

(No Model.)

F. E. WALLACE.
DISTILLING APPARATUS.

No. 515,413.

Patented Feb. 27, 1894.

Fig 1

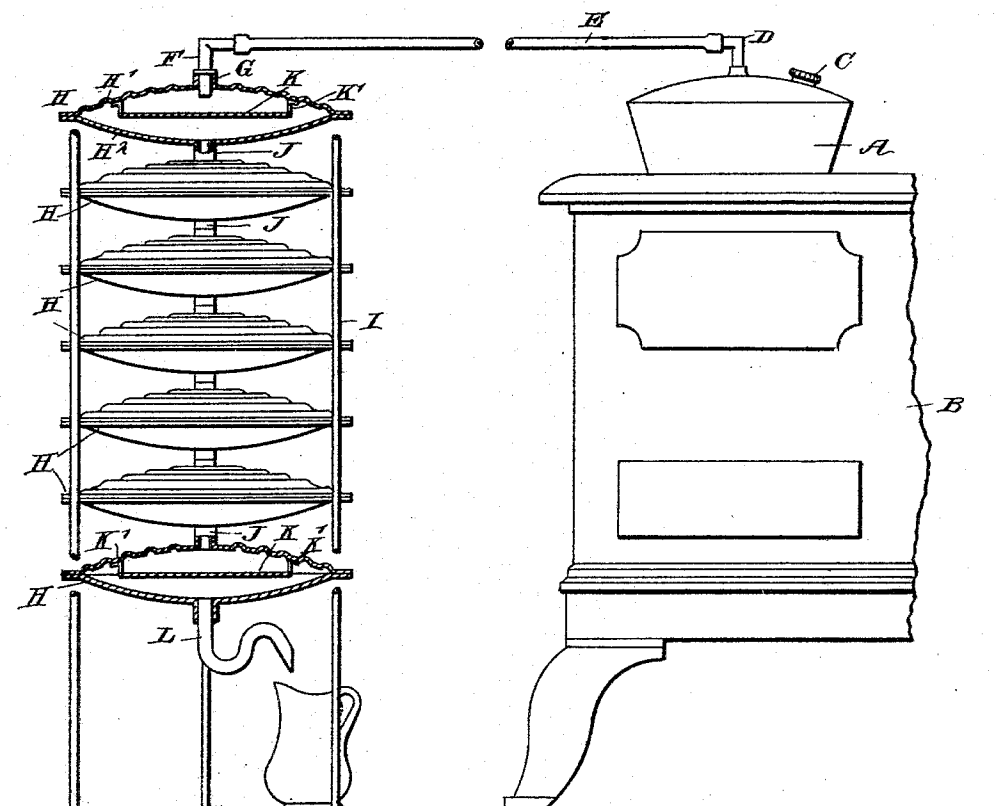
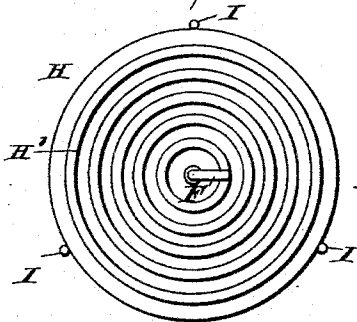


Fig 2



WITNESSES:

H. Walker
C. Seelgruber

INVENTOR

F. E. Wallace
BY *Munn & Co*

ATTORNEYS.

UNITED STATES PATENT OFFICE.

FRANK EDWARD WALLACE, OF EAST ORANGE, NEW JERSEY.

DISTILLING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 515,413, dated February 27, 1894.

Application filed April 26, 1893. Serial No. 471,890. (No model.)

To all whom it may concern:

Be it known that I, FRANK EDWARD WALLACE, of East Orange, in the county of Essex and State of New Jersey, have invented a new and Improved Distilling Apparatus, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved distilling apparatus, which is simple and durable in construction, very effective in operation, and more especially designed for household use, to conveniently purify the drinking water without elaborate distilling apparatus.

The invention consists of a series of centrally connected vessels located one above the other and all supported in a suitable frame, each vessel being provided with a water and steam distributing plate arranged centrally above the outlet of the vessel, one outermost vessel being connected with a boiler and the other being provided with a trap forming an outlet for the purified water.

The invention consists of certain parts and details and combinations of the same, as will be fully described hereinafter and then pointed out in the claim.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar letters of reference indicate corresponding parts in both the figures.

Figure 1 is a side elevation of the improvement with parts in section; and Fig. 2 is a plan view of the vessel.

The improved distilling apparatus is provided with a suitably constructed boiler A adapted to be placed on a kitchen range or stove B. The boiler A is provided with a suitable filling cap C, which, when removed, permits of filling the boiler in the usual manner. In the upper end of the boiler A is mounted to turn an outlet pipe D, connected by a horizontally extending pipe E, with an elbow F loosely fitted into the uppermost of a series of vessels H located one above the other, and all supported in a suitable frame I, preferably constructed of three posts, as illustrated in the drawings, adapted to be set on the floor in the immediate neighborhood of the range or stove B, in a convenient place within the room in which the said range is located. Each of the vessels H is formed of two dished plates

H' and H², connected with each other at their bases, on the outer edges of the plates, as is plainly indicated in the sectional part of Fig. 1, the uppermost of the plates being preferably corrugated so as to increase the condensing surface, while the lowermost of the plates is smooth and is connected in its middle or lowest part, by a pipe J, with the uppermost part of the top plate H' of the next following vessel H.

Within each of the vessels H is arranged a steam and water distributing plate K, connected by two or more arms K' with one of the plates H' or H², so as to support the said distributing plate K about midway between the plates H' and H², the edge of the said plate terminating a suitable distance from the meeting edges of the two plates H' and H². Each of the plates K is thus located above the outlet pipe J, so that steam or water entering the top of the vessel is distributed within the vessel by the said plate K, and then passes over the edge of the same into the lower part, to finally pass through the pipe J to the next following vessel, to be treated therein in the same manner as above described. The bottom plate of the lowermost vessel H is provided at its lowest point with an outwardly extending trap L, preferably made in the shape of an S-trap, for trapping the steam within the vessels and also for forming an outlet for the condensed and purified water. The outer end of the trap L freely discharges into a vessel set on the floor, as indicated in Fig. 1.

The operation is as follows: When the boiler A has been filled with water and the cap C again put in place to close the boiler, then the water in the boiler can be readily brought to a boiling point by the heat emanating from the range or stove B. The steam generated by the boiling water passes through the pipes D and E into the uppermost vessel H, at the top thereof, and then the steam passes in a downward direction through the several vessels, so that the steam falling condenses in its downward passage by coming in contact with the walls of the several vessels H. The water of condensation finally passes into the S-shaped trap L and flows out of the same at its outer end, into the vessel placed or held below the said trap.

It will be seen that this apparatus is very simple in construction, can be readily moved about, and conveniently set up in any part of the kitchen, so that the device can be conveniently used at any time, to purify the water, it being understood that germs and other living organisms contained in the water are destroyed by the formation of steam and the condensation of the same, as above described.

It will further be seen that the device can be very cheaply manufactured. The elbow F is free to turn in the top plate H' of the uppermost vessel H, so that the apparatus can be conveniently set up in any part of the room, in a radius the center of which is the pipe D.

It is understood that by distilling the water as above described, any impurities, such as vegetable matter, mineral substances, &c., are separated from the water.

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

A distilling apparatus comprising a boiler,

a series of superposed vessels, a steam pipe having pivotal connections with the said boiler and the uppermost of the said vessels, a series of vertical uprights forming an open cage or frame in which the said vessels are fastened, a central connection between the bottom of one vessel and the top of the next vessel below, a horizontal steam and water distributing plate located centrally in each of the vessels and out of contact with the walls thereof, the outer surfaces of the said vessels being in contact with the surrounding air to cool the said vessels and condense the steam therein, and a trap connected with the lowermost of the said vessels to retain the steam generated by the said boiler within the said vessels and to permit a free discharge of the water of condensation, substantially as shown and described.

FRANK EDWARD WALLACE.

Witnesses:

THEO. G. HOSTER,
C. SEDGWICK.