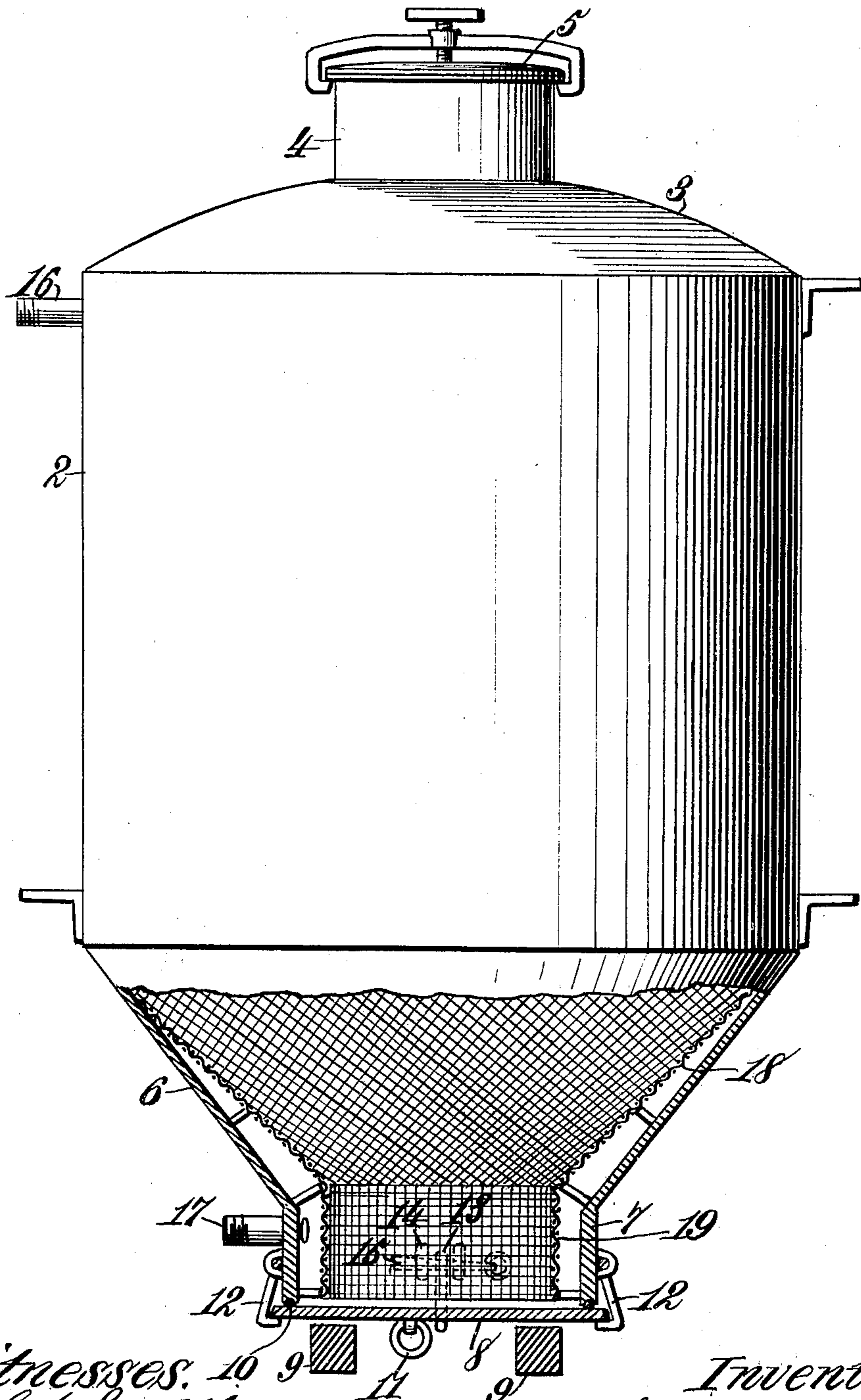


No. 856,049.

PATENTED JUNE 4, 1907.

J. G. GARDNER.
EXTRACTING RETORT.

APPLICATION FILED JAN. 17, 1906. RENEWED DEC. 17, 1906.



Witnesses. 10 9 11
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UNITED STATES PATENT OFFICE

JOSHUA G. GARDNER, OF LAKE BUTLER, FLORIDA.

EXTRACTING-RETORT.

No. 856,049.

Specification of Letters Patent.

Patented June 4, 1907.

Application filed January 17, 1906. Renewed December 17, 1906. Serial No. 343,254.

To all whom it may concern:

Be it known that I, JOSHUA G. GARDNER, a citizen of the United States, residing at Lake Butler, in the county of Bradford and State of Florida, have invented new and useful Improvements in Extracting-Retorts, of which the following is a specification.

This invention relates to extracting retorts.

A retort involving my invention can be successfully employed in many different ways; it can for example receive wood in finely divided condition or in the form of sawdust for the extraction of turpentine therefrom.

One of the advantages of the improved retort is the ease and facility with which its contents can be discharged.

Other objects and advantages of the invention will appear in the following description while the novelty thereof will be included in the claims succeeding said description.

In the accompanying drawings forming a part of this specification, I illustrate in detail a retort embodying my invention, and the same, to enable those skilled in the art to practice said invention, will be fully set forth in said description.

The retort shown comprises a cylindrical body, as 2, which may be made from sheet metal or may consist of a casting or be formed in any other desirable way. The top for the body is designated by 3 and it is substantially of concavo-convex form, the convex part facing outward. A neck, as 4, is shown as rising substantially centrally from the cap or top 3 and as provided with a door or lid, as 5, which may be held shut in any desirable way during distillation, but which when opened permits the introduction of material to be treated into the retort. Pendent from the lower end of the cylindrical body 2 of the retort is an inwardly tapered or substantially inverted conical portion 6 from which extends downward an annular flange 7, the opening in the bottom of which constitutes an outlet for the retort. This outlet or discharge orifice during distillation is closed by a door, as 8, which like the tapered portion 6 and its annular flange 7 may be made by casting. These parts, however, may be constructed in any other desirable way. The door 8 is horizontally slidable, it being supported for this purpose upon horizontally disposed guides or rails, as 9. An advantage follows the use of a sliding door instead of a swinging door.

When a swinging or drop-down door is provided for the retort it will be apparent that considerable vertical space will be required to effect the discharge of the contents of the retort. In the case of a sliding door, however, I can effect the discharge of the retort without the necessity of occupying as much vertical space as a retort with a drop-down door would. With certain retorts having drop-down doors it is necessary sometimes to lift the retorts to effect the discharge of their contents. This lifting operation in the case of a sliding door is not necessary.

I arrange between the door and the lower edge of the annular flange 7 a gasket, as 10, of some yieldable material, so that when the door is locked shut I insure a steam-tight joint between the same and the flange. To manipulate the door it may be provided with a pull piece, as 11.

Upon the flange 7 I pivot latches, as 12, the hooks of which engage under the side edges of the door when the latter is shut to bind the same firmly against the gasket 10 and the lower edge of the flange 7. The door may be provided at one end with a perforated lug, as 13, while the flange 7 may have substantially similar lugs, as 14. The perforations of the three lugs when the door is closed are in register to receive a wedge-form locking pin, as 15, which maintains the door locked in a positive substantial manner.

A steam inlet pipe is shown at 16 and as opening into the retort near the top thereof. The pipe 16 is fitted into the cylindrical body 2. The vapors laden with turpentine may be taken from the retort by a pipe, as 17, fitted into the annular flange 7 exteriorly thereof.

Within the retort I arrange a foraminous body so disposed as to prevent the sawdust or other material in the retort from being blown into the discharge pipe 17. The said foraminous body, however, does not prevent the turpentine laden steam from freely entering the discharge pipe 17. The foraminous body shown for accomplishing the results named is of novel construction, it having an inwardly tapered or substantially frusto-conical portion 18, from which the annular portion 19 is pendent. The annular portion 19 which extends vertically and in parallelism with the flange 7 has its lower edge substantially in the plane of the lower edge of said flange 7. The conical portion 18 is upon a greater pitch than the conical portion 6, so

as to separate the foraminous body and its annular portion 19 from the imperforate conical portion 6 and flange 7. Into the space between these two parts the steam laden with turpentine vapor can pass to enter freely the inlet end of the pipe 17. When the mass of material is discharged from the retort it can freely roll down the inclined portion 18 of the foraminous member and its descent will not be checked by the vertical portion of the foraminous body. As the foraminous body is separated by a space from the pipe 17 there is no possibility of the sawdust choking the inlet end of the said pipe. The foraminous body may be held in place in any desirable way and its upper portion merges into the conical portion 6 in a gradual manner so as to present the least possible angle at their junction. The angle in fact is so trifling that no material can accumulate therein, but will be dislodged therefrom by the force of the downwardly moving mass of material when the door 8 is opened.

It will be seen that the door 8 does not engage the annular portion 19 as said door is opened and shut.

What I claim is:

1. The combination of a retort having a substantially conical lower portion and a flange pendent from the conical portion, a foraminous body in the retort having a conical portion fitted in the first mentioned conical portion and a pendent portion surrounded by the flange, the foraminous body being spaced from the retort below its upper edge, and a discharge pipe leading from the retort and opening directly into the space between the foraminous body and the retort.

2. The combination of a retort having a substantially conical lower portion, a flange pendent from the conical portion and a discharge opening in said flange, a door to cover said opening, a foraminous body in the retort having a conical portion fitted in the first mentioned conical portion and a pendent portion surrounded by said flange, the foraminous body being spaced from the retort below its upper edge and extending toward said door, and a discharge pipe leading from the retort and opening directly into the space between the foraminous body and the retort.

3. The combination of a retort having a substantially conical lower portion, a flange pendent from the lower portion, and a discharge opening in said flange, a sliding door to cover said opening, a foraminous body having a conical portion fitted in the first mentioned conical portion, and a pendent portion surrounded by said flange, the foraminous body being spaced from the retort below its upper edge, extending toward but short of said door, whereby when said door is opened and closed it will not engage said foraminous body, and a discharge pipe leading from the retort and opening directly into the space between the foraminous body and the retort.

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

JOSHUA G. GARDNER.

Witnesses:

J. BURT CALDER,
R. L. SPARKMAN.