June 12, 1934. L. BARRETT 1,963,012

PERCOLATING UNIT

Filed Jan. 25, 1933

Fig. 1.

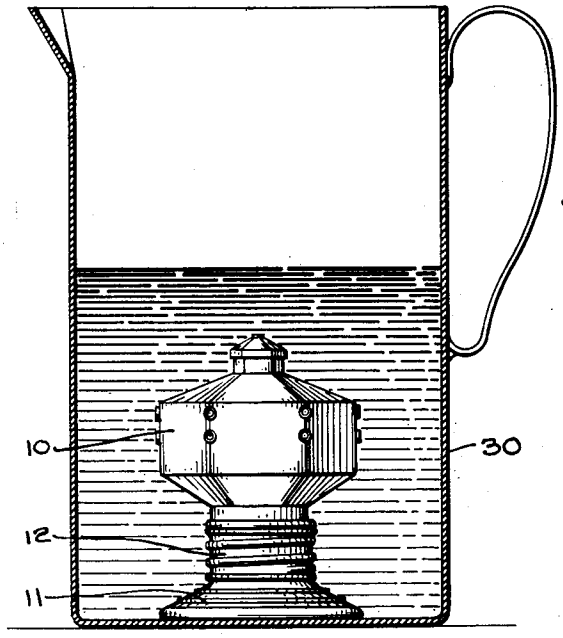


Fig. 2.

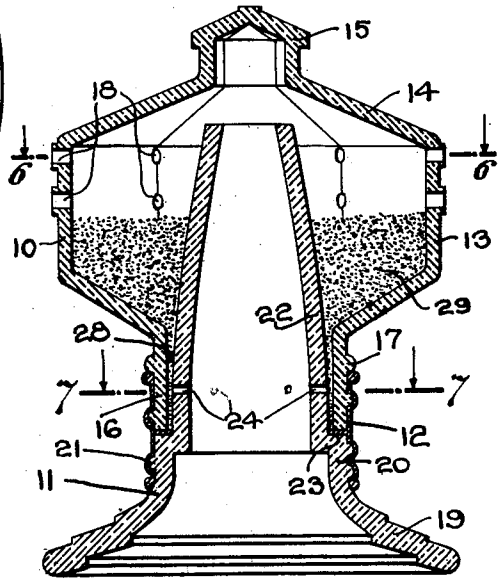


Fig. 3.

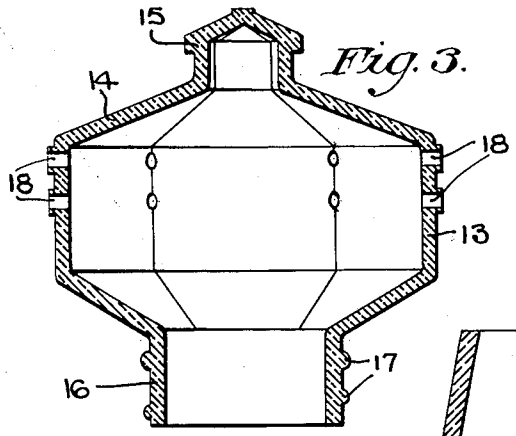


Fig. 6.

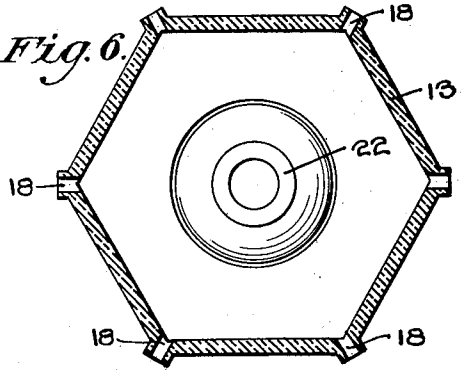


Fig. 5.

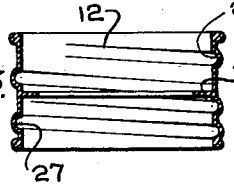


Fig. 4.

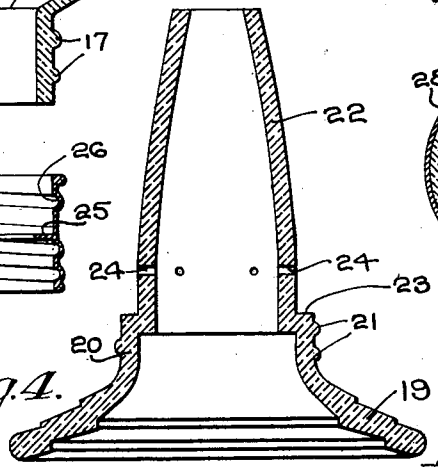
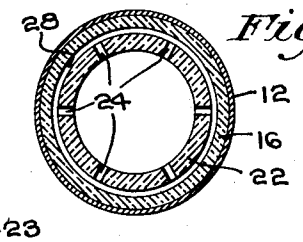


Fig. 7.



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Patented June 12, 1934 1,963,012

UNITED STATES PATENT OFFICE

1,963,012

PERCOLATING UNIT

Leon Barrett, Philadelphia, Pa.

Application January 25, 1933, Serial No. 653,360

5 Claims. (Cl. 53—3)

This invention relates to percolating units for use in making beverages such as coffee and tea, it being among the principal objects of the present invention to provide a percolating unit of such improved design and construction as to permit the most effective extraction of the juices and flavors from the coffee, tea or other such products.

Further objects of the invention are to provide a percolating unit which is adapted for use in any receptacle or vessel in which the liquid employed may be boiled; to provide a percolating unit which may be readily removed from the liquid receptacle when the brew is of the desired strength and flavor; to provide a percolating unit wherein provision is had for extracting to maximum degree the aromatic essences of the coffee with just sufficient of the bitter essences thereof to produce a beverage of the correct taste, flavor and consistency; to provide a percolating unit constructed practically entirely of glass or other such material so as to enable its being thoroughly cleaned; as well as to provide a percolating unit having a minimum number of parts thereby rendering the same exceedingly simple in construction and inexpensive to manufacture.

Other objects of the invention and advantages resulting from the use thereof will appear more fully hereinafter.

The invention consists substantially in the combination, construction, location and relative arrangement of parts, all as will be described more fully hereinafter, as shown in the accompanying drawing and as finally pointed out in the appended claims.

In the said accompanying drawing wherein is illustrated a preferred embodiment of the invention:—

Figure 1 is an elevational view of the percolating unit shown operatively disposed within a vessel or container in which the beverage is to be brewed;

Figure 2 is a vertical sectional view of the assembled percolating unit;

Figure 3 is a vertical sectional view of the upper element or head of the unit;

Figure 4 is a vertical sectional view of the bottom element or stem of the unit;

Figure 5 is a vertical sectional view of the connect ring; and

Figures 6 and 7 are horizontal sectional views taken respectively on the lines 6—6 and 7—7 of Figure 2.

Referring now more particularly to the drawing, it will be observed that the percolating unit as constructed in accordance with the principles of the present invention generally comprises an upper member or head 10 and a lower member or stem 11, both of these members being preferably constructed entirely of glass or other such material as readily enables them to be easily cleaned and kept clean. The members 10 and 11 are adapted to be secured together in the assembled relation shown in Figures 1 and 2 by means of a connecting ring or collar 12, all in a manner which will be described more fully hereinafter. There are no other parts to the percolating unit.

The upper member or head 10 of the percolating unit, as appears most clearly in Figures 2 and 3, is generally in the form of a bulbous body 13, the top of which is completely closed by means of an integrally formed top member 14 having a centrally raised portion 15, the bottom of the body 13 being provided with a downwardly presenting tubular neck 16, the said neck 16 having suitably formed in the external surface thereof a spirally extending bead 17. Although the bulbous body 13 may be of any desired configuration, it has been found preferable to form it of hexagonal shape when viewed in horizontal cross-section as appears most clearly in Figure 6. Formed in the side wall of the bulbous body adjacent the upper edge thereof are a plurality of circumferentially spaced apertures 18, these apertures being preferably disposed in vertically arranged pairs thereof. While it has been found preferable to so arrange these apertures 18, it will be understood, of course, that the circumferentially spaced apertures of the upper set thereof may be respectively offset circumferentially from the lower set of apertures. From the manufacturing standpoint, it has been found most expedient to locate the apertures 18 substantially in the corners of the hexagonally-shaped bulbous body 13, although it will be understood that the apertures 18 may be located otherwise than as shown in the drawing.

The lower member or stem 11 of the percolating unit generally consists of a base 19 of circular form, the wall of which is inclined inwardly and thence vertically upwardly, as at 20, the external surface of this vertically extending portion 20 being provided with a spirally extending bead 21. Formed as an integral part of the base 19 and extending upwardly from the upper end of the portion 20 thereof is a tubular stem 22 of gradually decreasing diameter toward the

upper extremity thereof. Formed at the juncture between the vertically extending portion 20 of the base 19 and the bottom end of the tubular stem 22 is a circumferentially extending shoulder 23, it being observed, as appears most clearly in Figure 2, that the collar 16 of the member 10 is adapted to rest upon this shoulder 23 in such manner as to present said collar 16 and the vertically extending portion 20 of the base 19 in substantial vertical alignment. For a purpose which will be apparent immediately hereinafter, the stem 22 of the member 11 is provided in the bottom portion thereof with a plurality of circumferentially spaced apertures 24.

The members 10 and 11 are quick-detachably secured together in the assembled relation shown in Figure 2 by means of the annular connecting ring or collar 12, it being observed that this collar is provided intermediately of the opposite ends thereof with an internal annular flange 25 and that the wall of the collar to either side of this internal flange is spirally grooved, as at 26 and 27, these spiral grooves being respectively adapted to receive the spiral beads 17 and 21 of the members 10 and 11. In other words, the section 20 of the lower member 11 is adapted to be threaded into the spiral groove 27 of the ring 12, while the neck 16 of the upper member 10 is adapted to be threaded into the spiral groove 26 of said ring or collar, the latter serving thus to secure the members 10 and 11 together. The flange 25 of the connecting ring is received between and serves as an effective seal between the proximate ends of the neck 16 of the member 10 and the section 20 of the member 11.

When the members 10 and 11 are assembled in the manner just described, it will be observed that the tubular stem 22 projects upwardly into the interior of the bulbous body 13 of the member 10 to a point just below the top thereof and above the plane of the uppermost apertures 18. It will also be observed that the external diameter of the bottom portion of the tubular stem 22 is slightly less than the internal diameter of the neck 16 so as to provide an annular space 28 between these parts. The ground coffee or the like of which the beverage is to be made is designated by the reference numeral 29, it being noted that this material is received within the annular compartment formed between the walls of the member 10 and the tubular stem 22. If coffee is to be brewed, the coffee particles are of sufficient quantity to approximately reach the level of the lowermost set of apertures 18, the tubular stem 22 being thus extended well beyond the upper surface of the ground coffee. It will be understood that in order to fill or empty the unit it is merely necessary to threadedly disengage either of the members 10 or 11 from the connecting ring 12.

In the use of the percolating unit just described, any type of liquid receptacle, such as the pot 30, may be employed, it being merely necessary that this receptacle be adapted to contain a quantity of liquid sufficient to reach at least the level of the apertures 18 of the unit. In other words, it is not necessary that the liquid in the receptacle cover entirely the percolating unit, although it is so shown in Figure 1. The filled or partially filled receptacle, with the percolating unit disposed therein, is placed over any suitable source of heat to effect the necessary boiling of the liquid. As the liquid in the receptacle 30 reaches the boiling point, the steam or vapor generated passes upwardly through the tubular stem 22 and into the head of the percolating unit wherein it is immediately condensed upon striking the top surface of the body 13, the resulting water of condensation dropping upon the coffee particles and percolating therethrough for final emergence through the bottom apertures 24.

The foregoing action is effected immediately prior to the actual boiling of the liquid and effects the immediate liberation and extraction of the more highly volatile aromatic essences of the coffee particles. As this action continues a pressure head is built up in the body 13 in consequence of which the liquid, as it finally reaches the boiling point, is forced radially outwardly of the body 13 through the apertures 18 carrying with it not only the aromatic essences but also the bitter essences of the coffee. It is these latter essences which determine the strength of the coffee and inasmuch as they are extracted from the coffee particles and injected into the liquid in which the percolating unit is immersed only during the period of boiling of the liquid, it will be apparent that the strength of the brew may be varied by varying the length of boiling time.

Due to the pressure head which is built up in the body 13, it is not possible for the liquid to pass into the body by way of the apertures 18 in consequence of which the coffee particles are not rendered soggy and are not caused to be more or less tightly packed together. On the contrary, by reason of the constant outward projection of the liquid and steam from within the interior of the body 13, the coffee particles are maintained more or less in a state of constant agitation, thus insuring a rapid and complete extraction of the desired essences of the coffee or the like.

It will be understood, of course, that the invention is susceptible of various changes and modifications from time to time without departing from the real spirit or general principles thereof and it is accordingly intended to claim the same broadly, as well as specifically, as indicated by the appended claims.

What is claimed as new and useful is:—

1. In a percolating unit of the character described, in combination, a hollow base member having an upstanding tubular stem the upper section of which is imperforated, and a bulbous body member adapted for quick-detachable engagement with said base member and into the interior of which the imperforate section of the stem of the latter is adapted to be projected whereby to provide an annular compartment between the walls of said bulbous body member and the imperforate section of said tubular stem for receiving the coffee grounds or the like, the wall of said bulbous body member being provided in the upper portion thereof with a plurality of circumferentially spaced apertures.

2. In a percolating unit of the character described, in combination, a main body member substantially in the form of a bulb and provided with a downwardly projecting neck in the bottom thereof, the base member having an upwardly projecting tubular stem adapted for projection through said neck and into the interior of said bulbous body, and means for quick-detachably connecting said neck to said base member whereby to maintain said bulbous body and said base member in assembled relation, the portion of said stem which is embraced by said

neck being spaced from the latter and provided with a plurality of circumferentially spaced apertures therein, while the portion of the stem projecting above said neck is substantially imperforate.

3. In a percolating unit of the character described, in combination, a pair of members adapted to be quick-detachably connected together to provide a compartment for receiving ground coffee or the like, one of said members being substantially in the form of a bulbous body fashioned in one piece of glass and the other of said members being provided with a tubular stem having an imperforate section adapted to project into the interior of said bulbous body, the latter being provided solely in the upper portion of the wall thereof with a plurality of circumferentially spaced apertures.

4. In a percolating unit of the character described, in combination, a hollow base member of glass having a vertically extending tubular stem, a one-piece receiver of glass for coffee grounds or the like the top and side walls of which are closed and the bottom wall of which is provided with an opening through which said stem is adapted to be projected into the interior of said receiver, the walls of said receiver being provided solely in the upper portion thereof with a plurality of circumferentially spaced apertures, and means for quick-detachably securing said base member and receiver in assembled relation.

5. In a percolating unit of the character described, in combination, a receiver for coffee grounds or the like substantially in the form of a one-piece bulbous body of glass having a plurality of circumferentially spaced apertures in the upper portion of the wall thereof, said body being provided with a closed top and an opening in the bottom thereof whereby said body constitutes a pressure head for generated steam or vapor, a hollow base member having a tubular stem adapted to be projected upwardly through said opening in the bottom of the receiver whereby to provide an annular compartment between the walls of said receiver and said stem within which the coffee grounds or the like are adapted to be received, the wall of said tubular stem being substantially imperforate throughout the major extent thereof whereby to insure the passage of the generated steam or vapor upwardly therethrough for escape into the interior of said receiver solely at a point above the level of the coffee grounds or the like contained therein, and means for quick-detachably connecting said receiver and base member together.

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