(No Model.)

J. M. CHAMBERS.

APPARATUS FOR STEAMING CASKS.

No. 492,346. Patented Feb. 21, 1893.

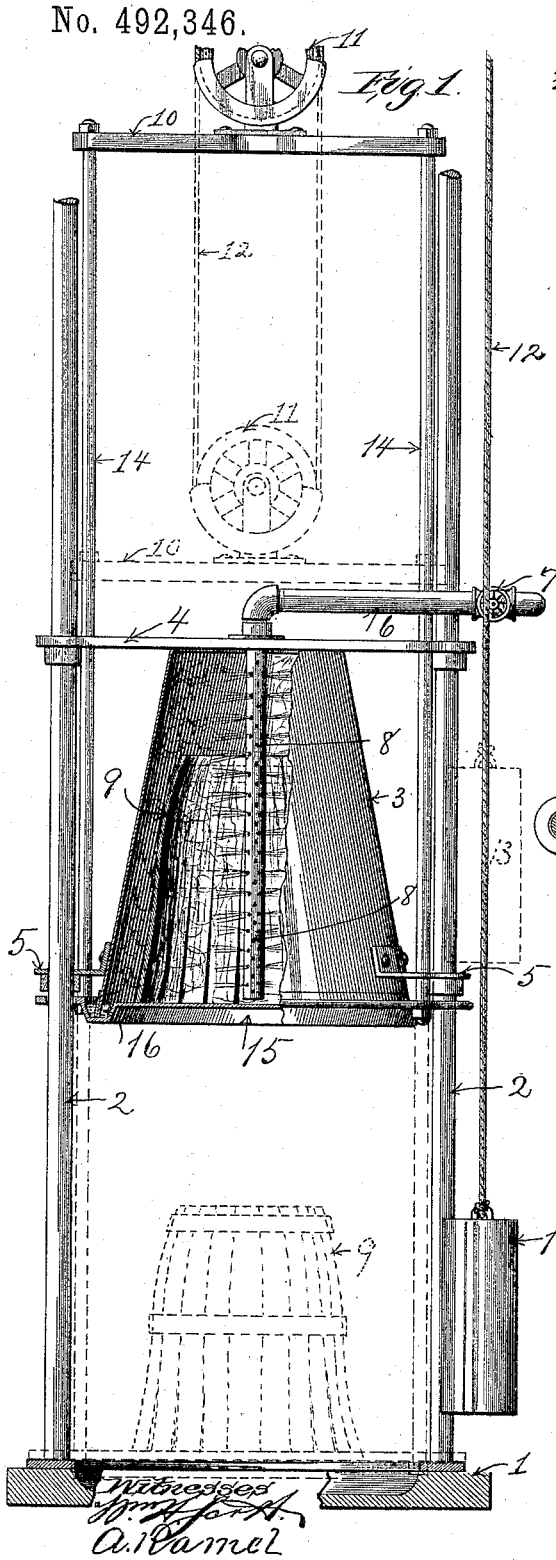

Fig. 1.

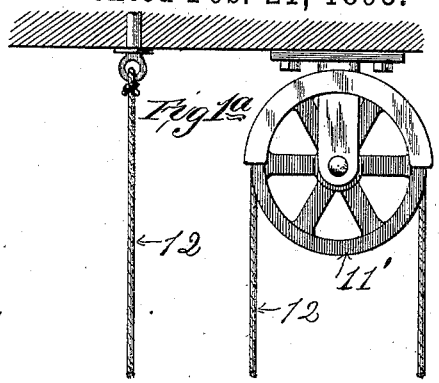

Fig. 1a.

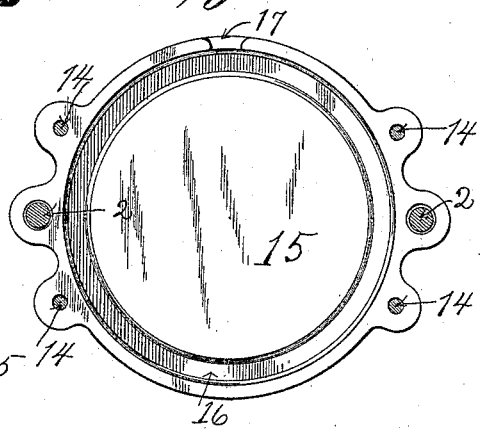

Fig. 2.

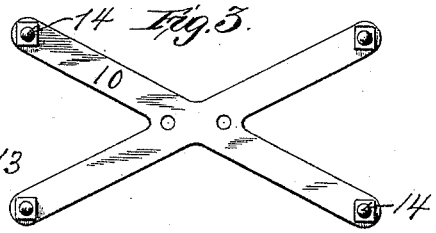

Fig. 3.

Witnesses
A. Parmel

Inventor:
James M. Chambers
By Paine Bakewell & Co.

UNITED STATES PATENT OFFICE.

JAMES M. CHAMBERS, OF ST. LOUIS, MISSOURI, ASSIGNOR TO THE CHAMBERS PATENT BARREL HEATER COMPANY, OF SAME PLACE.

APPARATUS FOR STEAMING CASKS.

SPECIFICATION forming part of Letters Patent No. 492,346, dated February 21, 1893.

Application filed May 20, 1892. Serial No. 433,711. (No model.)

To all whom it may concern:

Be it known that I, JAMES M. CHAMBERS, a citizen of the United States, residing at St. Louis, in the State of Missouri, have invented certain new and useful Improvements in Apparatus for Steaming Casks, of which the following is a full, clear, and exact description.

My invention relates to improvements in the apparatus for subjecting the cask, after it has been raised and before it has been windlassed, to the action of steam, in order to render the material of the staves more pliable and less likely to be broken when windlassed.

It has for its object a more effectively closed steam chamber, into which the cask is introduced, and one from which, when the cask is removed therefrom, when steamed, and the chamber necessarily opened, the escape of the steam into the atmosphere is more effectively prevented.

It consists in the hereinafter-described novel features of improvement, adapting the general form of construction of apparatus illustrated and described in United States Patent No. 348,888, an apparatus for heating and drying barrels, granted to myself on September 7, 1886, to practical employment as a steaming device.

In the accompanying sheet of drawings, in which like numerals of reference denote like parts in the different figures, Figure 1 is an elevational view of the apparatus as a whole, showing a portion of the side walls of the steam chamber broken away to show the internal steam pipe, also showing, in dotted lines, the depressed position of the vertically movable platform, hereinafter described. Fig. 1ª is a view of the upper end of the arrangement for raising and lowering the vertically movable platform. Fig. 2 is a plan view of the upper side of the vertically movable platform; and Fig. 3 is a plan view of the X-shaped framing piece to which the raising pulley and the vertical supporting rods, by which the platform is supported, are secured.

The steaming chamber consists in a cylindrically or conically shaped casing 3, closed at its upper end and open at its lower end. This casing is supported, at a convenient height, by the strap piece 4 and bracket pieces 5 which are rigidly secured to the vertical supporting and framing rods 2, of which there may be two, three, or more, as may be found convenient. The rods 2 are, at their lower ends, screwed into, or otherwise secured in, the base plate 1, which preferably rests on the floor of the ground. In this manner, the steam chamber is retained in an elevated position and is stationary.

In the upper closed end of the hood-shaped casing 3 is formed a perforation through which is introduced the end of a steam conduction pipe 6 which is allowed to extend downwardly to somewhat less than the lower end of the casing 3. The pipe 6, within the casing 3, is formed with numerous perforations 8 for the exit of the steam therefrom, the lower extending end of the same being closed. In the length of the pipe 6, at some convenient point, exterior to the casing 3, there is interposed a valve 7 for controlling the flow of the steam therethrough.

When used as a steaming chamber, the lower open end of the casing 3 is closed by the vertically movable platform piece 15 to which are secured the lower ends of the rods 14, they being held in position by their upper ends being similarly secured in the cross-piece 10. Of these rods 14 there are preferably four, as shown in Figs. 2 and 3. As shown in Fig. 2, the platform piece 15 is formed with perforations to accommodate the vertical framing rods 2 to which they are slidingly fitted. To the cross-piece 10, preferably at the center portion, is secured a bracket in which is revolubly fitted the pulley 11. To some convenient support, immediately above the apparatus, is secured the stationary pulley 11′. One end of the hoisting rope 12 is secured, as shown in Fig. 1ª, by any convenient means, to an over-head support, corresponding to the support to which the pulley 11′ is secured. The rope 12 is then threaded through the pulley 11 and the pulley 11′, and to its other end is secured the counter-poise 13. The rope 12 may be replaced with a chain.

In the upper surface of the platform piece 15 is formed an annular groove 16, corresponding in diametrical dimensions to the lower edge of the casing 3, so that, when the platform 15 is raised to the position shown in Fig.

1, the lower edge of the casing will enter therein, and leading from this groove 16, at any convenient point circumferentially, there is formed an overflow channel-way, as at 17, Fig. 2, which is adapted to keep the level of the water contained in the groove 16, as hereinafter explained, below the level of the main central portion of the platform 15.

The principles of operation of the apparatus are as follows:—A cask 9, after having been raised, is placed on the platform 15 when it is in its depressed position, as shown in dotted lines in Fig. 1. The platform 15 is then raised, by lowering the counterpoise 13, until it comes up against the lower edge of the casing 3 which enters in the groove 16. See the position shown in Fig. 1. In this position, the platform 15 acts to form the bottom of the casing 3, making of the whole a closed steaming chamber, with the cask inside and surrounding the downwardly extending perforated end of the steam pipe 6. Steam is now turned on at the valve 7 and escapes from the pipe 6, through the lateral perforations 8 to all parts of the interior of the casing 3, completely enveloping and saturating the cask 9 with steam. Immediately steam is turned on through the pipe 6, and escapes therefrom into the interior of the casing 3, more or less of the steam will be condensed and the consequent water will find a receptacle in the groove 16 which makes the joint between the casing 3 and the platform 15 practically steam tight. The result is that there is, during the process of steaming, but little escape of steam thereat, unless too much of a head is turned on at the valve 7. When the cask has become sufficiently steamed, the steam is turned off at the valve 7 and the platform is again lowered and the cask 9 replaced by another.

The main feature of advantage consequent on the use of my improved apparatus, besides the ease of manipulation—especially when heavy packages are being handled—is that there is no escape of steam into the surrounding atmosphere when the change of casks is being made—the steaming chamber being in the shape of a stationary hood and the cask being carried up into it, any uncondensed steam remaining therein will have no tendency to escape therefrom. This form of apparatus, too, permits the steam induction pipe, inside the casing 3, being of a length corresponding, approximately, to the full length of the casing, and the steam escaping through the perforations in the length of the pipe effects a much more thoroughly general distribution than if the pipe only extended to the casing itself, as at the perforation through which it enters the same.

I claim—

1. In an apparatus of the character described, a stationary steaming chamber, a vertically movable platform, a steam conduction pipe, means for raising and lowering said platform, an annular groove formed in the upper surface of said platform, all combined and operating substantially in the manner and for the purposes specified.

2. In an apparatus for steaming casks, the combination with a stationary steaming chamber, a vertically movable platform for supporting the cask and raising it into the interior of the steaming chamber, and the means for raising and lowering the platform, of a steam conduction pipe protruding through the upper end of the steaming chamber and extending downwardly through the length of the same, said pipe being perforated throughout that portion of its length inside the steaming chamber and being closed at its lower end, and means for controlling the flow of steam therethrough, substantially as described.

In testimony whereof I have affixed my signature, in presence of two witnesses, this 9th day of May, 1892.

JAMES M. CHAMBERS.

Witnesses:
A. RAMEL,
H. K. WAGNER.