

C. J. LJUNGGREN.
HYGIENIC CHALICE.
APPLICATION FILED NOV. 24, 1908.

1,031,858.

Patented July 9, 1912.

FIG. 1.

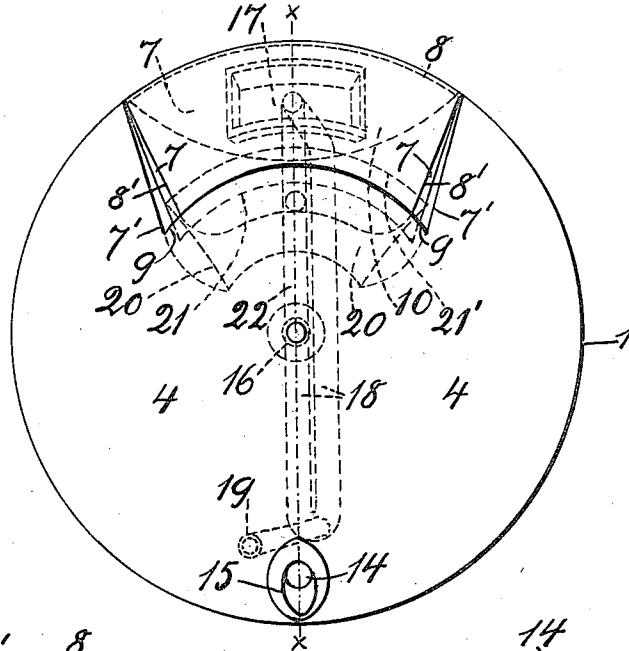
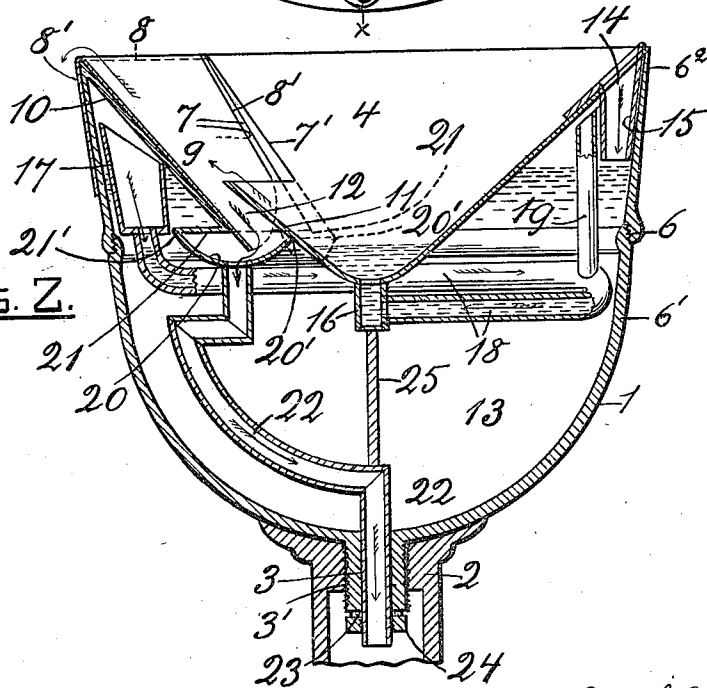


FIG. 2.



WITNESSES

E. M. Soderstrom

Anna F. Soderstrom

Carl J. Ljunggren

INVENTOR.

UNITED STATES PATENT OFFICE.

CARL J. LJUNGGREN, OF PROVIDENCE, RHODE ISLAND.

HYGIENIC CHALICE.

1,031,858.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, CARL JULIUS LJUNGGREN, a subject of the King of Sweden, residing at Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Hygienic Chalice, of which the following is a specification.

My invention relates to improvements in hygienic chalices, and its objects are to simplify the construction and to reduce the cost of manufacture while at the same time maintaining the same hygienic conditions insured by devices of the same kind and covered in certain other applications of mine, which are concurrent to this present one.

With these objects in view, this invention consists in certain novel features of construction, and in certain parts, improvements and combinations, as will be hereinafter fully described and pointed out in the claims.

In the accompanying drawing, showing the preferred form, Figure 1 is a top plan view of the chalice, and Fig. 2 is a vertical section of the same, taken on the line $x-x$ of Fig. 1.

In the practical application of my invention I form the chalice preferably of a cup, 1, which has liquid-tight screw-connection, by means of a tubular projection 3, as at 3¹, with a stem 2, and base, which are adapted to receive and to baffle, as against backward flow, all waste-liquid discharged thereinto. But as said stem and base and the means disposed in the interior of the same to effect this purpose forms no part of the present invention, they are merely referred to here, and not shown on the drawing, except part of said stem 2, to show the connection thereto of the cup, 1.

The cup 1 itself forms, without any division of its interior into a plurality of compartments, the reservoir of the chalice, which reservoir is, as in other, similar devices covered as stated above, intended to dispense automatically, in the tilting incident to the use of the vessel, its contents in interiorly measured portions upon the protected lip of the chalice and thence to the communicant's mouth. The chalice must therefore have a covered or inclosed reservoir, and in the present instance I effect this object by means of a cover 4, which depends from the rim of, and into, said cup 1, and

which forms a kind of secondary cup, and which serves at one and the same time the purpose of a cover for the said reservoir, and that of an outlet-chamber for its contents. This arrangement is not in itself strictly new. As heretofore proposed, however, it has been found ineffective to afford intended protection, a defect, which I have fully overcome by its use in connection with the present invention. To make the assembling of the various parts practicable I form the cup 1, or rather its outer wall, in two parts, one constituting the bottom part of the cup, and the other a top part or section of the same; upon the adjoining edges of these two parts I form beads, which are threaded so as to allow of screw-connection, as at 6. The bottom part is indicated by the numeral 6¹, and the upper or top part by the numeral 6². To the upper rim or edge of said upper part 6² I attach the said funnel-shaped cover 4. About half way between the inverted apex forming the bottom of said cover, and the outer or upper rim or edge thereof, I make a slit in its wall, which slit severs from each other a lip 9—9 and the portion of said wall situated between said lip and the said upper edge of the cover. The latter portion I depress into a recess 7, so, that the lower edge of the wall 10 of the said recess 7 is spaced away from the said lip 9—9, and so, that having been suitably lengthened, it preferably extends a suitable distance below the edge of said lip, leaving a clear space 12 forming a passage or by-pass for any liquid-wastes flowing back into the chalice again, between itself and said lip 9—9. The said recess commences with, and preferably includes, the edge 8, as shown, extends between the side boundaries 7¹, 7¹, and continues preferably clear down to a point considerably below the lip 9—9, as shown. This recess forms a seat for a detachable or exchangeable hygienic leaf 8¹ which is placed therein in the use of the vessel, said leaf, however, forming no part of the present invention. The reservoir 13 underneath the cover-outlet-chamber 4 I fill, air-vent and empty of its bulk-residue by way of an orifice 14, in which I insert a beveled and flanged tube 15 to give a more finished look thereto. In the inverted apex forming the bottom of said cover 4 I drill an orifice around which, on the under side of said cover, I fasten a tube 16, said tube having its lower end closed. Up underneath

the wall 10 of the recess 7 I place an inlet-chamber 17, which I connect with the cover-outlet-chamber 4 by means of a tube 18, which I carry clear over to the opposite wall of the cup 1, which I further bend to form a baffle, then carry back and connect to tube 16, and finally air-vent by means of tube 19, said tube 18 now forming a passage between the said inlet-chamber 17 and the outlet-chamber 4, as the tube 16 opens up into the latter. To the lower edge of wall 10 of the recess 7 and to the under surface of the lip 9—9 I connect a drain-pocket 20 comprising a horizontal baffling-wall 21, to which the segmental, gutter-shaped bottom of said pocket is connected at 21¹, the other side of said pocket bottom being connected to the cover 4 at 20¹, the said pocket 20 being formed so as to entirely shut off all communication between itself and the inner reservoir 13. To an orifice in the bottom of said drain-pocket 20 I connect a discharge-tube 22 provided preferably with elbows so as to serve also as a baffle; the lower end of said tube 22 I journal in the tubular projection 3 of cup 1 so as to make a liquid-tight connection, and further strengthen said connection by means of a washer 23 and a screw-nut 24 which is screwed on to the lower, screw-threaded end of the said tube 22 protruding below the said projection 3 of cup 1.

In order to keep tube 22 always centered for easy insertion of its lower end into tube 3 I stay the same by means of a member 25, the upper end of which is attached to the tube 16, while its lower end is attached to said tube 22 for the purpose stated. This arrangement will be found useful in the assembling of the parts, as after their having been taken apart for sterilizing purposes. The lower end of the tube 22 will then first be passed into the orifice in the cup 1, which opens down into the tube 3; the upper part 6² of the cup will then be screwed down upon the lower part 6¹, the said lower end of the tube 22 meanwhile revolving in tube 3. When the two cup parts are screwed together finally, the washer 23 and the nut 24 are placed upon the part of tube 22 protruding below tube 3, and said nut screwed home tight, whereby a liquid-tight connection will have been effected.

In the use of the chalice I fill the reservoir 13 by way of vent-tube 15 till the liquid begins to well up into the cover-outlet-chamber 4, when the filling is stopped. The hygienic leaf referred to is then placed on the chalice in the recess 7, and each portion of wine is administered over such a leaf, every communicant receiving over a fresh leaf. With each tilting of the vessel the reservoir with its dispensing-means will automatically replenish the outlet-chamber

with a new liquid-portion. This is effected in the following way. The inlet-chamber 17, which is normally, as to its upper, open end, above the liquid-level in the reservoir, will become immersed immediately upon each tilting of the vessel and in the righting of the same it will again emerge from its immersion in the liquid-bulk thereof and carry with it as much of the latter as it can hold. This dipped-up quantity flows through tube 22 and wells up into the cover-outlet-chamber 4 until it finds its own level therein, and thus forms the portion ready for administration to the communicant. In the tilting of the vessel incident to the latter the intruding liquid cannot go higher in the then vertically-placed tube 18 than its own level, the bend in said tube causing it to baffle said liquid so that not a drop more than the measured portion in the outlet-chamber can flow out. Siphoning by means of tube 18 is prevented by tube 19, which breaks the stream of liquid at each tilting of the vessel. All liquid-wastes remaining on the leaves are drained off into the stem by way of the drain-pocket 20 and tube 22.

Having now fully described the nature, functions and operation of my invention, what I consider as new and wish to secure by Letters Patent is:

1. A chalice comprising a cup, a funnel-shaped cover and said cup forming an inclosed reservoir in said cup, said cover also forming an outlet-chamber for said reservoir, a portion of said cover being slitted to form a lip, the opposite part of said slitted portion being depressed to form a recess, said recess forming a seat for detachable hygienic means to be placed therein, said recess forming also a by-pass for the requisite draining away of waste-liquid, an inlet-chamber within said reservoir, means controlling the flow of liquid between said inlet-chamber and the said outlet-chamber, and means for draining off all wastes passing down said depressed recess.

2. A chalice comprising a cup, a funnel-shaped cover depending inwardly and downwardly into said cup from the rim thereof, said cup and said cover forming an inclosed reservoir within said cup, said cover also forming an outlet-chamber for said reservoir, a portion of said cover being severed away to leave a lip in said cover between the bottom and the edge thereof, said severed away portion being depressed into a recess, said depressed portion or recess being spaced away from said lip to form a passage between the two, means connected to said outlet-chamber whereby its contents may be automatically dispensed in portions poured from said outlet-chamber over said lip and onto said recessed portion for administration, and means connected to said depressed or recessed portion adapt-

ed to drain away all liquid-wastes left therein by the communicant.

3. A chalice comprising a cup, a funnel-shaped cover depending into said cup from the upper edge thereof, said cup and said cover forming together an inclosed reservoir, said cover forming also an outlet-chamber, a portion of said cover being severed therefrom, said severed portion being formed into a recess, said recess forming a seat for hygienic leaves to be placed therein in the use of the chalice, a waste-pocket formed underneath the edge of and connected to said severed and recessed portion of said cover, said waste-pocket being also connected, on its other side, to the under surface of the said cover, and means connecting said waste-pocket with the stem of the chalice for delivery thereinto of all wastes drained off into the former.

4. A chalice comprising a cup, a funnel-shaped cover forming an outlet-chamber depending into said cup from the rim thereof, a portion of said cover being cut away from the rest of the wall of said cover, said cut-away or severed portion being formed into a recess, said recess forming a seat for detachable hygienic leaves to be placed therein, the lower edge of said recessed portion being extended down below the edge of the portion of said cover from which it was severed, and a liquid-baffling waste-pocket connected to the lower edge and to said wall of said recessed portion and to the said cover itself, said waste-pocket being provided with a tube-connection delivering into the stem of said chalice.

5. A chalice comprising a cup, an upper part or section of said cup connected to a lower part or section of the same, a funnel-shaped cover connected to said upper section, said cup and said cover forming an inclosed reservoir in said cup, said cover also forming an outlet-chamber for said reservoir, an inlet-chamber in said reservoir, said inlet-chamber being adapted, in the tilting of the vessel incidental to the use thereof, to dip up a certain portion of the liquid-bulk contained therein by immersion into the latter, means whereby the said automatically dipped-up liquid-portion may be conducted into said outlet-chamber, a recessed portion in the wall of said cover or outlet-chamber, a lip formed in the same cover or outlet-chamber, over which lip each of said liquid-portions may be poured onto the said recess for flow into the mouth of the communicant, said recessed portion also draining away all wastes left thereon and diverting them from the pure liquid-bulk, and means connected to said lip and said recessed portion of said cover whereby said liquid-wastes may be drained away for isolation.

6. A chalice comprising a cup, said cup having an undivided reservoir, the closure

for said reservoir being formed by a funnel-shaped cover depending into said cup from the rim or upper edge thereof, said cover forming also an outlet-chamber, an inlet-chamber within said reservoir, a re-bent baffling-tube connecting said inlet-chamber and said cover forming said outlet-chamber, an air-tube connected to said re-bent tube to break the siphoning effect thereof, a portion of said cover being severed from another portion thereof, said severed portion being recessed so as to form a seat for a hygienic leaf adapted to be placed therein, the wall of said recessed portion being extended below the edge of the portion of said cover from which it was severed, a space being left between the said wall of the said recessed portion and the said portion from which it was severed, said space being for the purpose of allowing a hygienic leaf to be placed therein and to allow all waste-liquid left thereon to be drained away from the said leaf, a horizontal waste-baffling wall connected to the lower edge of said wall of said recessed portion, a waste-pocket connected to said waste-baffling wall and to the under surface of said cover and a tube connecting said waste-pocket to the stem of said chalice, into which it delivers.

7. A chalice comprising a cup, said cup and a funnel-shaped cover forming an inclosed reservoir in the cup, said cover also forming an outlet-chamber for the reservoir, a recess in said cover forming a seat for detachable hygienic means, said recess also forming a by-pass for the waste liquid, an inlet-chamber in the reservoir, means controlling the flow of liquid between the inlet-chamber and the outlet-chamber in predetermined quantities, and means for draining of and isolating the waste liquid passing down the recess.

8. A chalice comprising a cup, a funnel-shaped cover connected to said cup, and depending thereinto, said cup and cover forming together a reservoir, said cover forming also an outlet-chamber to said reservoir, an inlet-chamber in said reservoir, means of communication between said inlet-chamber and said cover or outlet-chamber, a lip upon said cover, a recess formed in said cover opposite said lip, said lip delivering upon or into said recess when the chalice is tilted, and means connected to said cover and to the portions forming said recess for the draining away of any liquid wastes returning thereinto.

9. A chalice comprising a cup, a funnel-shaped cover connected to said cup and depending thereinto, said cup and cover forming together the reservoir of the chalice, an opening in the said reservoir for filling and air-venting the same, the said cover forming also an outlet-chamber for said reservoir, an inlet-chamber in the reservoir,

means of communication between said inlet-chamber and said cover or outlet-chamber for conducting, and controlling the flow of, the liquid-contents from the former to the
5 latter in the tilting and righting of the chalice, said cover being provided with a lip located between the center and the edge thereof, a recess formed between said lip and said edge into which, in the tilting of the chalice,
10 said outlet-chamber delivers its contents, over said lip, and down which recess, in the righting of the vessel, flow the waste liquid particles returning from the lips of the user

or communicant, and means connected to said cover or outlet-chamber and to the walls 15 of said recess whereby, in connection with said recess, the said waste particles are diverted from the pure liquid-contents of the chalice and properly isolated.

In testimony whereof I affix my signature, 20 in presence of two witnesses.

CARL J. LJUNGGREN.

Witnesses:

J. F. CARLSTEN,
EMIL JAHNSON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."
