

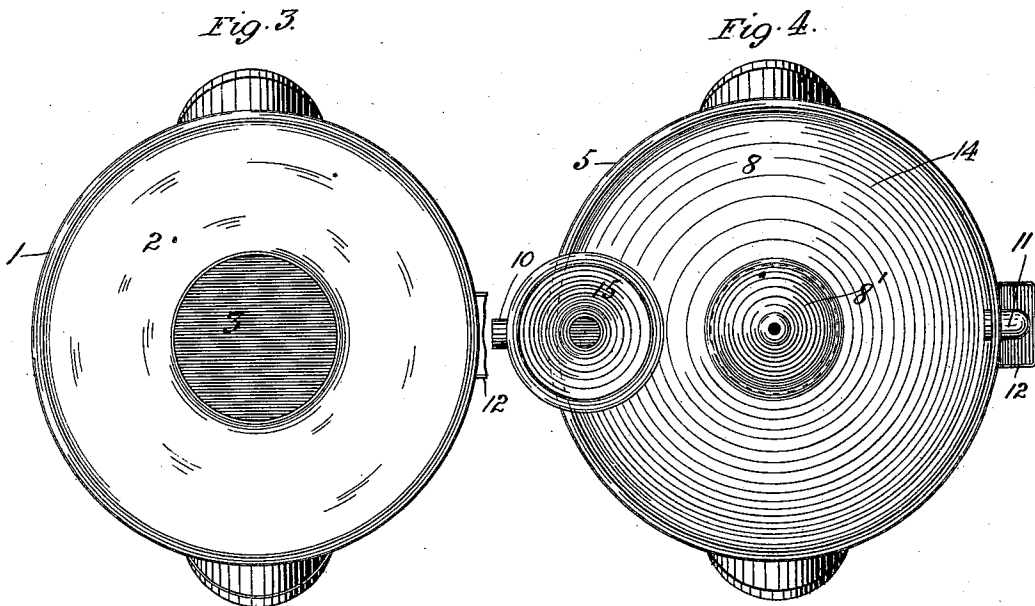
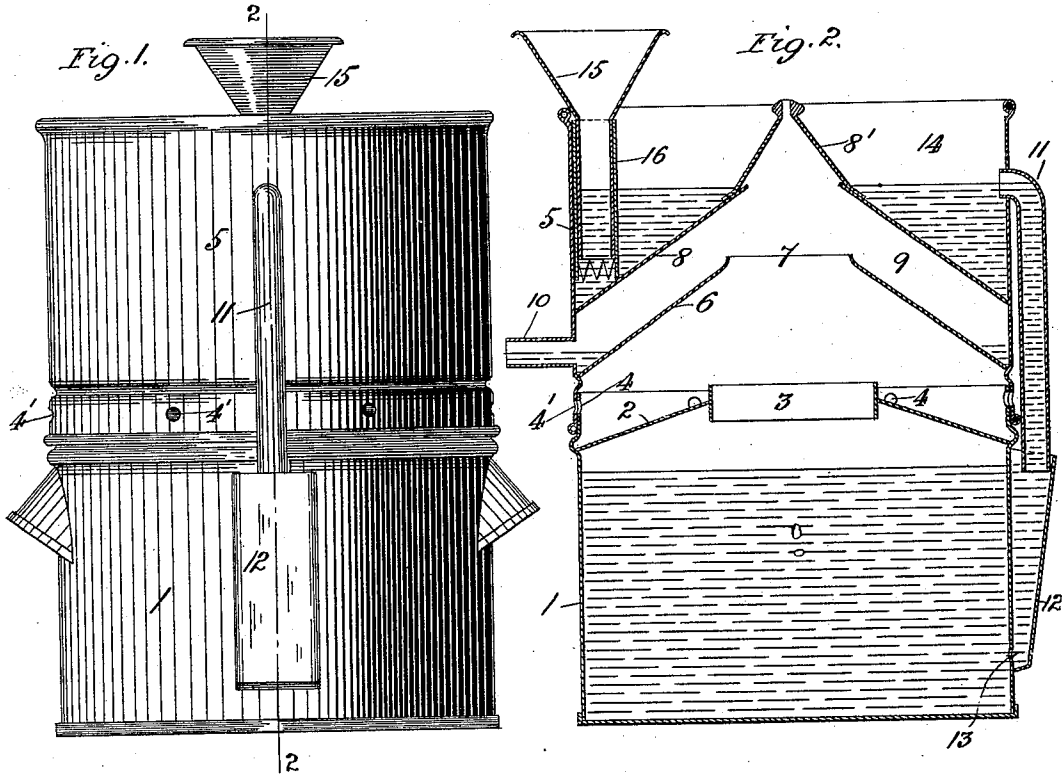
No. 687,262.

Patented Nov. 26, 1901.

A. POWERS.
STILL.

(Application filed Feb. 16, 1901.)

(No Model.)



WITNESSES
Edward W. Turrell
G. L. Bulfinch

INVENTOR
Albert Powers
by
Emil Storer, atty

UNITED STATES PATENT OFFICE.

ALBERT POWERS, OF ST. LOUIS, MISSOURI, ASSIGNOR OF ONE-HALF TO
DUDLEY A. BURLEIGH, OF ST. LOUIS, MISSOURI.

STILL.

SPECIFICATION forming part of Letters Patent No. 687,262, dated November 26, 1901.

Application filed February 16, 1901. Serial No. 47,632. (No model.)

To all whom it may concern:

Be it known that I, ALBERT POWERS, a citizen of the United States, residing at St. Louis, State of Missouri, have invented certain new and useful Improvements in Stills, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention has relation to improvements in domestic stills; and it consists in the novel arrangement and combination of parts more fully set forth in the specification and pointed out in the claim.

In the drawings, Figure 1 is a front elevation of the still, showing the parts in their assembled position. Fig. 2 is a middle vertical section on line 2 2 of Fig. 1. Fig. 3 is a top plan of the lower section or boiler, and Fig. 4 is a top plan of the upper section.

The object of my invention is to construct a simple still adapted particularly for domestic, camping, and similar purposes, one which shall be cheap, durable, readily assembled or taken apart, and one possessing further and other advantages better apparent from a detailed description thereof, which is as follows:

Referring to the drawings, 1 represents the bottom section or boiler, the same being provided with a conical roof 2, having a central opening 3 for the escape of the steam, the lower edge of the roof being disposed in a plane a suitable distance below the upper edge of the boiler. Along that portion of the peripheral wall of the boiler which is above the lower edge of the roof are formed a series of air vents or openings 4, adapted to register with a corresponding series of openings 4' of the upper section 5 of the still, the openings 4 being distributed in a plane adjacent to the upper edge of the boiler or section 1. Formed with the section 5 is a lower conical wall 6, having an opening 7, and an upper conical wall 8, having a conical perforated apex 8', the top of the apex being substantially on a level with the upper edge of the section 5. Between the walls 6 and 8 is a condensing-chamber 9, from the lowest point of which extends a delivery nozzle or tube 10, to which may be attached a suitable hose. (Not shown.) From a point in the peripheral wall of the section 5 a suitable distance below the upper edge

thereof leads an overflow pipe or spout 11, the lower end of the same discharging into a pocket 12, communicating through an opening 13 directly with the boiler. The compartment 14 above the wall 8, from which the pipe 11 leads, is the cold-water compartment, the said water serving to condense the vapor disengaged from the boiler and impinging against the lower surface of the wall 8. The registering openings 4 4' by reason of the air-currents induced to flow therethrough by the ascending currents of vapor from the boiler serve to admit an amount of cool air which in a measure has a tendency to partially condense the vapor in addition to the complete condensation affected by the cool water in the compartment 14. The latter is filled through a funnel 15, mounted in a casing or tube 16, soldered to the inner wall of said compartment.

The operation of the still is as follows: The boiler is placed over a flame or stove, and the water therein as it becomes heated evaporates, the vapor rising and condensing in the chamber 9, the distilled water being discharged through the nozzle or pipe 10, from which it may be conducted to any suitable point of consumption. The bounding conical walls of the condensing-chamber being substantially parallel, the vapor rising from the boiler first impinges against the lower wall, being thereby in a measure condensed before impinging against the upper wall of said chamber or that directly in contact with the cold water in the compartment 14. In this way the direct impingement of the vapor against the upper wall of the condensing-chamber is prevented and the too-rapid heating of the water in the compartment 14 is avoided. As the water in the cold-water compartment 14 becomes heated more cold water may be supplied thereto, the overflow passing through the spout 11 back to the boiler again. The perforation in the apex 8' is to relieve the still of any excess of pressure due to a too-rapid generation of steam. By having the bounding walls of the chamber 9 conical or inclined the distilled or condensed water may readily flow to the discharge-nozzle 10.

During the operation of the still a small

quantity of condensed water will naturally collect around the lower edge of the roof 2 and eventually rise to the openings 4. Under ordinary circumstances the air-currents 5 passing through said openings will carry off mechanically any condensed water which might tend to flow out through said openings, and should the condensation become too rapid the openings may be closed completely by giving the sections a slight turn 10 about their common axis and destroying the register between the openings 4 and 4'.

It is of course apparent that minor changes may be resorted to without departing from 15 the spirit of my invention.

Having described my invention, what I claim is—

A still comprising a lower section or boiler, a conical roof for the same having a central 20 opening, the lower edge of the roof being disposed in a plane below the upper edge of the boiler, an upper section adapted to be coupled to the upper edge of the boiler, the two sections having openings or air-vents adapted 25 to register with one another, at a point above

the base of the roof of the lower section, a condensing-chamber in the upper section bounded by a lower and an upper conical wall substantially parallel thereto and separated by a suitable space therefrom, the upper wall 30 having a perforated apex, and the lower wall having a central opening located above the corresponding opening of the conical roof of the lower section, a cold-water compartment 35 formed in the upper section above the upper wall of the condensing-chamber, a pocket located on the outside of the boiler and communicating with the interior thereof, an overflow pipe or spout leading from the cold-water compartment and discharging into said 40 pocket, and a discharge-nozzle leading from the condensing-chamber, the parts operating substantially as, and for the purpose set forth.

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

ALBERT POWERS.

Witnesses:

EMIL STAREK,
GEO. L. BELFRY.