G. E. SAVAGE.

PERCOLATING DEVICE.

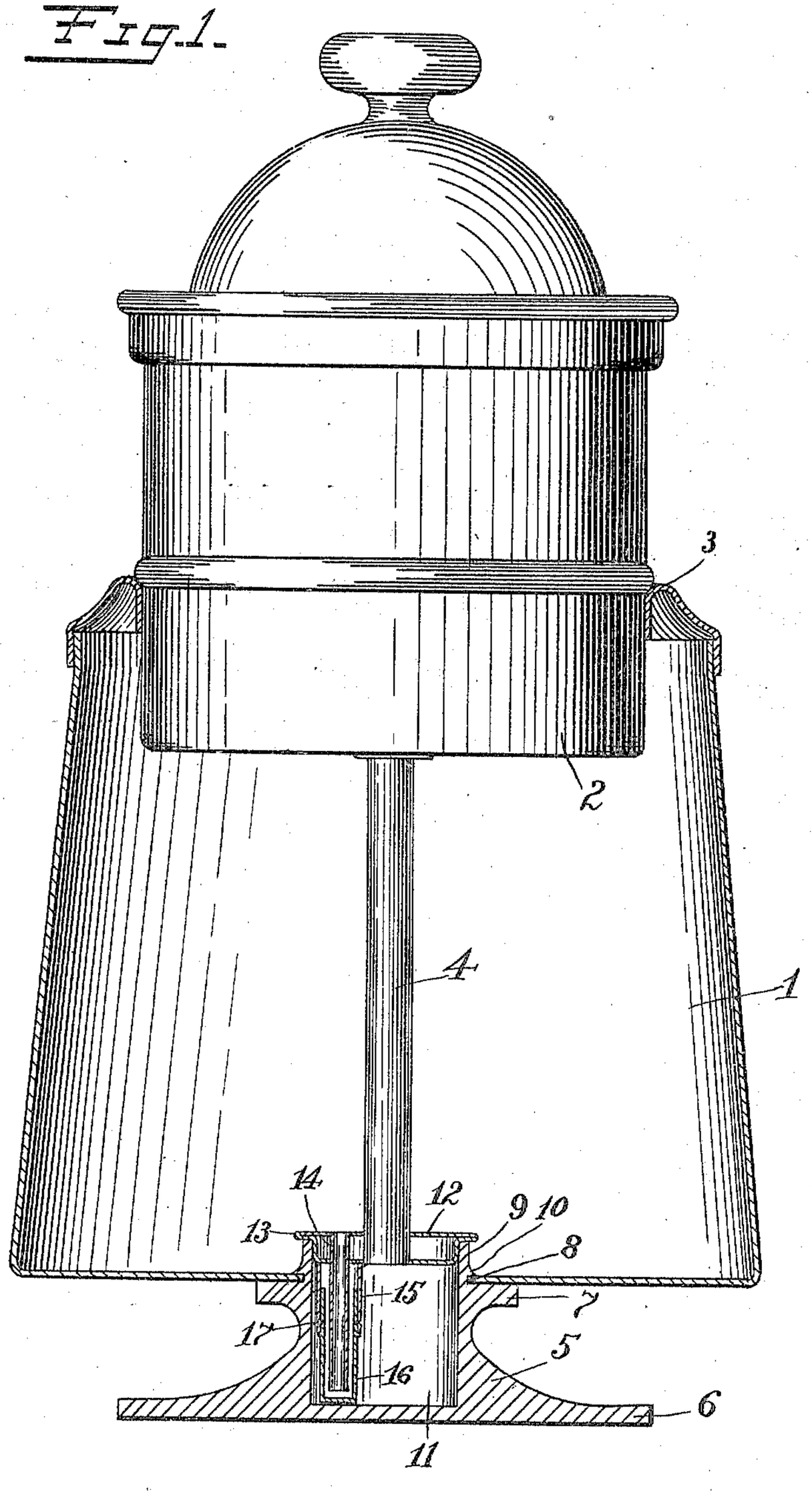
APPLICATION FILED JULY 8, 1909.

951,581.

Patented Mar. 8, 1910.

3 SHEETS—SHEET 1.

Fig. 1.



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3 SHEETS—SHEET 2.

Fig. 2.

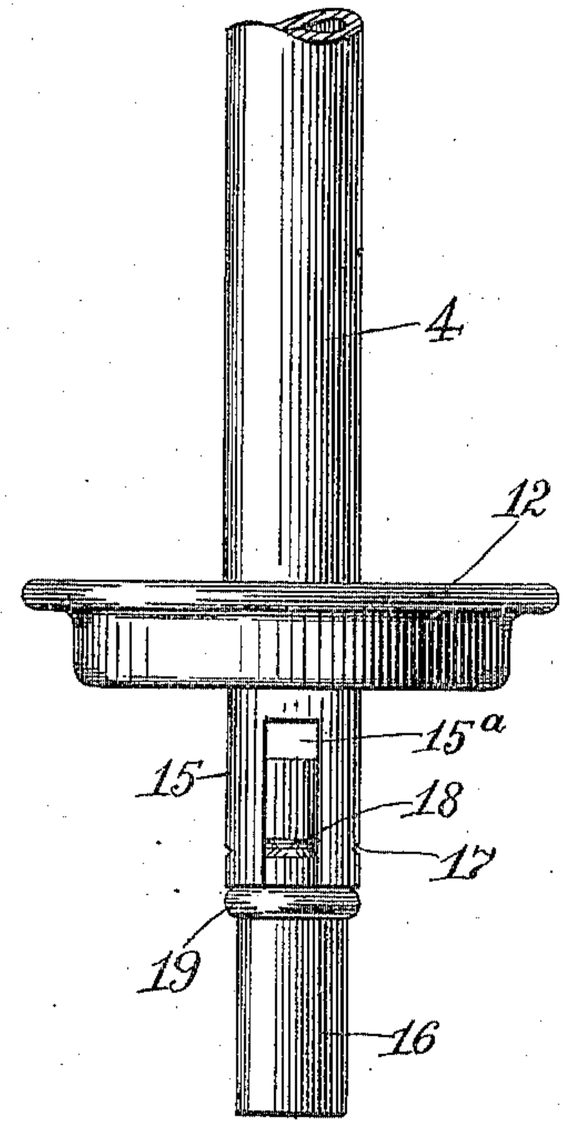


Fig. 5.

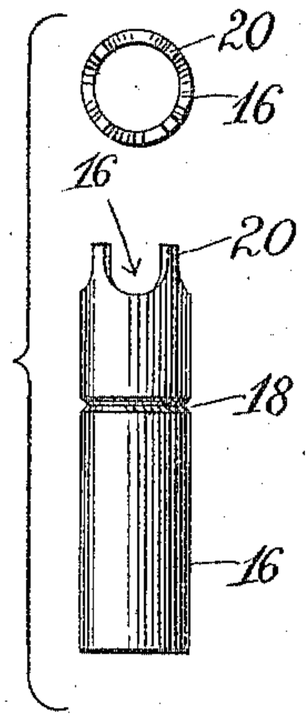


Fig. 3.

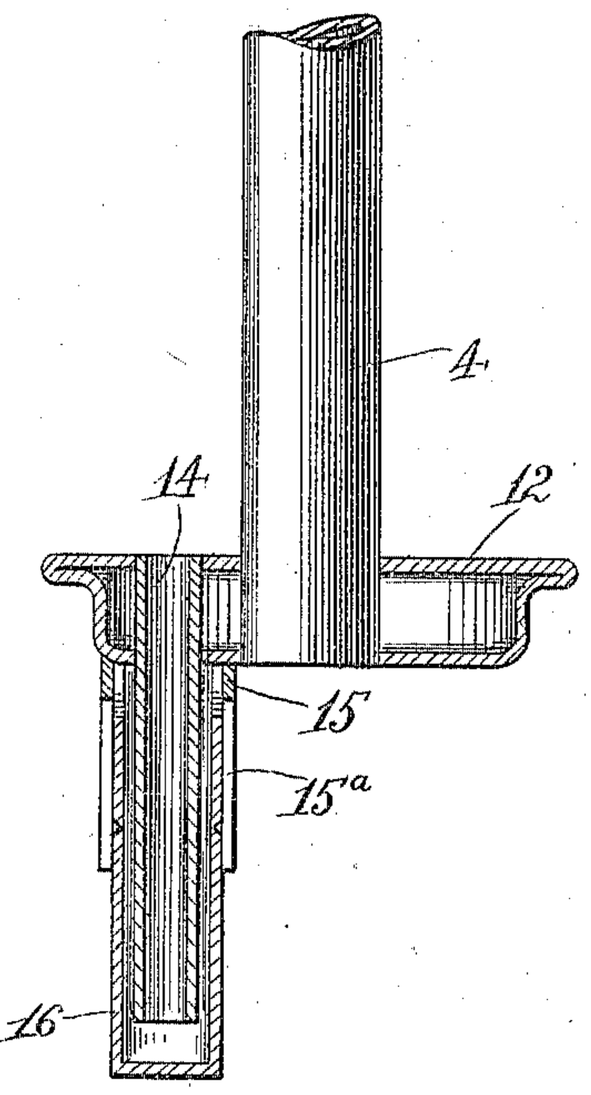
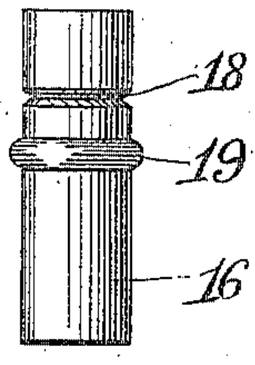


Fig. 4.



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3 SHEETS—SHEET 3.

Fig. 6.

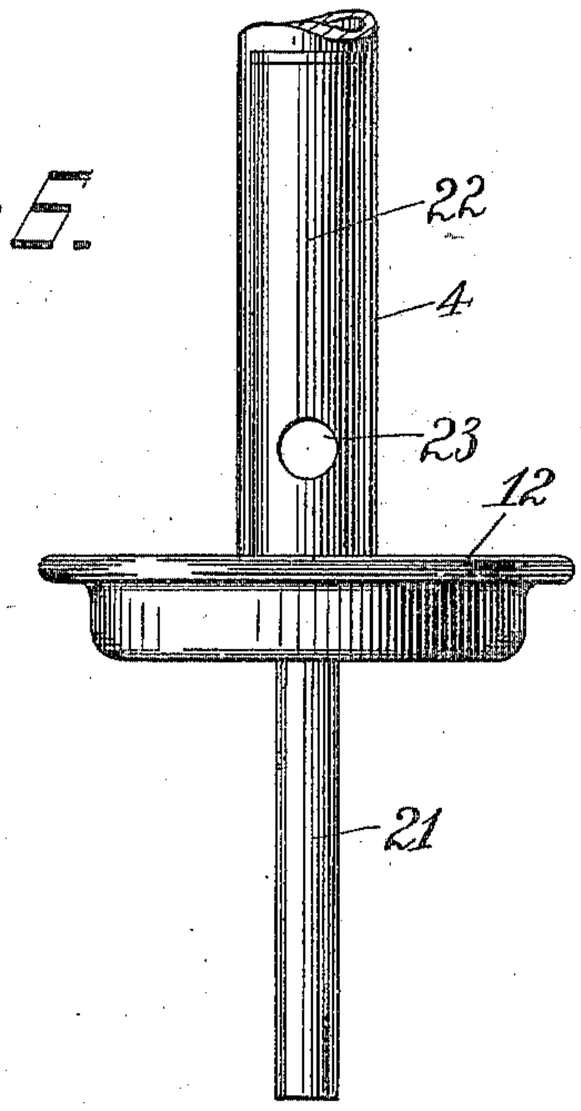


Fig. 7.

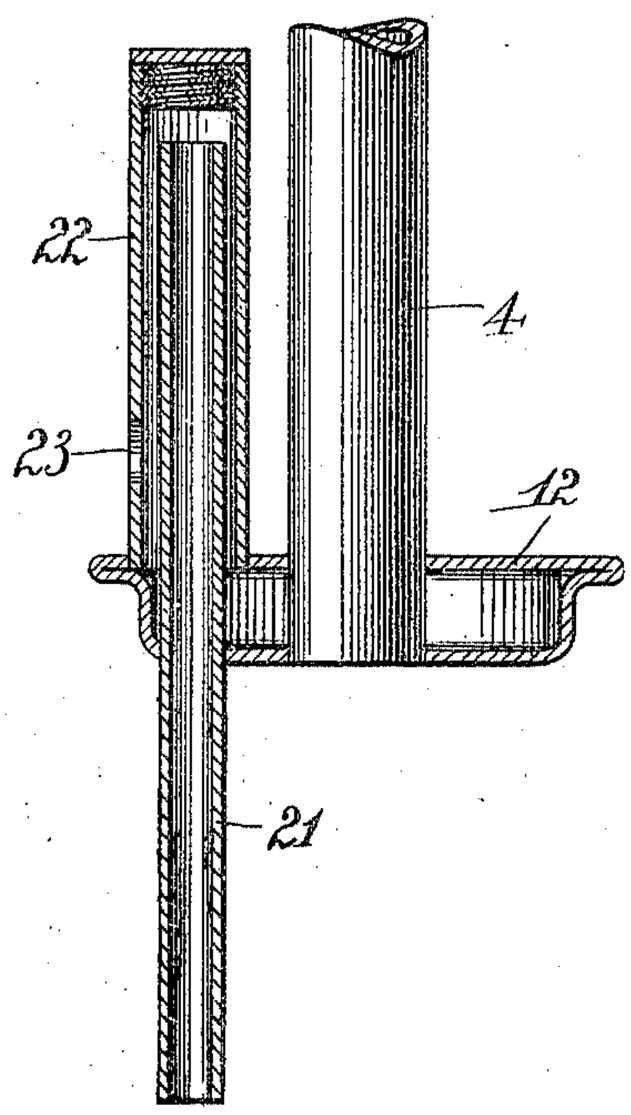
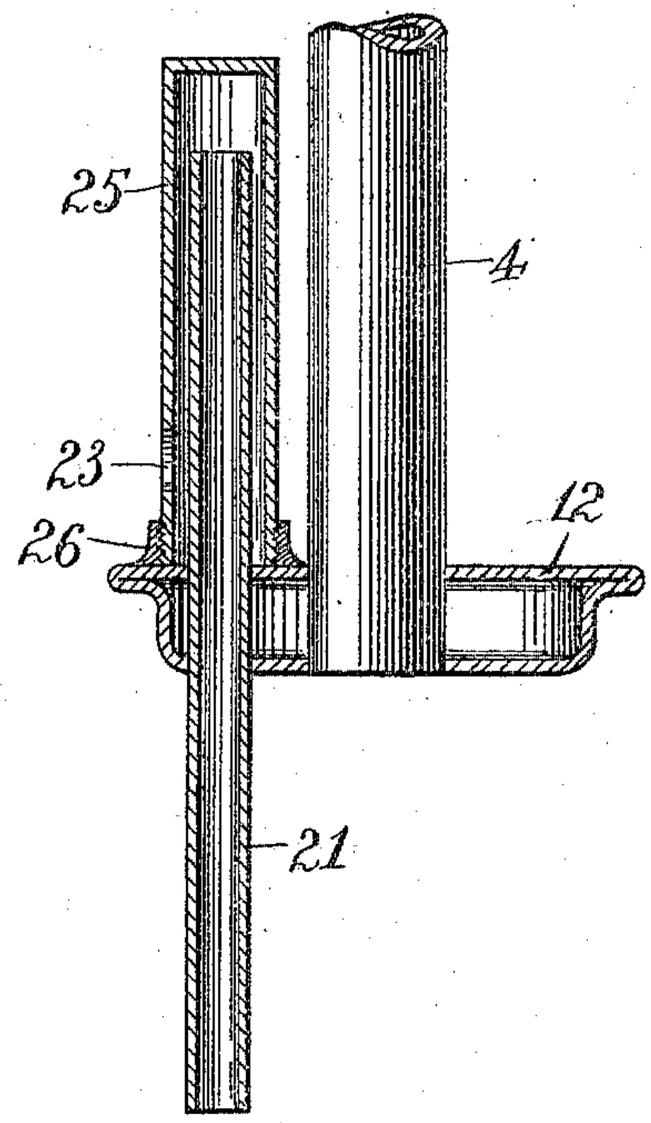


Fig. 8.



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PERCOLATING DEVICE.

951,581. Specification of Letters Patent. Patented Mar. 8, 1910.

Application filed July 8, 1909. Serial No. 506,472.

To all whom it may concern:

Be it known that I, GEORGE E. SAVAGE, a citizen of the United States, residing at Meriden, county of New Haven, Connecticut, have invented certain new and useful Improvements in Percolating Devices, of which the following is a full, clear, and exact description.

My invention relates to so-called percolator coffee pots, and is particularly concerned with improvements of the percolating mechanism proper.

The object of the invention is to so construct and arrange the percolating mechanism as to increase the speed of operation to the highest possible point.

A further object is to procure effective and speedy percolation without the use of valves of any description in the passage between the main body of the pot and the heating chamber.

A further object is to so construct the mechanism that the parts may be readily assembled and taken apart and may be accessible for thorough cleaning.

A further object of the invention is to so arrange the mechanism as to discharge the liquid from the main body of the pot into the heating chamber at a point which shall interfere as little as possible with the heating of the liquid in said chamber.

With these objects in view, the invention consists in the construction and arrangement of parts, preferred embodiments of which are illustrated in the accompanying drawing, in which—

Figure 1 is a view in vertical section of a pot and the percolating mechanism embodying my improvement. Fig. 2 is a view in elevation of the percolating tube and mechanism illustrated in Fig. 1, taken at right angles thereto; Fig. 3 is an enlarged detail view in section of the percolating tube and mechanism shown in Fig. 1. Fig. 4 is a detail view of a part shown in Fig. 2 detached from its coöperating parts. Fig. 5 is a view of a modified form of the parts shown in Fig. 4; Fig. 6 is a view in elevation of a modified form of the percolating mechanism; Fig. 7 is a sectional view of the parts shown in Fig. 6, taken at a right angle to said figure; Fig. 8 is a view similar to Fig. 7 of a further modification.

The embodiment of my invention herein selected for illustration, and as particularly shown in Figs. 1 to 5 inclusive, comprises the main pot 1 having the usual coffee container 2 fitted into the mouth 3 thereof and into which container the percolating tube 4 projects in the usual manner. The main pot 1 has secured thereto and preferably depending therefrom a heating member 5 provided with an extended disk-like base 6, which forms a support for the pot and a heating conductor to the percolating mechanism. Said member 5 is provided near its upper end with a flange 7 upon which the bottom of the pot rests, said pot being provided at its bottom with an aperture 8 fitting over a boss 9 formed above the flange 7 of the member 5, said boss having an annular rim 10 which may be swaged down upon the bottom of the pot to secure said parts together. Within the member 5 is formed a heating chamber 11 and the percolator tube 4 has formed on the bottom thereof a hollow heat insulating disk-like member 12, which fits into the heating chamber 11, said disk-like member having a flange 13 which rests upon the top of the boss 9 when the parts are assembled. This hollow insulating cap or cover 12 effectually checks the communication of heat from the heating chamber 11 to the volume of liquid in the main pot 1. Secured to and extending through the insulating cap 12 is a small inlet tube 14 of considerably less diameter than the percolating tube 4, which tube extends preferably to within a short distance of the bottom of the heating chamber 11. Surrounding said inlet tube 14 and secured to the under side of the cap 12 is a split sleeve 15, which is arranged to receive a tubular cap 16, which is adapted to be slipped over the inlet tube 14 and has a closed lower end whereby when said tubular cap is in position an annular passage is formed around the inlet tube 14. By this construction the liquid passing from the main pot 1 to the heating chamber travels down through the inlet tube 14, where it is discharged into the tubular cap 16 and thereupon flows upwardly between said inlet tube and cap and out through the split portion 15^a (Fig. 3) of the sleeve 15. The sleeve 15 is provided at its lower end with indentations 17 arranged to fit an annular groove 18 (Fig. 4) of the tubular cap 16, whereby said cap is retained within said sleeve. Said cap is also provided with an

annular shoulder 19, which limits the insertion of said cap within the sleeve 15 and maintains the upper end of the cap spaced away from the bottom of the insulating cover 12, thus insuring more or less free passage of the liquid from the annular passage between the inlet tube 14 and the cap 16 through the split sides 15[a] of the sleeve 15 and into the heating chamber 11.

By the construction just described, a tortuous path is provided for the passage of the liquid from the main body of the pot to the heating chamber, which, in conjunction with the reduced diameter of the inlet tube 14, effectually prevents back flow from the heating chamber into the pot. Furthermore, it will be noticed that this tortuous passage discharges the liquid near the top of the heating chamber 11 instead of at the bottom thereof, as is usual in devices of this character. In this way the rapid heating of the liquid at the bottom of the heating chamber is interfered with to the least possible extent. It will be further noted that the means of communication between the main pot and the heating chamber lie closely adjacent one side of the latter, whereby heat from the member 5 is largely communicated to the liquid during its passage to the heating chamber, and furthermore the lower end of the percolating tube is comparatively free of obstructions, thereby providing for the free passage of the liquid from the heating chamber to and through said tube.

By providing for the ready removal of the tubular cap 16 from the inlet tube 14, all parts of the device will be easily accessible for thorough cleaning.

In the modified form of tubular cap illustrated in Fig. 5, and which is also shown in Fig. 3, the upper end thereof is provided with a plurality of projections or teeth 20, which, when the parts are assembled, abut against the under side of the heat insulating cap 12 and hold the tubular cap properly spaced away therefrom to insure passage of the liquid out between said projections 20. This form of cap also is provided with the groove 18 arranged to engage the indentation 17 on the sleeve 15 to retain said cap in said sleeve. As shown in Fig. 2, the lateral opening 15[a] in the split sleeve 15 is of considerable area to afford free egress of the liquid into the heating chamber 11.

In the modified form of my construction illustrated in Figs. 6 and 7, the inlet tube 21, corresponding to the inlet tube 14 heretofore described, extends above as well as below the insulating cap or cover 12, and the tubular cap 22 is secured over the upper end of said inlet tube 21 and is provided with apertures 23 (Fig. 7) for admission of liquid from the main body of the chamber to said tube 21. The tubular cap 22 and the tube 21 are so relatively arranged as to provide an annular passage between said parts for the travel of the liquid from the main body of the pot up through the tube 22 and down through the tube 21 to the heating chamber 11, thereby furnishing a tortuous passage for the liquid similar to that heretofore described, whereby back flow of the liquid from the heating chamber is effectually prevented. The upper end of the tube 22 may be provided with a removable screw cap 24 to afford ready access to said parts for thorough cleaning.

In the modified form illustrated in Fig. 8, the parts correspond in general to the construction and arrangement of said parts in Fig. 7, except that the tubular cap 25 may be screw-threaded at its lower end to engage a screw-threaded boss 26 on the insulating cap 12, whereby said tubular cap may be removably secured in place. Said cap also is provided with apertures 23 for the admission of liquid from the pot to the inlet tube 21.

All of the constructions hereinbefore provide a more or less restricted and tortuous passage for the travel of the liquid from the main body of the pot to the heating chamber. By this means, all of the liquid in the heating chamber will be forced to seek egress therefrom through the percolating tube 4. It is found in practice that this tortuous feed of the liquid to the heating chamber greatly facilitates and accelerates the percolating action, and it is to be noted that this result is obtained entirely without the use of valves in the communicating means between the two chambers.

While I have herein described preferred embodiments of my invention, it is to be understood that the same may be varied in detail and arrangements of parts without departing from the spirit and scope thereof.

What I claim is:

1. In a percolating pot, a main chamber, a heating chamber, a percolating tube having a cap at its lower end adapted to fit into and close said heating chamber, an inlet tube passing through said cap and affording means for communication between said chambers, and means adjacent said inlet tube to form a tortuous passage for the liquid in its travel from the main to the heating chamber.

2. In a percolating pot, a main chamber, a heating chamber appended thereto, a percolating tube having a cap upon its lower end arranged to fit over and close said heating chamber, an inlet tube passing through said cap to afford means of communication between said chambers, a tubular cap surrounding one end of said inlet tube and forming therewith a tortuous passage for the liquid in its travel from the main to the heating chamber.

3. In a percolating pot, a main chamber, a heating chamber appended thereto, a percolating tube having a heat insulating cap at its lower end adapted to fit over and close said heating chamber, an inlet tube passing through said heat insulating cap to afford communication between said chambers, and a tubular cap surrounding said inlet tube to form a restricted passage for the travel of the liquid from the main chamber to the heating chamber.

4. In a percolating pot, a main chamber, a heating chamber appended thereto, a percolating tube having a cap at its lower end arranged to fit over and close said heating chamber, an inlet tube passing through said cap to afford communication between said chambers and extending substantially to the bottom of said heating chamber and means adjacent said inlet tube to cause discharge of the liquid therefrom at a point adjacent the top of said heating chamber.

5. In a percolating pot, a main chamber, a heating chamber appended thereto, a percolating tube having a cap or cover at its lower end adapted to fit over and close said heating chamber, an inlet tube passing through said cover and affording communication between said chambers, an annular cap surrounding one end of said inlet tube, and means to maintain the end of said cap spaced away from said cover to afford communication between said annular passage and the adjacent chamber.

6. In a percolating pot, a main chamber, a heating chamber appended thereto, a percolating tube, a cap or cover at the lower end of said tube arranged to close said heating chamber, an inlet tube passing through said cover to afford communication between said chambers, a split sleeve secured to the under side of said cover and surrounding said inlet tube, and a tubular cap adapted to fit within said sleeve and to form an annular passage around said inlet tube, and means at the upper end of said tubular cap to afford egress of liquid from said annular passage to the heating chamber.

7. In a percolator pot, a main chamber, a heating chamber appended thereto, a percolating tube having a heat insulating cap or cover at its lower end arranged to fit over and close said heating chamber, an inlet tube passing through said cover to afford communication between said chambers, a split sleeve secured to the under side of said cover and surrounding said inlet tube, a tubular cap arranged to fit within said sleeve and to form an annular passage around said inlet tube, and means to maintain the upper end of said tubular cap spaced away from said cover to afford egress of liquid from said annular passage to said heating chamber.

8. In a percolating pot, a main chamber, a heating chamber separated therefrom, a percolating tube communicating with said heating chamber, said heating chamber having a passage independent of the passage therefrom to said percolating tube communicating with said main chamber, and means interposed in said passage between said chambers to form a tortuous path for the liquid in its travel from the main to the heating chamber.

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