

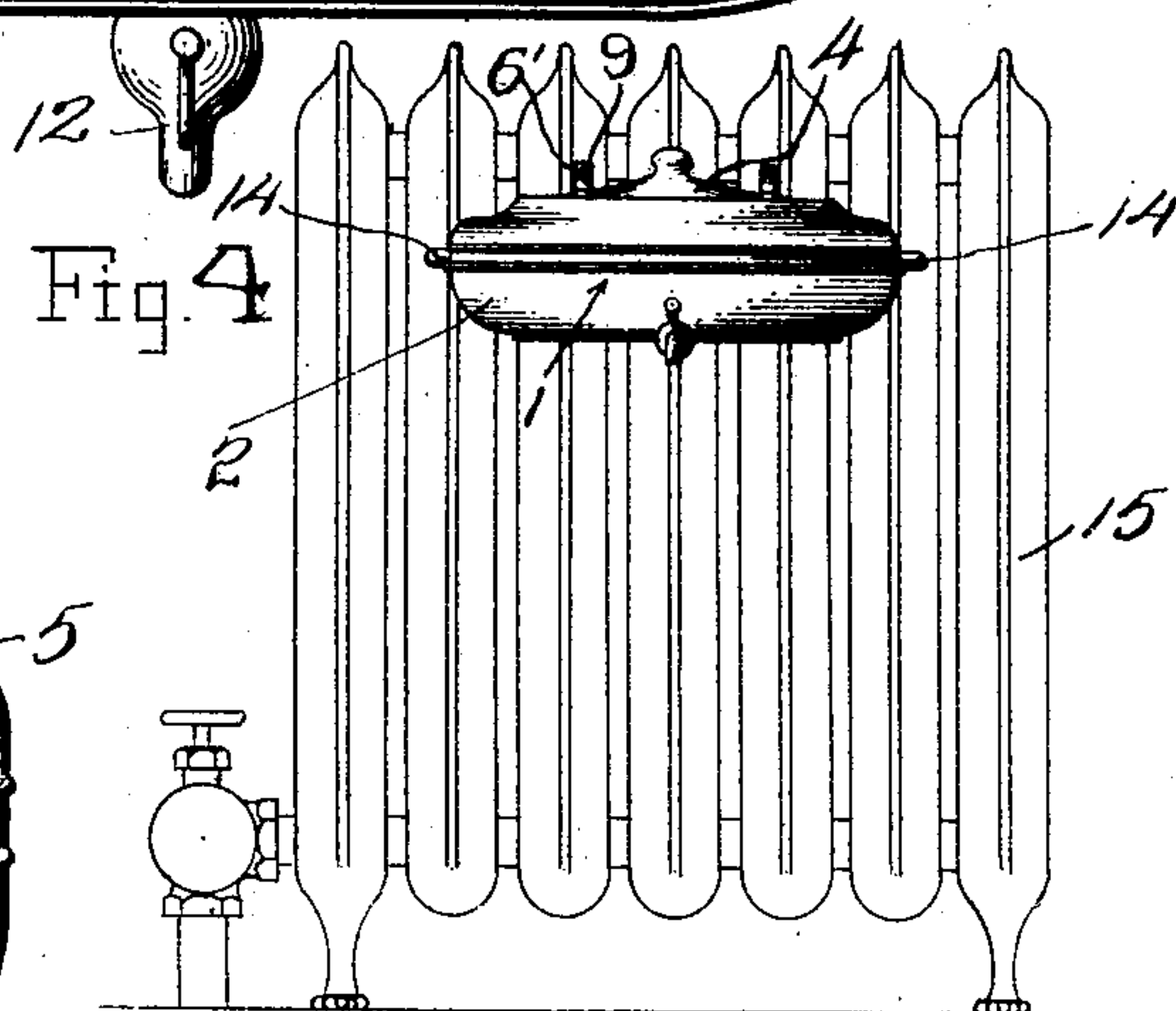
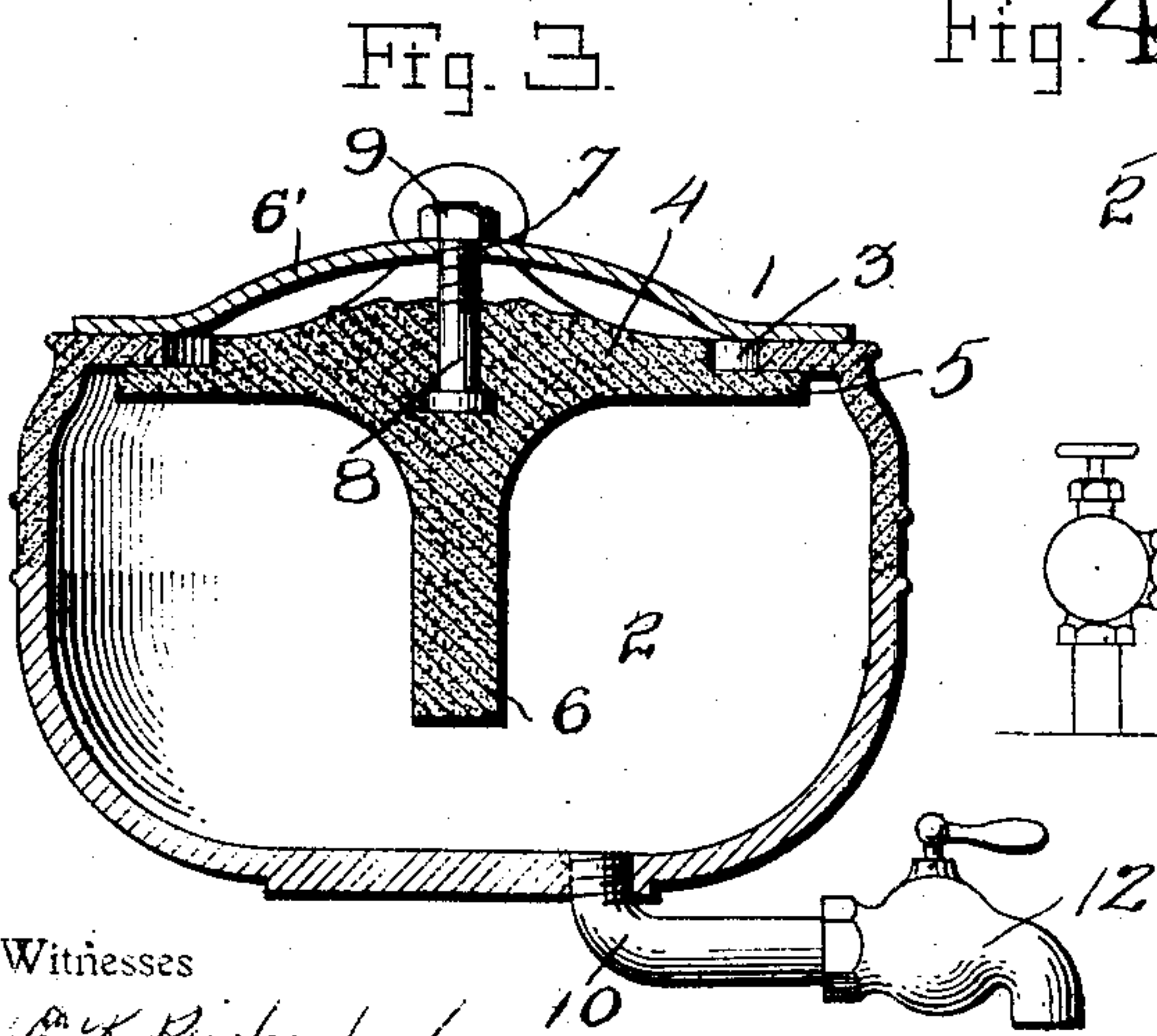
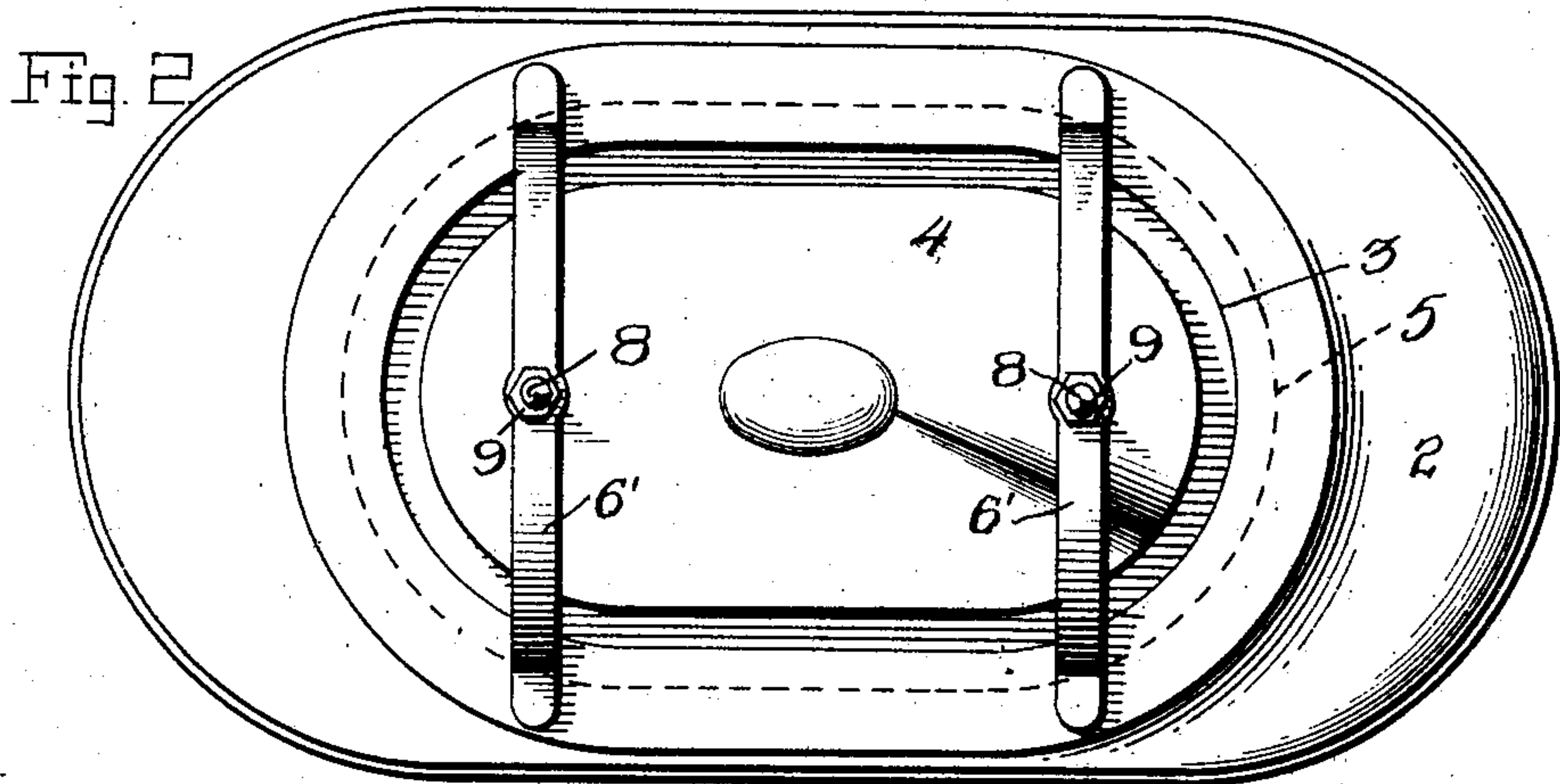
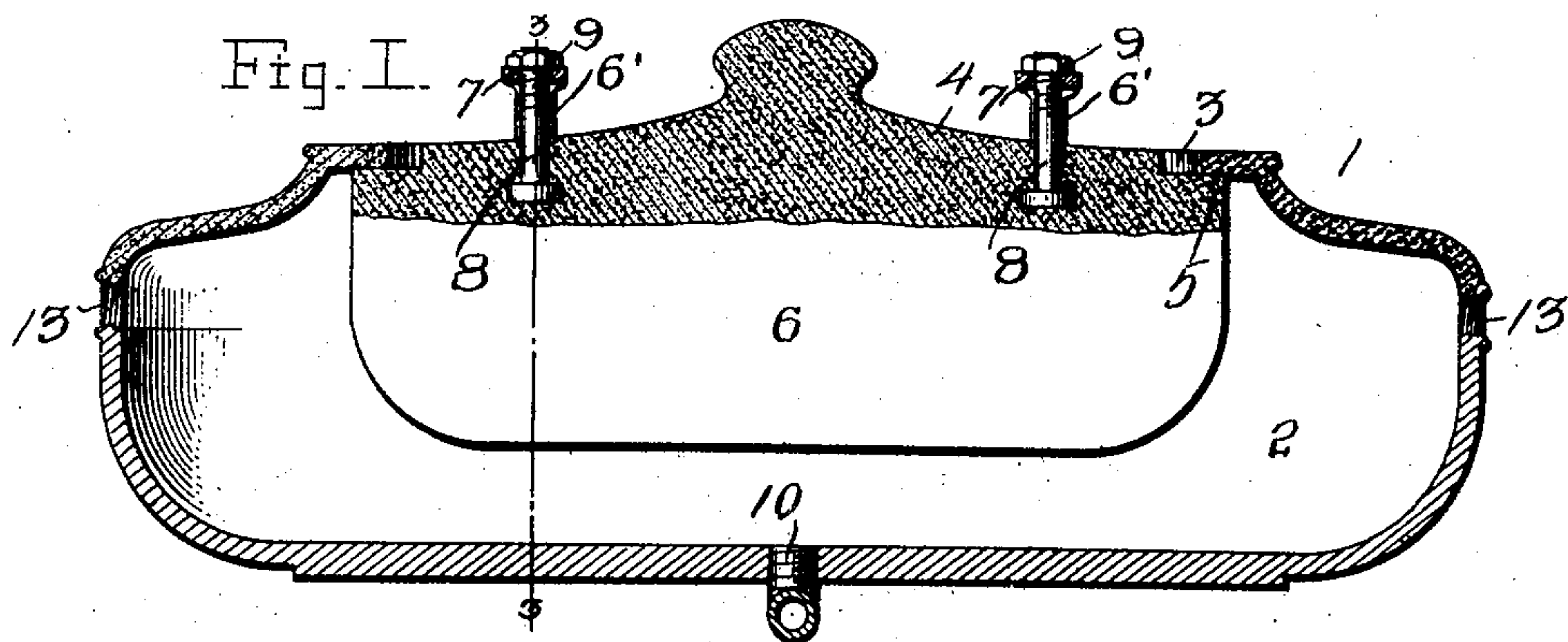
No. 765,165.

PATENTED JULY 19, 1904.

D. W. DALEY.
POROUS EVAPORATOR.

APPLICATION FILED NOV. 16, 1903.

NO MODEL.



Witnesses

C. H. Rickenbach.

[Signature]

Inventor

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By

[Signature]

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UNITED STATES PATENT OFFICE.

DENNIS W. DALEY, OF PARKERSBURG, WEST VIRGINIA.

POROUS EVAPORATOR.

SPECIFICATION forming part of Letters Patent No. 765,165, dated July 19, 1904.

Application filed November 16, 1903. Serial No. 181,391. (No model.)

To all whom it may concern:

Be it known that I, DENNIS W. DALEY, a citizen of the United States, residing at Parkersburg, in the county of Wood and State of West Virginia, have invented certain new and useful Improvements in Porous Evaporators; and I do 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 air-moistening attachments for radiators.

The object of the invention is to provide an evaporator to be used in connection with steam or hot-water radiators, from which the same is automatically supplied with water and by which the water is evaporated into the heated atmosphere of the room to moisten the same.

A further object is to provide means whereby the water contained in the evaporator may be drawn for domestic use and to so construct the same that the parts may be readily separated for cleaning purposes.

With these and other objects in view the invention consists of certain novel features of construction, combination, and arrangement of parts, as will be more fully described, and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a longitudinal sectional view of the evaporator. Fig. 2 is a top plan view of the same. Fig. 3 is a transverse sectional view on the line 3 3 of Fig. 1. Fig. 4 is a side elevation of a radiator, showing the application of the evaporator thereto.

Referring more particularly to the drawings, 1 denotes the evaporator, which consists of a hollow receptacle or condensing-tank 2, which may be formed of any suitable material, but preferably of porcelain or like substance. The lower part of the receptacle or tank 2 or that part below the connections of the same with the radiator is glazed or made impervious, while the upper part of the same above the radiator connections is unglazed or porous.

The receptacle or tank 2 may be of any desired shape or design, but is here shown as be-

ing of a flattened oval shape. In the top of the tank is formed an elliptical-shaped opening 3, in which is adapted to be inserted a closure in the form of an elliptical-shaped porous head 4, having formed on its edge a projecting flange 5, and on its lower side is formed a depending vertically-disposed porous plate or stem 6, which projects down into the receptacle, as shown. The outside dimensions and the width of the flange 5 are such as to permit the same and the stem 6 to be inserted into the opening 3 in the top of the tank by slipping the same in sidewise. It is then adjusted so that the flange will engage under the edge of the opening 3 at all points.

In order that the head 4 may be held in position and the flange 5 firmly engaged with the under side of the edge of the opening 3, suitable clamping mechanism is employed, which consists of a yoke 6', arranged near each end of the head 4 and spanning the same, the ends of the yoke being adapted to engage the top of the tank 2 adjacent to the edge of the opening 3. In the center of each yoke is formed an opening 7, through which projects the threaded end of a bolt 8, the lower headed end of which is secured in the top of the head 4, as shown. On the threaded ends of the bolts 8 are screwed nuts 9, which bear on the yokes 6', so that by screwing said nuts on the bolts the latter will be drawn through the yokes, thereby drawing the flange 5 on the head 4 in order to close connection with the under side of the edge of the opening 3. The head 4 is provided with a centrally-disposed knob or handle by which the same may be lifted.

In the bottom of the receptacle or tank 2, about midway between the ends of the same, is formed a threaded opening into which is adapted to be screwed a discharge-pipe 10, which extends to the front of the tank and is provided with a draw-off cock or spigot 12, by which the water in said tank may be drawn off for domestic use or to drain the tank.

In each end of the receptacle or tank 2, just above the center line of the same, is formed a threaded opening 13, and into said openings are fitted the ends of supply-pipes 14, the op-

posite ends of which are in communication with the pipes of a radiator 15, as shown in Fig. 4. Steam from the radiator passes through the pipes 14 and into the tank or receptacle 2, where it is condensed, thereby supplying the tank with water, which is continually being renewed as the same is drawn off or evaporated. The porous plate or stem 6 of the porous head 4 is adapted to project down into the water in said tank and absorb the same and carry it up by capillary attraction to the porous head 4 and upper porous portion of the tank. From these parts the water is evaporated into the dry heated air of the room.

By forming the evaporator in two sections the parts may be readily separated for cleaning. The evaporators may be made in various forms and sizes and more or less ornamental to suit the requirements of the places where the same are to be used.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

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

1. An evaporator of the class described, consisting of a water tank or receptacle having an impervious lower portion and a porous upper portion, and means whereby the water in said lower portion is fed to said porous upper portion, substantially as described.

2. An evaporator of the class described, consisting of a water tank or receptacle having an impervious lower portion and a porous upper portion, a clean-out opening formed in said upper portion, means for closing said opening, and means whereby the water in the lower portion of the tank is fed to the porous upper portion of the same, substantially as described.

3. An evaporator of the class described, consisting of a water tank or receptacle having an impervious lower portion and a porous upper portion, a clean-out opening formed in said upper portion, a porous closure arranged in said opening, means for holding said closure in place and means whereby the water in the lower portion of said tank is fed to said porous closure and upper portion of the tank, substantially as described.

4. An evaporator of the class described, consisting of a water tank or receptacle having an impervious lower portion and a porous up-

per portion, a clean-out opening formed in said upper portion, a porous head forming a closure for said opening, means for retaining said head in place, a porous stem projecting downwardly from said head into the lower portion of said tank whereby the water contained therein is absorbed and fed to said porous head and the upper porous portion of said tank, substantially as described.

5. An evaporator of the class described, consisting of a water tank or receptacle having an impervious lower portion and a porous upper portion, a clean-out opening formed in said upper portion, a flanged porous head adapted to engage the edges of said opening and close the same, yoke-clamps for holding said head in position to close said opening, a porous stem formed on said head to project into the lower portion of said tank, whereby the water contained therein is absorbed and fed to said porous head and the upper porous portion of said tank, and means whereby the water in said tank may be drawn off, substantially as described.

6. An evaporator for the purpose described consisting of a water-tank composed of pervious and impervious portions and means whereby the water in the impervious portion is fed to the pervious portion, substantially as described.

7. An evaporator attachment for radiators, comprising a condensing-tank, having an impervious lower portion and a porous upper portion, means whereby the steam from said radiator is supplied to said tank and condensed, and means for absorbing and feeding said condensed steam to said upper porous portion, substantially as described.

8. An evaporator attachment for radiators, comprising a condensing-tank, having an impervious lower portion and a porous upper portion, a clean-out opening formed in the top of said tank, a porous closure for said opening, means for holding said closure in place, a porous stem formed on said closure to project down into the impervious portion of said tank to absorb the water contained therein and feed the same to said porous closure and the upper porous portion of said tank, supply-pipes connecting said tank with said radiator whereby steam from said radiator is fed to said tank and condensed, and means for drawing the water from said tank, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

DENNIS W. DALEY.

Witnesses:

L. M. GAINER,
JAMES A. WATSON.