

(No Model.)

H. PATTISON.  
WATER DISTILLING APPARATUS.

No. 574,626.

Patented Jan. 5, 1897.

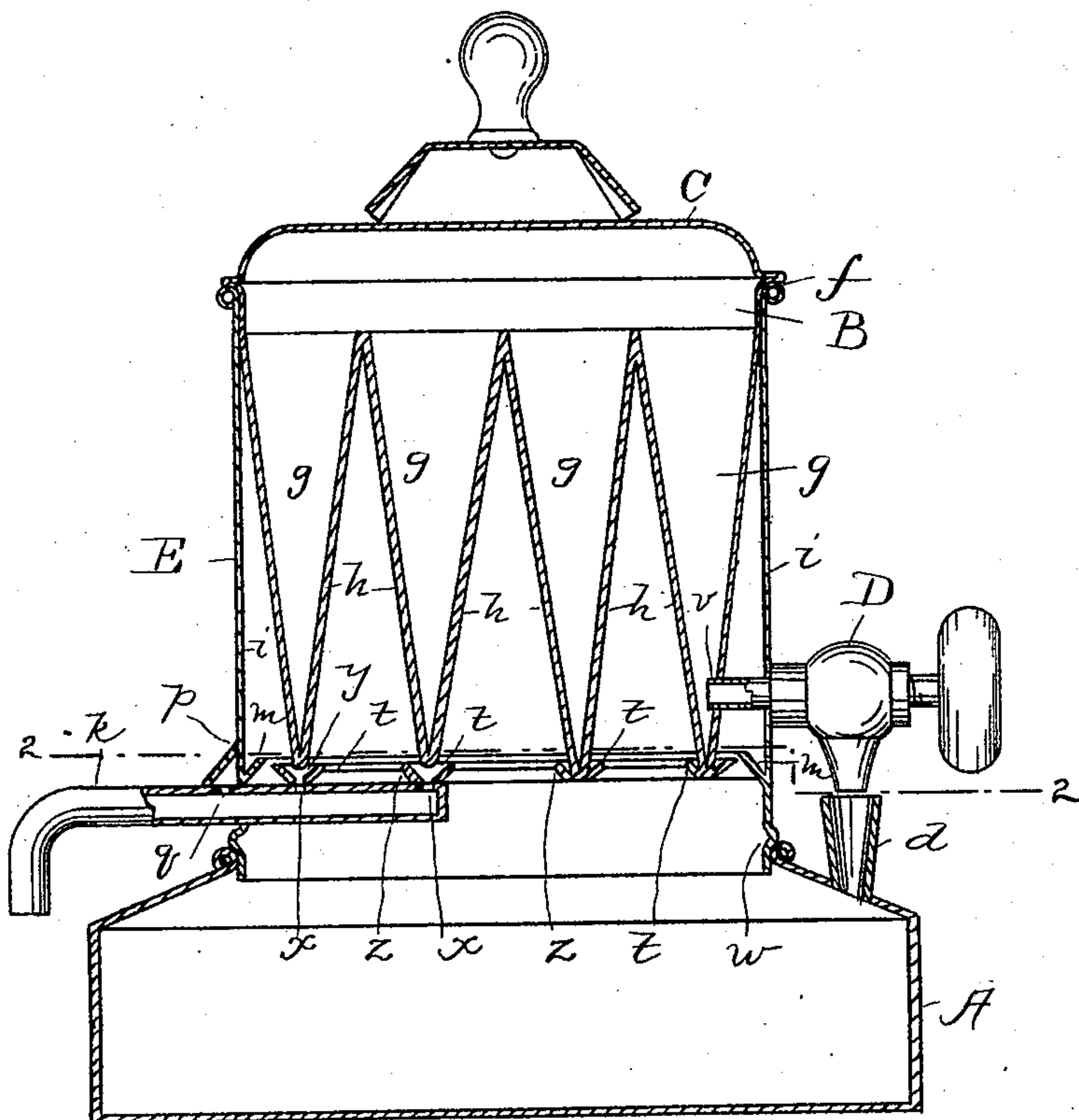


Fig. 1.

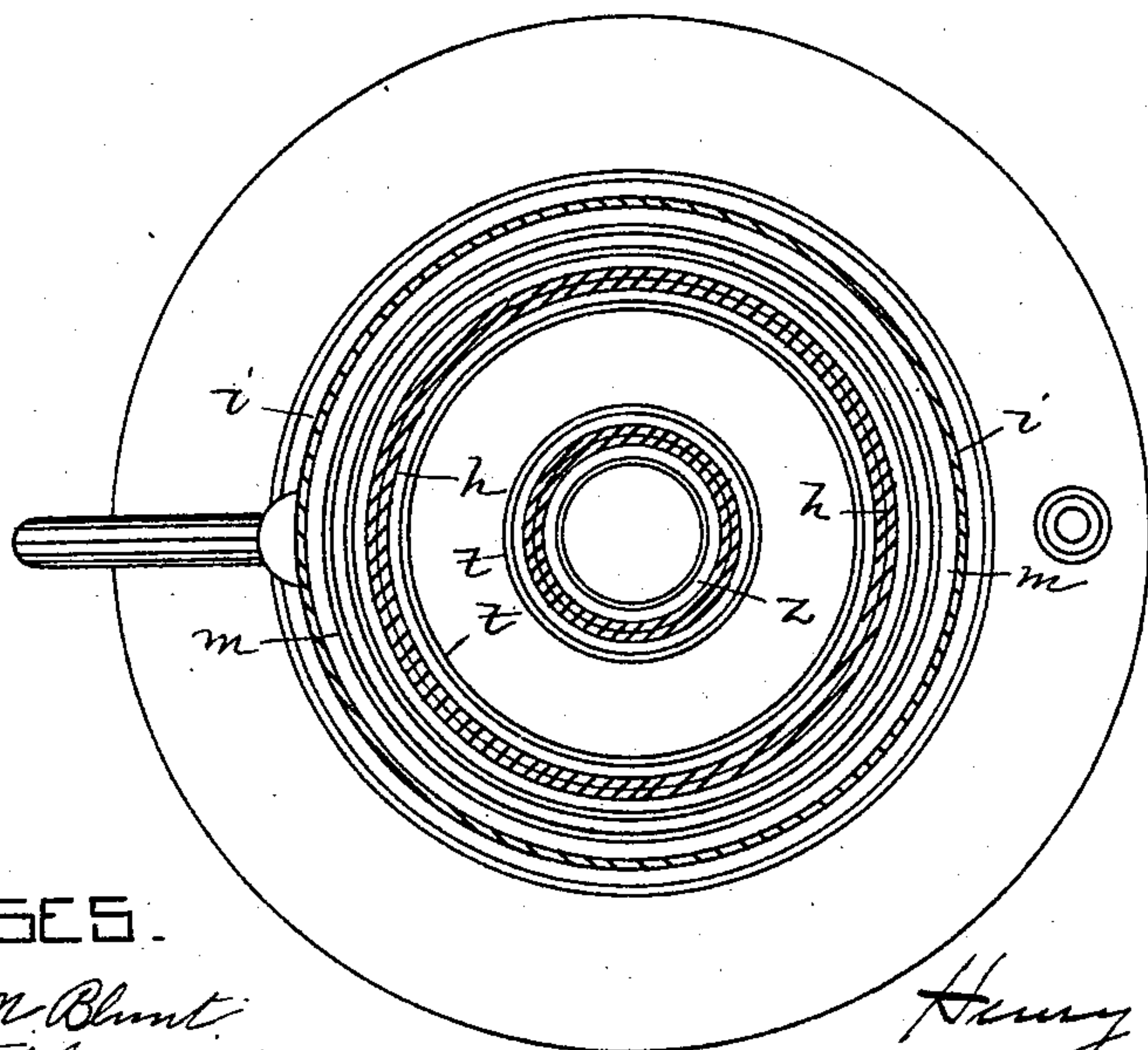


Fig. 2.

WITNESSES.

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# UNITED STATES PATENT OFFICE.

HENRY PATTISON, OF WINDSOR, CANADA.

## WATER-DISTILLING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 574,626, dated January 5, 1897.

Application filed January 17, 1896. Serial No. 575,840. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY PATTISON, of Windsor, Province of Nova Scotia, Dominion of Canada, have made certain new and useful Improvements in Water-Distilling Apparatus, of which the following is a description sufficiently full, clear, and exact to enable any person skilled in the art or science to which said invention appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a vertical transverse section of my improved apparatus; and Fig. 2, a horizontal section taken on line 2 2 in Fig. 1, showing the troughs in plan view.

Like letters of reference indicate corresponding parts in both figures of the drawings.

My invention relates to an improvement in water-distilling apparatus which is especially adapted for use for domestic purposes, the object being to produce a simple, cheap, and effective article of this character with which the water may be distilled by the use of any ordinary stove or lamp. Furthermore, my improvement greatly quickens the process by affording an enlarged condensing-surface draining into a common outlet without increasing the diameter of the utensil.

In carrying out the same I make use of means which will be readily understood by those conversant with such matters from the following explanation:

In the drawings, A represents the boiler, which is cylindrical in form and has a converging open top. A nipple *d* opens through this top. The body or condenser proper, E, has an open bottom flanged or beaded at *w* to enter and rest in the mouth of the boiler. Within this body there is an annular trough *m* formed, said trough inclining slightly toward a port *p*, opening through the side of the body. Under this a drip or discharge tube *k* enters the body and has a port *q*, registering with the port *p*. The inner end of this discharge is closed. Within the body there is pendent a group B of hollow inverted cones *g*, the base of said triangular group being closed by a cover C, closing also the body E. A drain-cock D enters through the wall of the body and into said group, the discharge of said cock registering with the nipple opening into the boiler. To the apices of the cones annular troughs *t* are secured. These

troughs are provided with ports *x*, opening into the drip or discharge *k*, toward which they incline.

It will be understood that the spaces *g* are triangular only in vertical transverse section, they being annular in horizontal section and denominated "cones" for convenience of description.

In the modification shown in Fig. 2 only one of these triangular spaces is employed, and the boiler A is reduced to the diameter of the cylinder E.

In the use of my improvement the cylindrical spaces *g* are filled with cold water. The boiler being filled and heat applied, steam arising and encountering the cooled surfaces *h i* drips into the troughs *m t*, by which it is conveyed to the discharge *k* in a manner which will be understood without a more explicit description.

The capacity of the boiler shown in Fig. 2 is just sufficient to produce a volume of steam which will readily condense on the surfaces *h i* of this form. When a more extended condensing-surface is required, the capacity of the boiler must be enlarged, as in the form in Fig. 1; but it is not necessary to enlarge the diameter of the cylinder, as the cones can be multiplied. This construction is exceedingly cheap and durable, and I find in practice that all the steam generated is condensed and none escapes through the nipple of the boiler.

Having thus explained my invention, what I claim is—

A water-distilling apparatus, comprising a boiler, a condenser having its bottom constructed of a series of conical partitions forming concentric annular spaces, triangular in vertical section, the upper surfaces of whose walls are exposed to the condensing water, and the lower surfaces of whose walls are exposed to the direct contact of the steam from said boiler; annular troughs on the lower joining ends of said partitions for receiving the condensations from said surfaces; and a discharge-pipe having ports registering with the mouths of said troughs and leading through the wall of the condenser-body substantially as specified.

HENRY PATTISON.

Witnesses:

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