March 3, 1936. R. C. SCHOCK 2,032,668

APPARATUS USED IN THE BREWING OF BEER, AND MORE PARTICULARLY TO A MASH TUB

Filed Feb. 21, 1935 3 Sheets-Sheet 1

Fig. 1.

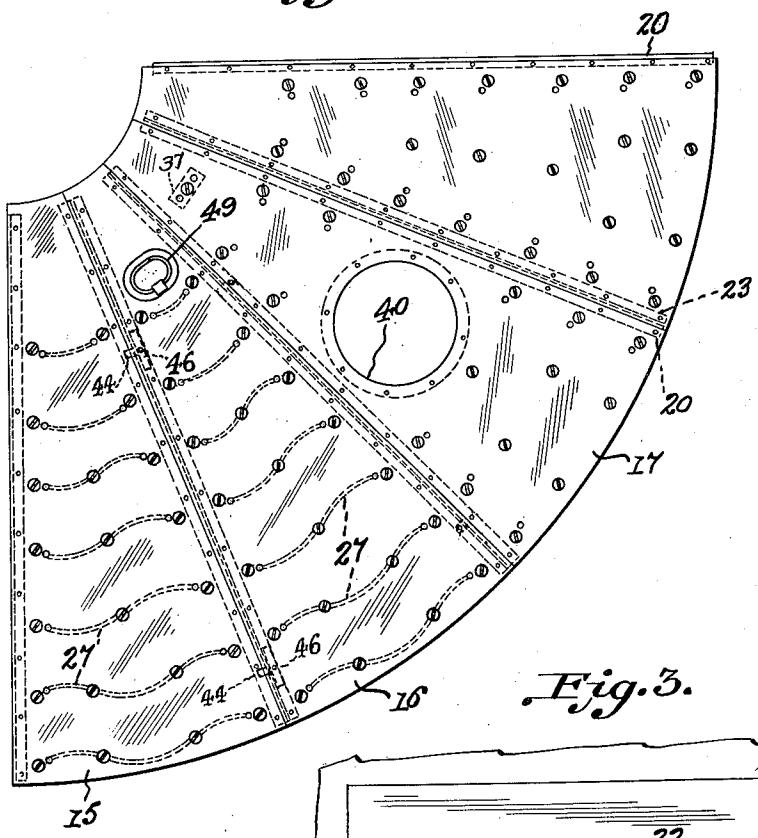


Fig. 3.

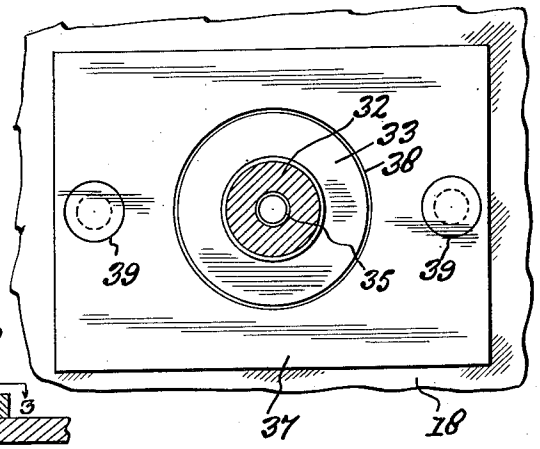
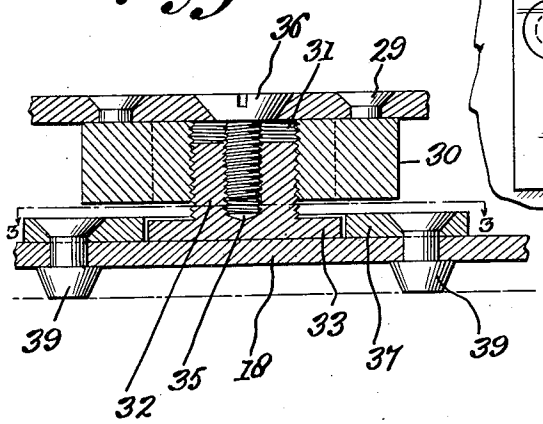


Fig. 2.



Inventor

Robert C. Schock

By C. P. Goepel.

Attorney

March 3, 1936. R. C. SCHOCK 2,032,668

APPARATUS USED IN THE BREWING OF BEER, AND MORE PARTICULARLY TO A MASH TUB

Filed Feb. 21, 1935 3 Sheets-Sheet 2

Fig. 4.

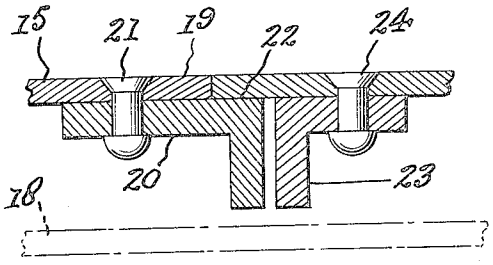


Fig. 5.

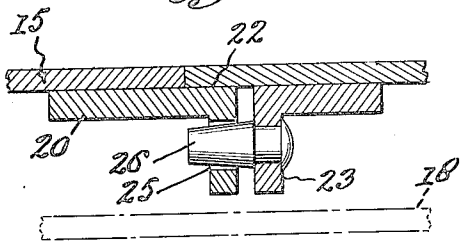


Fig. 6.

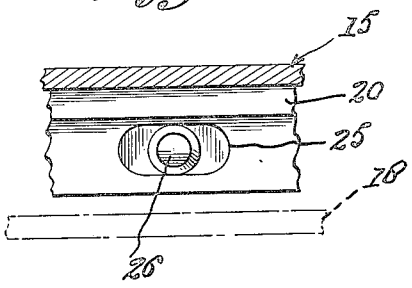


Fig. 7.

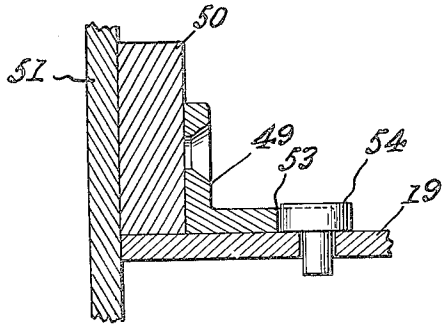
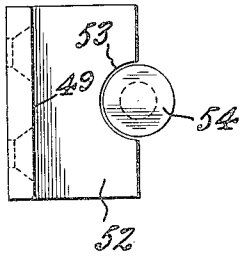


Fig. 8.



Inventor

Robert C. Schock

C. P. Goepel

Attorney

March 3, 1936. R. C. SCHOCK 2,032,668

APPARATUS USED IN THE BREWING OF BEER, AND MORE PARTICULARLY TO A MASH TUB

Filed Feb. 21, 1935 3 Sheets-Sheet 3

Fig. 9.

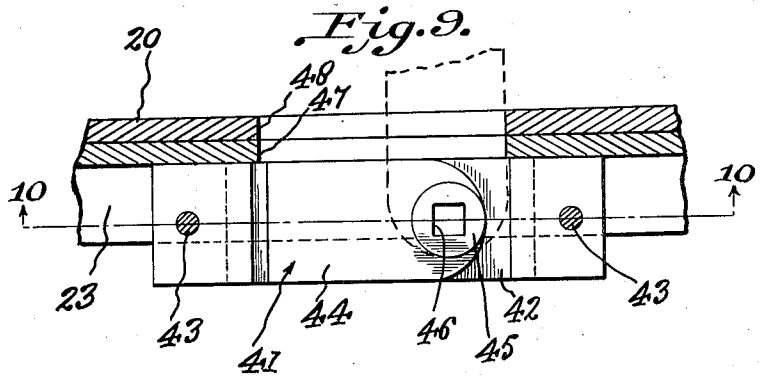


Fig. 10.

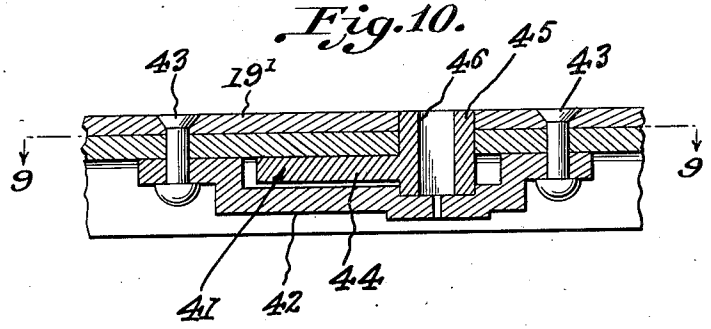


Fig. 11.

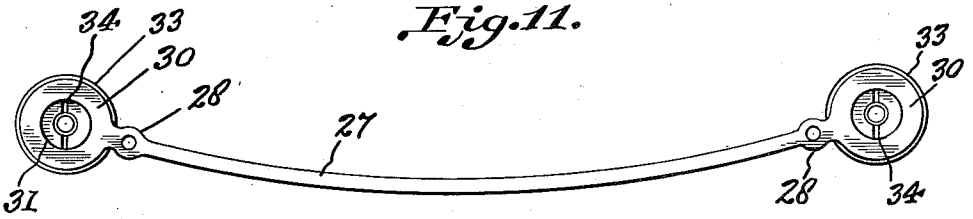
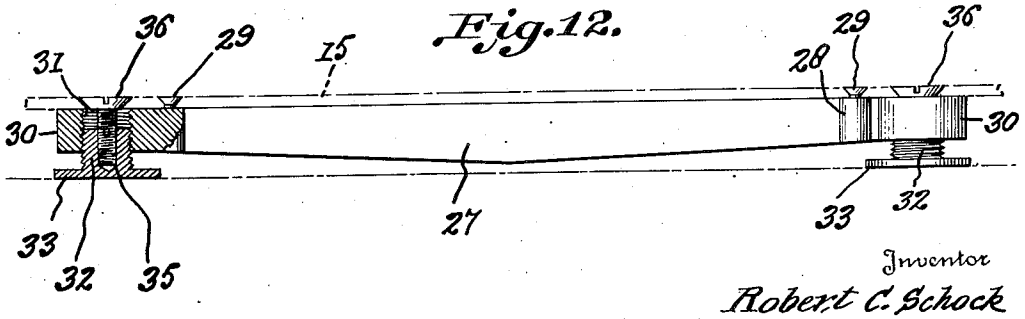


Fig. 12.



Inventor

Robert C. Schock

By C. P. Goepel.

Attorney

Patented Mar. 3, 1936 2,032,668

UNITED STATES PATENT OFFICE

2,032,668

APPARATUS USED IN THE BREWING OF BEER, AND MORE PARTICULARLY TO A MASH TUB

Robert C. Schock, New Rochelle, N. Y., assignor to Schock, Gusmer & Co. Inc., Hoboken, N. J., a corporation of New Jersey

Application February 21, 1935, Serial No. 7,616

12 Claims. (Cl. 210—149)

This invention relates to apparatus used in the brewing of beer, and more particularly to a mash tub.

An object of this invention is to provide in a mash tub an improved type of inner or false bottom which is so constructed that it may be properly levelled off notwithstanding any deviations of the main tank bottom from the horizontal.

Another object of this invention is to provide a slotted false or inner bottom for a mash tub which is constructed of segmental pieces suitably locked together in a manner whereby the inner or false bottom may be readily mounted within the mash tub and may be readily removed without affecting the main tank or tub.

A further object of this invention is to provide an inner or false bottom which is so constructed that it will not crack under the strain of the material mounted in the tank or tub.

A still further object of this invention is to provide a bottom of this character which can readily be mounted in tubs or tanks at present in use and which embodies means whereby the inner or false bottom may readily contact with all portions of the main tank or tub bottom so that no undue strain will be placed upon any one portion of the inner or outer bottoms.

With the above and other objects in view, the invention consists in the improved filtering plate for the brewing of malt and in the form, proportion and relative arrangement of the several parts thereof, as will be hereinafter more fully described, illustrated in the accompanying drawings, and subsequently incorporated in the subjoined claims.

In the drawings, wherein I have disclosed one simple and practical embodiment of my present invention, and in which similar reference characters designate corresponding parts throughout the several views,—

Figure 1 is a top plan view of a portion of a slotted false bottom or filtering plate constructed according to an embodiment of this invention.

Figure 2 is an enlarged fragmentary vertical sectional view through the false bottom in its applied position within the main tank or tub.

Figure 3 is a sectional view taken on the line 3—3 of Fig. 2.

Figure 4 is a fragmentary vertical sectional view through abutting bottom sections and showing the manner of bracing said sections along their longitudinal and abutting edges.

Figure 5 is a view similar to Fig. 4 but showing the interlocking means for abutting bottom sections.

Figure 6 is a fragmentary longitudinal sectional view showing the elongated openings carried by one of the bottom sections for receiving the locking pins of an abutting section.

Figure 7 is a fragmentary vertical sectional view taken at the outer end of one of the sections and showing the means for holding the sections against circumferential movement within the main tank or tub.

Figure 8 is a top plan view of the circumferential locking means for the bottom sections.

Figure 9 is a sectional view taken on the line 9—9 of Fig. 10 and showing the locking means for the last sections to be inserted in the main tank bottom.

Figure 10 is a sectional view taken on the line 10—10 of Fig. 9.

Figure 11 is a top plan view of the bottom bracing means and bottom levelling means.

Figure 12 is a detail side elevation of the bracing and levelling means partly broken away and in sections.

Referring to the drawings wherein like characters of reference designate like parts throughout the several views, the numerals 15, 16, and 17 designate generally inner or false bottom sections which are of suitable length and width to extend entirely about the interior of the main tank bottom 18. Any number of these bottom sections may be used within the interior of the main mash tank, and in the present instance it is contemplated that at least sixteen of such sections be used, although I do not wish to be limited to any specific number of bottom sections as the number will vary with the diameter of the main tank.

The bottom sections 15, 16 and 17 are substantially similar in all details with the exceptions to be hereinafter noted. The bottom section 15 comprises a plate 19 constructed in the form of a segment with the opposite longitudinal edges forming radii of the main tank. This plate 19 is preferably formed of bronze or other suitable material which may properly be used within the inside of a brew tank.

As the under sides of the bottom sections are similarly in substantially all details it is considered necessary to describe the details of construction of only one section and then to show the variances in the other sections. Therefore, taking the bottom section 15 as an example, the under side of this section is provided along one longitudinal edge with an L-shaped angle member 20 which is fastened to the plate 19 as by rivets 21 or the like. The horizontal leg of this angle

member 20 is relatively long and projects outwardly of the adjacent edge of the plate 19 to form a ledge or shoulder 22 upon which the abutting edge of another bottom section may rest, as more clearly shown in Figs. 4 and 5.

The opposite longitudinal edge of the plate 19 has a second L-shaped angle member 23 secured as by rivets 24 or the like, and this angle member 23 is offset inwardly from the adjacent longitudinal edge of the plate 19, as shown in Figs. 4 and 5. Through the use of a construction of this kind the angle member 20 on one edge of a plate 19 will support the abutting edge of an adjacent plate 19, and the vertical legs of abutting angle members 20 and 23 will be in parallelism and disposed in spaced relation to each other.

One of the angle members secured to the bottom of the plate 19, and in the present instance the angle member 20 is provided at spaced intervals with elongated slots 25 in the vertical leg thereof, and the confronting vertical leg of an adjacent plate 19 is provided with pins 26 which are fixed to the angle member 23 and are adapted to engage in the slots 25.

The bottom section 15 is also provided on the under side thereof with bracing members generally designated as 27 which extend between the longitudinal edges of the plate 19, and a suitable number of these bracing members are disposed beneath the plate 19 to firmly support the entire area of the plate 19, as will be noted from Figure 1. These bracing members 27 are provided at the opposite ends thereof with enlargements or bosses 28 in which headed fastening devices 29 may engage so as to secure the bracing members 27 to the plate 19. The opposite ends of the bracing members 27 are also provided with enlargements or bosses 30 disposed beyond the bosses 28, and each boss 30 is provided with a threaded opening 31 therethrough. A threaded stud 32 having a base flange 33 is threadedly disposed in the opening 31 from the bottom thereof, and the upper end of the stud 32 is provided with a kerf 34 which may be engaged by a tool in the form of a screw driver or the like for adjusting the bottom supporting stud 32 within the boss 30.

The stud 32 is also provided with an axial threaded opening 35 in which is received a stud locking screw 36 which extends through the plate 19 from above. The main tank bottom 18 is provided with one plate 37 for one stud 32 on section 17 only, and this plate 37 has an opening or recess 38 in which the base flange 33 is received. The plate 37 is secured to the inner surface of the bottom 18 by means of rivets or fastening devices 39.

When the inner or false bottom comprising the sections 15, 16 and 17 are to be assembled within the main tank, the section 17 is disposed within the tank with the flanged stud 32 engaging in the recessed plate 37. The longitudinal edge of one plate 15 will overlap the angle member 20 of an adjacent plate, and the pins 26 of one angle strip 23 will engage in the confronting slots 25 of a confronting angle 20. Preferably one of the bottom sections, and in the present instance the bottom section 17 is provided with a clean-out plate 40 so that the space between the bottom sections 15 and the main tank bottom 18 may be cleaned out by flushing or the like and without removing the bottom sections 15.

The bottom section 16 is preferably the last section to be inserted in the tank, and in order to lock this last section with the remaining sections, one edge of this section is provided with the usual angle member 20 in which the pins 26 of the section 17 are received. The angle strip 23 of the segment 16 has secured thereto inwardly of the vertical leg thereof a locking means generally designated as 41.

This locking means 41 comprises a housing 42 secured as by rivets 43 to the horizontal leg of the angle 23, and a locking bar 44 provided with a stud 45 is loosely mounted in the housing 42. The stud 45 extends upwardly through the horizontal leg of the angle 23 and also extends through the plate 19' with the top thereof flush with the top of the plate 19'. The stud 45 is provided with a keyway or tool receiving opening 46, preferably of polygonal configuration so that the locking bar 44 may be swung horizontally through a slot 47 provided in the vertical leg of the angle 23. The adjacent angle 20 of the bottom section 15 is provided with a bar receiving slot 48 so that the bar 44 may be swung at substantially right angles to the adjacent edge of the segment 16. Preferably the segment 16 is provided with a swingable handle 49, as shown in Figure 1 so that this segment may be readily lifted out or inserted within the tank.

The studs 32 constitute a levelling means for the bottom sections 15, and as these sections 15 are placed within the main tank and rest upon the tank bottom 18, the studs 32 are properly adjusted so that the inner or false bottom will be level or on a horizontal plane. All of the studs 32 are adjusted by first removing the locking screw 36 and inserting the blade of a screw driver in the kerf 34. It will, therefore, be understood that notwithstanding any warping in the main tank bottom 18 the inner false bottom may be mounted on a horizontal plane and may contact with all portions of the main tank bottom 18.

The circumferential displacement of the bottom sections 15 is prevented by means of angle brackets or members 49 which have a vertical leg thereof secured to an annular member 50 carried by the side wall 51 of the main tank. These brackets 49 are disposed a suitable distance above the main tank bottom 18, and the horizontal leg 52 thereof is adapted to engage the upper surface of the plate 19 of a bottom section, and this leg 52 is provided with a recess 53 on its inner edge in which a pin 54 is received. The pin 54 is preferably headed and the shank thereof extends into the plate 19 inwardly of the peripheral edge of the plate 19.

While I have herein shown and described a preferred construction and arrangement of the several parts, it is nevertheless to be understood that the essential features of my present invention might also be incorporated in various other alternative structural forms, and I therefore reserve the privilege of resorting to all such legitimate changes therein as may be fairly embodied within the spirit and scope of the invention as claimed.

What is claimed is:

1. In combination with a tank having a round bottom, an inner bottom including a plurality of segmental members, interlocking means carried by opposite edges of each member for locking the members together, and means carried by each member operable from above each member and extending therethrough and engageable with the inner surface of the tank bottom whereby to form a contact with all portions of the members and the inner surface of the tank bottom irrespective of irregularities in the tank bottom.

2. In a tank having a round bottom, an inner bottom removably disposed within said tank and disposed in upwardly spaced relation to the round bottom, said inner bottom comprising a plurality of segmental members, interlocking means carried by the opposite edges of said members for locking the members together, bracing means secured to the under side of each member between the longitudinal edges thereof, and threaded supporting means extending below said members and adjustable from above thereof.

3. In a tank having a round bottom, an inner bottom removably disposed within said tank and disposed in upwardly spaced relation to the round bottom, said inner bottom comprising a plurality of segmental members, interlocking means carried by the opposite edges of said members for locking the members together, bracing means secured to the under side of each member between the longitudinal edges thereof, threaded supporting means extending below said members and adjustable from above thereof, and locking means for said supporting means.

4. As a new article of manufacture, a false bottom for a tank comprising a plurality of segmental sections disposed in edge abutting relation, interlocking means carried by the opposite edges of each section, bracing means secured to the underside of each section, threaded bosses carried by the opposite ends of said bracing means, and threaded adjusting members engaging in said bosses, said adjusting members extending below said bracing means and being adjustable from above each section.

5. A removable inner bottom for a tank comprising a plurality of segmental plate members disposed in edge abutting relation, interlocking means carried by the under side of the members for locking the members together, bracing means disposed on the under side of each member, means for securing the bracing means on the under side of each member, threaded bosses carried by the opposite ends of each bracing means, a stud threadedly disposed in each boss and extending below said bracing means, said stud having a kerf in the upper end thereof, said plate member having an opening coaxial with the axis of said stud and said stud having an axial threaded opening, and a threaded locking member extending through the opening in the plate member and engaging in the threaded opening of said stud to lock said stud against turning.

6. In a tank having a round bottom, an inner bottom removably disposed within said tank and disposed in upwardly spaced relation to the round bottom, said inner bottom comprising a plurality of segmental members, bracing means secured to the under side of each member between the longitudinal edges thereof, threaded supporting means extending below said members and adjustable from above thereof, and locking means for said supporting means.

7. In a tank having a round bottom, an inner bottom removably disposed within said tank and disposed in upwardly spaced relation to the round bottom, said inner bottom comprising a plurality of segmental members, bracing means secured to the under side of each member between the longitudinal edges thereof, and threaded supporting means extending below said members and adjustable from above thereof.

8. A false bottom section for a tank comprising a plate, depending flanges carried by the under side of the plate adjacent opposite edges thereof, and a plurality of spaced apart locking pins carried by one of said flanges, the other flange having a plurality of spaced apart openings to receive the locking pins of an abutting plate.

9. A false bottom section for a tank comprising a plate, depending flanges carried by the under side of the plate adjacent opposite edges thereof, a plurality of spaced apart locking pins carried by one of said flanges, the other flange having a plurality of spaced apart openings to receive the locking pins of an abutting plate, and adjustable supports on the under side of said plate.

10. A false bottom section for a tank comprising a plate, depending flanges carried by the under side of the plate adjacent opposite edges thereof, a plurality of spaced apart locking pins carried by one of said flanges, the other flange having a plurality of spaced apart openings to receive the locking pins of an abutting plate, and supports secured to the under side of the plate and adjustable from above thereof to vertically adjust the plate.

11. A false bottom section for a tank comprising a plate, depending flanges carried by the under side of the plate, one of said flanges extending beyond the adjacent edge of the plate whereby to form a seat for an adjacent plate, the other flange being disposed inwardly of the adjacent edge of the plate, supporting means secured to the under side of the plate and adjustable from above the plate, and locking means for said supporting means.

12. A false bottom for a tank comprising a plurality of bottom sections disposed in edge abutting relation, and means operable from above the sections and engageable through the sections when in assembled position for vertically adjusting the sections relative to each other.

ROBERT C. SCHOCK.