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HYGIENIC COMMUNION CHALICE.

APPLICATION FILED OCT. 2, 1908.

1,067,183. Patented July 8, 1913.

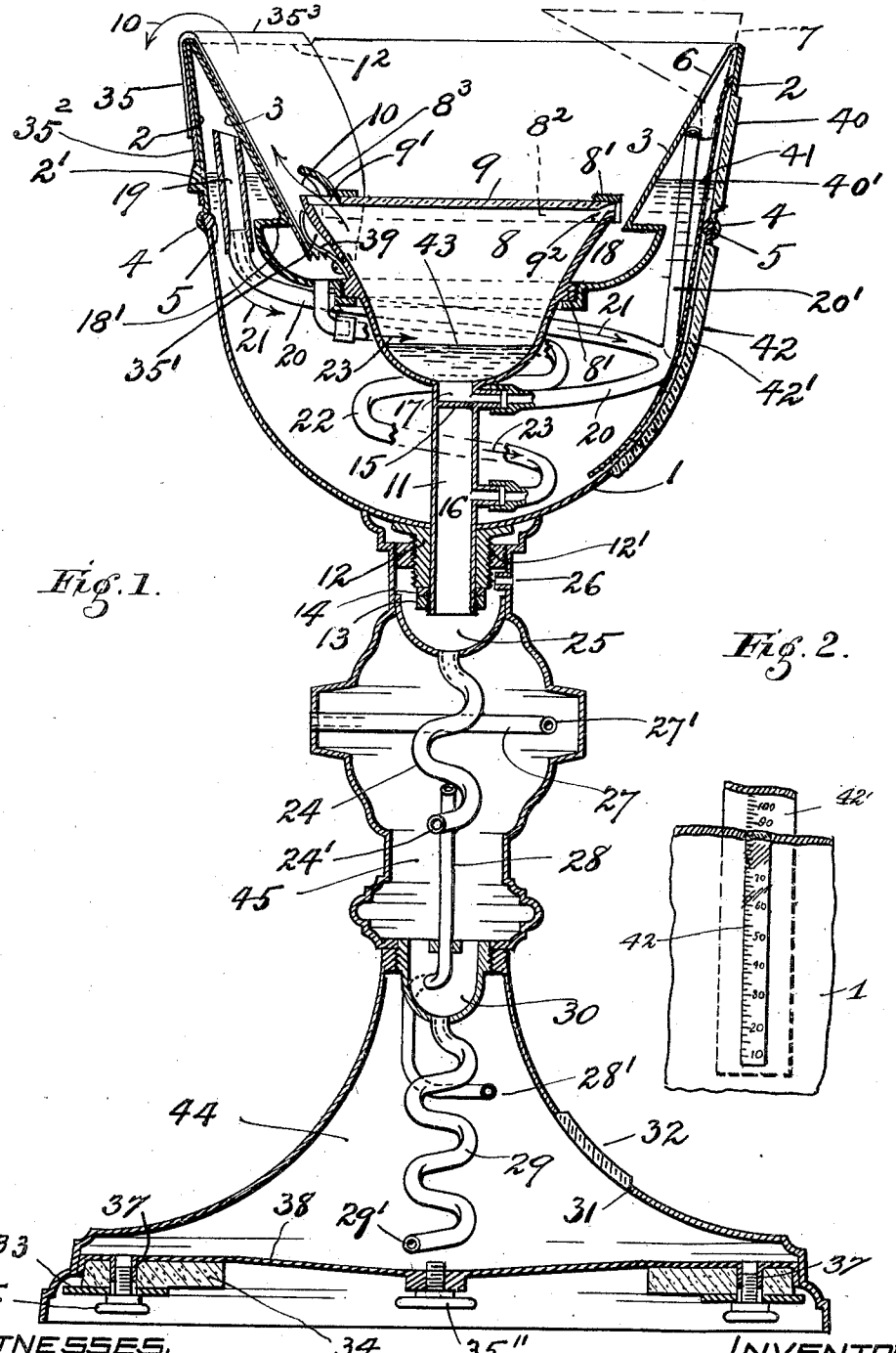


Fig. 1.

Fig. 2.

WITNESSES.

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HYGIENIC COMMUNION-CHALICE.

1,067,183. Specification of Letters Patent. Patented July 8, 1913.

Application filed October 2, 1908. Serial No. 455,794.

To all whom it may concern:

Be it known that I, CARL J. 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 Communion-Chalices, of which the following is a specification.

My invention relates to improvements in hygienic communion chalices. Its objects are to greatly simplify the construction and arrangement of the parts; to provide for apportioning or dividing off a certain portion of the chalice-contents with each tilting of the chalice as in placing the latter to the lips or mouth of the communicant; to automatically arrest the further flow of the chalice-contents after tilting and returning the chalice to upright position; to provide for exposing to view or observation the apportioned amount of liquid for the communicant; to suitably divert the liquid drippings or waste; means to gage the variable level of the liquid contents, and to carry out these various objects in a simple, practicable and effective way.

In the accompanying drawing: Figure 1 represents a central vertical sectional view of a chalice, showing the preferred construction and arrangement of parts embodying my improvements; and Fig. 2 is a detail.

Like reference characters indicate like parts.

In carrying out my invention, I employ a chalice provided with a cup or receptacle, preferably in the general outline of the regulation or rather traditional type, as is used in some churches, particularly those known as the liturgical, properly so called. The cup or chalice proper has suitably applied or connected to the upper edge of its receptacle 1 a slightly outward flared section 2, forming an upward continuation or extension of the chalice, said section or extension having formed therewith, at its upper edge a downward and inward deflected flange 3 terminating at a point about on a line with the lower edge of said extension or section, the forming of these separate from the chalice being principally for facility of manufacture. The connection between the cup or chalice and said section or extension which is designed, of course, to be liquid-tight is effected preferably by forming a screw-thread upon each, thus providing for screwing one upon the other for that purpose. The thus screw-thread formed uniting edges are also stepped and relatively enlarged, as at 4, 5, respectively, to permit one to fit within the other for the alinement of the cup bodily with said section or extension, as will be readily appreciated.

In the flange 3, near its top edge, is an air vent opening 6 for facilitating the flow of the liquid contents; and at this point the chalice or cup is supplied with the liquid by the aid of a suitable funnel 7, indicated by dotted lines, as well as drained of any wine remaining after use of the same.

An outlet chamber 8 is provided herein, preferably of urn-like outline, as shown, which outline is calculated to compel, as will be readily appreciated, the user to raise the vessel to a horizontal position, in order to cause the wine to flow into the mouth of the user, and whereby is effected the proper feeding of the inlet chamber from the contents of the reservoir as hereinafter stated, and which outlet chamber 8 is arranged centrally within the cup or chalice proper 1, and is particularly designed to have its contents readily viewed by the recipient through its glass or transparent closure 9 having a suitable metal mounting and fitted upon said outlet chamber especially to prevent breathing into the latter. Said glass or transparent closure being detachable and having a segment of its edge removed as at 9^1, for the outflow or passage of the contents of said outlet chamber in the direction indicated by the arrows 10, 10. Said outlet chamber 8 has depending centrally from its bottom a tube 11 inserted through an opening in the bottom of the chalice or cup 1 and through a short pendent sleeve 12 of the latter, which it fits tightly and to which it is held by a nut 13 and a washer 14, said sleeve itself having screw-threaded connection with the chalice-stem or leg as at 12^1. This tube, however, is subdivided by a par-

tition 15 forming it into two compartments 16, 17, the purpose of which will be readily apparent presently. Said outlet chamber 8 has an annular extension 8^1, which is screwed liquid-tight into a pocket 18, and which pocket entirely encompasses the outlet chamber 8 and has its upper edge arranged at a point about in a horizontal line with, and outward beyond the lower edge of the flange 3 and is preferably integral therewith, for the ready reception of any waste liquid or wine, or drippings flowing down the latter and to prevent any back-flow of said waste, as in using the chalice, by means of a baffle-wall 18^1 which connects said pocket and said flange.

An inlet chamber 19, preferably of the general outline disclosed, is, in this instance located up under the cup-flange 3 and receives the liquid at this point from the reservoir which, in this example, is the chalice or cup proper, said inlet chamber 19 extending well downward alongside of the pocket 18. From the lower end or bottom of said inlet chamber 19 and communicating therewith, extends a baffling tube 20 which is carried, preferably in a horizontal line generally, after being passed a short distance downward, clear over to the opposite side of the interior of the cup or chalice and then extended reversely in nearly a like line and suitably connected to the tube 11, for delivery into the upper compartment 17, the liquid or wine being finally delivered or passed up into the outlet chamber 8, in the direction indicated by the arrows 21, 21.

It will be noted that with the tilting of the chalice or cup, as in administering the liquid or wine to the communicants, it will, by gravity, flow into the inlet chamber 19 from the reservoir or cup 1, and accordingly pass down into the tube 20, and as the chalice or cup is returned to an upright position, said liquid will flow through said tube and enter the tube 11, in its compartment 17, and rising in said latter tube, will enter the outlet chamber 8 until it reaches its own level therein when its further flow into said outlet chamber will be arrested, thus providing for the requisite or predetermined apportioning of the liquid in the latter chamber for each communicant. At the relatively upper right hand bend of the baffling tube 20 is a vent pipe 20^1 to prevent said tube from siphoning when the chalice is tilted toward the left.

A spiral baffling tube 22, preferably, is connected to, and opens into the bottom of the initial drain pocket 18 just below a non-contagion pad 35 applied to the edge of the chalice 1, said tube winding downward around the outlet chamber 8 and its tube 16, as indicated by the arrows 23, 23, and delivering the waste liquid or drippings from said pocket into the compartment 16 of the tube 11. The thus conducted drippings received by the tube-compartment 16, are further conducted away by a spiral baffling tube section 24 arranged in the chalice-stem or leg and connecting with a drain 25 also in said leg, into which the tube 11 discharges, the baffling tube section 11 discharging at a suitable point below into said leg or stem, while the drain 25 is controlled by the air-vent 26. The drippings having reached the waste chamber 44 cannot thereafter return in the tilting of the chalice to the initial drain pocket 18 by reason of the spiral baffling tubes 29, 24 and 22 effectually preventing them to pass back the way they came as described. Consequently there is no possibility of their reaching either the liquid-bulk contained in reservoir 1 or the portions successively measured off into outlet chamber 8; nor can they reach back to the flange 3 with its pad of leaves 35. Any drops remaining in drain-pocket 18 at the time of tilting will be baffled by the baffle wall 18 of said pocket. Additional air-vent tubes 27, 28 are also provided, one opening laterally out through the chalice stem or leg and delivering thereinto alongside the baffling tube section 24 and the other suitably held in position within said stem and extending from the vicinity of the first noted some distance downward and having a practically spiral or rearward opening terminal, as at a point 28^1, to exclude therefrom the drippings contained in the waste-chamber 44 of the foot-base of the chalice. A second spiral baffling tube section 29 with its drain 30, practically the duplicate of the aforesaid baffling tube section 24 and its drain 25, is also arranged within the chalice-stem or leg a suitable distance below the latter and delivers into the base or foot of said stem or leg as disclosed. Said stem or leg has its foot or base provided with an opening or openings as at 31, preferably in its normally rear side or that opposite to the tilting of the chalice of cup, and which opening is filled in with a stone setting 32 of a translucent nature to provide for viewing the rise or accumulation of the waste-liquid in said base or foot member as a precautionary measure, the purpose of which is obvious.

A rim 33 is applied to the underside of the chalice-foot for the retention in position thereunder of an absorbent or felt moistening ring 34 for the hygienic handling of the chalice in connection with the use of the non-contagion pad of leaves 35; thumb-screws 36 being employed in connection therewith for that purpose, and which screws engage threaded sockets 37 fixed to the bottom 38 of the chalice-foot. Thus, by a slight pressure of the finger upon the felt ring 34 a moisture is had in order to easily

remove a leaf 35 after same has been used by the communicant. A view glass 40 is mounted in the extension 2 of the chalice and is provided with an index mark 40^1 in order to determine the normal level of the liquid contents. Another view glass 42 is mounted in the cup 1 of the chalice for the purpose of determining when the liquid has sunk to such low level as to need refilling of the chalice-cup.

The operation of using the chalice is as follows: The cup 1 being filled to the normal level, as shown at 41, the chalice is now tilted slightly toward the left in order to permit the liquid to fill the inlet-chamber 19, after which the chalice is brought back to normal position when the requisite measured quantity will have passed from said inlet chamber, through the baffling tube 20, into the upper liquid compartment 17 and rising to a secondary normal level, as at a point 43 in the outlet chamber 8. The chalice has now segregated from the bulk of its liquid contents the proper measured portion of liquid for the administration to the communicant. The section of the chalice-rim, on which the non-contagion pad of leaves 35 is located, that is to say just in front of the vent 9^1 formed in the frame 8^1 of the glass-closure 9, is now placed at the mouth of the communicant, and the chalice brought to almost a horizontal position, the measured or segregated portion will then pass from the outlet-chamber 8, through the vent-opening 9^1, over the uppermost leaf of the pad 35, and into the mouth of the communicant.

In the tilting of the chalice or vessel, incident to the administration of its measured portion, as described, the inlet-chamber 19 will have filled automatically and thereby providing for the next measured portion, which, as soon as the chalice is brought back to its normal position, will flow up into the outlet-chamber, in the same manner as already described. Any wine drippings upon the uppermost leaf of the pad 35 remaining after the portion just served, will, as soon as the chalice is righted flow down through the clearance space 35^1 and into the initial pocket 18 from whence it finds its way through the spirally arranged baffling tube 23 and into the lower compartment 16 of the tube 11, which depends from the outlet-chamber 8, and from said tube the drippings pass to a second drain 25, and thence through another baffling tube 24 whose terminal end 24^1 delivers it into a third drain 30, the latter likewise being provided with a similarly arranged spiral tube whose terminal end 29^1 finally delivers the drippings into a waste chamber 44 formed in the foot-base of the chalice.

The chamber 45, between the drains 25, 30, is air-vented by the tube 27 whose terminal end 27^1 is directed toward the relatively right side of the chalice, as shown, and also the bent-tube 28, whose terminal end 28^1 is in the waste chamber 44, said tube 27 and said tube 28 being in communication with the atmosphere or outer air, whereby the said chambers 44, 45, are relieved from air pressure caused by the influx of the said waste drippings thereinto, thereby allowing the latter to pass freely all the way down from the initial pocket 18 and into the waste liquid compartment 44, as described.

In the right hand side of the base of the chalice is mounted the fixed view glass 32, which permits of the observation of the waste liquid contained in chamber 44 for the timely emptying thereof by unscrewing of the vent-plug 35″.

The detachable closure 9 has for its function the protection of the outlet-chamber 8, as against any foreign matter tending to enter the same from the outside and particularly from the mouth of the communicant. This detachable closure consists of a metallic ring 8^1 having an annular flange 8^2 which nearly surrounds the edge of the glass 9 and rim of the outlet-chamber 8. At one side of the ring 8^1, integral therewith, and in front of the pad of leaves 35, is formed a guard 8^3 which curves over an outlet-vent or cut away portion 9^1, and said guard is for protecting said outlet-vent 9^1 from receiving any foreign matter that might come from the mouth of the communicant. This detachable closure is also provided with a vent 9^2 arranged diametrically opposite the outlet-passage 9^1, and said vent 9^2 is formed in the glass 9 and in the annular flange 8^2, so as to dispose a small cut away portion in said glass 9 and said flange 8^2, and which cut away portion inclines at an angle downwardly and toward the vertical axis of the outlet chamber 8. Said vent 9^2 provides a discharge for the last measured portion when the chalice is turned toward the right, to relieve it of the remainder of its bulk contents by way of air-vent or filling opening 6. An air-vent 26 is provided in the leg of the chalice and said vent communicates with the chamber of the drain 25, for the purpose of relieving the air pressure caused by the downward flow of the liquid and air mixture through the pipe 22 and compartment 16. A thin flat spring 39 is employed for the purpose of pressing against the inner portion of the pad of leaves 35, in order to maintain the clearance 35^1 for the drainage or waste of wine to pass to the pocket 18.

Within the chalice and secured to the pipe 20 is a thin, bright-colored plate 42^1, located near to and extending beyond the view-

glasses 40, 42, in order that the height of the liquid may be revealed through either glass. On the face of said bright-colored plate a graduated scale is provided to assist the officiating clergyman in computing the number of wine-portions contained in any given quantity of wine-bulk remaining in the chalice at any given stage of the service, for instance, assuming that the normal level 41 of the wine has lowered to a level with the index mark 10, and if toward the end of the service there should be twenty more people to serve the chalice will then have to be replenished, by pouring through the filling opening 6, until the level rises to the index mark 20, when the chalice will then contain the quantity requisite to be apportioned to the twenty communicants still waiting to be served.

In the construction of the pad of leaves, the flared section or extension 2 of the chalice has an integral lug 2^1 which acts as a catch to fit through an opening formed in the backing-plate 35^2, on which the pad of leaves is mounted, said knob or catch being arranged to secure and retain said pad of leaves upon the chalice. The rim of the chalice is cut away, as at a point 1^2, to prevent lateral movement of the pad 35, and at the same time provide for the reduction of the abnormal projection 35^3 of the chalice.

The above described hygienic communion chalice forms an improved structure over that shown by my application for patent filed in the United States Patent Office June 5, 1906, Serial No. 320,360, and more especially to the structure shown by my application filed January 23, 1907, Serial No. 353,725.

Having fully described my improvements, what I claim and desire to secure by Letters-Patent is—

1. A chalice or cup, having an outlet-chamber arranged within it and having a depending tube, an inlet-chamber and an additional re-bent tube connecting with said inlet-chamber and connecting with the aforesaid tube for the delivery of the liquid into said outlet-chamber, and an air-vent tube having communication with the outer air and connected to said re-bent tube.

2. A chalice comprising a reservoir, an outlet chamber therein, a tube for conducting the liquid from the reservoir to the outlet chamber, and an air vent tube connected to first named tube.

3. A chalice, having a cup proper forming an auxiliary reservoir, a cover for the reservoir, said cup and cover having opening in the side thereof, and viewing glasses liquid-tight mounted in said openings to permit the ready observation of the liquid-contents of said cup in order to determine the need of replenishing the said chalice or cup.

4. A chalice or cup, having its stem divided into a series of drains, said drains being provided with air-venting tube sections having communication with the outer air.

5. A chalice or cup, having a cup or receptacle proper, said receptacle having a dispensing means arranged interiorly thereof, said dispensing means having an outlet chamber said outlet chamber having the form of a smaller cup arranged interiorly of said cup or receptacle proper and immediately above said dispensing means, said outlet-chamber cup having a closure to prevent the entrance thereinto of any foreign matter, said closure being formed by a transparent glass, said closure also having a metal ring, said ring having an annular flange to grip the rim of said outlet chamber cup, said glass being mounted within said annular flange of said ring, a pad of leaves mounted upon the rim of said chalice or cup, said glass having a cutaway portion forming an outlet, said outlet opening out upon said pad of leaves, said metal ring having a cutaway portion registering with said outlet of said glass, said ring also being provided with a tongue projecting over said outlet in order to protect the same from foreign matter entering in therethrough, said glass and said ring also having, at the diametrically opposite side of said closure, small cutaway portions registering with each other so as to form a small vent or outlet to drain also said cup in emptying the chalice of its contents by way of its filling-orifice or air vent opening.

6. A chalice or cup, having an outer receptacle or cup proper, an upward extension connected to the rim of said cup proper, an inward and downward deflected flange depending from the upper edge of said extension of said cup proper, said extension and said flange forming together the upper or drinking edge of said chalice or cup, and a recess in said drinking edge for the placing therein of a non-contagion pad.

7. A chalice or cup, having a cup or receptacle proper, an upward extension connected to the rim of said cup proper, said extension forming the upper or drinking edge of said chalice or cup, a pad of leaves having a backing plate being mounted upon said edge, an opening in the outer part of said backing plate of said pad, and a lug or knob integral with said extension and registering with said opening in said backing plate to serve as a catch to retain the latter in place upon the chalice rim.

8. A chalice or cup, having a receptacle adapted to contain the liquid bulk contents, a flared section properly mounted on said receptacle and having an inwardly and

downwardly extending flange depending from its upper edge, or rim proper of the chalice or cup, and said flange having an outwardly extending wall terminating in a pocket adapted to contain the liquid waste from said bulk contents, and said wall acting as a baffle to prevent said liquid waste from contacting upon the surface of the downwardly extending flange of said flared section.

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

CARL J. LJUNGGREN.

Witnesses:

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