

(No Model.)

2 Sheets—Sheet 1.

R. C. ANDERSEN.
DOMESTIC COOKING VESSEL.

No. 544,717.

Patented Aug. 20, 1895.

FIG. 1.

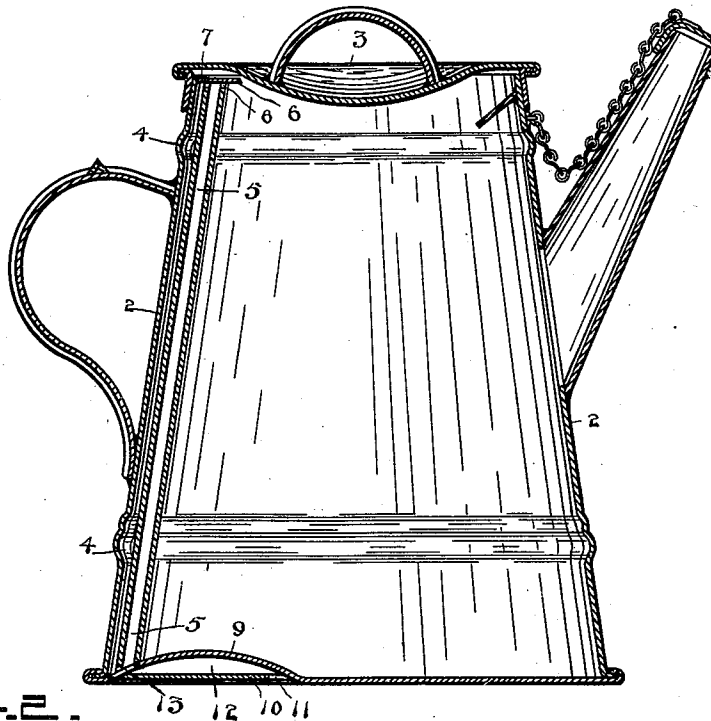


FIG. 2.

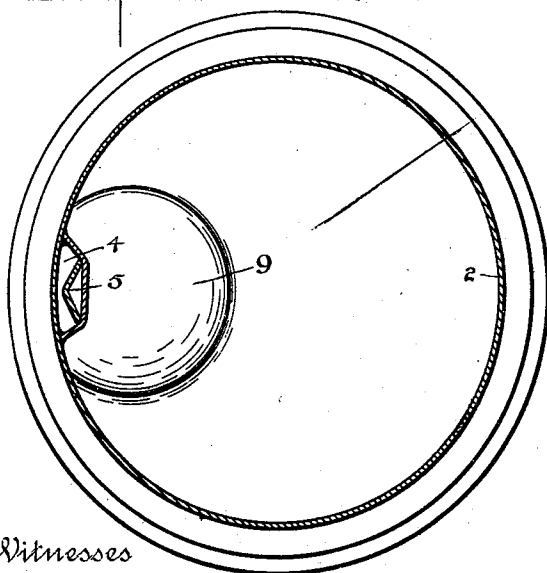
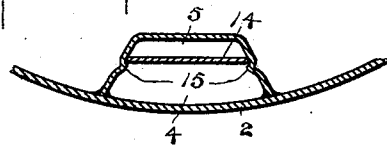


FIG. 3.



Witnesses

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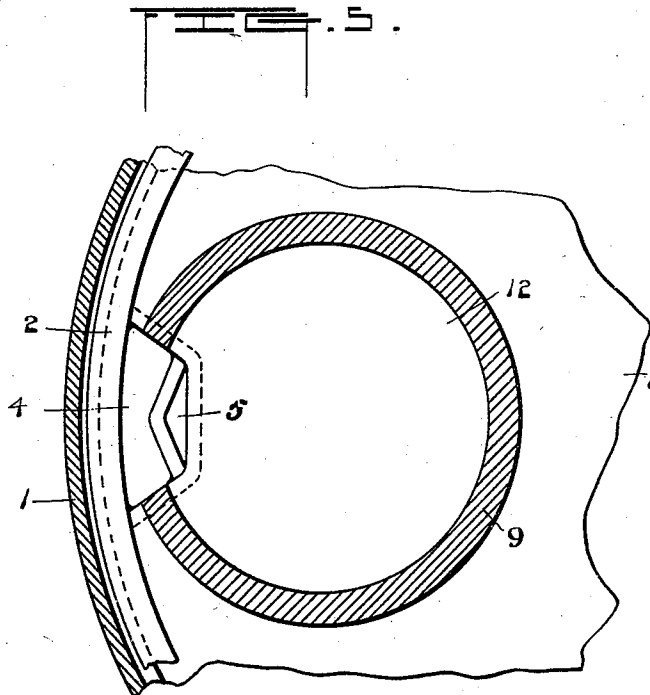
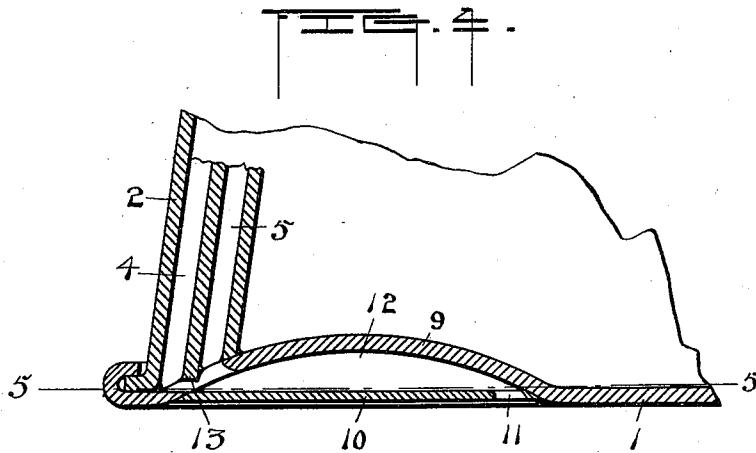
(No Model.)

2 Sheets—Sheet 2.

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No. 544,717.

Patented Aug. 20, 1895.



Witnesses

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J. P. Drake Jr.

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UNITED STATES PATENT OFFICE.

RICHARD C. ANDERSEN, OF LINCOLN, NEBRASKA.

DOMESTIC COOKING VESSEL.

SPECIFICATION forming part of Letters Patent No. 544,717, dated August 20, 1895.

Application filed February 14, 1895. Serial No. 538,408. (No model.)

To all whom it may concern:

Be it known that I, RICHARD C. ANDERSEN, a resident of Lincoln, in the county of Lancaster and State of Nebraska, have invented certain new and useful Improvements in Domestic Cooking Vessels; and I 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 pertains to make and use the same.

The invention relates to that class of domestic boilers or pots which have a steam-tube extending from just beneath the cover to the bottom of the vessel.

The object of the invention is to increase the efficiency and durability of such devices without adding to their complexity or cost; and it consists in the construction hereinafter described and particularly pointed out.

In the accompanying drawings, Figure 1 is a vertical central section. Fig. 2 is a transverse section. Fig. 3 is a section of a modification. Fig. 4 is an enlarged partial section, and Fig. 5 is a section on line 5 5 of Fig. 4.

Numerals 1 and 2 denote, respectively, the copper bottom and the upper portion of a coffee-pot or other cooking vessel. 3 indicates its cover, which is made to fit the body of the vessel with a substantially steam-tight joint. Preferably both the body and the cover-rim are made frusto-conical, the rim having its diameters in the base and top planes a trifle larger and smaller, respectively, than the upper diameter of the body, whereby the cover is adapted to be jammed on the body with increasing friction and closeness.

4 and 5 denote conduits extending from the top to the bottom of the vessel, as shown. These are formed by two strips of metal bent to a V or U shape in cross-section. These two pieces of sheet metal are placed one within the other and secured together, and the larger one is then soldered to the vessel adjacent to the handle, as represented.

Instead of combining two V or U shaped pieces the inner piece may be a flat strip 14, (see Fig. 3,) and whether this partition or inner piece be flat or not it may be slipped into the outer V-shaped piece behind beads 15, formed in its walls, as indicated in said Fig. 3, and held without solder. The two conduits thus formed are partially closed at top by a

transverse plate 6, secured to the wall of the vessel. 7 denotes an opening in said plate directly over conduit 4, and 8 is an opening beneath plate 6, by which the inner conduit 5 communicates directly with the interior of the vessel. At their bottom the tubes or conduits 4 and 5 communicate with a chamber 12, formed in the vessel's bottom by stamping up a portion 9 thereof and soldering over it a piece 10 situated in or near the plane of said bottom. The wall of conduit 5 extends at 13 to a plane intermediate the upper and lower walls of the reheating-chamber 12, formed by the parts 9 and 10. Said chamber has an exit at 11 on its edge toward the center of the vessel's bottom. It is important that the plate 10 be in substantially the same plane as the main part of the vessel's bottom, so as not to interfere with its resting flatly upon a stove-plate.

The conduits 4 and 5 and plates 6 and 10 are made from tin-waste, and the upper wall of the chamber 12 is formed from the vessel's bottom, insuring great economy of material. The walls of the conduits 4 and 5 stiffen the vessel adjacent to the handle and also lessen the degree of heating to which it is liable, for the reason that these conduits are filled with air during the heating-up operation.

In using the vessel to infuse coffee, for example, the cover is tightly closed down upon the vessel. After steam is formed and a slight pressure thereby generated, it will be forced into the larger open-topped conduit 4, and will be partially condensed therein and descend to the plate 10, which ordinarily will be situated on or just above a stove-top sufficiently hot to immediately superheat the vapor or steam, which will then ascend conduit 5 and pass out at the opening 7 under plate 6 into the vessel, or, failing to ascend under exceptional circumstances, will pass out of the opening 11. In the latter case, if the vessel is suitably situated near or over a pot-hole or draft-inlet to the stove or range, the steam will be drawn into the same, especially if the vessel has been moved to a cool part of the stove-top.

Under the condition most favorable for infusing coffee no steam and no aroma will escape from the pot; but if the contents of the vessel begin to boil or approach closely the

boiling-point a circulation is produced by the descent of vapor in conduit 4 which is superheated in chamber 12 and ascends conduit 5 and returns again to the vessel.

5 I have found by long-continued experiment that the conduits 4 and 5 must have a proper relative size to insure the operation described. Such proportionate sizes are indicated in the drawings, which illustrate a
10 coffee-pot of usual form and medium size, the main figure being drawn to a scale of about two-thirds. An average transverse area of about three-eighths of a square inch for the larger conduit and of one-eighth for the
15 smaller in a pot of the size described will operate efficiently. For vessels of greater or less size and heating capacity the conduits will be enlarged or diminished and about the same relative transverse dimensions preserved. This circulation is secured by the
20 cooling effect of the exterior of the vessel adjacent conduit 4, which determines a downward circulation therein and insures entrance of steam at its top, this action being aided
25 by plate 6, which closes direct descent into conduit 5. The entrance of a return current of steam from chamber 12 into conduit 5 is determined by its greater heat. The downward extension 13 of the wall that separates
30 the two conduits insures that vapor and liquid descending in conduit 4 shall be carried below the mouth of conduit 5, and also that the same vapor when reheated and imbued with greater ascensional force shall pass from
35 the top of chamber 12 into conduit 5.

I do not herein broadly claim conduits for the general purpose and function herein set forth, but the novel construction whereby the operation is made more certain and greater
40 economy, simplicity, and durability secured.

Having thus fully described my invention, what I claim is—

1. In a coffee pot or like vessel two conduits 4 and 5 formed by the piece of V-shape in
45 cross section having a partition plate secured

thereto and itself secured to the vessel, the plate 6 having an opening 7 and the conduit 5 an opening 8 beneath the plate, the chamber 12 formed by a raised portion 9 of the bottom, and a covering plate 10 situated in
50 the plane of said bottom, substantially as set forth.

2. In a coffee pot or like vessel two conduits 4 and 5 formed by the piece of V-shape in cross section having a partition plate secured
55 thereto and itself secured to the vessel, the plate 6 having an opening 7 and the conduit 5 an opening 8 beneath the plate, the chamber 12 formed by a raised portion 9 of the bottom, a covering plate 10 situated in the plane
60 of said bottom and the downward extension 13 of the wall separating said conduits, substantially as set forth.

3. In a coffee pot or like vessel the conduit 4 for the descent of vapor, a re-heating chamber formed in the bottom of the vessel and a
55 conduit 5 for the ascent of steam both conduits connecting with the re-heating chamber and with the upper part of the vessel, the former having a transverse area about three
70 times that of the latter, substantially as set forth.

4. In a coffee pot or like vessel the conduit 4 for the descent of vapor, a re-heating chamber formed in the bottom of the vessel and a
75 conduit 5 for the ascent of steam both conduits connecting with the re-heating chamber and with the upper part of the vessel, a plate such as 6 to obstruct entrance to the top of flue 5 and a guard such as 13 to direct the
80 descending vapor below the ascending steam, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

RICHARD C. ANDERSEN.

Witnesses:

H. H. WELLS,

C. A. BANCROFT.