April 9, 1929. F. J. CROSS 1,708,663

PERCOLATOR

Filed Sept. 20, 1927

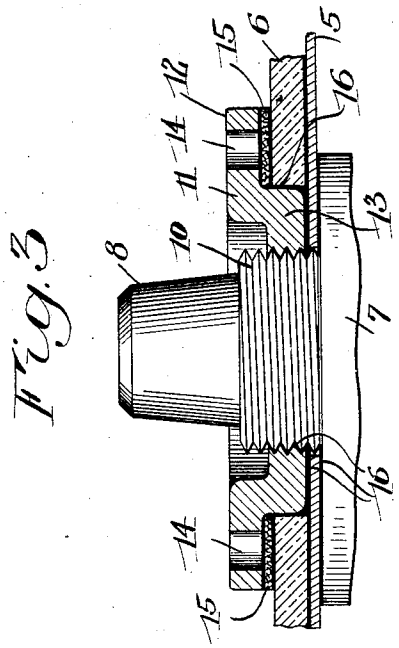


Fig. 3

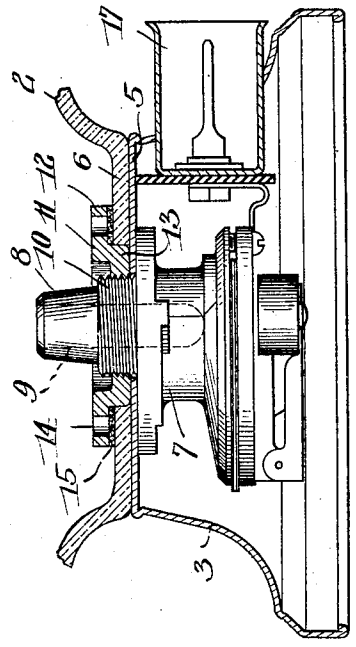


Fig. 2

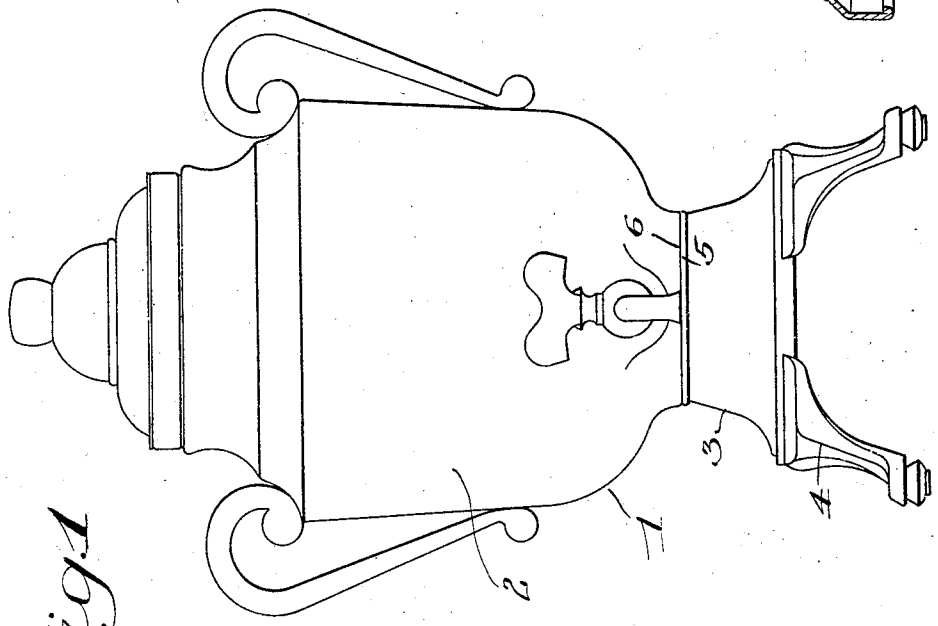


Fig. 1

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UNITED STATES PATENT OFFICE.

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PERCOLATOR.

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This invention relates to the construction of containers of the nature of urns, percolators and the like, and more particularly the construction of the same from the combination of parts made of metal and ceramic materials.

One object of the invention is to provide a container of this character such, for example, as a percolator, embodying the advantageous features, from sanitary and ornamental aspects of a porcelain body portion with the advantages from the point of strength and facility of construction of a metallic base portion.

Another object is to provide such a container having an advantageous form of construction and arrangement of the porcelain and metal parts adapted to afford an efficient union and combination of the same while eliminating the tendency to breakage of the porcelain parts through different thermal expansion in use.

A further object is to provide a percolator of the above character having a construction which is easy to make and assemble, and particularly adapted for combination with an electric heating unit.

To these and other ends the invention resides in certain improvements and combinations of parts, all as will be hereinafter more fully described, the novel features being pointed out in the claims at the end of the specification.

In the drawings:

Fig. 1 is a front elevation of a percolator embodying my invention.

Fig. 2 is a fragmentary sectional view showing the top and base in assembled relation.

Fig. 3 is a detail view of the joint between the base and top showing the use of cement therein.

In the drawings, which show an illustrative embodiment of my invention, 1 designates generally a coffee percolator having a porcelain body 2 and a metal base 3. Suitable legs 4 may be provided on the base 3 to support the percolator. The base 3 has a flat portion 5 at its top upon which the flat portion 6 of the porcelain body rests. On the underside of the portion 5 is secured the electrical heating unit 7 having an upstanding center member 8 projecting through an opening in the center of the portion 5. The member 8 contains the usual percolating or heating well 9 which cooperates with suitable percolator parts, not shown. Threads 10 are formed on the member 8 and a clamping nut 11 is adapted to be threaded thereon. The nut 11 is formed with a circular flange 12 and a downwardly offset center portion 13. The flange 12 has holes 14 for the insertion of a spanner wrench used in the assembly of the parts.

On referring to Figs. 2 and 3, it will be seen that the opening in the bottom 6 of the porcelain body is of sufficient size to receive the offset center 13 of the nut 11. Between the flange 12 and the flat part 6 of the body I use a gasket 15 of any suitable material such as fiber or hard rubber. This gasket fits closely around the offset center 13. On assembling the parts, the joints between the parts, and especially between the clamping nut 11 and portions 5 and 6 are covered with a suitable plastic heat resisting sealing material, such as white lead, indicated at 16 in Fig. 3. While white lead is considered preferable it is obvious that other plastic materials or cements may be used. The nut 11 is screwed down on the center member 8 until the flange 12 snugly engages the gasket 15. The offset center 13 of nut 11 will then have entered within the opening in the bottom of the procelain body. The relation of parts is such that they do not directly engage the porcelain body but all adjacent surfaces between the body and the metal parts are separated by a film of plastic cement or sealing material.

It will be apparent that I have thus provided a means for yieldingly clamping the body on the base in a manner so as to avoid the danger of breakage of the body and at the same time maintaining a fluid tight joint between them.

The heating unit 7 contains electric resistance elements which are adapted to be operated from the usual house current which enters at the plug connection 17 provided on the base 3.

It will be seen from the above description that the porcelain and metal parts of the percolator are so designed and arranged in combination with each other as to present a relatively large area of contact for support and attachment in which, however, the porcelain walls of the container are spaced from

the heat unit to avoid excessive heating and expansion of the same, and in which there is no direct contact of the porcelain and metal parts which are separated by the gasket 15 and the interposed layers of plastic cement 16, which afford a maximum amount of relative expansion accompanied, however, by a substantial area of clamping pressure, so that the body and base are firmly united in a secure and durable manner.

The invention thus affords a vessel having a container portion of porcelain or other ceramic material with all of the advantages of the latter as to sanitation, its resistance to corrosion, ease of cleaning and general suitability for making finely flavored coffee, with the adaptability of the same for producing ornamental outlines and shapes and surface patterns, colors and finish. At the same time the metallic support or base has a strong form of construction which lends itself particularly to the satisfactory solution of manufacturing problems, particularly in connection with the inclusion of an electric circuit and heating unit, while these porcelain and metal parts are neatly and efficiently united so that the whole affords not only a pleasing appearance, but also a durable and efficient container.

I claim as my invention:

1. In a percolator, a porcelain body, a metallic base, cooperating surfaces on said body and base, screw thread means associated with said base for clamping said surfaces together, and a sealing means including a cement separating said surfaces.

2. In a percolator, a porcelain body, a metal base, cooperating surfaces on said body and base, the cooperating surface on said body having an aperture therein, a heating unit on said base having a portion projecting through the aperture in said body, clamping means cooperating with said projecting portion for securing the body on said base, and a sealing means including a cement separating the body from said base and clamping means.

3. A percolator comprising a porcelain body having an aperture therein, a metal base, cooperating surfaces on said body and base adjacent said aperture, a heating unit on said base having an upstanding portion projecting through said aperture and spaced from the sides thereof, clamping means cooperating with said upstanding portion for securing the body on said base, and a sealing means including a cement separating the body from said base and clamping means.

4. A percolator comprising a porcelain body having an aperture therein, a metal base, cooperating surfaces on said body and base adjacent said aperture, a heating unit on said base, said unit having an upstanding threaded portion projecting through said aperture and spaced from the sides thereof, a clamping nut on said threaded portion and exerting downward pressure against the interior of said body to hold it on said base, and a sealing means including a cement between the nut, body and base.

5. A percolator comprising a porcelain body element, a metal base element, each element being provided with registering apertures, a heating unit within said base, an upstanding threaded portion on said heating unit projecting through said apertures, a nut screwed on said upstanding portion and overlying a portion of the bottom of said body, and a cement separating the adjacent surfaces of said nut, body and base.

6. A percolator comprising a porcelain body, a metal base, cooperating flat surfaces on said body and base, the said surface on said body having an aperture centrally thereof, a heating unit on said base positioned centrally of said cooperating surface thereon, an upstanding threaded portion on said unit projecting through the aperture in said body and spaced from the sides of said aperture, a nut on said threaded portion adapted to clamp the body and base together, and a sealing means including a gasket and a cement for maintaining the body out of direct contact with said nut and with said base.

7. A percolator comprising a porcelain body element, a metal base element, each element being provided with registering apertures, a heating unit within said base, an upstanding threaded portion on said heating unit projecting through said apertures, and a flanged nut having a downwardly offset center adapted to be screwed on said upstanding portion, the aperture in the porcelain body element being sufficiently large to surround said downwardly offset center and to lie beneath the flanged portion of said nut.

8. A percolator comprising a porcelain body having a flat lower surface with an aperture therein, a metal base having an upper flat surface with an aperture therein of smaller size than said first mentioned aperture, a heating unit secured within said base, an upstanding threaded portion on said unit, said threaded portion being adapted to fit the aperture in said base, and a nut threaded on said threaded portion, said nut comprising a flange and a downwardly offset center portion, said center portion being of a size to fit within the aperture in said body.

9. A percolator comprising a porcelain body having a flat lower surface with an aperture therein, a metal base having an upper flat surface with an aperture therein of smaller size than said first mentioned aperture, a heating unit secured within said base, an upstanding threaded portion on said unit, said threaded portion being adapted to fit the aperture in said base, and a nut threaded on said threaded portion, said nut comprising a flange and a downwardly offset center por-

tion, said center portion being of a size to fit within the aperture in said body, and a gasket between said flange and said body.

10. A percolator comprising a porcelain body having a flat lower surface with an aperture therein, a metal base having an upper flat surface with an aperture therein of smaller size than said first mentioned aperture, a heating unit secured within said base, an upstanding threaded portion on said unit, said threaded portion being adapted to fit the aperture in said base, and a nut threaded on said threaded portion, said nut comprising a flange and a downwardly offset center portion, said center portion being of a size to fit within the aperture in said body, the joints between said nut, body and base being sealed by a cement.

11. A percolator comprising a body portion, a flat annular bottom on said body portion having an aperture therein, an annular base, a flat top on said base having an aperture therein, a heating element secured to the underside of said base, an upstanding center portion on said heating element extending through the apertures in said base and body, a nut threaded on said upstanding portion, a downwardly offset center on said nut fitting within the aperture in the body, and a flange on said nut overlying a portion of the bottom of said body.

12. A percolator comprising a body portion, a flat annular bottom on said body portion having an aperture therein, an annular base, a flat top on said base having an aperture therein, a heating element secured to the underside of said base, an upstanding center portion on said heating element extending through the apertures in said base and body, a nut threaded on said upstanding portion, a downwardly offset center on said nut fitting within the aperture in the body, and a flange on said nut overlying a portion of the bottom of said body, and a cement separating the adjacent surfaces of said nut, base and body.

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