

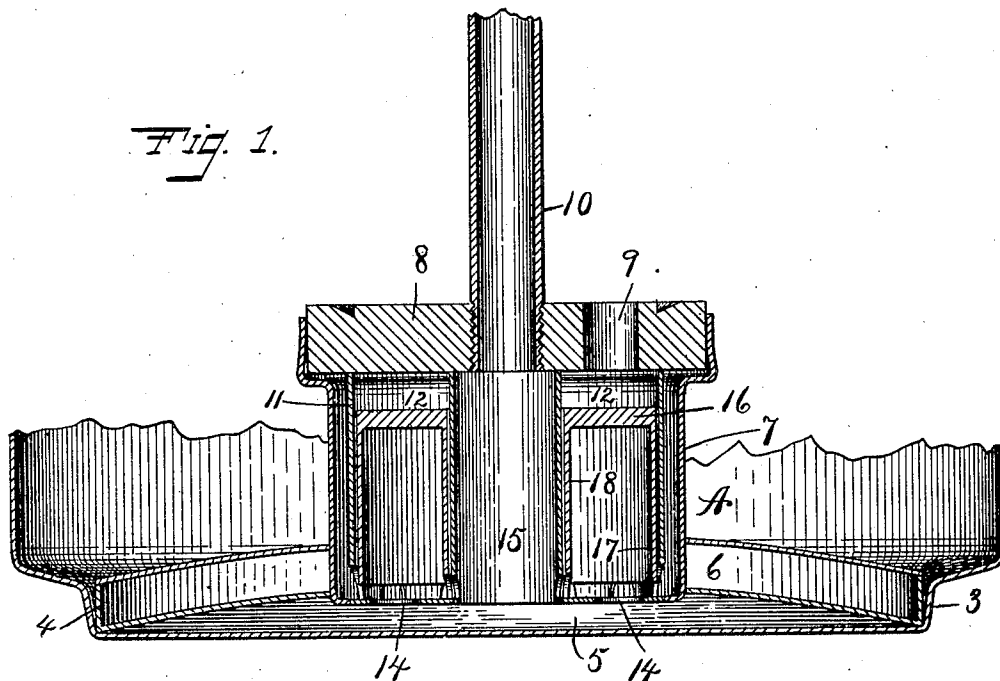
No. 838,224.

PATENTED DEC. 11, 1906.

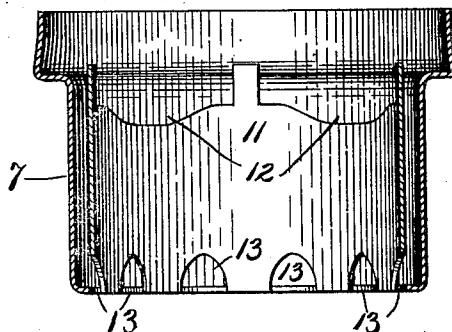
C. E. TREWHELLA.  
PERCOLATOR.

APPLICATION FILED OCT. 10, 1906.

*Fig. 1.*



*Fig. 2.*



Witnesses.

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Att'y.

# UNITED STATES PATENT OFFICE.

CHARLES E. TREWHELLA, OF FORESTVILLE, CONNECTICUT, ASSIGNOR TO  
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## PERCOLATOR.

No. 838,224.

Specification of Letters Patent.

Patented Dec. 11, 1906.

Application filed October 10, 1906. Serial No. 338,265.

*To all whom it may concern:*

Be it known that I, CHARLES E. TREWHELLA, a citizen of the United States, residing at Forestville, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Percolators, of which the following is a specification.

My invention relates to improvements in percolators; and the objects of my improvement are simplicity and economy of construction with efficiency in operation, particularly with reference to the fountain mechanism.

In the accompanying drawings, Figure 1 is a central vertical section of the fountain mechanism and so much of a percolator as is necessary to show its connection therewith, the upper parts being broken away. Fig. 2 is a central vertical section of the sides of the valve-chamber, the top, bottom, valve-stem, and valve being removed.

A designates the lower part of the percolator vessel, the upper part of which (not shown) may be of any ordinary construction. At the bottom of the vessel there is a central depression 3 for a generating-chamber, which chamber is substantially closed at the top by the fountain-base 4, that is seated in the depression 3 in such manner as to leave a space for a generating-chamber 5 between the said base and that portion of the bottom of the vessel which comes within the depression 3. I prefer to form this fountain-base with double walls, so as to form an inclosed air-chamber 6 to serve as a heat-insulator between the generating-chamber and the body of the vessel, all in a well-known manner not peculiar to the invention herein disclosed.

The fountain-base 4 is centrally perforated to receive the cylindrical valve-chamber 7. This chamber is provided with a valve-seat 8, that forms the upper wall of the said chamber and which is provided with a port or ports 9, preferably with three ports. In the center of the valve-seat an ordinary percolator-tube or fountain-tube 10 is secured, the said tube being in communication with the generating-chamber and extended upwardly in the usual manner to the percolating-chamber for conducting the liquid thereto, the upper part of the said tube being shown as broken off. I prefer to provide the valve-chamber 7 with an inner cylinder 11, that extends from the bottom of the valve-chamber upwardly to the valve-seat 8, leaving a space or passage

between the outer and inner cylinders of the valve-chamber. The upper end of the inner cylinder 11 is partially cut away to form openings 12, while openings 13 are formed at the lower end, so that the liquid may flow mainly through the passage between the said two cylinders—that is, between the inner cylinder 11 and the valve-chamber, that constitutes the outer cylinder—while the inner cylinder is substantially filled horizontally by a valve, so that but little liquid can pass through the inner cylinder of the valve-chamber. The bottom of the valve-chamber is perforated, as at 14, to make it open downwardly into the generating-chamber and is provided with an upwardly-projecting tubular valve-stem or guide 15, that extends up to the valve-seat and forms the passage through which the fluid flows in its upward movement from the generating-chamber to the fountain-tube 10. The floating valve is mounted to slide loosely on the stem or guide 15. It is composed of a valve-body 16 and outer and inner cylinders 17 and 18, respectively, depending from the said valve-body, so as to form an annular air-chamber underneath the said body. The valve-body is fitted to the valve-seat 8 so as to close the ports 9 when raised. The valve is mainly guided in its sliding up-and-down movements by the valve-stem and inner cylinder 18, while the outer cylinder 17 substantially fills the inner cylinder 11 of the valve-chamber, but is intended to fill the same so loosely that it cannot bind therein. The inner cylinder 18 of the valve is a little longer than the outer cylinder 17, so that when the valve falls to its lowermost position, as shown in Fig. 1, the lower edge of the outer cylinder will not strike the bottom wall of the valve-chamber. The valve may be formed of any suitable material; but I prefer to make it of aluminium on account of the lightness of that material.

The percolator is charged in the ordinary way, the valve at first being down, as shown in Fig. 1. The liquid will flow from the body of the vessel down through the ports 9 in the valve-seat into the valve-chamber and down through said chamber into the generating-chamber. The air within the interior of the valve will be inclosed by the liquid when the valve is submerged, so that the air cannot escape, and thus the valve will float and rise up in the valve-chamber and against the valve-

seat 8 to close the ports 9 therein. Upon  
subjecting the generating-chamber to heat  
for a time the fluid therein will be forced up  
through the valve-stem 15 and fountain-tube  
5 10 in the ordinary manner of analogous per-  
colators. As the fluid is discharged from the  
generating - chamber and connected valve-  
chamber sufficiently to let the valve fall and  
open the parts 9 fresh liquid from above is  
10 again admitted, ready to repeat the opera-  
tion.

It is apparent that some changes from the  
specific construction herein disclosed may be  
made, and therefore I do not wish to be un-  
15 derstood as limiting myself to the precise  
form of construction shown and described,  
but desire the liberty to make such changes  
in working my invention as may fairly come  
within the spirit and scope of the same.

20 By my improvement a simple, inexpensive,  
and compact arrangement of the fountain  
mechanism is produced. The valve-chamber  
and valve are centrally arranged and are  
found to be very sensitive and efficient in  
25 action.

I claim as my invention—

1. In a percolator, the combination of a  
vessel having a generating-chamber at its  
bottom with a fountain-tube in communica-  
30 tion with the said chamber, a valve-chamber  
opening downwardly into the said generat-  
ing-chamber, a valve seat and port at the  
upper end of the said chamber, a valve stem  
or guide centrally arranged within the said  
35 valve-chamber, and a valve mounted to rise  
and fall on the said valve-stem and having on  
its under side an annular air-space for lifting

the valve on the said stem when the valve is  
submerged in liquid.

2. In a percolator, the combination of a 40  
vessel having a generating-chamber at its  
bottom with a fountain-base forming the top  
of the said chamber, a valve-chamber cen-  
trally arranged in the said fountain-base, a  
valve seat and port at the upper end of the 45  
said valve-chamber, a tubular valve stem or  
guide centrally arranged within the said  
valve-chamber, a fountain-tube mounted in  
the said valve-seat in communication with  
the interior of the said valve-stem, and a 50  
valve mounted to rise and fall on the said  
tubular valve-stem and having an annular  
air-chamber in its under side.

3. In a percolator, the combination of a  
vessel having a generating-chamber at its 55  
bottom with a fountain-tube in communica-  
tion with the said chamber, a valve-chamber  
opening into the said generating-chamber, a  
valve seat and port at the upper end of the  
valve-chamber, an inner cylinder inside of 60  
the said valve-chamber with a downward  
passage between the said inner cylinder and  
main wall of the valve-chamber, a valve  
stem or guide centrally arranged within the  
said valve-chamber, and a floating valve 65  
mounted on the valve-stem and within the  
inner cylinder of the said valve-chamber and  
having a diameter that substantially fills the  
inner diameter of the said inner cylinder.

CHARLES E. TREWHELLA.

Witnesses:

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A. D. WILSON.