

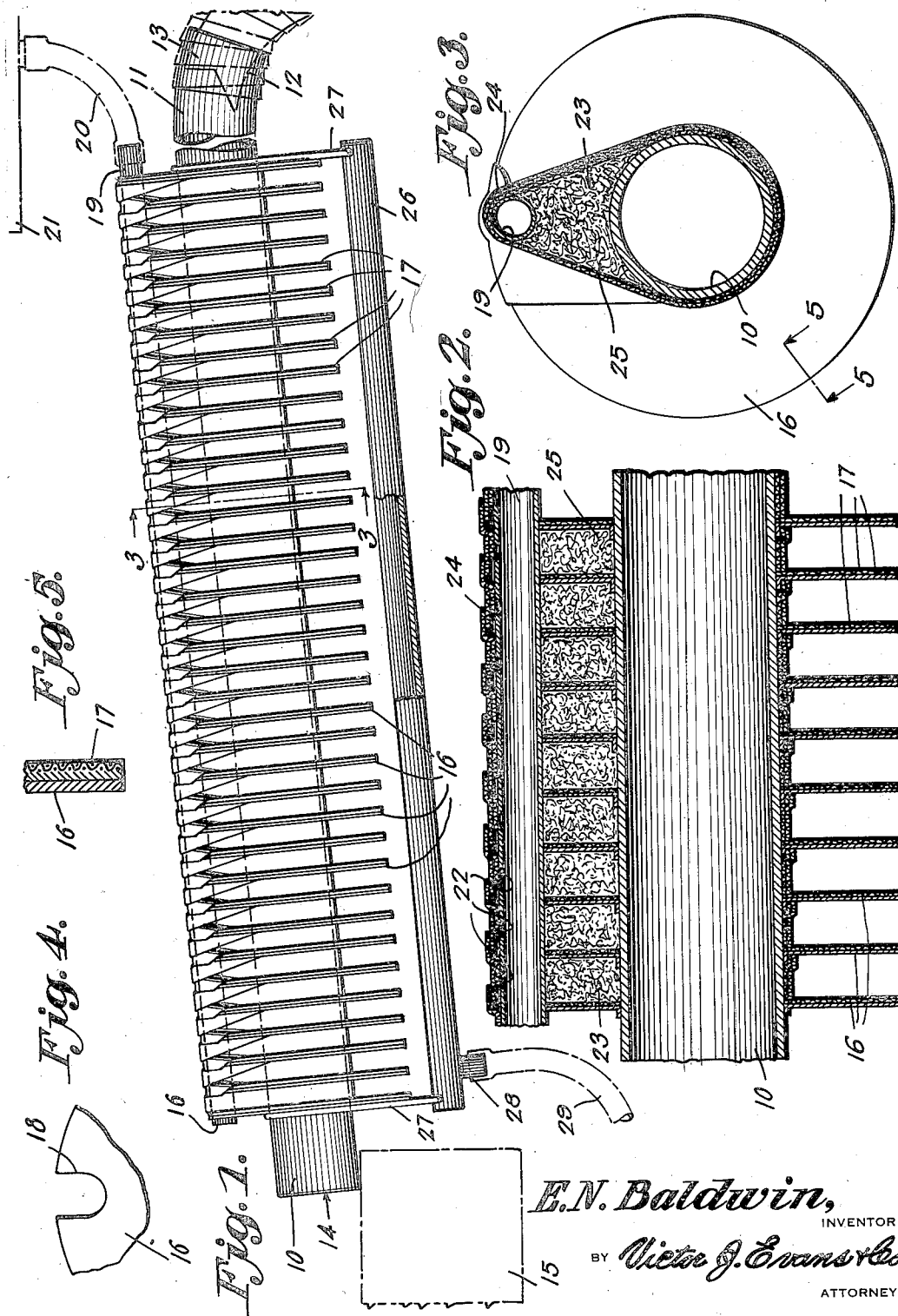
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CONDENSER

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CONDENSER

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7 Claims. (Cl. 257—35)

The invention relates to condensers and more especially to distillation units.

The primary object of the invention is the provision of a unit of this character, wherein the same permits distillation, as of water or other liquids, and is applicable to any ordinary kitchen utensil, such as a tea kettle, coffee pot or other container for the liquid to be distilled and will assure rapid distillation.

Another object of the invention is the provision of a unit of this character, wherein a cooling liquid is circulated about a condenser tube or conduit the circulation being effected in a novel manner, the unit being especially adapted for use by tourists or in camps, so that water to be drunk can be distilled for the purifying thereof, the distillation being effected with rapidity and without resorting to a complicated method or apparatus, the unit being compact and readily portable and applicable to an ordinary kitchen utensil having a pouring spout.

A further object of the invention is the provision of a unit of this character which is extremely simple in its construction, thoroughly reliable and efficient in its operation, possessing but few parts, yet strong, durable, and inexpensive to manufacture.

With these and other objects in view, the invention consists in the features of construction, combination and arrangement of parts as will be hereinafter more fully described in detail, illustrated in the accompanying drawing, which discloses the preferred embodiment of the invention, and pointed out in the claims hereunto appended.

In the accompanying drawing:

Figure 1 is an elevation of a unit constructed in accordance with the elevation and applicable to the spout of a tea kettle, a portion of the unit being in section.

Figure 2 is an enlarged fragmentary longitudinal sectional view through the unit.

Figure 3 is an enlarged sectional view taken on the line 3—3 of Figure 1 looking in the direction of the arrows.

Figure 4 is a fragmentary plan view of one of the heat radiating fins.

Figure 5 is a fragmentary vertical sectional view through one of the fins showing in detail a face covering thereon and taken on the line 5—5 of Figure 3 looking in the direction of the arrows.

Similar reference characters indicate corresponding parts throughout the several views in the drawing.

Referring to the drawing in detail, the condenser comprises a tubular condensing conduit 10, preferably made from aluminum and of uniform cross-sectional size throughout its extent, having at one end a curved spout-receiving portion 11 which is designed to telescope partially onto the pouring spout 12 of a kitchen utensil, as for example, a tea kettle, and this portion 11 is sealed with the spout 12 through the medium of wrappings 13 of a cloth or fabricated tape. The conduit 10 is inclined from the portion 11 which is telescoped onto the spout 12 and its lower opposite end 14 overhangs a suitable receptacle, a portion of which is indicated at 15, for the trapping of the distilled liquid, such as water, conditioned for drinking purposes.

Encircling the conduit 10 in spaced distributed relation is a series of heat radiating disks or fins 16, these being circular in formation and centrally opened for the snug accommodation of the conduit 10 and to be directly carried thereby.

Each disk or fin 16 on its face confronting the disk or fin next thereto carries an absorbent fabric pad 17, it being made to adhere to the said disk or fin 16 and of a like size thereto. The disks or fins 16 are preferably made from sheet copper.

The disks or fins 16 in the series, at their uppermost points, are formed with notches 18 constituting seats for a water supply tube 19, which follows the incline of the conduit 10, and at the higher end thereof has communication through the medium of a flexible hose 20 with a water supply tank 21 which is adjustable for varying the elevation thereof, only a portion of the tank being shown. The tube 19, at the top area thereof, has provided therein holes or apertures 22, while the lower end of this tube is permanently closed so that water delivered thereinto from the tank 21 will be dissipated through the holes or apertures 22 for the trickling thereof into reservoirs 23 formed between the disks or fins 16 by a continuous double wrapping of a cloth tape 24 about the conduit 10 and tube 19, between the respective disks or fins 16 of the series, the said tube 19 is held in place by this tape 24. The reservoirs 23 are filled with absorbent cotton 25, so that water trickling from the tube 19 will be absorbed by said cotton 25 and spread throughout the pads 17 covering the respective disks or fins 16 and thus the water distribution functions to cool the fins and thereby effect condensation of the steam emitted from the spout 14 into said conduit 10 for the distillation of the contents of the tea kettle, so that such contents can be con-

ditioned for drinking purposes when received in the receptacle 15.

Arranged below the disks or fins 16 and coextensive with the series thereof is a catch trough 26, the same being suspended by hangers 27 from the conduit 10 and the purpose of this trough is to trap excess cooling liquid, such as water, from the tube 19. The trough 26 has a discharge nipple 28 at its lowermost end to which is connected a drain pipe 29 leading to any point of deposit.

It is needless to describe in detail the working of the unit because it should be apparent that the water to be distilled is placed within the tea kettle and the latter is applied to a flame for the boiling of the contents of this kettle and the steam or vapors will flow through the spout 12 into the condensing conduit 10 where condensation takes place resultant from the cooling action of the water delivered from the tank 21 through the tube 19 and distributed between the disks or fins 16, the water within the conduit, of course, being cooled and rapid condensation resulting, whence the distilled water from the kettle is gravitated into the receptacle 15 where it can be utilized for drinking purposes.

The unit is especially adapted for household use, or for tourists, or at camps, the same being readily portable and conveniently applicable to kitchen utensils having pouring spouts.

What is claimed is:

1. A condenser unit of the character described comprising a condensing conduit adapted to be disposed at an inclination and connected with the pouring spout of a kitchen utensil, a plurality of heat radiating fins spaced upon said conduit and entirely about the same, a water supply tube above the conduit fitted into slots in said fins for distribution of cold water therebetween, and absorbent cotton filled reservoirs located between the tube and said conduit.

2. A condenser unit of the character described comprising a condensing conduit adapted to be disposed at an inclination and connected to the pouring spout of a kitchen utensil, a plurality of heat radiating fins spaced upon said conduit and entirely about the same, a water supply tube above the conduit fitted into slots in said fins for distribution of cold water therebetween, absorbent cotton filled reservoirs located between the tube and said conduit, and means for feeding cold water to the tube.

3. A condenser unit of the character described comprising a condensing conduit adapted to be disposed at an inclination and connected to the pouring spout of a kitchen utensil, a plurality of heat radiating fins spaced upon said conduit and entirely about the same, a water supply tube above the conduit fitted into slots in said fins for distribution of cold water therebetween, absorbent cotton filled reservoirs located between the tube and said conduit, means for feeding cold water to the tube, and a taping wound about the conduit and tube and forming the reservoirs for the absorbent cotton.

4. A condenser unit of the character described comprising a condensing conduit adapted to be disposed at an inclination and connected to the pouring spout of a kitchen utensil, a plurality of heat radiating fins spaced upon said conduit and entirely about the same, a water supply tube above the conduit fitted into slots in said fins for distribution of cold water therebetween, absorbent cotton filled reservoirs located between the tube and said conduit, means for feeding cold water to the tube, a taping wound about the conduit and tube and forming the reservoirs for the absorbent cotton, and absorbent facings on the fins.

5. A condenser unit of the character described comprising a condensing conduit adapted to be disposed at an inclination and connected with the pouring spout of a kitchen utensil, a plurality of heat radiating fins spaced upon said conduit and entirely about the same, a water supply tube above the conduit fitted into slots in said fins for distribution of cold water therebetween, absorbent cotton filled reservoirs located between the tube and said conduit, means for feeding cold water to the tube, a taping wound about the conduit and tube and forming the reservoirs for the absorbent cotton, and absorbent facings on the fins, the facing on each fin being disposed in confronting relation to an adjacent fin.

6. A condenser unit of the character described comprising a condensing conduit adapted to be disposed at an inclination and connected to the pouring spout of a kitchen utensil, a plurality of heat radiating fins spaced upon said conduit and entirely about the same, a water supply tube above the conduit fitted into slots in said fins for distribution of cold water therebetween, absorbent cotton filled reservoirs located between the tube and said conduit, means for feeding cold water to the tube, a taping wound about the conduit and tube and forming the reservoirs for the absorbent cotton, absorbent facings on the fins, the facing on each fin being disposed in confronting relation to an adjacent fin, and a catch trough below the fins.

7. A condenser unit of the character described comprising a condensing conduit adapted to be disposed at an inclination and connected with the pouring spout of a kitchen utensil, a plurality of heat radiating fins spaced upon said conduit and entirely about the same, a water supply tube above the conduit fitted into slots in said fins for distribution of cold water therebetween, absorbent cotton filled reservoirs located between the tube and said conduit, means for feeding cold water to the tube, a taping wound about the conduit and tube and forming the reservoirs for the absorbent cotton, absorbent facings on the fins, the facing on each fin being disposed in confronting relation to an adjacent fin, a catch trough below the fins, and means fitted on the conduit for suspending the said trough below said fins.

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