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PATENTED APR. 14, 1903.

J. T. VAN AUSDAL.

COMBINED WASHBOILER AND WATER DISTILLING APPARATUS.

APPLICATION FILED JUNE 25, 1901.

NO MODEL.

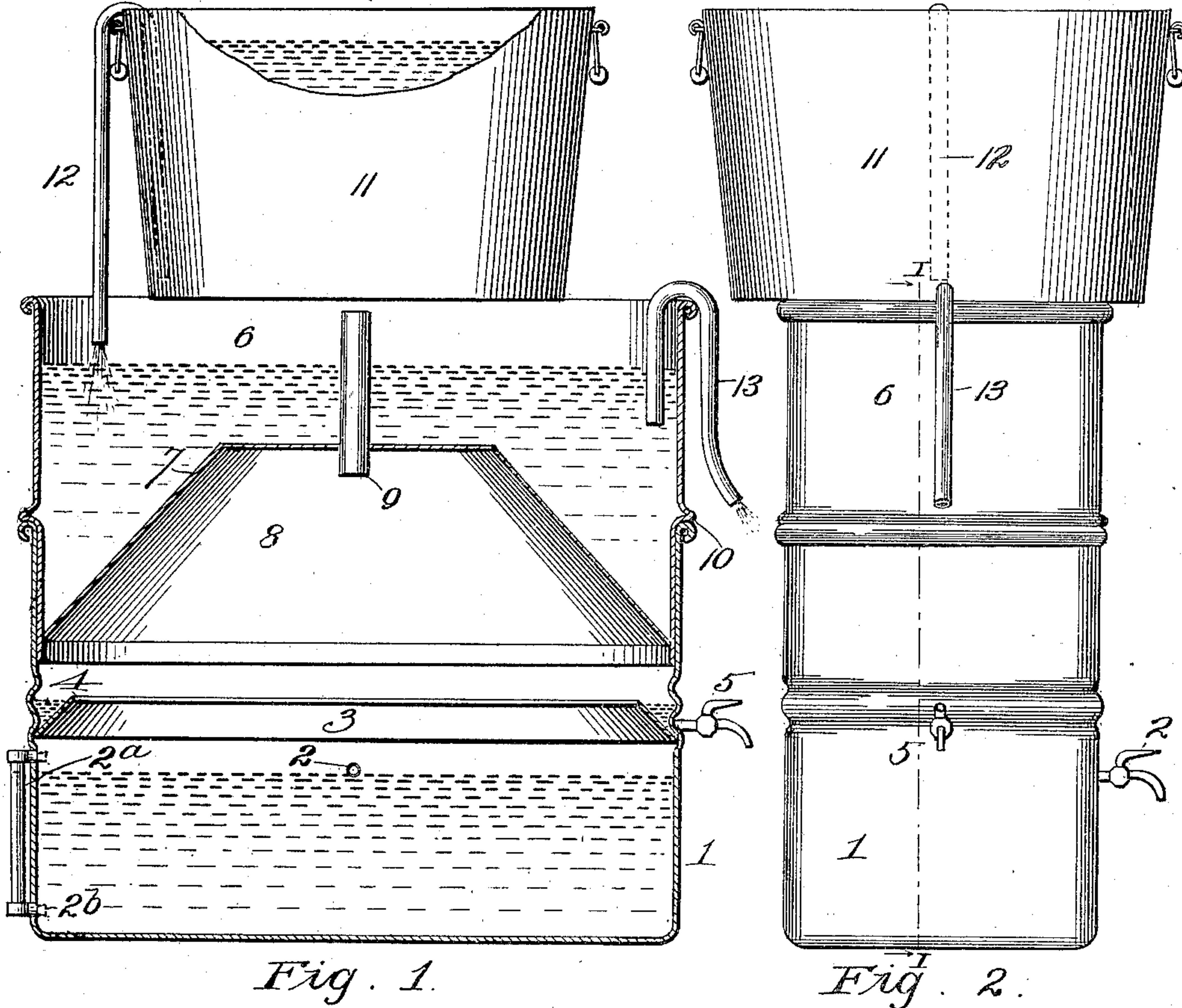
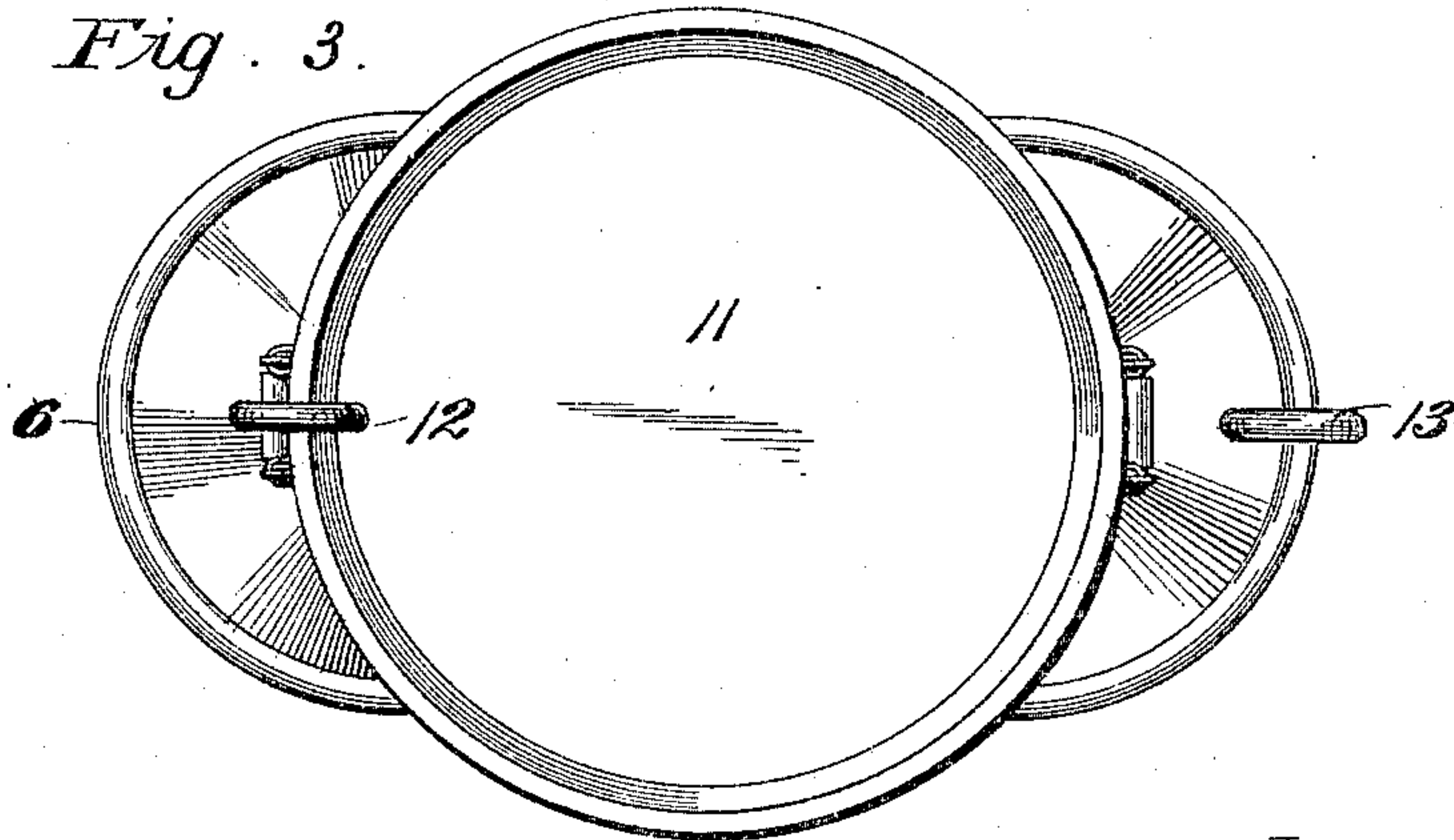


Fig. 3.



Witnesses:

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# UNITED STATES PATENT OFFICE.

JAMES T. VAN AUSDAL, OF INDEPENDENCE, KANSAS.

## COMBINED WASHBOILER AND WATER-DISTILLING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 725,182, dated April 14, 1903.

Application filed June 25, 1901. Serial No. 65,923. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES T. VAN AUSDAL, a citizen of the United States, residing at Independence, in the county of Montgomery and State of Kansas, have invented certain new and useful Improvements in a Combined Washboiler and Water-Distilling Apparatus, of which the following is a specification.

My invention relates to a combined wash-boiler and water-distilling apparatus; and my object is to produce an apparatus of this character which is efficient in operation and at the same time can be sold at a price within the reach of practically every household.

With this general object in view the invention consists in certain novel and peculiar features of construction and arrangements of parts, as hereinafter described and claimed, and in order that it may be fully understood reference is to be had to the accompanying drawings, in which—

Figure 1 represents a vertical longitudinal section of an apparatus embodying my invention. Fig. 2 is an end view of the same. Fig. 3 is a top plan view.

Referring to the drawings in detail, 1 designates an ordinary washboiler, which, however, is provided at a suitable point with a faucet 2, an internal upwardly-projecting annular flange 3 above said faucet and having a water-tight joint at its lower edge with the boiler, so as to provide an annular trough 4, and a faucet 5 communicating with said trough for the purpose of drawing water therefrom. When this boiler is employed as a washboiler, the faucets are closed, so as to prevent the escape of steam or water. The gage 2<sup>a</sup> (hereinafter mentioned) is also closed by corks 2<sup>b</sup> or otherwise. When the apparatus is employed in distilling water, said faucets are open, the former for the purpose of admitting air to the boiler and the latter for discharging the distilled water as fast as it accumulates in the trough.

6 designates a receptacle of substantially the same shape as the boiler and adapted to fit into the upper end of the latter, being provided with a reëtrant bottom 7, which is of approximately truncated cone shape, so as to provide a condensing-chamber 8, the walls of which slope downward and outward to the walls of the boiler, and therefore conduct the

water produced by the condensation of steam thereon down into trough 4, this condensation being insured and facilitated by providing said receptacle with a vent-pipe 9, through which air passing in through faucet 2 may escape, this air also serving to aerate and purify the water. To effect such condensation, the receptacle is of course charged with water, and said receptacle is supported properly in the boiler by means of the annular flange 10, projecting outward and resting upon the beaded upper edge of the boiler. In the practical operation of this distilling apparatus it is charged with water to a point below faucet 2, the transparent gage attachment 2<sup>a</sup> serving to indicate the depth of water in the boiler, so that there will be no danger of injury to the latter from flame impinging upon its bottom while empty. The receptacle 6 is next placed within the boiler and charged with water to a suitable depth, this water being for the purpose of keeping the reëtrant bottom 7 at as low a temperature as possible in order that it shall instantly convert the steam impinging against it into vapor, this condensation being more rapid by reason of the circulation of air which is taking place constantly through the open faucet 2 and vent-pipe 9. After the water reaches the boiling-point and steam begins to arise a receptacle (not shown) is placed beneath faucet 5 and the latter is opened, the arrangement being such that the distilled water is drawn off with sufficient rapidity to prevent the trough 4 overflowing.

To facilitate the condensation, a receptacle 11, such as a tub, is charged with water and placed upon receptacle 6 without completely closing the same, and therefore without interfering with the circulation of air through the vent-pipe. Receptacle 11 may be provided with a faucet to run water into receptacle 6 as fast as a second faucet (neither of said faucets are shown) will discharge it from said receptacle 6; but as the use of faucets would be an unnecessary expense I prefer to employ a siphon 12, mounted on the tub and arranged to receive water from the latter and discharge it into receptacle 6, and a siphon 13, mounted on and adapted to receive water from the latter and discharge it into any suitable receptacle. The object of this constant



supply of fresh water to receptacle 6 is to keep the water in the latter at a low temperature, and thereby facilitate the distilling operation, it being necessary to remove water from receptacle 6 at the same speed that it enters to avoid the possibility of an overflow. Without this supply of fresh water it is obvious that the temperature of the water in receptacle 6 would be more rapidly increased and the speed of condensation in its reëtrant bottom be proportionately diminished.

For a small household the boiler and receptacle 6 would distil a sufficient quantity; but for a large household or where an excessive quantity of water is needed a much greater quantity could be distilled in the same length of time if the receptacle 11 and the appliances for effecting circulation in receptacle 6 were provided.

From the above description it will be apparent that I have produced a water-distilling apparatus of simple and cheap construction and which while disclosing the preferred construction of the invention is susceptible of change as regards its form, proportion, de-

tail construction, and arrangement of the parts without departing from its spirit and scope.

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

The combination of a water-receptacle having a siphon to effect the discharge of water, and a reëtrant bottom, and a pipe projecting through said bottom to a point above the water-line of the receptacle, a second receptacle supported upon the first, and provided with a siphon to discharge water therefrom and into the first-named receptacle, and a boiler supporting the first-named receptacle, and adapted to receive the water resulting from condensation of the steam in said reëtrant bottom, substantially as described.

In testimony whereof I affix my signature in the presence of two witnesses.

JAS. T. VAN AUSDAL.

Witnesses:

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