

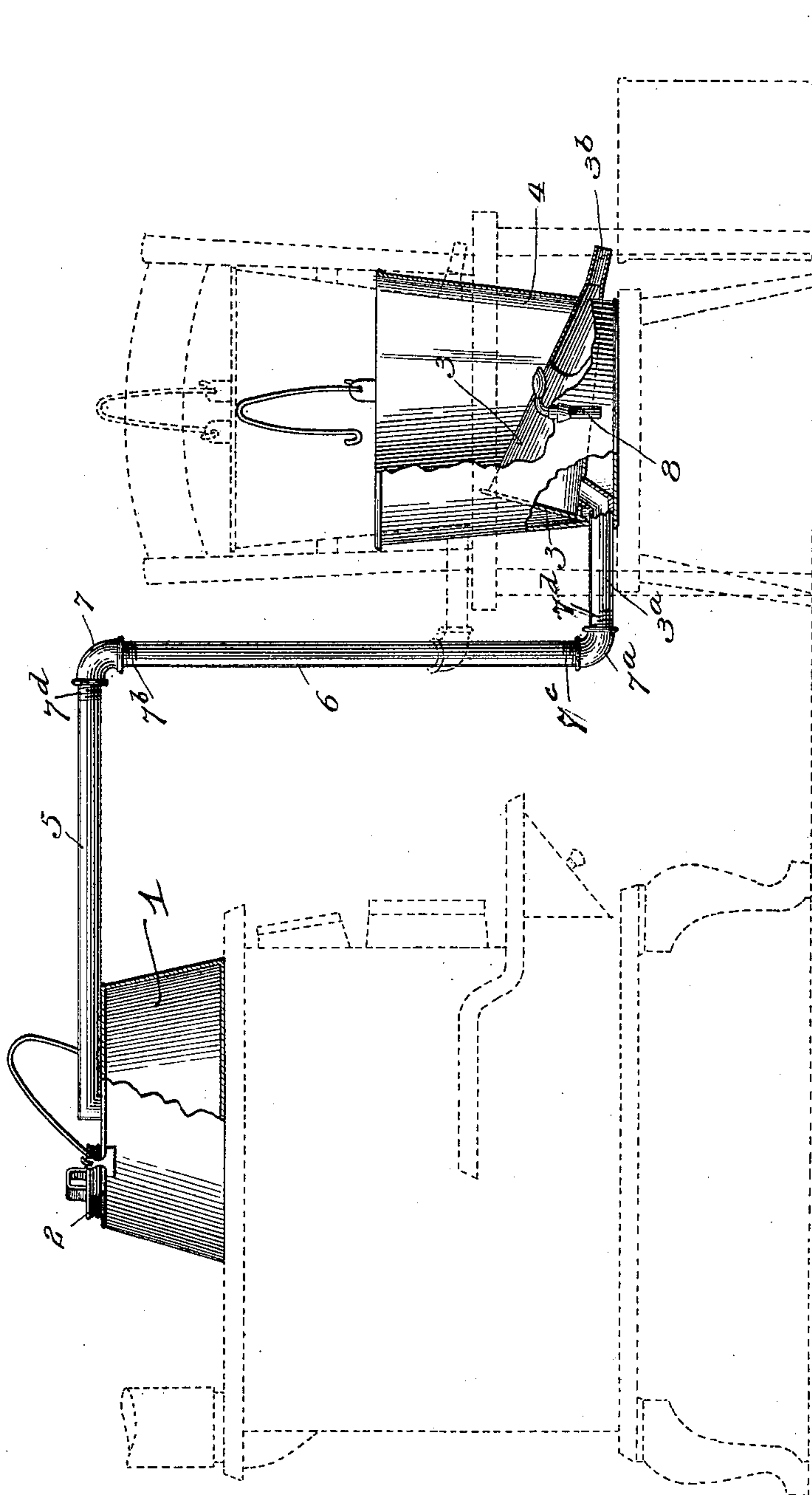
No. 611,123.

Patented Sept. 20, 1898.

J. E. HICKS.
DOMESTIC WATER DISTILLER.

(Application filed May 7, 1897.)

(No Model.)



WITNESSES:

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UNITED STATES PATENT OFFICE.

JOHN EZRA HICKS, OF COLUMBUS, OHIO.

DOMESTIC WATER-DISTILLER.

SPECIFICATION forming part of Letters Patent No. 611,123, dated September 20, 1898.

Application filed May 7, 1897. Serial No. 635,476. (No model.)

To all whom it may concern:

Be it known that I, JOHN EZRA HICKS, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Domestic Water-Distillers; 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 appertains to make and use the same.

In limestone districts the water ordinarily contains a large quantity of lime in solution, and the drinking of this water is injurious to the health because of the retention of a portion of the lime in the organs of the body, and particularly in the kidneys (producing stone) and in the vascular system. It is also troublesome in bathing and laundry work, as soap is not readily soluble in it. With a view to removing the lime boiling the water is commonly resorted to; but this is only effective to a small degree. Another evil incident to the use of this kind of water is accumulation, after continued use, of lime in the form of an incrustation in kettles, boilers, and other culinary vessels.

The object of my invention is to overcome these objections by providing an improved portable still of simple, durable, and economical construction that shall be specially adapted for household or kitchen use.

My invention consists in the details of construction hereinafter described and claimed. In the annexed drawing I have illustrated my apparatus in position for use, parts being broken out to show details.

1 designates a steam-tight boiler or evaporator. This is made rather larger at its bottom than at its top, so as to afford an extensive surface for heating or boiling the water. At its top the boiler is provided with a rather large opening covered by a screw-cap 2. This opening will generally be sufficiently large to admit the hand for removing sediment and lime incrustations.

3 designates a cone-shaped condenser which is secured in the bottom of a bucket 4 and has a steam-inlet pipe 3^a and a condensed-water outlet 3^b, passing through the side of the bucket. The steam-inlet pipe 3^a is con-

nected with the larger end of the cone-shaped condenser at its under side, so that inflowing steam shall rise through the water accumulating in the pipe 3^a, thus agitating and aerating said water.

Connecting the boiler or evaporator and the condenser is a flexible or adjustable pipe, so that the apparatus may be easily used in connection with stoves of different height. A rubber pipe has been used to connect a boiler and condenser; but I have found it objectionable as imparting a rubber taste to the water, so I have devised one of metal for accomplishing the purpose. The pipe consists of a horizontal part 5, fixed to the top of the boiler, and a vertical part 6, connected by elbows 7 and 7^a to the part 5 and inlet 3^a. The elbows are threaded or swiveled onto the parts 5 and 3^a, so as to permit the bucket or cooler to be raised or lowered with respect to the boiler; and the part 6 has its ends right-threaded, as shown at 7^b, and left-threaded, as shown at 7^c, onto the elbows to permit easy connection and separation of the boiler and cooler and condenser. The swivel connection between the pipe 6 and the pipes 5 and 3^a is obtained by having the threads 7^a 7^d on the ends of pipes 5 and 3^a running in the same direction, thereby permitting the elbows 7 and 7^a to turn simultaneously either way on said pipes. The bucket or cooler is furnished near its bottom with a stop-cock 8 to drain warmed water from the cooler.

In use the boiler is set upon a common cook-stove and the cooler is filled with cool water. As the condenser is located in the bottom of the cooler or bucket and as warm water rises and cool water down to about the freezing-point descends, one filling of the cooler will suffice for considerable condensation. The steam from the boiler passes over through the pipes 5, 6, and 3^a to the cone-shaped condenser, where it is condensed and flows through the outlet 3^b into a suitable receptacle placed thereunder.

I have indicated in broken lines the stove and also a low stool and a higher chair, showing how the position of the cooler by reason of the threaded connections is adapted to use in different circumstances.

The boiler and cooler are furnished with

bails or handles, and by removing the part 6 of the pipe the parts are conveniently transported.

5 I am well aware that stills are of ancient knowledge and use, and do not therefore claim any novelty in their principle of operation. My claim is limited to stills specially constructed and adapted for kitchen or domestic use.

10 The use of my apparatus removes not only the lime, but also all other mineral, vegetable, and animal substances. Further, it destroys and removes all living disease-germs, thus mitigating among people of small means
15 the ravages of cholera, typhoid fever, and other infectious diseases.

I claim and desire to secure by Letters Patent—

20 As an improved article of manufacture, the herein-described portable still for domestic or kitchen use comprising in combination the steam-tight boiler 1, adapted to be placed

upon a kitchen-stove and having the metal pipe 5 connected with the top thereof and projecting considerably beyond the sides 25 thereof, a cooler-bucket 4 having at the bottom thereof a cone-shaped condenser 3, a short horizontal metal pipe 3^a connected with the lower side of the larger end of said condenser for the purpose explained, and the 30 metal pipe 6 threaded or swiveled to pipes 5 and 3^a so that the bucket and condenser may be swung or oscillated with respect to pipe 5 to raise or lower the condenser, the said pipe also being detachably connected with pipes 35 5 and 3^a, substantially as shown and described.

In witness whereof I affix my signature in the presence of two witnesses.

JOHN EZRA HICKS.

Witnesses:

W. LATHAM,
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