

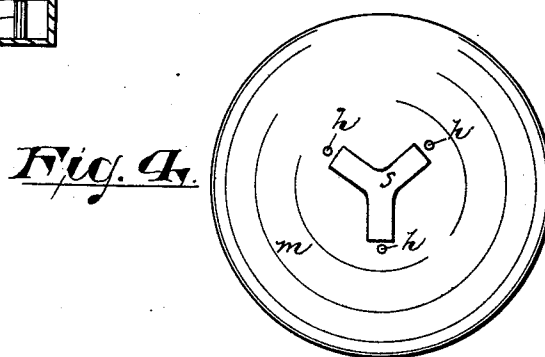
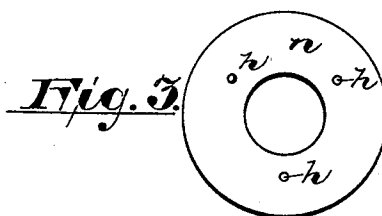
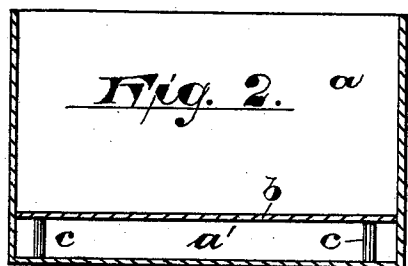
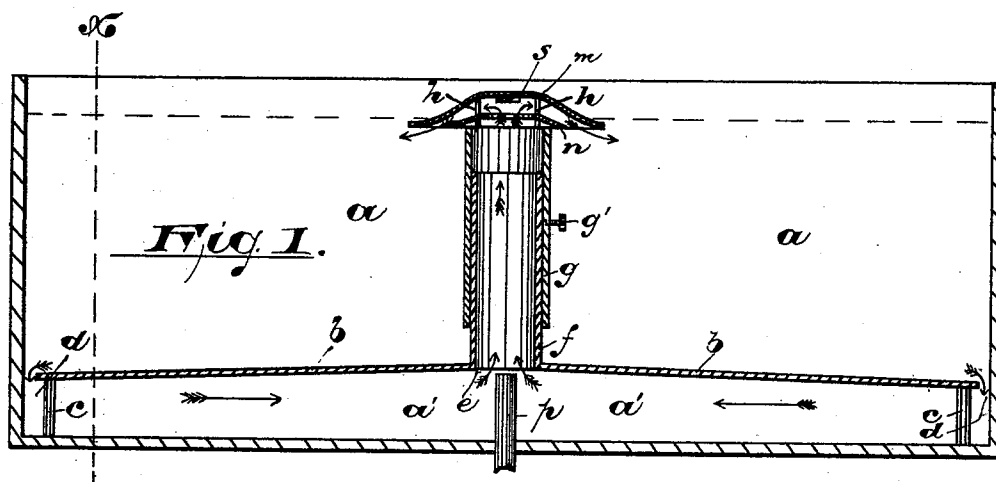
(No Model.)

W. J. WIRTZ.

BEER STEAMING APPARATUS.

No. 404,143.

Patented May 28, 1889.



WITNESSES:

Alfred Gartner
E. E. Sherman

INVENTOR:

William J. Wirtz,

BY *Drake & Co.* ATTYS.

UNITED STATES PATENT OFFICE.

WILLIAM J. WIRTZ, OF NEWARK, NEW JERSEY.

BEER-STEAMING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 404,143, dated May 28, 1889.

Application filed December 29, 1888. Serial No. 294,935. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM J. WIRTZ, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Beer-Steamng Apparatus; 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, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The object of this invention is to more evenly diffuse and spread heated water among and around bottles and other articles in a steam-tank or other vessels, so that the bottles at the outer edges of the tank shall be of an equal temperature, or nearly so, with those at or near the center.

The invention consists in the peculiar construction and arrangement of a steam or hot-water tank and the combinations and arrangements of parts thereof, substantially as will be hereinafter set forth, and finally embodied in the clauses of the claim.

Referring to the accompanying drawings, in which like letters of reference indicate similar parts in each of the several figures, Figure 1 is a central longitudinal section of a steam or hot-water tank embodying my improvement. Fig. 2 is an end section through line *x*. Fig. 3 is a top plan view of a lower bell-shaped cap, and Fig. 4 is a plan view from underneath of the upper bell-shaped cap with the spreader.

In said drawings, *a* is a tank of ordinary construction.

b is an inner bottom having a gradual slope or depression from the center in all directions toward the side of the tank, as shown in Fig. 1. This inner bottom is supported, preferably, on standards *c* at its end, and is made a little shorter than the tank, so as to leave openings *d*, through which the water can flow from the inner bottom into the space *a'* underneath. The sides of the inner bottom are secured to the sides of the tank. In the center of this inner bottom is an opening, *e*, from the sides of which extend vertically upward a pipe, *f*. This pipe is secured to the inner

bottom and the joint made water-tight in any desired manner. Surrounding the pipe *f*, and sliding thereon, is another pipe, *g*, with set-screw *g'*. To the upper end of the pipe *g* are secured standards *h h*, which support and carry an upper bell-shaped cap or disk, *m*, and a lower bell-shaped and perforated cap or disk, *n*.

To the under side of the upper cap or disk, *m*, is soldered or secured in any desired manner a spreader, *s*. (Shown more clearly in Fig. 4.) This spreader can be made of any desired form; but I have found the form shown in the drawings to be the most useful. A steam-pipe, *p*, connected with a steam-boiler, is introduced into the tank with its end turned upward and located directly under the central opening, *e*, in the inner bottom, and having its extreme end a little below the line of the central opening, as shown in Fig. 1.

In operation the bottles or articles to be heated are placed on the inner bottom, *b*, and cold water is then introduced to the desired amount. The outer pipe, *g*, carrying the two caps *m* and *n*, is then adjusted on the inner pipe, *f*, in such manner that the outer edge only of the upper cap shall be covered by the water, as shown in Fig. 1, the water-level being indicated by a dotted line. Steam is then introduced through the steam-pipe. The force of the steam against the water in the pipe carries the water with the steam up to the top and forces it out against the spreader and out between the caps, as indicated by the arrows in Fig. 1. As the water is cooled, it falls down upon the inclined inner bottom and through the openings in the end into the chamber formed between the two bottoms of the tank. As the steam continues to enter through the pipe, the water in the tank is gradually heated, the cooler portion descending and passing over the inner bottom into the space beneath, where it is again forced up and out between the caps until in a very short time all of the water is heated to a uniform degree throughout.

In steam-tanks as heretofore constructed the temperature of the water at and near the edges would be from 12° to 15° colder than around the center of the tank.

In my improved tank the water is kept in continual circulation, and by reason of the

double bottom the cooler portion is separated from the bottles or other articles, and a uniform heat is imparted to the water in all parts of the tank.

5 I do not intend to limit myself to tanks or tables for heating bottles, as my improvement can be applied to kettles or other vessels wherein the heat of boiling water is employed. Neither do I intend to limit myself to the se-
10 curing of bell-shaped caps to an adjustable pipe, as the caps may be secured to the fixed pipe and the adjustable pipe be dispensed with. Neither do I intend to limit myself to the use of two caps, as one cap or more may
15 be used, if desired, although I prefer two. By constructing the caps bell-shaped the water and steam is thrown downward as it passes out from the pipe, while with flat caps the water and steam is thrown in parallel lines,
20 which is objectionable.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

25 1. An improved steam tank or vessel, as herein described, having an intermediate or double bottom tapering downward from the center and with openings at the ends thereof, a central upwardly-extending pipe secured to said intermediate bottom over a central open-
30 ing, an adjustable pipe fitting over said se-

cured pipe, standards secured to said adjustable pipe, bell-shaped caps secured to said standards, as shown, and a steam-pipe arranged under said intermediate bottom, as shown, and for the purposes set forth.

35 2. An improved steam tank or vessel, as herein described, having an intermediate or double bottom tapering downward from the center and with openings at the ends or sides, a central upwardly-extending pipe secured to said intermediate bottom over a central open-
40 ing therein, bell-shaped caps secured to said pipes, as shown, and a steam-pipe arranged under said intermediate bottom, as shown, and for the purposes set forth.

45 3. In a steam-tank provided with suitable steam-pipes, the combination of a centrally-perforated bottom, *b*, openings *d*, intermediate chamber, *a'*, vertical pipe *f*, bell-shaped cap *m*, secured to said pipe *f*, and spreader *s*, se-
50 cured to said pipe, as shown, and for the purposes set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 26th day of December, 1888.

WILLIAM J. WIRTZ.

Witnesses:

CHARLES H. PELL,
ALFRED GARTNER.