

No. 663,723.

Patented Dec. 11, 1900.

W. J. BROWN & J. R. BEER.

APPARATUS FOR MAKING AND DISPENSING INFUSIONS.

(Application filed Aug. 21, 1900.)

(No Model.)

3 Sheets—Sheet 1.

Fig. 5.

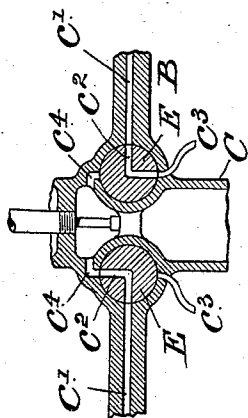


Fig. 6.

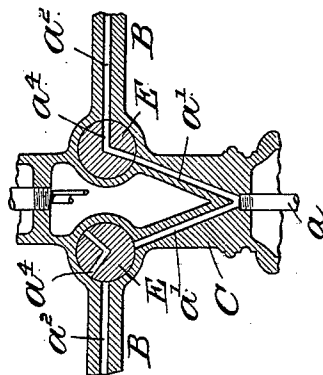
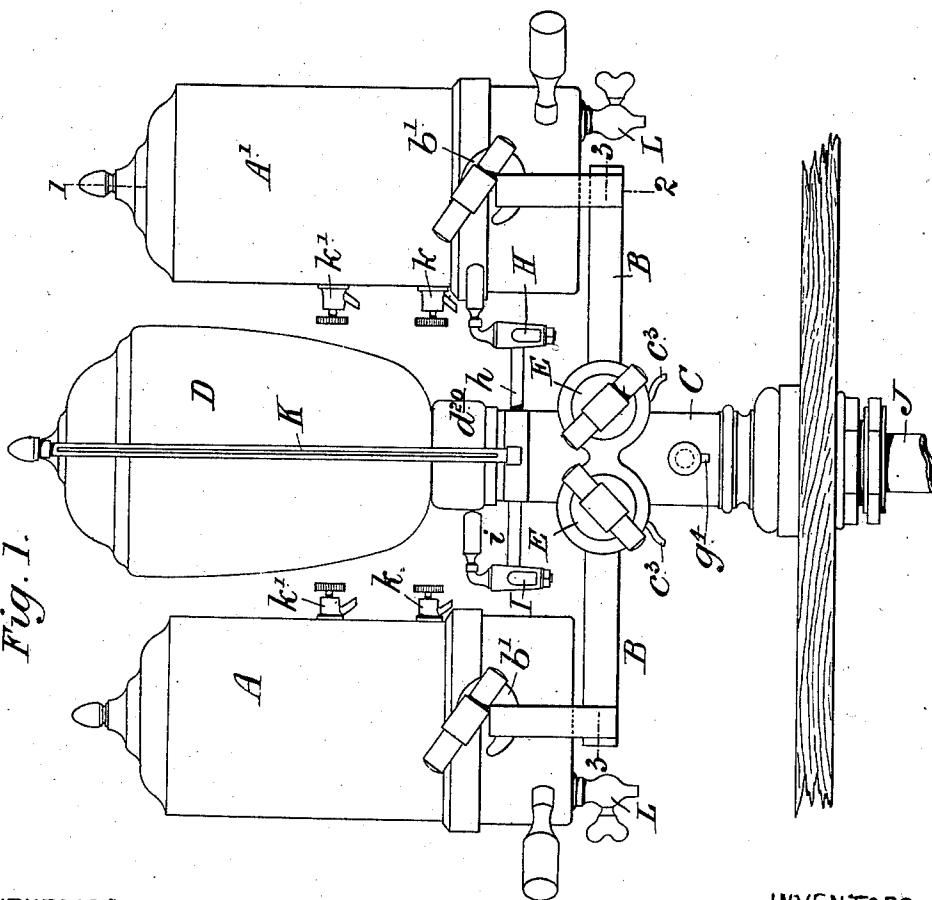


Fig. 1.



WITNESSES

Walter Abbe
S. C. Connor

INVENTORS

William Joseph Brown
John Robert Beer
BY *Horace H. Brown*

ATTORNEYS

W. J. BROWN & J. R. BEER.

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Fig. 3.

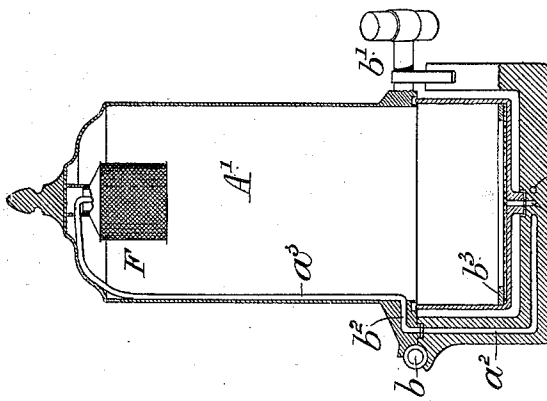
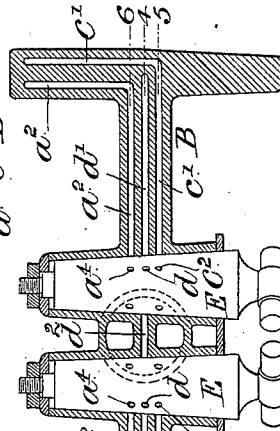
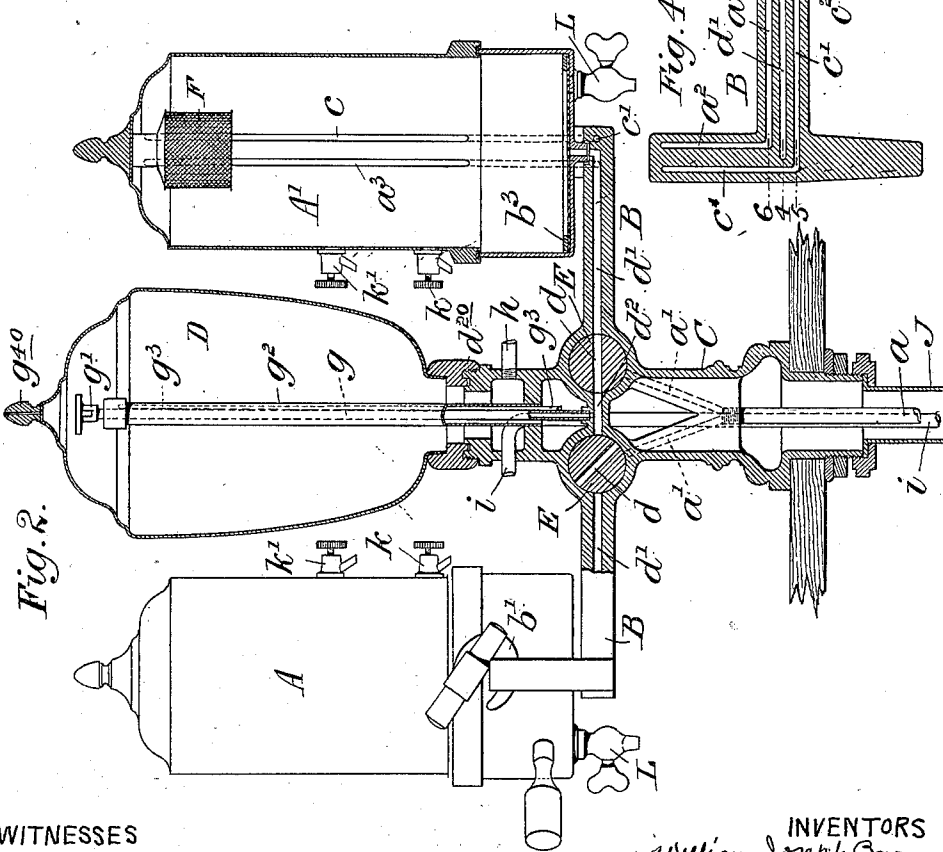


Fig. 4.

Fig. 2.



WITNESSES

Walter Abbe
S. C. Connor

INVENTORS

William Joseph Brown
John Robert Beer

BY Howard H. Howard,
ATTORNEYS

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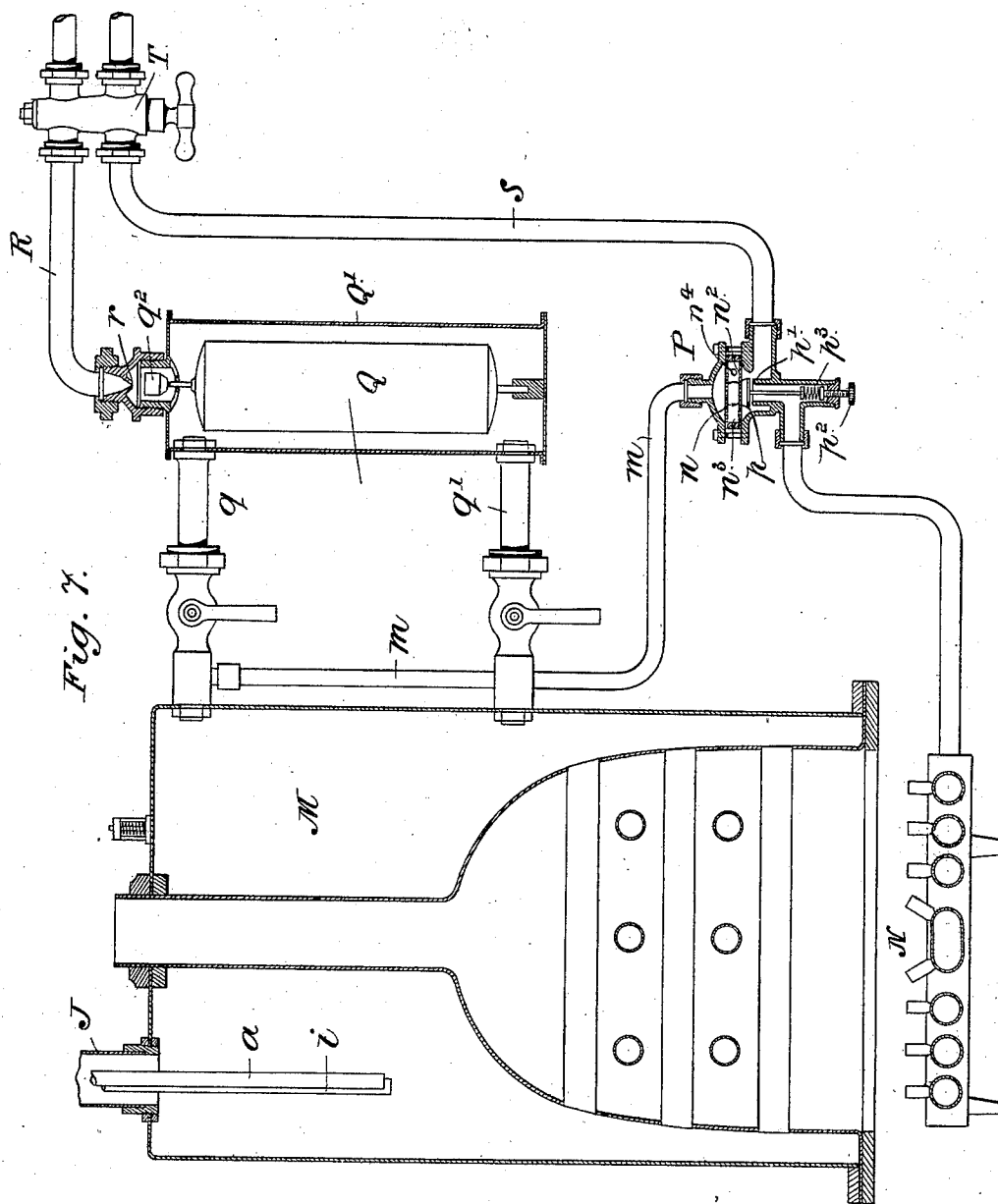
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(No Model.)

3 Sheets—Sheet 3.



WITNESSES

Walter Abbe
S. C. Connor

INVENTORS

William Joseph Brown
John Robert Beer

BY *Hanson & Hanson*

ATTORNEYS

UNITED STATES PATENT OFFICE.

WILLIAM JOSEPH BROWN AND JOHN ROBERT BEER, OF LONDON, ENGLAND,
ASSIGNORS TO VICTOR GEORGE OSTERROTH, OF SAME PLACE.

APPARATUS FOR MAKING AND DISPENSING INFUSIONS.

SPECIFICATION forming part of Letters Patent No. 663,723, dated December 11, 1900.

Application filed August 21, 1900. Serial No. 27,592. (No model.)

To all whom it may concern.

Be it known that we, WILLIAM JOSEPH BROWN, engineer, residing at 75 Elmar Road, West Green Road, Tottenham, London, in the county of Middlesex, and JOHN ROBERT BEER, engineer, residing at 26 Victoria avenue, East Ham, London, in the county of Essex, England, subjects of the Queen of Great Britain, have invented certain new and useful Improvements in Apparatus for Use in Making and Dispensing Infusions; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to apparatus for use in making and dispensing infusions, such as infusions of tea or of coffee or the like, in shops or in cases where a considerable quantity has to be made at one time; and the said invention has for its object to provide apparatus by means of which clear infusions are made and the water in the boiler is prevented from becoming contaminated by the infusions, and to generally improve and render such apparatus more efficient. According to this invention a passage for the water from the boiler to the infusing vessel or to each infusing vessel is provided separate from that or those which leads or lead to the container. The strainer into which the water from the boiler passes is situated in the upper part of the infusing vessel or vessels, the tubes supplying the water at the upper part of the said infusing vessel or vessels and into the said strainer, and any fur or other like impurity cannot get into the infusion when it is passed from the infuser or infusers into the container. To keep the water in the boiler at a uniform level, a feed-valve is used in a casing situated at any desired distance from the boiler and connected to it by tubes at top and bottom and provided with a float to regulate the water-supply, so that the float and working parts of the valve are not liable to be corroded or coated with fur or deposit, as has hitherto been the case, because the water in the valvular arrangement being placed at any convenient distance from the boiler can be maintained at a much lower temperature

than that in the boiler. Moreover, this arrangement allows of ready access being had to the valve for repair.

We will describe, with reference to the accompanying drawings, an apparatus constructed in accordance with this invention provided with two infusing vessels and one container.

Figure 1 is a side elevation, and Fig. 2 is a sectional elevation, of the infusing and containing vessels and the controlling devices in connection therewith, these parts being conveniently situated above the counter. Fig. 3 is a vertical section on the line 1 2, Fig. 1. Fig. 4 is a horizontal section on the line 3 3, Fig. 1; and Figs. 5 and 6 are part vertical sections, respectively, on the lines 5 5 and 6 6, Fig. 4. The section of this part shown in Fig. 2 passes through the line 4 4, Fig. 4 showing the various passages between the boiler, the infusing vessels, and the container and means for controlling them, as hereinafter described. Fig. 7 shows the boiler and adjuncts connected therewith, these parts being conveniently arranged below the counter; but they may all be in any other convenient position.

The two infusing vessels A A' are supported in brackets B, projecting from a column C, which carries a container D, into which the infusion of coffee, tea, or other matter after being made in either of the infusers A A' is passed. This container D is preferably screwed onto the column C at d^{20} , so that it can be readily removed for cleaning. The passages which afford communication between the boiler M and either of the infusers A A' and between the infusers A A' and the container D are governed by two cocks E, as hereinafter described.

The boiling water is forced from the boiler by the pressure of the steam therein up the pipe a , which leads by passages a' in the column C and passages a^2 in the brackets B and by a pipe a^3 to the upper part of each infuser, into which it is discharged into and through a sieve or perforated box F, secured to the upper part of the infuser. Communication between the passages a' and a^2 is established by the passages a^4 through each of the cocks E.

Each infuser A A' is made in two parts, the upper part being hinged at b to the bracket B and secured by a catch b' engaging with an eye on the bracket B, a passage being provided at b^2 to establish communication between the passages a^2 and the pipe a^3 . The coffee, tea, or other matter from which the infusion is to be made is placed in the lower part of the infusers, a porous material being secured at bottom by a ring or grid b^3 to prevent the ground coffee or the like from getting in the passages. After either of the infusers becomes full of liquid the overflow passes through the sieve F and by a pipe c , (see Fig. 2,) arranged by the side of the pipe a^3 , and by a passage c' in the bracket B through the passage c^2 in the cock E and flows out of a pipe c^3 , which thus indicates that the infuser is full, the strainer preventing fur or other matter likely to clog or contaminate the passages from passing thereto. The cock E is then turned from the position shown at the right-hand side of Figs. 5 and 6, so as to cut off the supply of boiling water to the infuser and the overflow and so as to cause the passage c^2 in the cock E to establish communication, as shown at the left hand of Fig. 5, between the passage c' and the passage c^4 leading into the interior of the column C, which is in connection with the steam-space of the boiler by a pipe J. Steam then passes by the passages J, c^4 , c^2 , c' , and c to the top of the infuser and exerts pressure upon the surface of the infusion therein. When either of the cocks E is in this position, another passage d therein establishes communication between the infuser A or A', as the case may be, and the container D, the passage d connecting a passage d' in the bracket, into which an opening at the bottom of the infuser opens, and another passage d^2 in a bridge between the two casings of the cocks E. A tube g leads from this passage d^2 to the upper part of the container and is filled with a spreading device at g' . When, therefore, either of the cocks E is in the position described, the steam-pressure acting on the surface of the infusion in the infuser will force it therefrom into the container D, from which it can be drawn by the tap H on the pipe h . The tube g is surrounded by another tube g^2 , closed at top, into which steam is admitted from the steam-space in the column C to keep the infusion hot and in proper condition.

A vent-pipe g^3 leads from the upper part of the space within the tube g^2 to a tap g^4 (see Figs. 2 and 1) to enable the air to escape from the said space.

g^{10} is a vent at the top of the container D to allow air and steam to escape.

I is a tap to enable boiling water to be drawn directly from the boiler when required, the said water rising through a pipe i , passing through the steam-pipe J.

A gage K is provided to enable the amount of infusion in the container to be ascertained.

When it is desirable to infuse less than a

full charge in either of the infusers—say, a quarter or half the charge—small cocks k k' are provided in the infuser, so that when open they will indicate when the liquid has reached the required level. Cocks L are also provided in the infusers to enable the liquid to be drawn off directly without first being passed into the container and also to allow the steam to escape before the infuser is opened after the infusion has been passed therefrom into the container. Referring to Fig. 7, the boiler M is shown as being heated by a ring of gas-burners N, the supply of gas to which is controlled by an automatic device, (shown at P.) In this a valve p is caused to close more or less onto its seat p' in the gas-passage s by the steam-pressure from the boiler entering by a pipe m and acting on a flexible diaphragm n and so regulate the quantity of gas supplied, according to the steam-pressure in the boiler. A second diaphragm n^2 is provided, between which and the diaphragm n is a distance-piece n^3 , so as to form a space between the two diaphragms, which space is in communication with the atmosphere. By this means should the diaphragm n be ruptured by excess pressure or wear the steam will escape through the aperture n^4 without passing into the gas-passages. The spring p^3 acts to normally open the valve, the sensitiveness of which can be regulated by a screw p^2 .

A float Q is provided to automatically regulate the supply of water to the boiler, the float being supported in a casing Q' outside the boiler and at any desired distance therefrom and in communication at top and bottom with the boiler by pipes q q' , so that the float will rise or fall, according to the level of the water in the boiler. The float is provided with a valve q^2 , which when the float rises seats itself against a seating r around the water-exit from the supply-pipe R and so prevents any further supply of water to the boiler until the level again falls.

T is a cock provided with passages to simultaneously control both the water and gas supply through the passages R and s .

Although we have shown two infusing vessels, it is to be understood that either one or two may be used; but two are generally preferable, as the infusions may be made in them alternately to maintain a continuous supply.

We claim as our invention—

1. Apparatus for making and dispensing infusions, consisting of a boiler, an infusion-chamber, a container, and a controlling-cock, having three sets of openings, one of which communicates through passages from the water in the boiler to the top of the infuser, and a second through passages from the top of the infuser through said cock to the atmosphere both sets of said cock-openings being adapted to establish communication with both sets of passages at the same time, the third set of openings in the cock communicating through passages between the container and the infuser and so placed in the cock that they and

the second set of passages shall be in established communication at the same time, said second passages at this their second position communicating between the steam-space of the boiler and the top of the infuser, as and for the purpose set forth.

2. In apparatus for making and dispensing infusions the combination of an infusing vessel or vessels and a container and boiler with separate passages leading from the boiler to the infusing vessel or vessels and from the infusing vessel or vessels to the container and means for controlling the said passages, a strainer into which the passage from the boiler opens and situated above the passage from the infusing vessel or vessels to the container and a casing outside the boiler and in communication therewith at top and bottom and containing a float and a valve for regulating the inlet of water all substantially as hereinbefore described.

3. In apparatus for making and dispensing infusions the combination of an infusing vessel or vessels and a container and boiler and

separate passages leading from the boiler to the infusing vessel or vessels and from the infusing vessel or vessels to the container and an overflow-passage and means for controlling the said passages, a strainer into which the passage from the boiler opens and situated above the passage from the infusing vessel or vessels to the container and a casing outside the boiler and in communication therewith at top and bottom and containing a float and valve for controlling the inlet of water and a gas-supply pipe to a heater with a regulator in it controlled by the pressure in the boiler and a valve for simultaneously regulating the passages for water and gas substantially as hereinbefore described.

In testimony whereof we affix our signatures in presence of two witnesses.

WILLIAM JOSEPH BROWN.
JOHN ROBERT BEER.

Witnesses:

WILLIAM JAMES COSTIN,
HENRY DENIS HOSKINS.