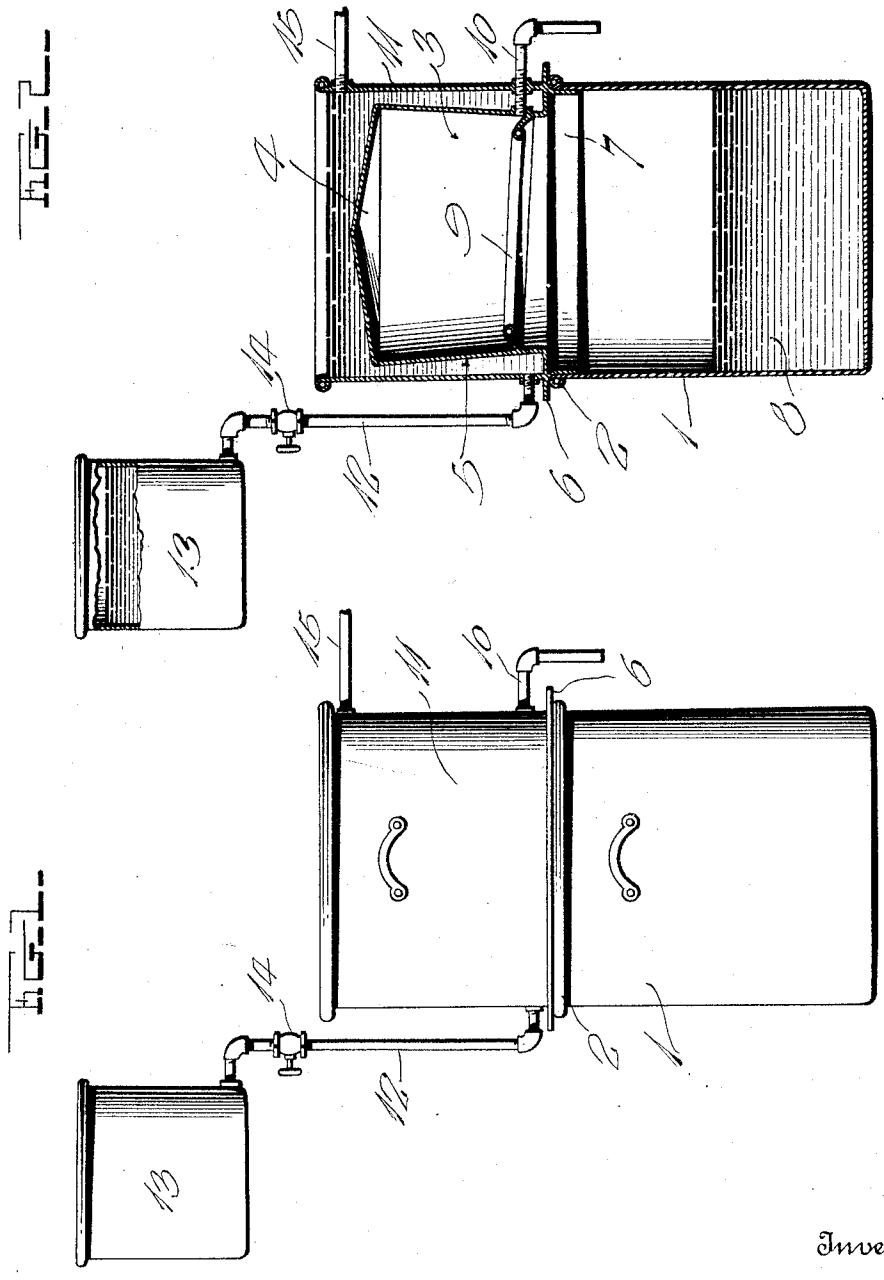
J. E. DOUBLEDAY.

DISTILLING APPARATUS.

APPLICATION FILED AUG. 19, 1918.

1,306,687. Patented June 17, 1919.



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UNITED STATES PATENT OFFICE.

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DISTILLING APPARATUS.

1,306,687. Specification of Letters Patent. Patented June 17, 1919.

Application filed August 19, 1918. Serial No. 250,506.

To all whom it may concern:

Be it known that I, JULIAN E. DOUBLEDAY, a citizen of the United States, residing at Alexandria, in the county of Alexandria and State of Virginia, have invented certain new and useful Improvements in Distilling Apparatus; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention has for its object to provide an extremely simple and inexpensive, yet a highly efficient and reliable apparatus for distilling numerous kinds of liquids, and with this object in view, the invention resides in the novel features of construction hereinafter described and claimed, and illustrated in the accompanying drawing.

Figure 1 of the illustration is a side elevation of the apparatus, and Fig. 2 is a vertical section thereof.

In the drawing above briefly described the numeral 1 designates a preferably cylindrical boiler open at its upper end and preferably provided at said end with a bead 2. A dome 3 is positioned above the boiler 1, and is provided with a substantially flat though slightly conical top 4 and a side wall 5 which increases in diameter toward its upper end. The lower end of the wall is provided with an outstanding horizontal flange 6 which rests on the bead 2 and is in turn equipped with a depending flange 7 fitting snugly within the open upper end of the boiler. The lower end of the dome 3 is open so as to permit free communication between said dome and the boiler 1, thus permitting the hot vapor rising from the liquid 8 in said boiler to enter and condense upon the top and side wall of the dome, the condensed moisture being adapted to flow by gravity to the lower end of said wall 5, at which end it is collected by an inclined annular flange 9 forming with the wall 5 a trough. This trough preferably inclines to one side of the dome as shown, and at its lowest point is provided with an outlet pipe 10.

In order to cool the dome 3 and cause more effective condensation of the hot vapor rising therein, a preferably cylindrical water jacket 11 rises from the flange 6 around said dome, the upper end of said water jacket being open in most cases. A cold water supply pipe 12 leads from a reservoir 13 into the lower end of the space between the dome and water jacket, said pipe being provided with a suitable cut-off valve 14. An overflow pipe 15 extends from the upper end of the water jacket 11 and it will thus be seen that by constantly feeding water through the pipe 12 and out of the pipe 15, the dome may be maintained at a comparatively low temperature.

In operation, the liquid to be distilled is placed in the boiler 1 and the upper section of the device, consisting of the dome 3 and this water jacket is then applied. When heat is now applied to the boiler, the hot vapor rising therefrom into the dome will condense upon the large area afforded by the top and wall of the latter, due to the circulation of cold water around the same, and the liquid of condensation will flow from the top 4 to the side wall 5 and down the latter upon the flange 9, from which flange it is discharged through the pipe 10. When distilling beverages and the like, in which a mash is used, any particles of such mash which rise with the hot vapor, when violent boiling of the liquid takes place, have a tendency to return to the bottom of the boiler 1 when they strike the substantially flat but slightly conical top 4, this being a valuable improvement over such devices as have heretofore been employed, using a steeply inclined or pointed conical wall for the hot vapor to condense upon. The device is extremely simple, inexpensive and easy to operate, yet is highly efficient, and since probably the best results are obtained from the details shown and described, they are by preference followed, but it is to be understood that within the scope of the invention as claimed, numerous minor changes may well be made.

I claim:

A distilling apparatus comprising a boiler open at its upper end, a dome above said boiler having a substantially flat though slightly conical top, and a side wall increasing in diameter from its lower to its upper end, an annular flange extending laterally outward from said lower end of the dome or wall and resting on the upper end of said

boiler, a second annular flange depending from said first named flange and snugly received in the upper end of the boiler, a third annular flange extending inwardly from said dome wall near the lower end of the latter and forming therewith a trough adapted to collect liquid of condensation flowing down said wall, an outlet from said trough, and a water jacket wall rising from said first named annular flange around said dome.

In testimony whereof I have hereunto set my hand.

JULIAN E. DOUBLEDAY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."