

No. 607,352.

Patented July 12, 1898.

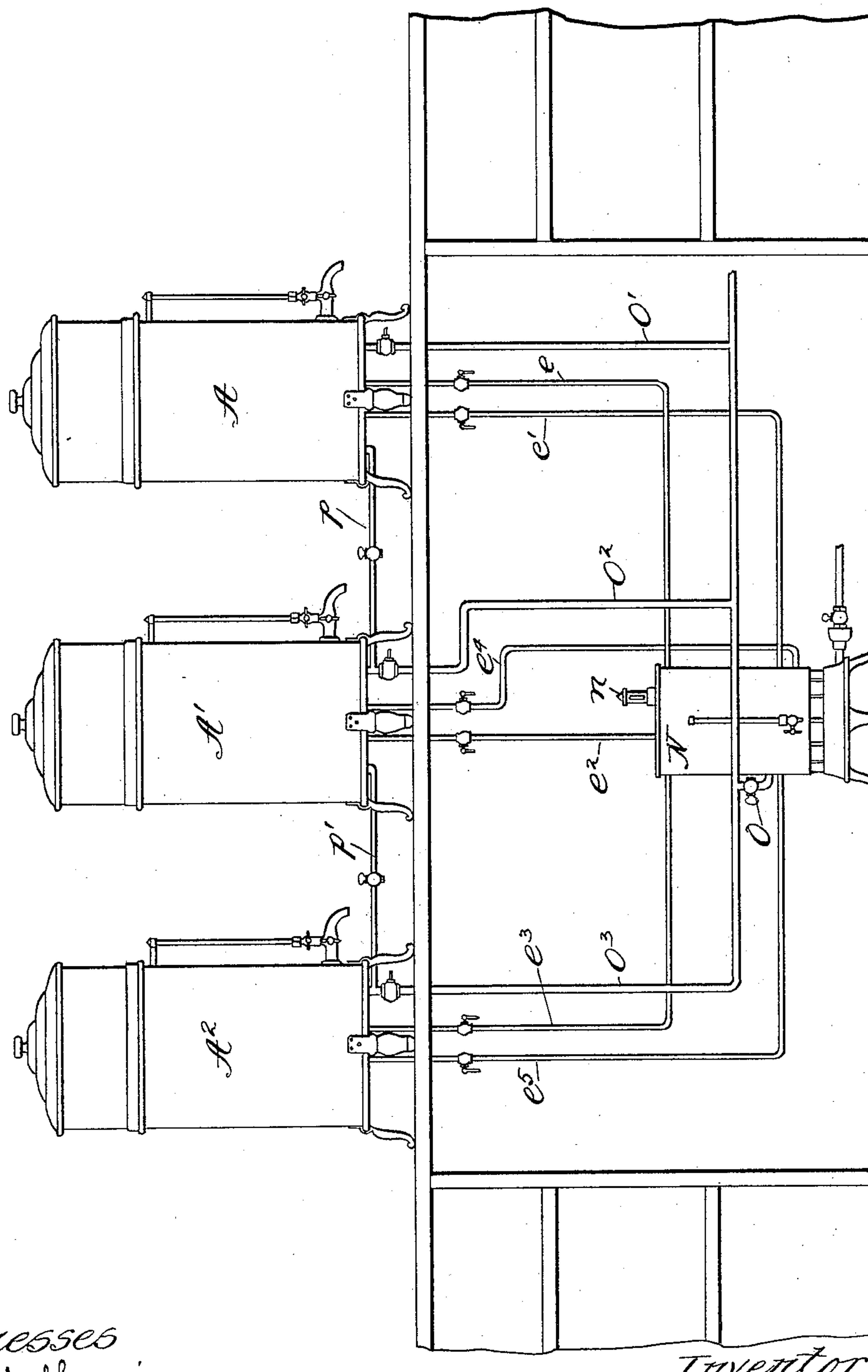
J. S. DUNLAP.
MEANS FOR MAKING INFUSIONS.

(Application filed June 7, 1897.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.



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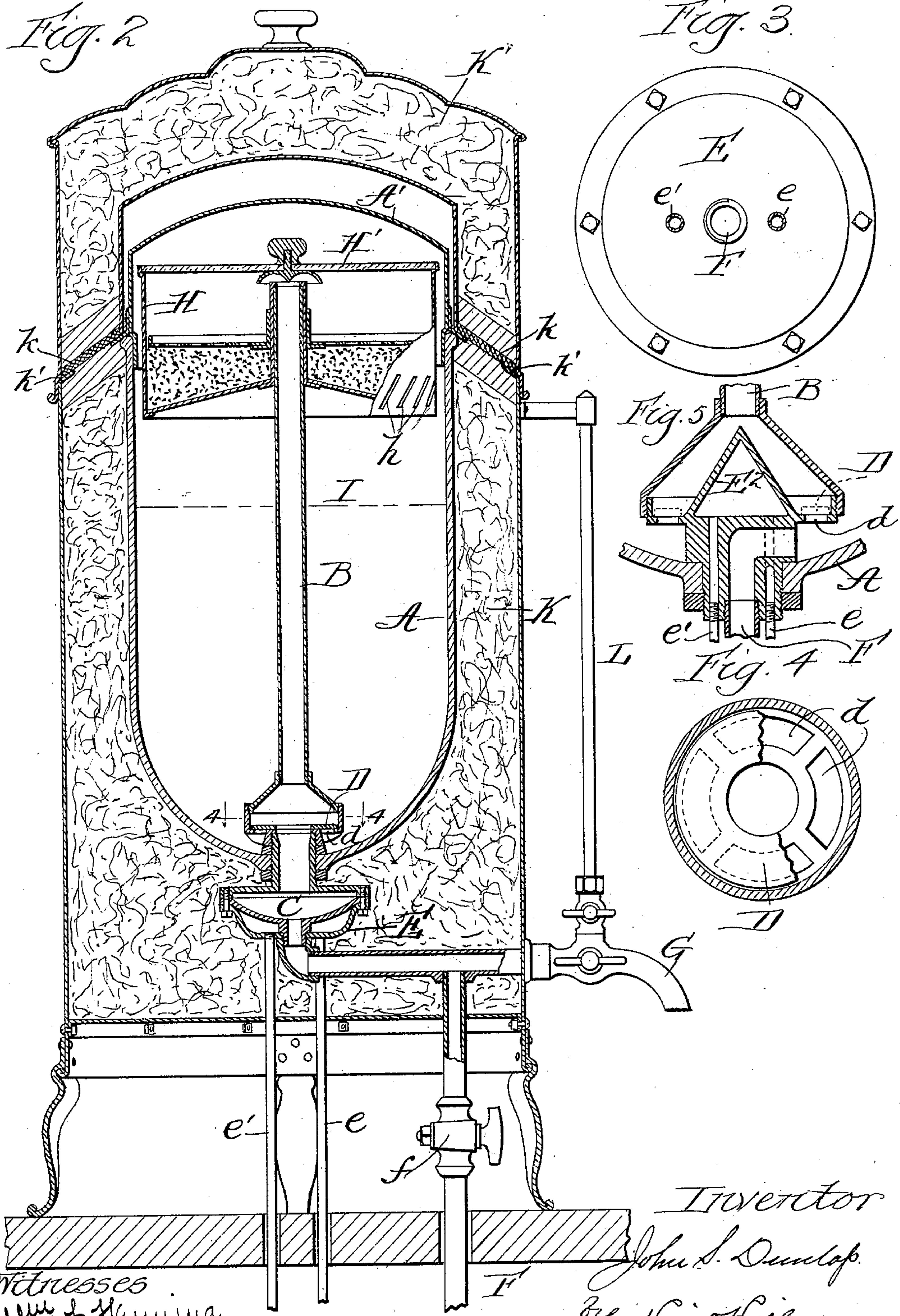
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UNITED STATES PATENT OFFICE.

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MEANS FOR MAKING INFUSIONS.

SPECIFICATION forming part of Letters Patent No. 607,352, dated July 12, 1898.

Application filed June 7, 1897. Serial No. 639,695. (No model.)

To all whom it may concern:

Be it known that I, JOHN S. DUNLAP, a citizen of the United States of America, residing at Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Means for Making Infusions, of which the following is a description.

Referring to the accompanying drawings, wherein like reference-letters indicate like or corresponding parts, Figure 1 is a diagram showing the preferred manner of employing a plurality of my improved vessels. Fig. 2 is a vertical section of my improvement with the preferred connections; Fig. 3, a top plan of the jacket-heater or drum; Fig. 4, a section in line 4 4 of Fig. 2, and Fig. 5 a sectional view of a modification.

This invention is in the nature of an adaptation of the invention in coffee-pots and similar vessels patented to me May 11, 1897, No. 582,188, to a more extended use than is there described, and also to the use of steam or hot water for the heating medium in the use thereof.

To this end it consists, broadly, in the combination of a vessel of the type there described with a steam or hot-water drum so positioned that the fluid in the vertical pipe shall be more rapidly heated than that in the vessel itself, whereby the circulation and operation described are satisfactorily secured.

It also consists in the combination of a plurality of such vessels with a central or common source of heat, as steam or hot water, whereby a continuous infusion may be secured without interruption and in the simplest and most economical manner.

It also consists in such other novel construction and combination of parts as are shown and described and as are particularly pointed out in the claims.

In the drawings, A represents a vessel or urn of any preferred form or size and of any suitable material, within which is positioned the substantially vertical tube B. The tube B is provided with a heating-chamber C and also with means for admitting the fluid from the vessel A—as, for example, by a valve D, controlling the inlet.

A steam or hot-water drum E is so positioned with relation to the chamber C that

the contents of said chamber will be heated without affecting to any great extent the temperature in the vessel A, the pipe *e* and return-pipe *e'*, connected with any source of steam or hot water, serving to conduct the heating medium to the drum for this purpose.

To prevent the heat from the drum being transmitted to the vessel except through the tube B, I prefer to place the heating-chamber outside the vessel, and either locate the drum a sufficient distance from the vessel to prevent such a result or interpose insulating material between the two. In the preferred construction both these methods are combined, as shown in the drawings.

F is a water-pipe, by means of which the fluid may be replenished as necessary, the valve *f* controlling the same, while the pipe G serves to draw off the infusion.

The upper part of the tube B connects with an elevated receptacle H, provided on its bottom with preferably slotted apertures *h*, through which any fluid falling into the vessel H may escape to the body of the vessel A. A suitable cover H' is provided for the vessel H, while the cover A' serves a like purpose for the vessel A.

The mode of operation is as follows: A quantity of coffee or other substance from which the infusion to be made is placed in the vessel H and the cover placed in position. A suitable quantity of water is admitted to the vessel A—say to the line I—filling the tube B to an equal height and filling the chamber C. Steam or hot water then being admitted circulates freely about the vessel C, heating the contents thereof and that in the tube and causing the fluid to rise and overflow into the vessel H, from whence it percolates downward therein, escaping into the vessel A below. As the fluid overflows into the receptacle H the deficiency in the tube B caused thereby is replaced by an equal quantity of the fluid in the vessel A passing by the valve D into the tube. Thus a free and efficient circulation of the fluid is maintained, resulting in a perfect infusion of a greatly-improved quality.

In the preferred form I inclose the vessel A and, if desired, the effective working parts with a jacket K of any suitable material which is not a good conductor of heat. As-

bestos, mineral wool, felt, or other preferred material may be employed for this purpose. A cover K' prevents the escape of heat upward, while any fluid caused by condensation occurring above the cover A' escapes to the downwardly-inclined joint *k*, which may be packed with some absorbent, as by a felt washer *k'*. A water-gage L may be employed to indicate the quantity of fluid or infusion in the vessel A.

Fig. 3 shows a top plan of the plate E, which forms the steam jacket or drum, Fig. 2.

Fig. 4 shows the preferred valve mechanism controlling the passage of the fluid into the tube B. In this form the valve D is held in place by gravity, controlling the passage of the fluid through the opening *d*.

In the modification shown in Fig. 5 the steam-drum E² is extended farther up into the tube B, occupying a space near or above the valve D. If it extend well above the valve D, I find I can secure very fair results by dispensing with the valve D. The results are very inferior, however, to those obtained by the use of a valve which prevents any escape whatever of the fluid in the tube into vessel A except by overflowing and passing through the receptacle H, as described.

Fig. 1 shows a very simple and effective as well as economical apparatus for use where a supply of steam or hot water is not convenient and where a large quantity of coffee or other infusion is used, as in a restaurant or similar place. In this form N represents a small steam or hot-water generator provided with a safety-valve or blow-off *n*, which may be set to blow off at any desired pressure. Water is supplied through the pipe O, the branch pipes O' O² O³ serving to supply the vessels or urns A A' A². The steam generated is conducted to the vessels by the steam-pipes *e* *e*² *e*³, while the return cooled and partially-condensed steam is through the pipes *e'* *e*⁴ *e*⁵. Any medium may be employed to generate the steam—gas, gasolene, or oil being preferred.

In the preferred use the vessel A' is used simply for hot water, pipes *p p'* serving to conduct hot water to either of the other vessels at will. By this means coffee can be quickly made, and when one vessel is exhausted it can be quickly shut off and replenished, while

the remaining vessel supplies the demand. A superior quality of coffee or other infusion is thus obtained in a most simple and economical manner, and there is no interruption in the supply.

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

1. In a device of the character described, the combination with a vessel having an elevated receptacle therein, of an upwardly-extending elevating or circulating tube arranged to discharge into the receptacle and communicating at its lower end with the interior of the vessel, a heating-chamber without the vessel communicating with the tube, a heating-drum for the chamber applied directly thereto, insulating material between the drum and vessel, and means for supplying a heating medium to the drum.

2. In a device of the character described, the combination with a vessel having an elevated receptacle therein, of an upwardly-extending elevating or circulating tube arranged to discharge into the receptacle, and communicating at its lower end with the interior of the vessel, a heating-chamber without the vessel communicating with the tube, a heating-drum applied to the chamber having one of its walls formed by a wall of the chamber, and means for supplying a heating medium to the drum.

3. In a device of the character described, the combination with a vessel having an elevated receptacle therein constructed to permit the escape of fluids therefrom to the vessel, of an upwardly-extending elevating or circulating tube arranged to discharge into the receptacle and communicating at its lower end with the interior of the vessel, a heating-chamber without the vessel communicating with the tube, a heating-drum for the chamber applied directly thereto, means for preventing communicating heat from the drum direct to the vessel except through the tube, and means for supplying a heating medium to the drum, substantially as described.

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Witnesses:

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