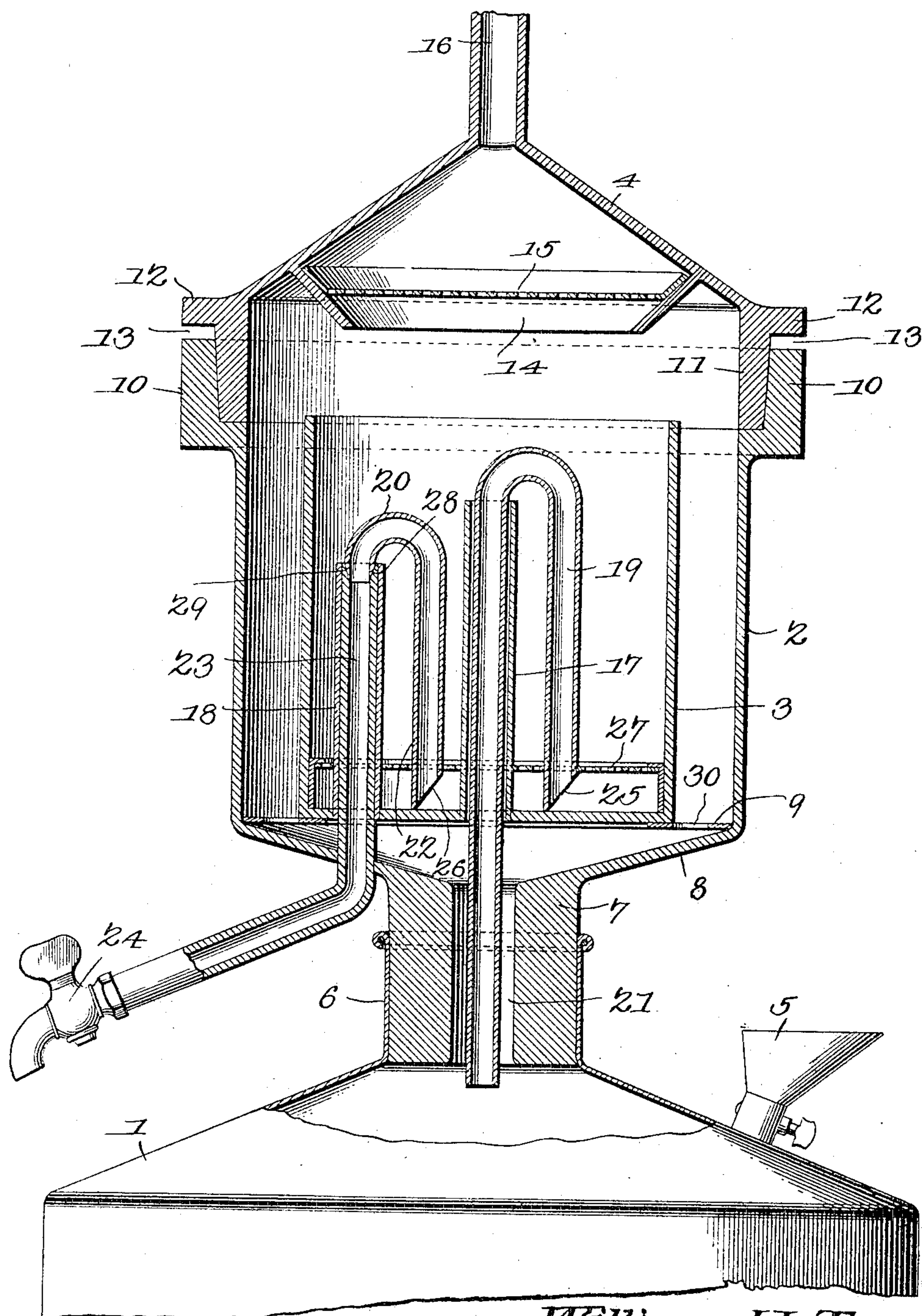


No. 799,111.

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W. H. TEAS.  
EXTRACTOR.

APPLICATION FILED DEC. 30, 1904.



Witnesses:

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# UNITED STATES PATENT OFFICE

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## EXTRACTOR.

No. 799,111.

Specification of Letters Patent.

Patented Sept. 12, 1905.

Application filed December 30, 1904. Serial No. 239,026.

*To all whom it may concern:*

Be it known that I, WILLIAM HOLMES TEAS, a citizen of the United States, residing at Ridgway, in the county of Elk and State of Pennsylvania, have invented a new and useful Extractor, of which the following is a specification.

This invention relates to extractors such as are employed in extracting woods, barks, leaves, twigs, berries, &c.

The objects of the invention are in a ready, rapid, and thoroughly practical manner to effect extraction of such substances, to provide means whereby the stronger extractions may be removed from the utensil as fast as produced without disturbing any of the parts thereof, to arrange the parts of the utensil in such manner as to permit of their ready removal for purpose of cleansing or repair, and generally to improve utensils of the character described.

With the above and other objects in view, as will appear as the nature of the invention is better understood; the same consists in the novel construction and combination of parts of an extractor, as will be hereinafter fully described and claimed.

In the accompanying drawing, forming a part of this specification, and in which like characters of reference indicate corresponding parts, there is illustrated one form of embodiment of the invention capable of carrying the same into practical operation, it being understood that the elements therein exhibited may be varied or changed as to shape, proportion, and exact manner of assemblage without departing from the spirit thereof.

In the drawing the figure is a view in vertical longitudinal section through an extractor constructed in accordance with the present invention.

The extractor comprises a reservoir 1, an extracting-chamber 2, a holder 3 for containing the material to be extracted, and a dome or cover 4 for closing the upper portion of the extractor against escape of steam.

The reservoir may be made of any suitable material and is provided with a valve-controlled filling-spout 5 and with a neck 6, which is adapted to receive a plug or extension 7, formed on the bottom of the extracting-chamber and preferably integral therewith. The bottom 8 of the extracting-chamber is depressed or cone-shaped, and supported thereby at its perimeter is a perforated annulus 9, upon

which rests the holder 3. The upper portion of the extracting-chamber is provided with a flange 10, the inner wall of which is slightly beveled and is engaged by an oppositely-beveled flange 11, carried by the dome 4 and by preference integral therewith, the joint thus formed being preferably secured by grinding the two flanges together, thus to secure an absolutely true and steam-tight junction. The dome is further provided with a marginal rim 12, which is separated from the upper edge of the flange 10 by a space 13, into which a suitable implement may be inserted for prizing the dome from the extracting-chamber, it being designed that the members shall be held assembled by frictional contact between the flanges 10 and 11. Secured to or integral with the under face of the dome is a collar 14, which, as shown, is approximately an inverted truncated cone, and supported by this collar is a foraminous or reticulated screen 15. Projecting from the upper central portion of the dome is a tube 16, which leads to a suitable condenser (not shown) and for a purpose that will presently appear.

Rigidly secured to the bottom of the holder 3 are two tubes 17 and 18, the former of which is the taller and is disposed centrally of the bottom and the latter being disposed adjacent to the inner wall of the holder. These tubes serve to support in proper operative position two siphons 19 and 20, the siphon 19 having its longer leg projected through an orifice 21 in the plug 7 and its shorter leg resting upon the bottom of the holder. The siphon 20 is composed, preferably, of two members, one member 22 having its lower end resting upon the bottom of the holder and its upper end fitted within a second member 23, which projects upward through the tube 18 and has its lower end carried outward through the bottom of the extracting-chamber and provided with a valve or cock 24. The lower end of each of the members 19 and 22 are beveled at 25 and 26, thus to facilitate the free entry of liquid into the shorter legs of the siphons, as will be readily apparent. The siphon members 19 and 22 project through a foraminous or reticulated screen 27, which is supported above the bottom of the holder and operates to prevent the substance operated upon from being drawn into the siphons when the latter are in operation.

As stated, it is one of the objects of the in-



vention to facilitate cleansing of the interior parts of the apparatus, and to secure this result the siphon 19 and the siphon 22 are detachable from the holder, and the latter may  
 5 also be bodily lifted from the extracting-chamber. In order to hold the siphon 22 combined with its second member 23, the upper end of the latter member is provided with a tapered seat 28, which is engaged by the tapered terminal 29 of the member 22, these joints being  
 10 preferably ground to secure a perfect juncture between the parts.

In the operation of the device the holder is supplied with the material to be treated.  
 15 The dome is then secured in position, and water having been placed in the reservoir the latter has heat applied to it. As soon as the steam is generated it passes up through the passage-way 21 in the plug, thence through  
 20 the orifices 30 of the annulus 9, and thence out through the condenser-tube 16, where the vapors are condensed and again enter the extracting-chamber and are guided by the collar 14 into the holder. As soon as the level  
 25 of the liquid or extract within the cup reaches the crest of the siphon 19 siphoning action immediately begins and the liquid is drawn from the holder and discharged back into the reservoir and the operation of filling the  
 30 holder is again begun.

In some instance it is desirable to remove the first extract, as prolonged treatment of the material will tend to prove deleterious, and it is for this purpose that the second siphon is provided and is made shorter than the  
 35 siphon 19, so that when the cock 24 is open the first or strongest extract will be drawn from the holder and discharged through the cock 24 before the siphon 19 can begin its operation. When all the stronger extract is removed, the cock 24 may be closed and the ordinary operation of the device will then continue as long as may be necessary.

It will be seen from the foregoing description that although the extractor of this invention is exceedingly simple of construction it combines in a ready and practical manner all the essentials necessary for the production of a thoroughly effective and serviceable apparatus, and, further, by the manner in which  
 50 the parts are constructed that cleaning of the utensil may readily be effected and that repairs in case of breakage may easily be accomplished.

55 Having thus described the invention, what is claimed is—

1. An extractor embodying in its construction an automatically-operating siphon and a manually-controlled siphon, each operating independently of the other, and one of which  
 60 discharges externally of the extractor.

2. An extractor embodying in its construction an automatically-operating siphon and a manually-controlled siphon, each operating independently of the other, and one of which

discharges externally of the extractor, the crests of the two siphons being disposed in different planes.

3. An extractor comprising a reservoir, an extracting-chamber, a holder disposed within  
 70 the chamber, a siphon communicating with the reservoir and with the holder, and a second siphon communicating with the holder and discharging externally thereof.

4. An extractor comprising a reservoir, an extracting-chamber, a holder disposed within  
 75 the chamber, a siphon communicating with the reservoir and with the holder, a second siphon communicating with the holder and discharging externally thereof, and means for controlling the passage of liquid to the latter siphon.  
 80

5. An extractor comprising a reservoir, a normally sealed extracting-chamber, a holder disposed within the extracting-chamber, a siphon communicating with the reservoir and  
 85 with the holder, and a second siphon communicating with the holder and discharging externally thereof.

6. An extractor comprising a reservoir, a normally sealed extracting-chamber, a holder  
 90 disposed within the extracting-chamber, a siphon communicating with the reservoir and with the holder, a second siphon communicating with the holder and discharging externally thereof, and means for controlling the  
 95 passage of liquid through the second siphon.

7. An extractor comprising a reservoir, an extracting-chamber connected therewith and having its bottom provided with an opening, a holder within the chamber, a siphon having  
 100 its short legs disposed within the holder and its long leg projected into the reservoir, and a second siphon communicating with the holder and discharging externally thereof.

8. An extractor comprising an extracting-chamber, and means for sealing the same, a holder arranged within the chamber and provided with a pair of vertically-disposed tubes, a reservoir communicating with the chamber, an automatically-operating siphon projecting  
 110 through one of the tubes and having one leg disposed within the holder and its other leg projecting into the reservoir, and a manually-controlled siphon engaging the other tube and having one leg disposed within the holder and  
 115 its other leg projected exteriorly thereof.

9. An extractor comprising an extracting-chamber, a holder arranged therein and embodying an automatically and a manually controlled siphon, and a dome detachably connected with the chamber and provided with means for establishing communication with a condenser.  
 120

10. An extractor comprising an extracting-chamber, a holder arranged therein, siphons  
 125 disposed within the holder, and a dome combined with the chamber and provided with means for establishing communication with a condenser and with means for directing condensed vapors back to the holder.  
 130



11. An extractor comprising a reservoir, an  
extracting-chamber in communication there-  
with and provided with a cone-shaped bottom,  
an orificed annulus supported by the bottom,  
5 a holder resting upon the annulus, and siphons  
combined with the holder and with the reser-  
voir.

12. In an extractor, the combination with  
an extracting-chamber, of a holder, an open-  
10 work screen arranged therein and provided

with openings, and siphons having their short  
legs projected through the openings in the  
screen.

In testimony that I claim the foregoing as  
my own I have hereto affixed my signature in 15  
the presence of two witnesses.

WILLIAM HOLMES TEAS.

Witnesses:

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