b*, which is to prevent the introducing of a flexible pipe through the pipe *a*, and up the inside of the still above the level of the beer, thereby enabling the distiller to divert the spirits through the discharging-pipe. The overflow-pipe B, leading from the doubler D to the still A, is provided with a valve, *c*. The termination of the main pipe C, from the still A to the doubler D, is also provided with another valve, *d*, these two valves being connected together by a rod, *f*, so that, when the vapor passes into the doubler D, through the main pipe C, it opens the two valves *c* and *d*, allowing the overflow from the doubler to the still to take place, so long as the still is in operation. When the pressure of the vapor ceases to act on the valve *d*, attached to the main pipe, the valves close by their own weight, and thus prevent the abstraction of the low-wines from the doubler through the still, when the still is not in operation.

The same result may be accomplished by expansive rods, when properly attached to the valves, because the vapor in the still when working is heated, and when not working is cooled. An arrangement of floats may also be made to secure the same results. Inasmuch as the collapse-valve *c* of a still furnishes the distiller an opening for the extraction of vapor, or the injection of wash, I provide a pipe, E, covering the collapse-valve aperture, and connecting with the doubler D or the still-worm F.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The arrangement of the filling and discharging-orifice of a still below the surface of the wash, for the purposes herein described.

2. I claim the valve opening inward upon the main pipe.

3. I claim the valve attached to the overflow pipe in such a manner as to be opened when the still is operating, and closed when it is not working.

4. I claim connecting the two valves *c* and *d*, so that they will act simultaneously, as herein described.

5. I claim the combination of these valves with the still and its necessary working-apparatus.

6. I claim enclosing the collapse and blow-off valves of a still, and connecting them, by means of a pipe, with the doubler, worm, or any other part of the enclosed circuit.

ISAAC P. TICE.

Witnesses:

K. V. WHALEY,

J. W. COOMBS.