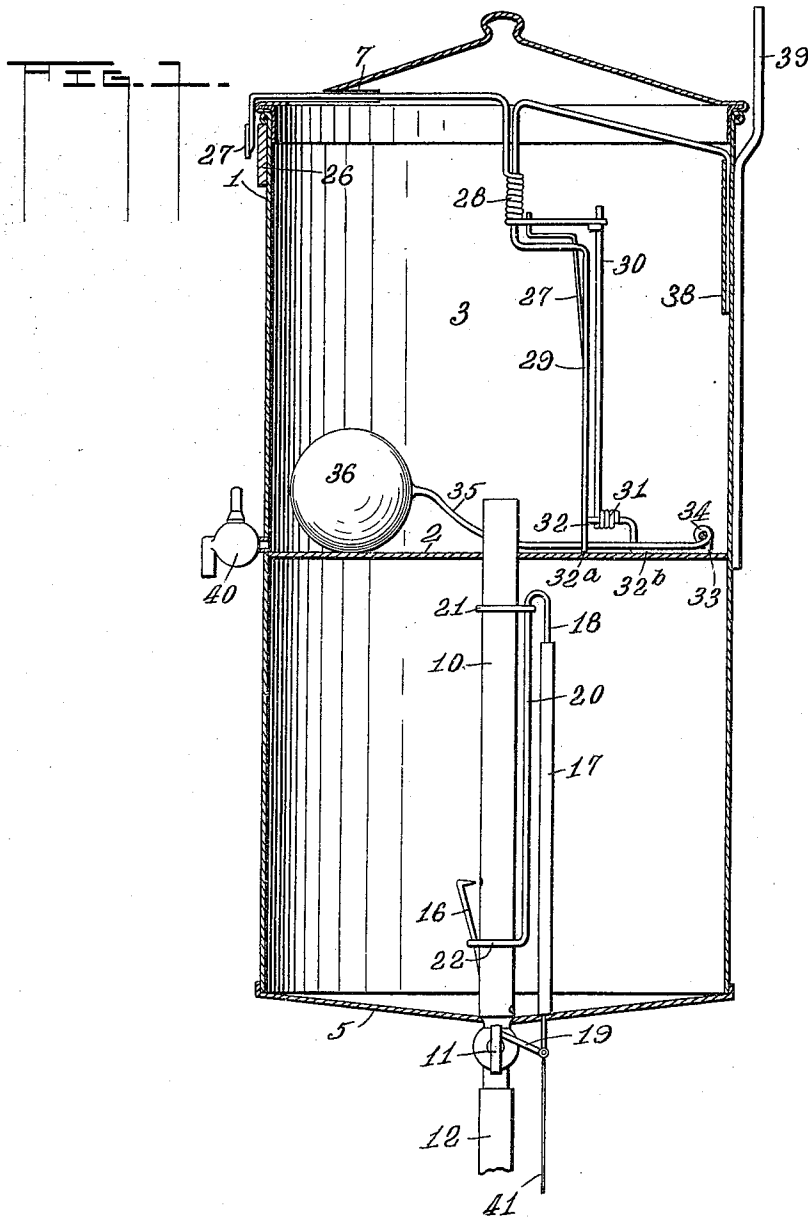


J. W. PARKER & F. L. HURTT.
 APPARATUS FOR RAISING TEMPERATURE OF WATER.
 APPLICATION FILED JUNE 21, 1905.

962,405.

Patented June 21, 1910.

3 SHEETS—SHEET 1.



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H. H. Byers

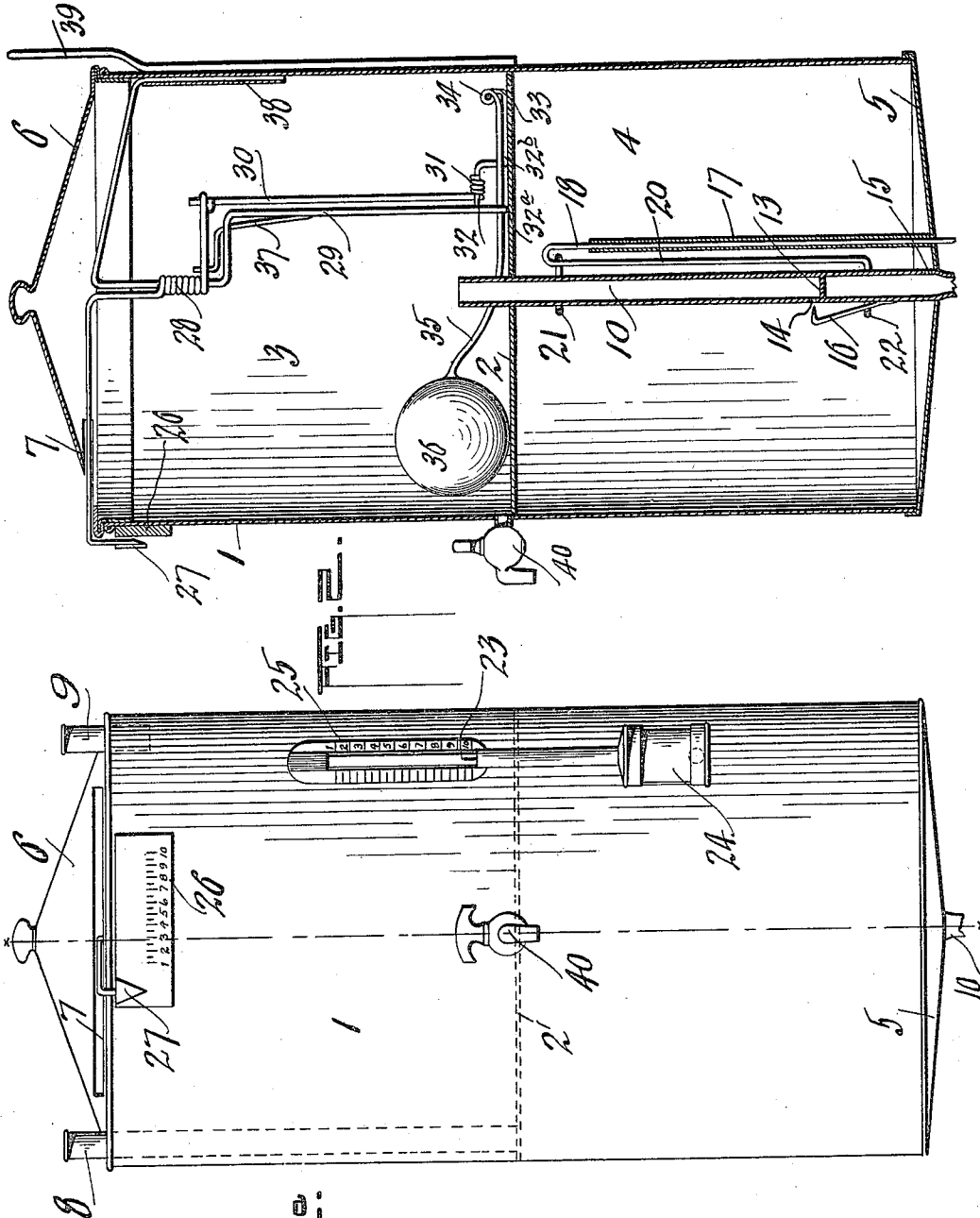
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3 SHEETS—SHEET 2.



Witnesses:-

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 J. W. Parker.

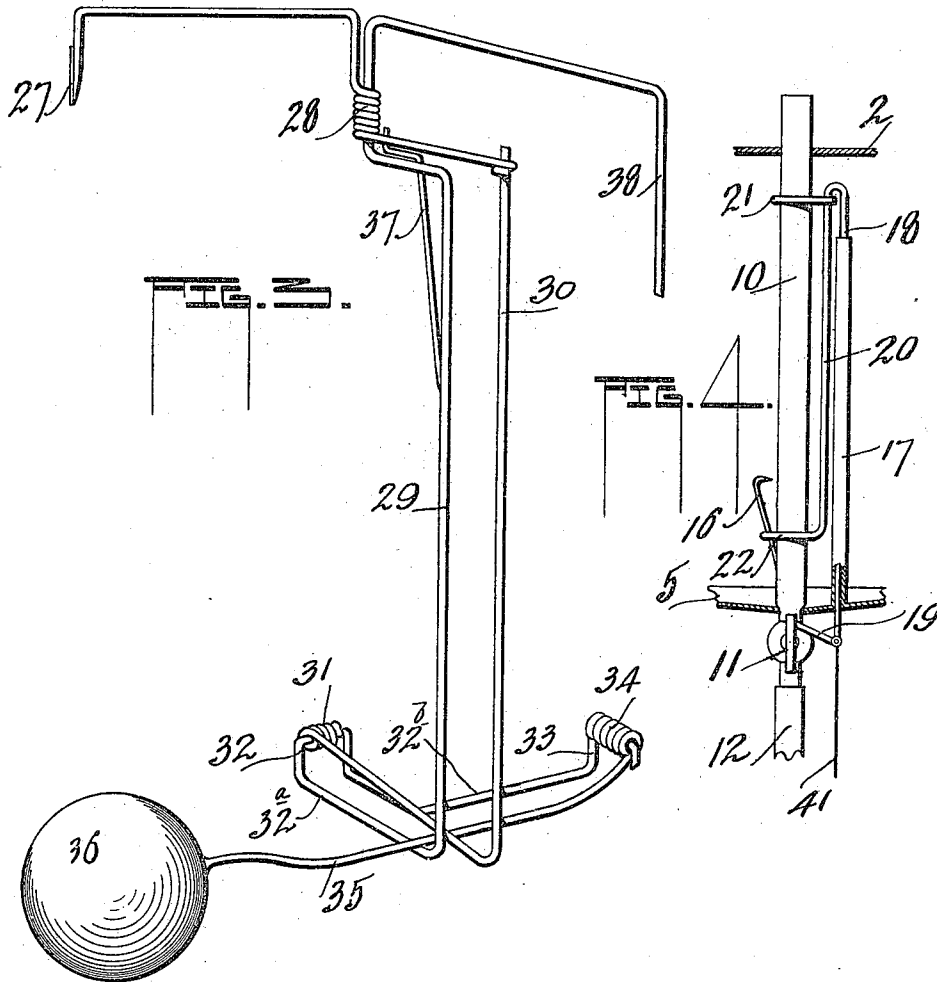
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3 SHEETS—SHEET 3.



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UNITED STATES PATENT OFFICE.

JAMES W. PARKER AND FRANK L. HURTT, OF PEORIA, ILLINOIS; SAID HURTT
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APPARATUS FOR RAISING TEMPERATURE OF WATER.

962,405.

Specification of Letters Patent. Patented June 21, 1910.

Application filed June 21, 1905. Serial No. 266,220.

To all whom it may concern:

Be it known that we, JAMES W. PARKER and FRANK L. HURTT, citizens of the United States, residing at Peoria, in the county of Peoria and State of Illinois, have invented certain new and useful Improvements in Apparatus for Raising Temperature of Water; and we do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

This invention has reference to a certain new and useful apparatus for gradually raising the temperature of water; and has for its object a device from which water may be drawn for internal or external use, where the water is gradually raised in temperature from luke warm to a point approximating a boiling point. The arrangement being such that the rise in temperature is so gradual a person will be enabled to stand the increase in the heat without shocking the system.

The invention has for its further object details of construction and arrangement of parts to be hereinafter more particularly pointed out in the specification, claimed in the appended claims and illustrated in the accompanying drawings, in which:—

Figure 1 is a view in section of the casing showing the mechanism in side elevation. Fig. 1^a is a front elevation of our improvements, with the outlet pipe broken away just above the valve; Fig. 2 is a vertical cross-section of the line X—X of Fig. 1^a; Fig. 3 is an enlarged perspective view of the mechanism arranged within the upper compartment of the receptacle, which controls the pointer of the register, and Fig. 4 is a detail in elevation, partly in section of the pipe extending through the lower compartment of the receptacle; a valve thereon; a flexible tube attached to the same and the arrangement of the mechanism for operating such valve and the needle point on the pipe.

Like numerals of reference indicate corresponding parts throughout the figures.

1 denotes a cylindrical casing or receptacle divided by the partition 2 forming the com-

partments 3 and 4. The lower end of the casing is closed by a fixed conical shaped bottom 5, while the upper end of the casing is adapted to be closed by the lid or covering 6, provided with an arc shaped slot or cut-out portion 7, for a purpose to be described.

As a means of communicating with the compartment 4, a pipe or tube 8 is provided which extends down through the compartment 3 and partition 2, and extends up through the lid 6 which is provided with an opening (not shown) for this purpose. There is further provided a short tube or pipe 9 attached to the lid 6, which communicates with the compartment 3 when the lid is in the position seen in Fig. 1. Through the pipe 8 water is poured which is intended for the compartment 4; and through the pipe 9 water is poured which is intended for the compartment 3.

10 denotes a tubular pipe which is carried through the compartment 4, extending up a short distance through the partition 2 into the compartment 3 and out through the bottom 5, beneath which the pipe 10 is provided with a valve 11, see Fig. 4; and to the lower end of the pipe 10 beneath the valve is adapted to be attached a flexible hose or pipe 12 of any suitable type and for various purposes. This pipe 10 is divided at a suitable point by means of a partition 13, and in the wall of the pipe at suitable points above and below the partition 13 is provided the openings or perforations 14 and 15. The opening 14 is adapted to be closed by a needle-point spring valve 16 which is suitably connected to the pipe 10 as shown. The valve is adapted to open or close the perforation 14 simultaneously with the opening or closing of the valve 11. This is accomplished in the following manner: 17 denotes a hollow stem extending up in the compartment 4 from the bottom 5, and through the same and the bottom 5 is reciprocally carried a rod or stem 18, to the lower end of which is pivotally attached a crank 19, which in turn is attached or connected to the valve 11 as shown in Fig. 4. The upper end of the rod 18 is bent inwardly toward the pipe 10 and down as at 20 par-

allel with the pipe 10 and the stem 17, passing through a loop or eye 21 serving as a guide for the same, and the lower end of such portion 20 is looped about the pipe 10 as at 22 and also the needle-valve 16. Thus it will be seen, upon raising the rod or stem 18, the crank 18 will cause the valve 11 to be closed, and in rising, will also raise the loop 21 forcing the needle-point of the valve 16 into the opening 14 and close the same. In the position in which the parts are now shown, the valve 11 as well as the needle-valve 16 are shown open.

To the outside wall of the receptacle is supported a thermometer 23, the lower end of which is carried within a chambered receptacle 24 attached to the casing of the receptacle and communicating with the compartment 4. By means of this thermometer the temperature of the water poured into the compartment may be easily ascertained, for, as the water rises in the compartment 4, it will enter the receptacle 24, in which the bulb of the thermometer is carried and cause the thermometer to register on the indicator 25 the degree of heat of the water in compartment 4.

On the outside of the casing of the receptacle 1, at the top thereof, beneath the opening 7 in the cap 6, is attached a register 26 provided with numerals, preferably ranging from 1 to 10, the same corresponding to the numerals of the thermometer which also range from 10 to 1. With this register or scale as it might be termed, coacts a pointer 27, which is carried up and through the opening 7 of the cap 6 and after being coiled at 28 about the upper end of a supporting rod 29, its opposite end is looped loosely about the upper end of a rod 30; the rod 30 extending down in proximity to the partition 2, is carried off approximately at right angles, and its end coiled at 31 about an off-set 32 formed in a portion of the supporting rod 29 about intermediate the horizontal portions of said rod 29. Another portion of said rod 29 is also bent to form an off-set 33 around which is coiled at 34 the end of a rod 35. This rod 35 extends forwardly between laterally carried extensions of the supporting rod 29 and the rod 30, and on its end is secured a bulb or float 36, which, when the receptacle or the compartment 3 thereof is empty, rests on the partition 2; but when water is poured into the compartment 3 through the tube or pipe 9, the float will rise, raising the rod 30 which will swing on the off-set 32, and in so doing oscillate the pointer 27 which swings on its coiled portion 28, through the connection of the looped portion of the rear end thereof about the rod 30. The water level falling in compartment 3 will allow the bulb or float 36 to

drop, returning the parts to the position shown in Figs. 1 and 3. To steady the movement of the pointer 27, there engages the rear end thereof a spring finger 37, secured to the supporting rod 29 as shown. The upper portion of the rod 29 may as shown, be bent rearwardly and downwardly and be secured to the inner wall of the compartment 3, at 38; and portions 32^a and 32^b of the said rod 29, intermediate its end 33 and the off-set 32, and intermediate the off-set 32 and vertical portion of the said rod may be soldered or otherwise secured to the top of the partition 2, for the purpose of securely holding or retaining the parts in their respective positions after adjustment in the said receptacle.

The receptacle may be suspended from a wall or other suitable place by means of the ear 39 secured to the wall of the casing, as shown in Fig. 2. 40 denotes a pet-cock or faucet secured in the wall of the casing and communicating with the compartment 3 to adapt the removal of water from this compartment when desired or for draining the same.

In operation, the valves 11 and 16 are first closed. Luke warm water is then poured into the compartment 4 through the pipe 8 and after a short interval, during which time the thermometer 23 will indicate the temperature of the water in said compartment, boiling water is poured into the compartment 3 through the pipe 9, until the pointer 27 coincides with a numeral on the register 26, corresponding to the numeral on the thermometer which indicates the temperature of the water in compartment 4; the movement of the pointer 27 being regulated by the float 36 which rises as the boiling water is poured into the compartment 3. For example, should the thermometer 23 register say 8°, the amount of boiling water which is poured into the compartment 3, will be governed by the movement of the pointer 27, and only sufficient boiling water will be poured into the compartment 3 as will be necessary to cause the pointer 27 to move to a point coincident with the numeral 8 on the register. Should it happen that the register 26 would indicate more than the thermometer 23 by reason of more water being poured into the compartment 3 than was necessary, the water may be drawn from the compartment 3 through the faucet 40, until the pointer 27 reads opposite to the number corresponding to the number on the thermometer 23, indicating the temperature of the water.

The thermometer 23 will indicate the temperature of the luke warm water and the register 26 together with the pointer 27 merely indicates the quantity of water which

is poured into the compartment 3. It being our aim to only pour sufficient water into the compartment 3 as will be necessary to mix with the luke warm water, so that as the water from both of said compartments is drawn from the apparatus, the mixing of the boiling water with the luke warm water will gradually raise the temperature of said luke warm water until when all of the water is finally drawn from the apparatus, it will have reached a desired temperature; in operation, we prefer that this temperature, when the water is finally drawn from the apparatus, to reach about 120° and we have so arranged the apparatus and adjusted the register 23 and the pointer coöperating therewith, with respect to the thermometer, that whatever degree is registered on the thermometer, it will be only necessary to supply the compartment 3 with sufficient boiling water to cause the pointer 27 to move to a point opposite a numeral on the register 26 corresponding to the numeral representing the temperature of the water in compartment 4, when, as the same is then gradually drawn simultaneously from the apparatus, the temperature of the luke warm water in the compartment 4, by being intermixed with the boiling water, will be gradually raised to the desired temperature of about 120°.

After filling the compartments as directed, the rod 18 may be drawn downward, and for convenience in doing this we have provided the string 41 attached to the lower end of said rod. This opens the valves 11 and 16, when the boiling water will pass down through the pipe 10 and out through the opening 14 into the compartment 4, commingling with and gradually raising the temperature of the water in compartment 4 as it passes into pipe 10 through the opening 15 and out through the tube 12 as is apparent.

The pipe 10 extends up above the partition 2, so that, as the water lowers in the compartment 3, there will always remain a certain amount of water around the pipe 10 to retain the heat therein during the drawing off of the water in compartment 4. The bottom 5 is conical shape, that the water in compartment 4 will find easy egress into the pipe 10.

Having thus fully described our invention, what we claim and desire to secure by Letters Patent of the United States, is:—

1. In a device of the character described, the combination of a receptacle divided into two compartments, independent means whereby water may be supplied to both said compartments, a feed pipe extending from one compartment through the other, a thermometer attached to the receptacle for indi-

cating the temperature of water in one compartment, and an indicator for the other compartment adapted to coincide with the thermometer aforesaid.

2. In a device of the character described, the combination of a receptacle divided into two compartments, independent means whereby water may be supplied to both said compartments, a feed pipe extending from the upper compartment through the lower compartment and provided with a discharge orifice communicating with the lower compartment, a valve adapted to control the orifice aforesaid, a thermometer attached to the receptacle for indicating the temperature of water in one compartment, and an indicator for the other compartment adapted to coincide with the thermometer aforesaid.

3. In a device of the character described, the combination of a receptacle divided into two compartments, independent means whereby water may be supplied to both said compartments, a thermometer attached to the receptacle to indicate the temperature of the water in the lower compartment, an indicator attached to the receptacle with characters coinciding with those of the thermometer, a pointer adapted to coact with the indicator, and means for actuating the pointer, as water is poured into the upper compartment.

4. In a device of the character described, the combination of a receptacle divided into two compartments, means whereby water may be supplied to both said compartments, a feed pipe from the upper compartment through the lower, the same divided by a partition and having an egress opening above the partition and an ingress opening beneath the partition, a valve controlling the egress opening, a valve attached to the pipe beneath the ingress opening, and means for simultaneously actuating the valves aforesaid.

5. In a device of the character described, the combination of a receptacle divided into two compartments, means whereby water may be supplied to both said compartments, a feed pipe from the upper compartment through the lower, the same divided by a partition and having an egress opening above the partition and an ingress opening beneath the partition, a valve controlling the egress opening, a valve attached to the pipe beneath the ingress opening, means for simultaneously opening or closing both of said valves, a thermometer indicating the temperature of water in the lower compartment, a gage for the upper compartment, and means for actuating the said gage upon the filling of the upper compartment.

6. In a device of the class described, the combination of a receptacle divided into

two compartments, means whereby water may be supplied to both said compartments, a valved controlled outlet from the upper into the lower compartment, a valved controlled outlet from the lower compartment, a thermometer for indicating the temperature of water in the lower compartment, and an indicator for the upper compartment.

7. In a device of the character described, the combination of a receptacle divided into two compartments, means for filling both said compartments with water, a pipe extending from the upper compartment through the lower compartment, the same having an open upper end and the lower portion divided by a partition and provided with an egress opening above the partition and an ingress opening beneath the partition, a needle-point valve for controlling the egress opening aforesaid, a valve on the lower end of the pipe outside the receptacle, and connections between the two valves whereby when one is actuated they are both actuated.

8. In a device of the character described, the combination of a receptacle divided into two compartments, means for filling both said compartments with water, a pipe extending from the upper compartment through the lower compartment, the same having an open upper end and the lower portion divided by a partition and provided with an egress opening above the partition and an ingress opening beneath the partition, a needle-point valve for controlling the egress opening aforesaid, a valve on the lower end of the pipe outside the receptacle, a thermometer for indicating the temperature of the water in the lower compartment, and an indicator for gaging the quantity of water in the upper compartment.

9. In a device of the character described, the combination of a receptacle divided into two compartments, means for filling both said compartments with water, a pipe extending from the upper compartment through the lower compartment, the same having an open upper end and the lower portion divided by a partition and provided with an egress opening above the partition and an ingress opening beneath the partition, a needle-point valve for controlling the egress opening aforesaid, a valve on the lower end of the pipe, means for actuating said valves, a thermometer for indicating the temperature of water in the lower compartment, an indicator for gaging the quantity of water in the upper compartment, and means carried in the upper compartment adapted to be actuated by the rise or fall of the water in said compartment for actuating said indicator.

10. In a device of the character described, the combination of a receptacle divided into two compartments, the lower compartment having a closed bottom and the upper compartment closed by a detachable lid, the said lid provided with an arc shaped slot, means for supplying both said compartments with water, means for discharging the water in the upper compartment into the lower compartment, means for emptying the lower compartment, a thermometer for indicating the temperature of water in the lower compartment, a register attached to the upper portion of the receptacle, a pointer operating through the slot of the lid aforesaid and coacting with said register, and means operating within the upper compartment for controlling the said pointer.

11. In a device of the character described, the combination of a receptacle divided into two compartments, the lower compartment having a closed bottom and the upper compartment closed by a detachable lid, means for supplying the said compartments with water, means for discharging the water in the upper compartment into the lower compartment, means for emptying the lower compartment, a thermometer for indicating the temperature of water in the lower compartment, a water gage for indicating the quantity of water in the upper compartment, and mechanism within the upper compartment adapted to be actuated by a float for controlling the movements of the said gage.

12. In a device of the character described, the combination of a receptacle divided into two compartments, means for supplying water to both said compartments, a valved controlled feed from the upper to the lower compartment, a valved controlled outlet from the lower compartment, means for actuating both said valves, a thermometer for indicating the temperature of water in the lower compartment, a water gage for indicating the quantity of water in the upper compartment, and connections between the float and gage for actuating the latter.

13. In an apparatus of the character described, the combination of a two compartment receptacle, one adapted to contain luke-warm water, the other boiling water, means for conveying water from one compartment to the other, and means for drawing from the receptacle the combined luke-warm and boiling water.

14. In an apparatus of the character described, the combination of a two compartment receptacle, one adapted to contain luke-warm water, the other boiling water, means for conveying water from one compartment to the other, a thermometer to

indicate the temperature of the luke-warm water, a water-gage for indicating the quantity of water in said receptacle, and means for drawing from the said receptacle the
5 combined luke-warm and boiling water.

15. In an apparatus of the character described, a water gage, means for operating said gage, comprising a float 35, an oscillating arm adapted to be raised or lowered
10 by said float, a support, a pointer revolubly

attached to the support, and connections between the pointer and arm aforesaid.

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

JAMES W. PARKER.
FRANK L. HURTT.

Witnesses:

CHAS. W. LA PORTE,
ROBERT N. MCCORMICK.