

No. 762,576.

PATENTED JUNE 14, 1904.

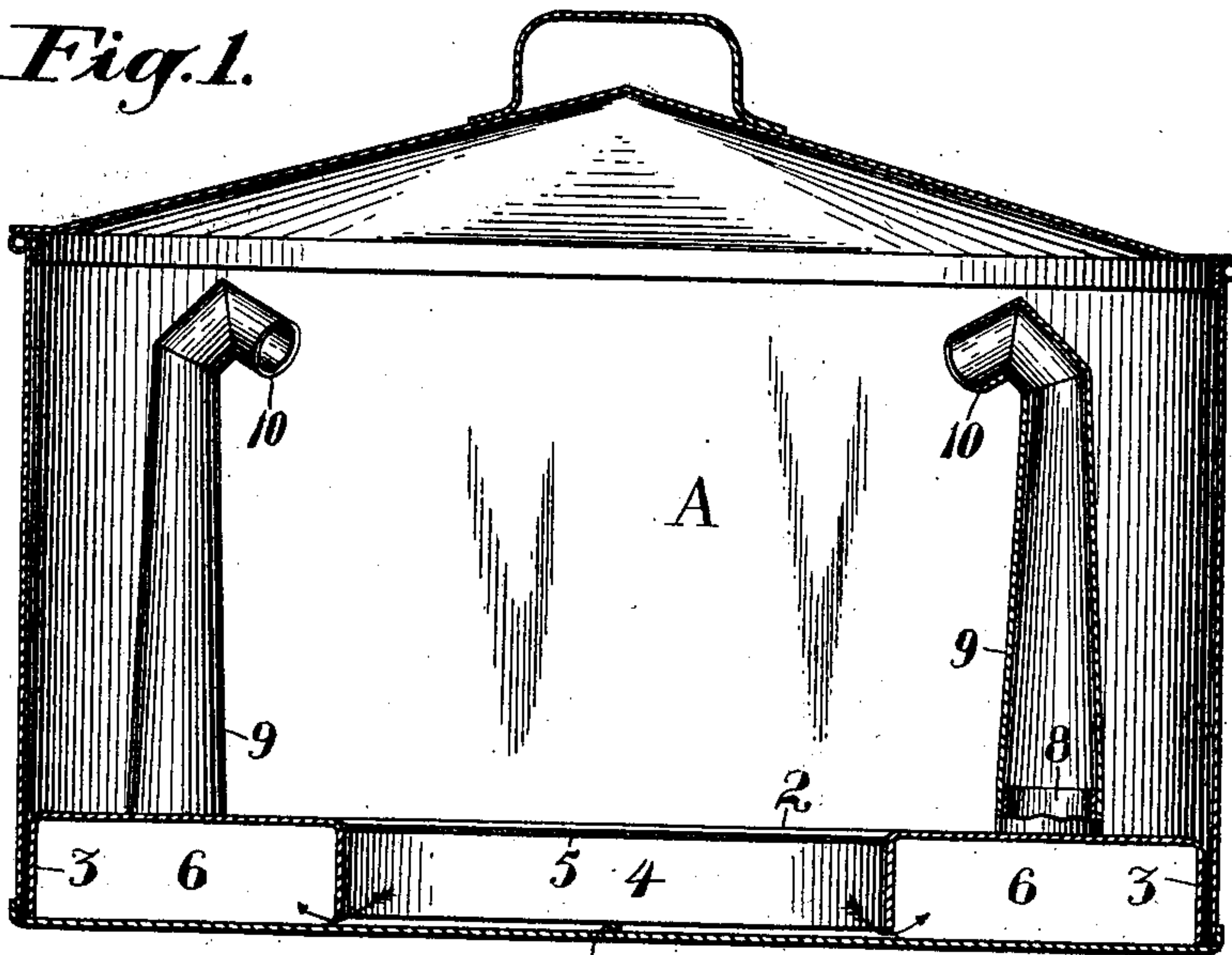
JAMES L. BROBST & JACOB L. BROBST.

WASHBOILER.

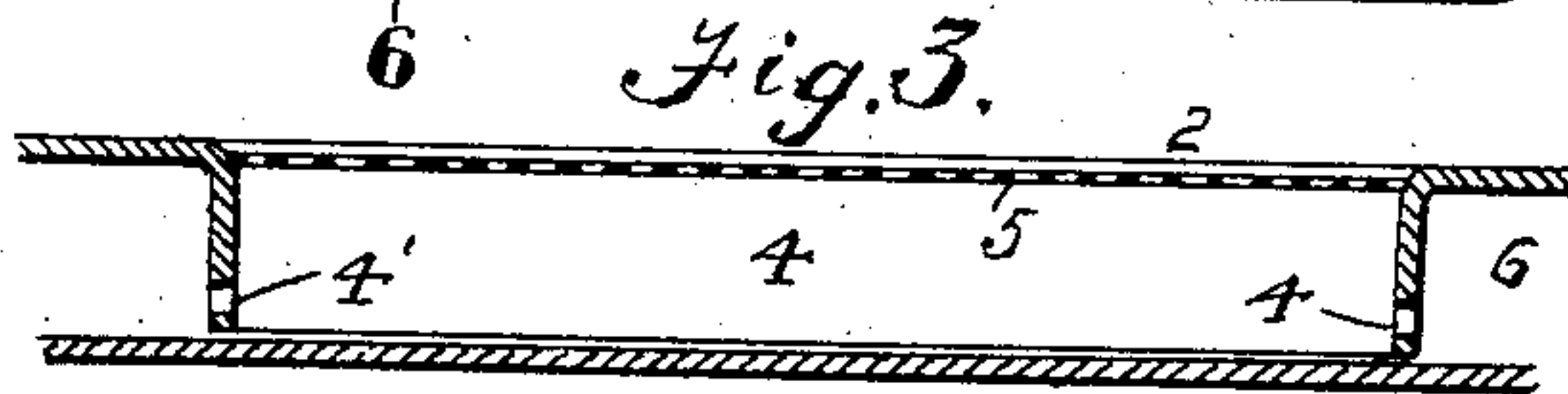
APPLICATION FILED OCT. 31, 1903.

NO MODEL.

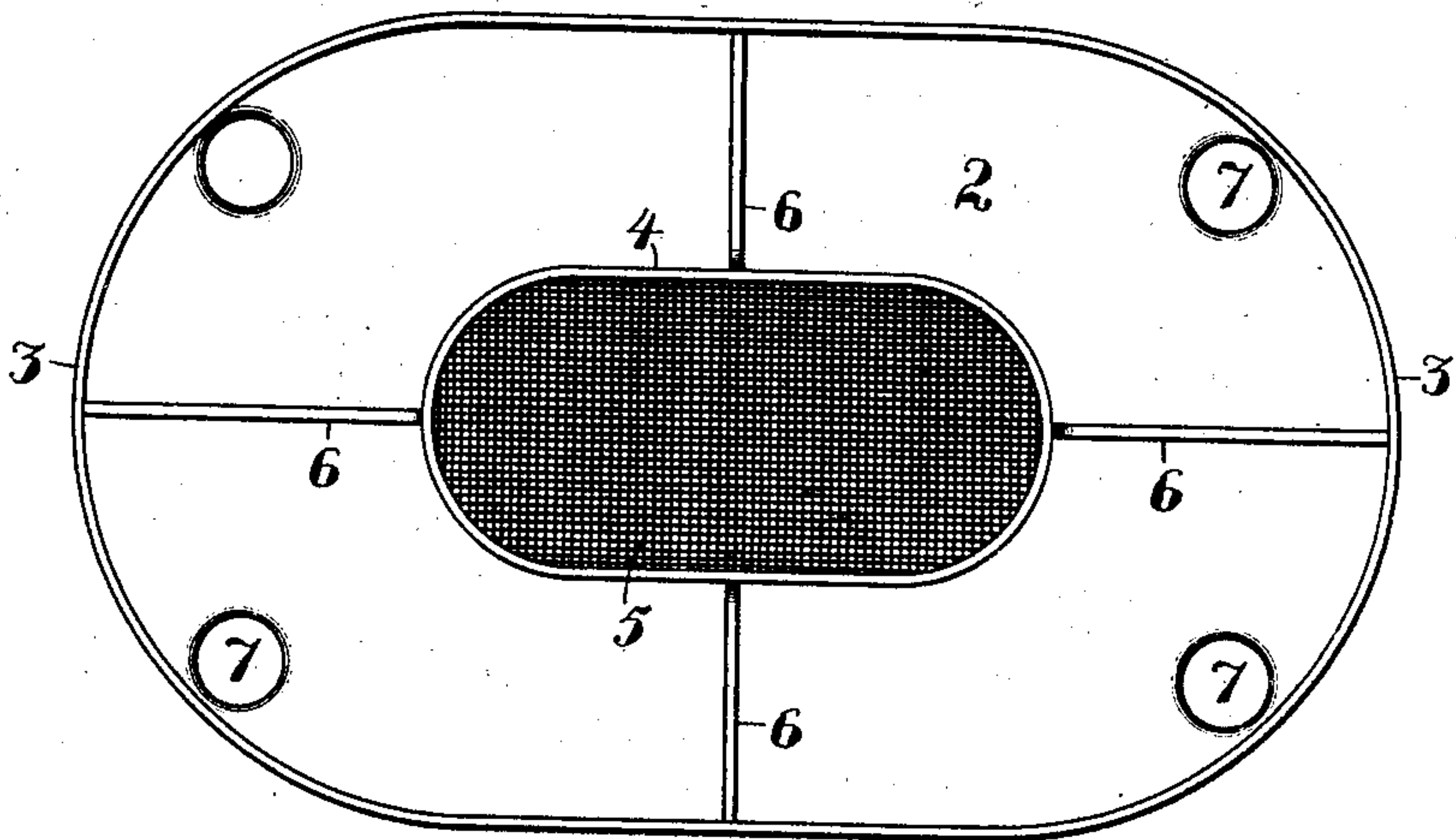
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



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# UNITED STATES PATENT OFFICE.

JAMES L. BROBST AND JACOB L. BROBST, OF SAN MATEO, CALIFORNIA.

## WASHBOILER.

SPECIFICATION forming part of Letters Patent No. 762,576, dated June 14, 1904.

Application filed October 31, 1903. Serial No. 179,337. (No model.)

*To all whom it may concern:*

Be it known that we, JAMES L. BROBST and JACOB L. BROBST, citizens of the United States, residing at San Mateo, in the county of San Mateo and State of California, have invented new and useful Improvements in Washboilers, of which the following is a specification.

Our invention relates to improvements in clothes-washboilers and attachment therefor.

It consists, essentially, of a false bottom having a downwardly-projecting peripheral rim or flange substantially fitting the interior of the boiler, a second flange of smaller diameter concentric with the outer and of slightly less depth, diaphragms or partitions extending longitudinally and transversely at right angles from the inner to the outer rim, openings made near the ends of each of the compartments thus formed, pipes extending upwardly from said openings and adapted to discharge the boiling water upon the top of the clothes contained in the boiler, and an open screen in the top of the diaphragm communicating with the central chamber beneath.

Our invention also comprises details of construction, which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a longitudinal vertical section of our device. Fig. 2 is a bottom view. Fig. 3 is a sectional detail of a modification hereinafter described.

It is the object of our invention to provide a more perfect and rapid circulation of water in boilers of the class in which a horizontal diaphragm is located in the bottom of the boiler and pipes or passages are connected therewith to carry the water upwardly and circulate it within the boiler.

As shown in the present drawings, A is a boiler such as is usually employed for washing clothes.

The boiler may be of any suitable or desired shape. In the present case it is shown as having greater length than width and substantially semicircular ends.

2 is a diaphragm of substantially the same shape as the interior of the boiler and adapted to fit easily therein, so that it can be placed or removed at pleasure. Around the periph-

ery of this diaphragm is a downwardly-projecting rim or flange 3, which will substantially rest upon the bottom of the boiler, thus raising the diaphragm 2 a suitable distance from the bottom. 4 is another rim or flange also projecting downwardly, and this rim or flange is substantially concentric with the outer rim, but has a slightly less depth, so that the lower edge will not rest upon the bottom of the boiler, but will leave a narrow space or channel all around. An equivalent of this construction would be the making of openings through this inner flange 4, as at 4' in Fig. 3. Either construction would be satisfactory for the purpose. An opening is made through the horizontal diaphragm coincident in shape and size with the interior flange 4, and this opening is covered with fine gauze or screen material 5. Between the ends and the sides of the rims 3 and 4 are vertically-disposed partitions 6, connecting the outer and inner rims, two of these partitions extending lengthwise and the other two transversely, thus dividing the space between the outer and inner flanges into four compartments. Near the ends of each of these compartments are openings, as at 7, and these openings have upwardly-extending tubes, as at 8, upon which are removably fitted the tapering or convergent pipes 9. The upper ends of these pipes are bent over, as shown at 10, so as to discharge inwardly and downwardly toward the center and upon the surface of the clothes which have been previously placed in the boiler and above the diaphragm.

The operation of the apparatus will then be as follows: The false bottom or diaphragm and the pipes 9 being in position within the boiler, the latter filled with clothes upon the top of the diaphragm and a sufficient quantity of water, and the whole subjected to heat sufficient to boil the water, it will be seen that the water contained in the compartments between the partitions 6 will be substantially separated in each and also separated from the central compartment within the flange 4. The tendency of the boiling water will therefore be to rise through the pipes 9 and to be discharged from these pipes upon the clothes within the boiler, and by reason of the partial vacuum



produced below the diaphragm 2 the water will rapidly pass through the clothes and through the central screen 5 into the interior of the compartment below the diaphragm and within the rim or flange 4. By reason of the spaces beneath or through this flange 4 the water will flow outwardly and substantially equally into each of the compartments between the partitions 6 to be again carried up through the pipes, and thus circulate as long as may be desired.

We prefer that the spaces or openings through the rim or flange 4 be as low as possible in order to accentuate the tendency of the water from the center to the outer chambers and thence upwardly through the pipes, and for this reason we have given preference to the construction in which the rim or flange 4 is of less depth than the outer one, 3, thus leaving a space around the bottom communicating with each of the subchambers between the rims 3 and 4. The partitions 6, however, may have their lower edges flush with the lower edge of the rim 3 and rest upon the bottom of the boiler, so that the exterior chambers are separated from each other and independently communicate through the rim 4 with the central screen-covered chamber.

Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—

1. The combination with a boiler, of a horizontal diaphragm fitting therein and having a surrounding rim with imperforate sides, an interior rim extending proximate to the bottom of the boiler and concentric with the outer rim, and forming an inner chamber in which a partial vacuum is created said inner chamber communicating with the chamber between the two rims by a passage-way located near the bottom of the boiler, a foraminous cover

for the inner chamber, and pipes communicating with the outer chamber and leading upwardly from the outer edges thereof.

2. The combination with a boiler, of a horizontal diaphragm fitting therein and having an exterior surrounding rim with imperforate sides, a second rim interior to the first-named rim and concentric with the sides and ends of the latter, and having a foraminous top or cover, said second rim forming a partial vacuum-chamber and having means near its lower end for admitting water to the substantially closed chamber between the rim, radial partitions extending between the rims and dividing the closed chamber into separate compartments, and a pipe leading from each of said compartments and adapted to discharge above the contents of the boiler.

3. The combination with a boiler of a horizontal diaphragm removably fitted thereto, said diaphragm having concentric rims or flanges one around the periphery and the other intermediate between that and the center, a screen-covered opening through the diaphragm into the central chamber, vertical partitions extending between the ends and sides of the concentric flanges, means forming a communication between the lower portion of the central chamber and each of the chambers between the partitions and removable curved pipes extending upwardly from the outer ends of said chambers adapted to discharge upon the surface of the contents of the boiler.

In testimony whereof we have hereunto set our hands in presence of two subscribing witnesses.

JAMES L. BROBST.  
JACOB L. BROBST.

Witnesses:

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J. N. ROMERO.