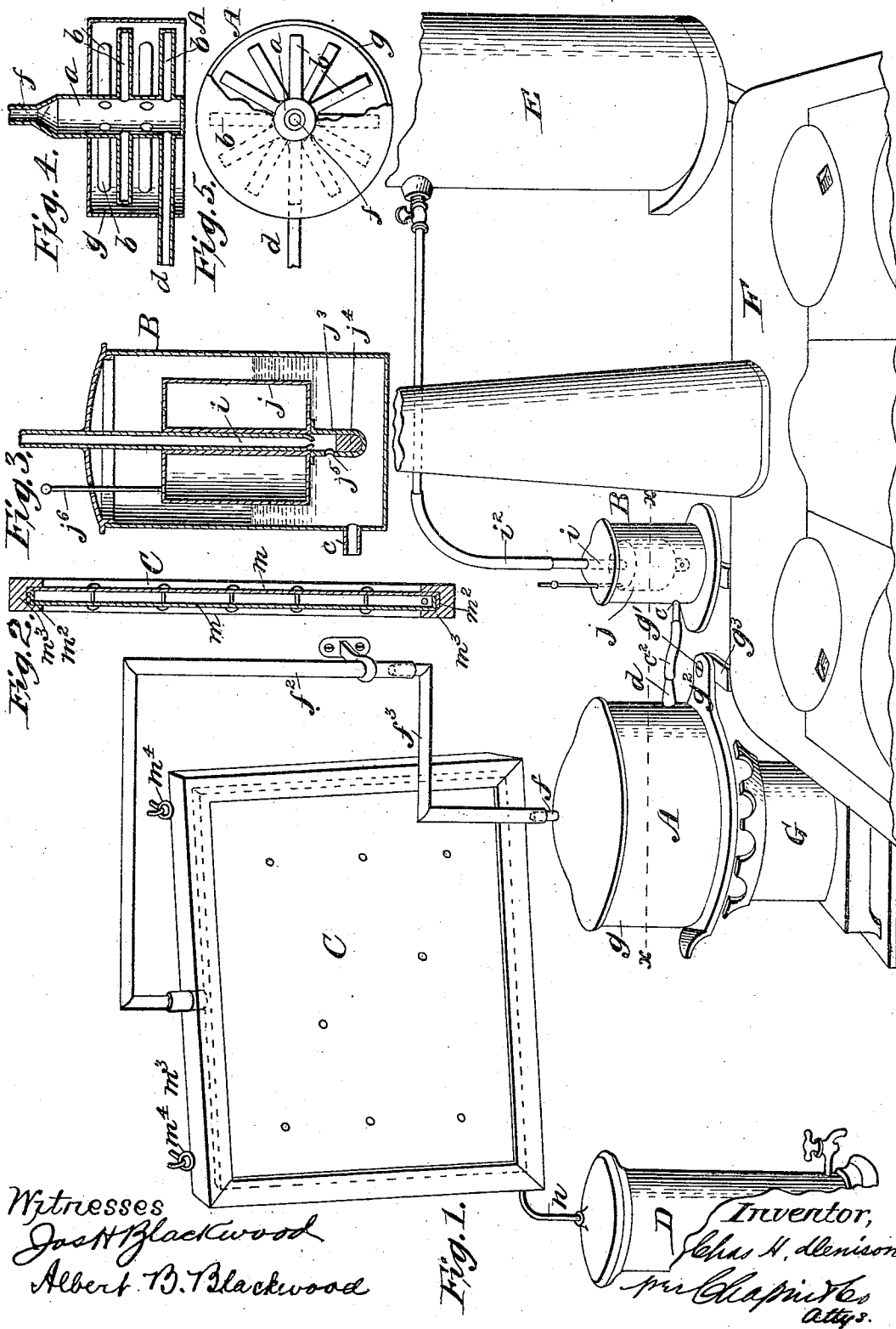


(No Model.)

C. H. DENISON
DISTILLING APPARATUS.

No. 511,730.

Patented Dec. 26, 1893.



UNITED STATES PATENT OFFICE.

CHARLES H. DENISON, OF SPRINGFIELD, MASSACHUSETTS, ASSIGNOR TO
ALBERT W. ALLEN, OF SAME PLACE.

DISTILLING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 511,730, dated December 26, 1893.

Application filed February 13, 1893. Serial No. 462,129. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. DENISON, a citizen of the United States, residing at Springfield, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Distilling Apparatus, of which the following is a specification.

This invention relates to improvements in a distilling apparatus which is more particularly designed for the distillation of the water employed in the family; and the object of the invention is to provide an apparatus of the character indicated which shall be simple and comparatively inexpensive, quite compact, and susceptible of an unobtrusive arrangement in the kitchen, and in such a manner as to be run by the stove or range, and yet not to interfere with the use of the latter for the ordinary domestic purposes as necessary.

To these ends the invention consists in the combinations or arrangements of parts, and the construction of certain of the parts, all substantially as will hereinafter appear and be set forth in the claim.

In the drawings, Figure 1 is a perspective view of the distilling apparatus as arranged in relation to a stove or range having a hot water tank connected therewith and heated thereby. Fig. 2 is a horizontal section across the condenser. Fig. 3 is a central vertical section of the regulator. Fig. 4 is a central vertical section of the vaporizer, and Fig. 5 is a partial plan and partial horizontal section of the latter.

In the drawings, A represents the vaporizer, B the regulator, C the condenser, and D the receiver for the distilled water or liquid. In this arrangement the source of the liquid supply is the hot water tank, E, connected in the usual way with the range indicated at F.

The vaporizer, as I prefer to construct it, consists of a vertical tubular or cylindrical body, *a*, closed at its bottom and having radiating endwise-closed limbs, *b*. The supply pipe, *d*, leads into the bottom of this body, and from the top thereof leads the pipe section, *f*, which ultimately has communication with the condenser. The vaporizer has the cylindrical inclosure, *g*, covering the top and all sides but open at its bottom, so that when the vaporizer is set over the uncovered stove-

hole, or over the supplemental heater, G,—which may be a gas, oil, or alcohol stove, located near the stove or range,—the liquid in the body and arms of the vaporizer will be fully subject to the products of combustion.

The casing for the vaporizer at its lower portion has the lug, *g*², which as seen at *g*¹, is pivotally connected to a lug or bracket, *g*³, at the rear side of the range and above and in vertical axial alignment with this pivotal connection is a suitably sustained vertical pipe section, *f*², which has, from its upper end, the horizontal and then downward continuation to connection with the top of the condenser.

The elbow pipe section, *f*³, acts both as a tubular connection and a swinging radius arm between the tubular vaporizer-body and the pipe-section, *f*², so that the vaporizer may be swung over the range or off therefrom to be over the supplemental heater, G.

The regulator has its height corresponding to that of the vaporizer and automatically insures the passage from the hot water tank, E, of enough water to maintain the desired water-level in the vaporizer.

The line, *x—x* in Fig. 1 indicates the water-level which is uniform in both the vaporizer and regulator.

The regulator, B, comprises a cylindrical casing with a rigid tube, *i*, extended there-within from the top to a suitable distance above the bottom, and the tube has its upper end in connection with the pipe, *i*², which leads from the hot water tank at a suitably elevated point thereof to insure proper "head." The regulator, furthermore, comprises the cylindrical or annular chambered float, the central aperture of which has a free sliding fit upon the said depending tube, *i*. The float has the depending cup-formed part, *j*³, with the compressible stoppering material, *j*⁴, as cork or rubber, in its bottom, and the outlet aperture, *j*⁵, through its side above the said material.

The regulator casing has an outlet tube *c* which connects with the aforesaid inlet tube, *d*, of the vaporizer by the flexible tube, *c*². Manifestly, as the water level in the vaporizer lowers, water in replacement will be drawn thereinto from the regulator chamber lowering the level in the latter; the float, lower-

ing, will carry the stoppering material, j^4 , away from its closing relation to the lower end of the guide and inlet tube, i , and water will flow into the regulator chamber until the normal height is reached when such water ingress will cease. The float has the rod, j^6 , connected thereto and vertically extended above its top and through an opening therefor in the top of the regulator casing. This rod serves as an indicator whereby may be known at what height in the vaporizer and regulator the water is being maintained.

The condenser consists of two broad, flat sheets, m , m , of suitable metal, as copper or zinc, with their inner sides tinned, and with their edges angularly turned and engaged the one with the other, as seen at m^2 , Fig. 2, the joint being furthermore completed by soldering; this condenser may be placed in a frame, m^8 , and may be suspended as a picture, at any suitable out-of-the-way place. As shown ring-eyes, m^4 , are affixed at the top of the frame and the condenser supported on the

wall by hooks. The condenser is placed edge-wise inclined and from its lower corner the pipe, n , leads to the receiver, D.

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

In a distilling apparatus, the combination with a stove or range and a supplemental heater adjacent thereto, of a vaporizer having a pivotal support whereby it may be swung from over the one to the other of said heaters, a pipe section vertically extended from the vaporizer, a condenser and another pipe connected therewith and having a vertical portion thereof in axial alignment with the aforesaid pivot, and a horizontal pipe section uniting said vertical sections, substantially as set forth.

CHARLES H. DENISON.

Witnesses:

WM. S. BELLOWES,
K. I. CLEMONS.