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(54) **APPARATUS AND METHOD FOR BRUSH CLEANING**

(57) There is provided apparatus for retaining liquid for cleaning brushes. The apparatus comprises: a first receptacle means (20; 120) for retaining liquid; a second receptacle means (22; 122) for retaining liquid when the second receptacle means (22; 122) is in a first disposition, and for receiving an end of a brush for cleaning in the liquid; and mounting and operating means (30a, 30b, 32; 130a, 130b) for mounting the second receptacle on the first receptacle means so that the second receptacle is in the first disposition. The mounting and operating means is also for operating the apparatus to reconfigure the second receptacle to a draining disposition in which liquid in the second receptacle means drains into the first receptacle means, and to return the second receptacle means to the first disposition. The first receptacle is configured to retain more liquid than the second receptacle. Thus, the apparatus can be used to drain liquid that has been used in brushing from the second receptacle (22; 122) and the second receptacle means (22; 122) can be refilled and then used to clean another brush.

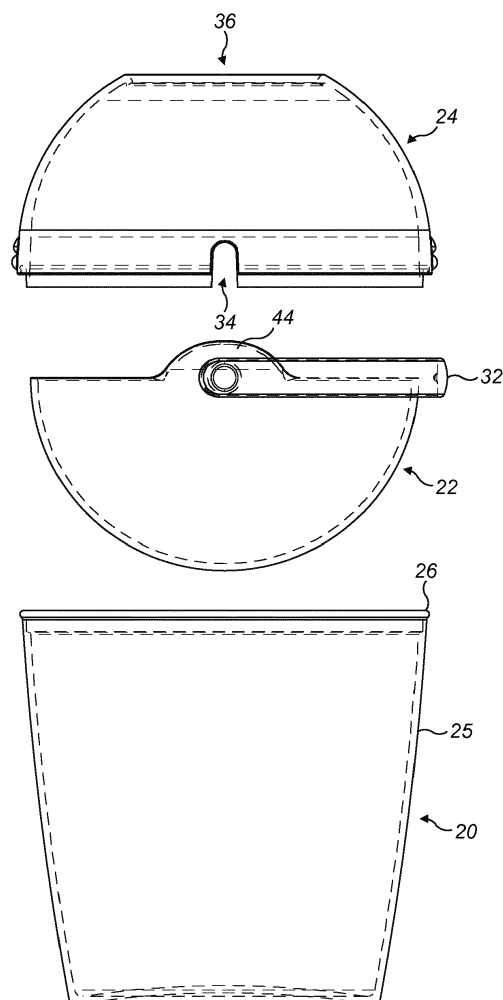


FIG. 1

Description

Field of the Invention

[0001] The invention relates to apparatus for retaining liquid for cleaning brushes, particularly makeup brushes. The invention also relates to a method of cleaning a plurality of brushes.

Background

[0002] Used makeup brushes harbour bacteria. Such bacteria may be harmful to skin or to the general health of users of such makeup brushes, particularly as makeup brushes are typically used to apply makeup to the face, where skin is delicate.

[0003] Details of detrimental health effects due to use of dirty makeup brushes are not well known. Transmission of MRSA has been attributed to sharing of makeup brushes. In addition, the European Commission's Scientific Committee on Consumer Safety advises that products used around eyes should have a total for aerobic mesophilic microorganisms, that is, bacteria plus yeast and mould, not exceeding 100-200 CFU/g (colony-forming units per gram). The inventor tested thirty-five makeup brushes from consumers, professional and beauty counters in shops. Eighteen of the brushes tested had a CFU count above 200. Eleven of these brushes had a CFU count exceeding 2000. Three of these brushes had a CFU count exceeding 20000.

[0004] Beauticians, makeup artists and dermatologists advocate regular cleaning of makeup brushes. However, thorough cleaning of makeup brushes is a chore that many people dislike.

[0005] Makeup brushes include tightly packed bristles. Makeup and bacteria can become located between the bristles. To clean a makeup brush properly it is necessary to part the bristles. Also, makeup brushes are expensive and cleaning should be done carefully so as not to damage the bristles or detach them from the brush.

[0006] A common method of cleaning is to put a cleaning solution onto a tissue and then to rub the bristles against the tissue. However, this method often closes the brush up rather than opening the brush out and is not effective at cleaning the brush. The brush can also be damaged as the rubbing may permanently bend the bristles.

[0007] Another common method is to spray cleaning solution onto a brush. In this case, the spray penetrates the brush poorly and the method is thus ineffective at removing makeup from the centre of the brush.

[0008] Another common method is to wash a brush under a tap and to rub the brush between finger and thumb. This can damage the glue that binds the bristles together.

[0009] Another method involves pushing the brush against a dimpled surface. This may be effective at spreading the bristles, but a consequence may be that

makeup is forced deeper into the brush, rather than being made to come out.

[0010] A solution, which the inventor devised, that is effective at cleaning makeup brushes is to attach a handle of the makeup brush to a motorised device, with which the brush can be spun about its length. The brush can then be spun in a cleaning solution and then spun in air for drying. Referring to Figure 10, it is known to use the shown transparent bowl 100 to retain such a cleaning solution. The bowl 100 comprises a lower portion 102, which retains cleaning liquid, and an upper portion 104 which serves as a spray guard. The upper portion 104 defines a circular aperture through which a fibrous end of a brush is inserted, in use, to locate the fibrous end in the cleaning solution. An annular piece of plastic 106 is located around a rim to protect the upper portion 104, since a brush may hit the sides of the aperture during cleaning.

[0011] The bowl 100 must be emptied each time that the bowl is used, which is inconvenient. An object of the present invention is to address this problem.

Summary of the Invention

[0012] According to a first aspect of the present invention, there is provided apparatus for retaining liquid for cleaning brushes, comprising: a first receptacle means for retaining liquid and having a rim; a second receptacle means for retaining liquid when the second receptacle means is in a liquid-retaining disposition, and for receiving an end of a brush for cleaning in retained liquid; mounting and operating means for mounting the second receptacle means on the first receptacle means so that the second receptacle means is in the liquid-retaining disposition, and for operating to reconfigure the second receptacle means to a draining disposition in which liquid in the second receptacle means drains into the first receptacle means, and to return the second receptacle means to the liquid-retaining disposition, wherein the first receptacle means is configured to retain more liquid than the second receptacle means; liquid blocking means that extends, in use, upwardly from the rim to prevent or impede egress of liquid in the second receptacle means from the apparatus during cleaning of a brush, including egress between the liquid blocking means and the first receptacle means, wherein the liquid blocking means provides an opening through which a fibrous end of a brush can be inserted into the second receptacle means.

[0013] The apparatus as a whole only has to be emptied once the first receptacle is full. This is particularly useful in an environment where many makeup brushes have to be cleaned.

[0014] The liquid blocking means may extend upwardly from the rim above a level of liquid in the second receptacle means, to provide a space for spinning of a brush for drying thereof and blocking spray resulting from the spinning from leaving the apparatus.

[0015] The first receptacle means may have a base

arranged so that the apparatus can be stably located for use on a horizontal surface.

[0016] The mounting and operating means comprises: first and second coupling means coupling the first receptacle means and the second receptacle means on respective opposing sides of the second receptacle means, wherein the first and second coupling means are arranged to permit angular motion of the second receptacle means so that liquid in the second receptacle means can be tipped into the first receptacle means; a handle means fixedly coupled to the first coupling means and operable to cause said angular motion via the first coupling means. The handle means may extend around the liquid blocking means and be also fixedly coupled to the second coupling means, and operable to cause said angular motion also via the second coupling means. The first and second coupling means may be mounted on a rim of the first receptacle means. In this case, the first coupling means may comprise a first pivot member fixedly coupled to the second receptacle means, and the handle means may be fixedly attached to the first pivot member and operable to cause the angular motion of the second receptacle means.

[0017] The second coupling means may comprise a second pivot member fixedly coupled to the second receptacle means and coupled to the first receptacle means to permit the angular motion.

[0018] The liquid blocking means may have a first recess therein through which the first pivot member may extend. In this case the handle means is fixedly attached to a portion of the pivot member located outside of the liquid blocking means. The second receptacle means may extend to shield the first recess from spray.

[0019] The liquid blocking means may also have a second recess therein through which the second pivot member may extend. The second receptacle means may extend to shield the second recess from spray.

[0020] The first receptacle means is preferably configured to retain at least twice the volume of liquid retained by the second receptacle means, preferably still at least five times the volume. Preferably, the apparatus is portable.

[0021] According to a second aspect of the present invention, there is provided a method for cleaning a plurality of brushes, comprising: adding cleaning liquid into a second receptacle, wherein the second receptacle is mounted on a first receptacle by mounting means, when the second receptacle is in a liquid-retaining disposition; locating a fibrous end of one of the brushes in the cleaning liquid and cleaning the brush in the cleaning liquid; removing the end of the brush from the liquid; operating an operating means, such as a handle means, coupled to the second receptacle to cause the second receptacle to move from the liquid-retaining disposition, to tip the cleaning liquid into the first receptacle, and to return the second receptacle to the liquid-retaining disposition; adding further cleaning liquid to the second receptacle to enable cleaning of a further brush.

[0022] The locating of the fibrous end of the one of the brushes in the cleaning liquid may comprise inserting the fibrous end through an opening in a liquid blocking means.

[0023] After the removing of the end of the brush from the liquid, the method may comprise locating the end of the brush above the liquid and within the liquid blocking means, and spinning the brush about a length thereof. Spray from the brush end is blocked by the liquid blocking means.

Brief Description of the Figures

[0024] For better understanding of the present invention, embodiments of the invention will now be described, by way of example only, with reference to the accompanying drawings in which:

Figure 1 is an exploded side view of a device for use in cleaning of makeup brushes in accordance with an embodiment;

Figure 2 is a side view of the device shown in Figure 1, in an assembled form with a second receptacle inverted in a storage configuration;

Figure 3 is a plan view of the device;

Figures 4i-4v are side views of the device, with a handle and a second receptacle in several different positions;

Figure 5i is a cross-sectional view of the device, on a vertical plane through receptacle pivots;

Figure 5ii is an enlarged view of the pivot;

Figures 6i and 6ii is a side view of the device, showing a projection against which the handle abuts; Figure 6iii shows a portion of Figure 6ii enlarged;

Figures 7i-7v and 8 are perspective views of the second receptacle, each showing a different way in which a surface of the second receptacle can be formed to aid with cleaning;

Figure 9 is a flow diagram of steps involving in use of the device;

Figure 10 is a perspective view of a prior art bowl for use in cleaning of makeup brushes, as described above.

Figure 11i is a cross-sectional view of another device, like the device, in accordance with another embodiment, on a vertical plane through receptacle pivots;

Figures 11ii and 11ii are enlarged views of one of the pivots shown in Figure 11i, respectively showing parts located together and spaced apart;

Detailed Description of Embodiments

[0025] A liquid-retaining device in accordance with embodiments of the present invention is for use in cleaning of makeup brushes. Certain terminology will be used in the following description for convenience and reference only, and should not be considered to be limiting. For example, the liquid retaining device has a particular orientation for use and the words "upwards", "downwards", "top", "bottom", "upper" and "lower" are to be construed in view of that orientation.

[0026] Referring to Figures 1 to 3, the device comprises a first receptacle 20, a second receptacle 22 and a liquid blocking means in the form of a spray guard 24. The second receptacle 22 is configured to retain a cleaning liquid and to receive an end of a brush for cleaning in the cleaning liquid. The device includes parts for mounting the second receptacle 22 on the first receptacle 20 and to enable the device to be operated so as to reconfigure the second receptacle 22 from a liquid-retaining disposition to a draining disposition. Thus, after a brush has been cleaned, dirty cleaning liquid in the second receptacle 22 can be drained or poured by a user into the first receptacle 20. The first receptacle 20 is sized to retain more liquid than is used for cleaning in the second receptacle 22, so that the second receptacle 22 can be drained several times before the first receptacle 20 has to be emptied.

[0027] The device is intended for use with makeup brushes, but use of the device is not limited to such. The device may be used with paint brushes, for example. The device may be used generally for cleaning of ends of elongate implements or other members. Applications may exist in hospitals or dentists where implements have frequently to be dipped in sterilising solutions.

[0028] The first receptacle 20 has a base for stable location on a horizontal, planar underlying surface, such as a table top or countertop. The device is preferably portable; the first receptacle 20 can be lifted and moved elsewhere. The first receptacle 20 has a generally vertically extending circular wall 25 having at a top thereof a rim 26 defining a first opening. As best seen in Figures 5i and 5ii, the rim 26 has a stepped portion providing a shoulder 27 extending circumferentially around an interior surface of the rim 26. The rim 26 also includes a lip 28 extending circumferentially around the rim 26 and outwardly of the first receptacle 20.

[0029] The second receptacle 22 is a hemispherical bowl and has a circumferential edge. Although not shown in the Figures, the bowl preferably has a mark on a side thereof to indicate an optimal and/or maximum volume of cleaning liquid that should be poured into the second receptacle 22. Referring to Figures 5i and 5ii, a pivot pin 30a, 30b having a circular cross-section extends from

each of two opposing sides of the second receptacle 22 on a common axis that extends diametrically across the first opening of second receptacle 22. The pivot pins 30a, 30b simply rest on the rim 26 of the first receptacle 20.

5 The second receptacle 22 locates under its own weight so as to be in its liquid-retaining configuration. This is due to symmetry of the second receptacle 22 with respect to the axis. Although not essential, the pivot pins 30a, 30b are integrally formed with the second receptacle 22.

10 **[0030]** An arcuate handle 32 is fixedly attached to an end of each of the pivot pins 30a, 30b remote from the second receptacle 22. The handle 32 enables the second receptacle 22 to be moved about the axis, so as to tip liquid in the second receptacle 22 into the first receptacle 20. Due to the handle 32 extending around the spray guard 24, the second receptacle 22 may only be pivoted about the axis, not rotated. In variant embodiments the handle 32 may be otherwise configured, such that the second receptacle 22 can be rotated. For example, a handle can be attached to rotate turn only one of the pivot pins 30a, 30b.

15 **[0031]** The spray guard 24 is configured for mounting on the rim 26 of the first receptacle 20, with a lower edge engaging with the rim 26. The spray guard 24 is shaped to extend upwardly from the rim 26 of the first receptacle 20 to define a second opening 36 located above the second receptacle 22, through which a fibrous end of a brush may be inserted for cleaning.

20 **[0032]** The spray guard 24 is also shaped to provide space above the liquid in the second receptacle 22 to be used for cleaning and below the second opening 36 in which a fibrous end of a brush may be spun by motorised device for drying of the brush. Since the force on the fibres is centrifugal, the spray is generally outwardly and the spray guard 24 is arranged to block such spray. The second opening 36 is sized so that insignificant spray from the spinning of the wet brush in air escapes through the opening.

25 **[0033]** The spray guard 24 and the second receptacle 22 are shaped so that the second receptacle 22 can be rotated about the pivot pins 30a, 30b using the handle 32, in order to tip dirty liquid out of the second receptacle 22, without the spray guard 24 restricting the movement of the second receptacle 22 needed for this. The spray guard 24 is shaped to allow the second receptacle 22 to be tipped, and may be hemispherical save for the second opening 36.

30 **[0034]** The lower edge of the spray guard 24 includes a downwardly extending stepped portion, perhaps best seen in Figure 1. This downwardly extending stepped portion corresponds in shape to the stepped portion of the first receptacle 20 such that the two stepped portions engage in a press-fit manner when the spray guard 24 is mounted on the first receptacle 20. In variant embodiments, the first receptacle 20 and the spray guard 24 may be configured to screw together by means of circumferential threads.

35 **[0035]** The spray guard 24 also includes a recess 34

in each of diametrically opposing sides of the lower edge thereof. Each recess 34 is located over a respective pivot pin 30a, 30b, such that the pivot pins 30a, 30b do not prevent mounting of the spray guard 24. A deepest region of each recess 34 is shaped to closely match the circular cross-section of the respective pivot pin 30a, 30b in order to avoid egress of liquid from the device through the recesses 34. The circular cross-section also facilitates pivoting of the second receptacle 22.

[0036] In the embodiment, the handle 32 extends around spray guard 24 from one of the pivot pins 30a, 30b to the other. The handle 32 and the spray guard 24 are respectively shaped so that the handle 32 can be moved by a user over about 180 degrees from one side of the spray guard 24 to the other side, thereby to rotate the second receptacle 22 by 180 degrees. A range of angles over which the handle 32 can be moved and the second receptacle 22 thus tipped are indicated in Figures 4i to 4v.

[0037] In variant embodiments, the first receptacle 20, the second receptacle 22, the spray guard 24 and the handle 32 may be otherwise shaped, such that the second receptacle 22 can still be tipped without the spray guard restricting its movement, such that the spray guard and the second receptacle are mounted on the first receptacle to prevent spray, and such that the handle can be moved over the spray guard. For example, this could be achieved with a hemicylindrical second receptacle, a generally hemicylindrical spray guard (save for the second opening), a handle shaped to move over the hemicylindrical spray guard, and a first receptacle with a rim shaped for mounting of the spray guard.

[0038] The spray guard 24 and the handle 32 are configured so that the handle 32 mechanically engages with the spray guard 24 near the lower edge thereof on one side of the spray guard 24 between the pivot pins 30a, 30b and on the other side of the spray guard 24 between the pivot pins 30a, 30b. As seen in Figures 6i to 6iii, to this end the handle 32 has an inwardly extending lug 38 and the spray guard 24 has a pair of projections 40, 42 on each of the sides. A first 40 of the projections on each side and the lug 38 are respectively configured so that the lug 38 cannot be moved over the first projection 40. A second 42 of the projections is located above the first projection 40 and the lug 38 and the second projection 42 are respectively configured so that the lug 38 can be moved by the user over the second projection 42, thereby to engage in a recess defined between the first and second projections 40, 42 and to be dislodgable by the user from this recess. Thus the handle 32 can be locked in a first position in which the second receptacle 22 is in the liquid-retaining position, and in a storage position in which the second receptacle 22 is upside down. For draining, there is no need to rotate the second receptacle 22 to the storage position; the second receptacle 22 need only be tipped until the liquid in it drains.

[0039] Usefully, when the handle 32 is locked with the second receptacle 22 in the storage position in an invert-

ed orientation, the liquid retaining device can be used as a container. Thus, brushes, makeup, soap, et cetera, may be located in the first receptacle 20 for storage and transportation.

[0040] The second receptacle 22 has, when in the liquid-retaining position, an upwardly extending lobe 44 in a region of each pivot pin 30a, 30b. This is to prevent or impede spray at the recesses 34, so as to prevent egress of liquid. Although not shown, a rubber O-ring may be located around the pivot pins 30a, 30b to prevent egress of liquid.

[0041] Referring to Figures 7i to 7ii and 8, in embodiments the second receptacle may be configured with projections or indentations against which a fibrous end of a brush may be rubbed to facilitate cleaning. In Figure 7i, the second receptacle 22 has a plurality of projections 46 thereon. In Figure 7ii, the second receptacle 22 has a plurality of grooves 48, extending substantially radially from a middle of the second receptacle 22. In Figure 7iii, a portion of the surface of the second receptacle has dimples 50 on. In Figure 7iv, spiralled grooves 52 are located in the surface of the second receptacle 22. In Figure 7v, at a centre of the second receptacle 22 a projection 54 is provided. In Figure 8, a plurality of concentric ridges 56 are provided around a centre of the second receptacle 22.

[0042] The cleaning liquid may comprise soap, typically liquid soap, mixed in water. The cleaning liquid may include a sterilising agent. The cleaning liquid may be alcohol based.

[0043] The first and second receptacles 20, 22 may be made of hard plastic, which is transparent. One or both may be made from translucent or tinted plastic, to partially or wholly conceal discolouration of the cleaning liquid from dirt. Either or both of the first and second receptacle 20, 22 may be made of opaque plastic. Materials other than plastic may be used instead of plastic to form the first and second receptacle.

[0044] Referring to Figure 9, in use, a user fills the second receptacle 22 at step 200 with a suitable amount of liquid, that is, enough so that the fibrous end of the brush may be submerged. Preferably, the device is used with a motorised brush cleaning device. Such a device is configured to hold a handle end of the brush and to spin the brush along its length. Where brush is spun when the fibrous end is in the cleaning liquid, this results in the fibres of the fibrous end of the brush moving outwardly under centrifugal forces, allowing the cleaning liquid to access between fibres. This also results in the fibres rubbing against each other, aiding cleaning.

[0045] Thus, the user inserts at step 202 the fibrous end of the brush through the second opening 3b provided by the spray guard, into the cleaning liquid in the second receptacle 22, and the brush is spun whilst in the cleaning liquid. The user may rub the fibrous end gently on the bottom of the second receptacle 22. The user then lifts the fibrous end out of the cleaning fluid while the brush is spun and holds the brush above the cleaning liquid

inside the spray guard 24 at step 204. The brush dries quickly while spun, and then the user operates the motorised device to cease spinning. The user then removes the brush from the device at step 206.

[0046] Dirty cleaning liquid is then left in the device. Before cleaning another brush, the user then operates the handle 32 to tip the dirty cleaning liquid from the second receptacle 22 into the first receptacle 20. In doing this, the user operates at step 208 the handle 32 so that the lug 38 moves over the second projection 42, and the handle 32 moves over the spray guard 24, thereby causing the first receptacle 20 to turn on the axis of the pivot pins 30a, 30b. The user may then locate the handle 32 so that the lug 38 is between the first and second projections 40 on the other side of the spray guard 24 with the second receptacle 22 inverted. This movement of the handle 32 is indicated in Figures 4i to 4v. Alternatively, the user may return the handle 32 to its initial position with the second receptacle 22 in a liquid-retaining position. After returning the second receptacle 22 to its liquid-retaining position, the user may add more liquid for use in cleaning of a further brush, as indicated at step 210.

[0047] The user may empty the second receptacle 22 several times before the first receptacle is full. The first receptacle 20 is then emptied by the user.

[0048] The device described above is advantageous over the prior art device shown in Figure 10 since the device does not have to be emptied each time it is used. This is particularly useful, for example, where the device is used in a commercial environment where many brushes are used and where a drain in which to empty the device may not be conveniently located.

[0049] It is not essential that the device be used with a motorised spinning device. The user may manually rub the fibrous end of a brush against the surface of the second receptacle 22 for cleaning.

[0050] A device ("modified device") in accordance with another embodiment is now described with reference to Figures 11i to 11iii, in which the parts relating to mounting of the spray guard and the second receptacle on the first receptacle are modified in comparison to the device described above. The spray guard, the first receptacle and the second receptacle parts are respectively referenced by 124, 122 and 120 and generally parts like those in previous figures are indicated by the same reference number incremented by 100. Where each pivot pin 130a, 130b is joined to the second receptacle 122, the second receptacle 122 includes an annular spacing shoulder 133a, 133b, so that the second receptacle 122 is kept a minimum distance from the interior surface of the first receptacle 120. Each spacing shoulder 133a, 133b provides a flat, annular surface around where the respective pivot pin 130a, 130b joins the second receptacle 122.

[0051] Each of the pivot pins 130a, 130b has a sealing ring 135a, 135b extending therearound. The sealing rings 135a, 135b may be made, for example, of, nitrile butadiene rubber.

[0052] Each of the sealing rings 135a, 135b has a cy-

lindrical body, a radially extending flange portion 137a at an end of the cylindrical body proximate to the second receptacle 122, and an annular protrusion 139a extending from the body. The pivot pins 130a, 130b rest on the rim 126 of the first receptacle 120, with a lower portion of the sealing rings located between the respective pivot pin 130a, 130b and the first receptacle 120.

[0053] The flange portion 137a abuts flush against the flat annular surface of the spacing shoulder 133a, 133b. A portion of the flange portion 137a of each sealing ring 133a, 133b is also sized to extend beyond the flat annular surface. A corner region of each of the annular sealing rings 135a, 135b, where the flange portion 137a and the cylindrical body meet, fits against a corner edge of the rim 26 of the first receptacle 120. The protrusion 139a is spaced from the flange portion 137a to locate over the lip 128, so as to prevent axial movement of the pivot pins 130a, 130b when the pivot pins 130a, 130b are located on the rim 126. The second receptacle 122 locates under its own weight so as to be in its liquid-retaining configuration. This is due to symmetry of the second receptacle 122 with respect to the axis.

[0054] The spray guard 24 is configured for mounting on the rim 126 of the first receptacle 120, with a lower edge engaging with the rim 126.

[0055] The spray guard 124 and the second receptacle 122 are shaped so that the second receptacle 122 can be rotated about the common axis of the pivot pins 130a, 130b using the handle 132, in order to tip dirty liquid out of the second receptacle 122, without the spray guard 124 restricting the movement of the second receptacle 122. The spray guard 124 is shaped to allow the first receptacle 120 to be tipped, and may be hemispherical save for the second opening 136.

[0056] The lower edge of the spray guard 124 includes a downwardly extending portion 141. The portion 141 is shaped to extend circumferentially around the first receptacle 120, save for a pair of recesses, like those indicated at 134a in Figure 1. The recesses fit over the pivot pins 130a, 130b. The spray guard 124 is shaped to include a channel portion 145, that fits over the portion of the radial flange 137a that extends beyond the flat surface of the spacing shoulder 133a.

[0057] In this other embodiment, the modified device is used in the same way as the device shown in Figure 1. The modified device is also assembled by location of the second receptacle 122 on the first receptacle 120, and the press fitting of the spray guard 126 over the pivot pins 130a, 130b onto the first receptacle 120.

[0058] It will be appreciated by persons skilled in the art that various modifications are possible to the embodiments. In particular, modification is possible to how the device is configured so that the user can cause draining and then the device be returned to its liquid-retaining disposition.

[0059] In such a variant embodiment, the second receptacle 22 may not be pivotable or rotatable any the axis. Instead, the second receptacle 22 includes a hole

in its bottom, sealingly closed with a plug. The plug has an eyelet on it and the plug can be removed by the user using a stick with a hook on the end of the stick that can attach to the eyelet. The plug can be returned to close the hole after liquid in the second receptacle has drained into the first receptacle 20.

[0060] In another variant embodiment, the spray guard 24 may attach to the first receptacle 20 by a twist and lock type of attachment mechanism, or another type of attachment mechanism.

[0061] In a variant, the spray guard 24 is configured so that the diameter of the opening 36 can be changed. To enable this, the spray guard 24 includes an annular piece removable from the rest of the spray guard 24. When the annular piece is located as part of the spray guard 24 around the periphery of the opening 36, the opening 36 is relatively small. When the annular piece is removed, the opening is larger. The annular piece may be configured to clip onto the rest of the spray guard 24, in a push fit manner.

[0062] Such an annular piece may also be used with the prior art bowl shown in Figure 10, with the part 106 removed. In apparatus comprising a receptacle and a spray guard means, the spray guard may comprise a removable annular piece.

[0063] The applicant hereby discloses in isolation each individual feature or step described herein and any combination of two or more such features, to the extent that such features or steps or combinations of features and/or steps are capable of being carried out based on the present specification as a whole in the light of the common general knowledge of a person skilled in the art, irrespective of whether such features or steps or combinations of features and/or steps solve any problems disclosed herein, and without limitation to the scope of the claims.

Claims

1. Apparatus for retaining liquid for cleaning brushes, comprising:

a first receptacle means for retaining liquid and having a rim;
 a second receptacle means for retaining liquid when the second receptacle means is in a liquid-retaining disposition, and for receiving an end of a brush for cleaning in retained liquid;
 mounting and operating means for mounting the second receptacle means on the first receptacle means so that the second receptacle means is in the liquid-retaining disposition, and for operating to reconfigure the second receptacle means to a draining disposition in which liquid in the second receptacle means drains into the first receptacle means, and to return the second receptacle means to the liquid-retaining disposition,

wherein the first receptacle means is configured to retain more liquid than the second receptacle means;

liquid blocking means that extends, in use, upwardly from the rim to prevent or impede egress of liquid in the second receptacle means from the apparatus during cleaning of a brush, including egress between the liquid blocking means and the first receptacle means, wherein the liquid blocking means provides an opening through which a fibrous end of a brush can be inserted into the second receptacle means.

2. The apparatus of claim 1, wherein the liquid blocking means extends upwardly from the rim above a level of liquid in the second receptacle means, to provide a space for spinning of a brush for drying thereof and blocking spray resulting from the spinning from leaving the apparatus.
3. The apparatus of any one of the preceding claims, wherein the first receptacle means has a base arranged so that the apparatus can be stably located for use on a horizontal surface.
4. The apparatus of any one of the preceding claims, wherein the mounting and operating means comprises:

first and second coupling means coupling the first receptacle means and the second receptacle means on respective opposing sides of the second receptacle means, wherein the first and second coupling means are arranged to permit angular motion of the second receptacle means so that liquid in the second receptacle means can be tipped into the first receptacle means;
 a handle means fixedly coupled to the first coupling means and operable to cause said angular motion via the first coupling means.

5. The apparatus of claim 4, wherein the handle means extends around the liquid blocking means and is also fixedly coupled to the second coupling means, and operable to cause said angular motion also via the second coupling means.
6. The apparatus of claim 4 or claim 5, wherein the first and second coupling means are mounted on a rim of the first receptacle means.
7. The apparatus of any one of claims 4 to 6, wherein the first coupling means comprises a first pivot member fixedly coupled to the second receptacle means, wherein the handle means is fixedly attached to the first pivot member and operable to cause the angular motion of the second receptacle means.

8. The apparatus of claim 7, wherein the second coupling means comprises a second pivot member fixedly coupled to the second receptacle means and coupled to the first receptacle means to permit the angular motion. 5
9. The apparatus of claim 7 or claim 8, wherein the liquid blocking means has a first recess therein through which the first pivot member extends, wherein the handle means is fixedly attached to a portion of the pivot member located outside of the liquid blocking means. 10
10. The apparatus of claim 9 when dependent on claim 8, wherein the liquid blocking means has a second recess therein through which the second pivot member extends. 15
11. The apparatus of any one of claims 9 or claim 10, wherein the second receptacle means extends to shield the first recess from spray. 20
12. The apparatus of claim 11, wherein the second receptacle means extends to shield the second recess from spray. 25
13. The apparatus of any one of the preceding claims, wherein the first receptacle means is configured to retain at least twice the volume of liquid retained by the second receptacle means. 30
14. A method for cleaning a plurality of brushes, comprising:
 - adding cleaning liquid into a second receptacle, wherein the second receptacle is mounted on a first receptacle by mounting means, when the second receptacle is in a liquid-retaining disposition; 35
 - locating a fibrous end of one of the brushes in the cleaning liquid and cleaning the brush in the cleaning liquid; 40
 - removing the end of the brush from the liquid; operating an operating means coupled to the second receptacle to cause the second receptacle to move from the liquid-retaining disposition, to tip the cleaning liquid into the first receptacle, and to return the second receptacle to the liquid-retaining disposition; 45
 - adding further cleaning liquid to the second receptacle to enable cleaning of a further brush. 50
15. The method of claim 14, wherein the locating of the fibrous end of the one of the brushes in the cleaning liquid comprises inserting the fibrous end through an opening in a liquid blocking means. 55

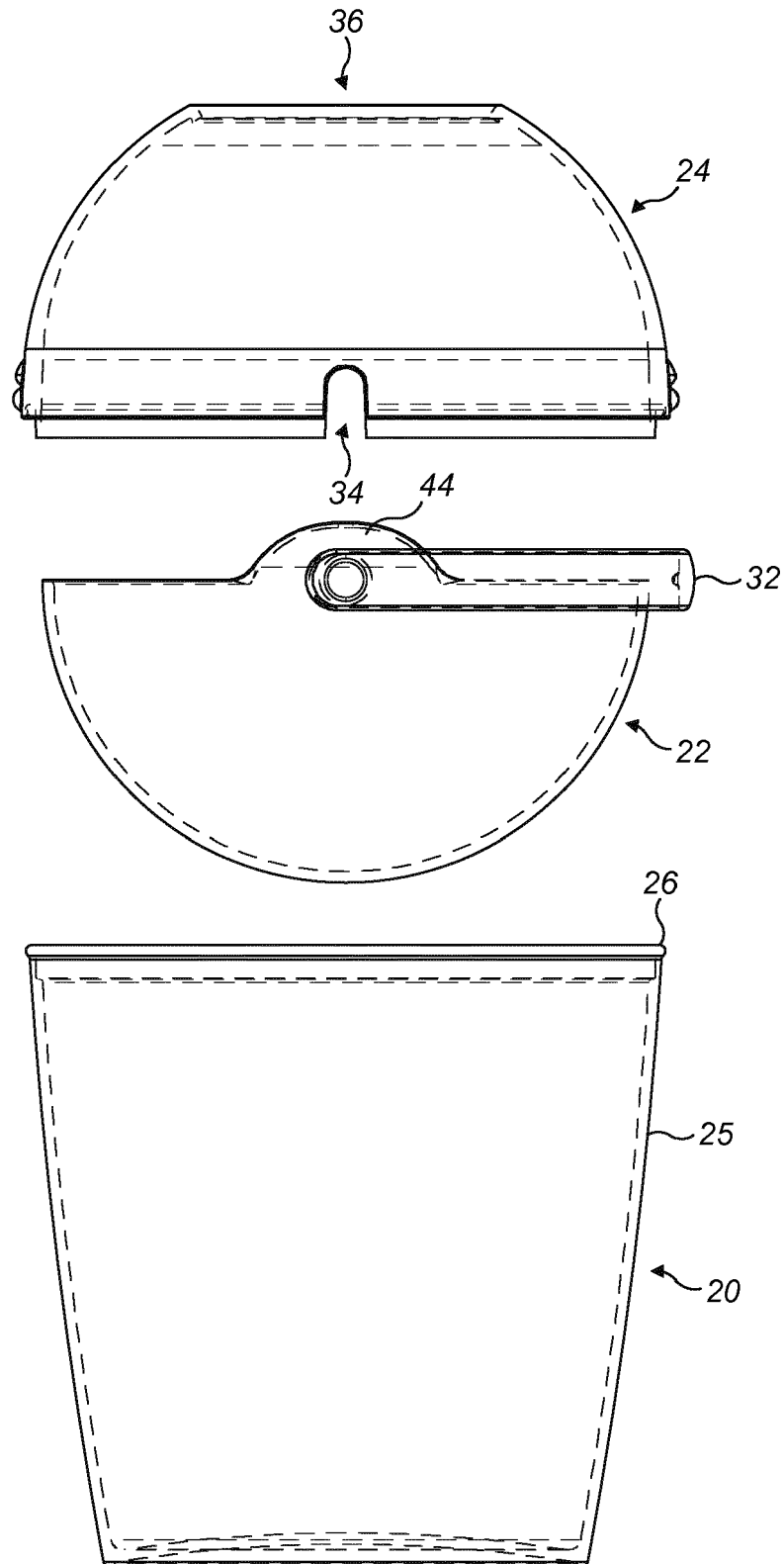


FIG. 1

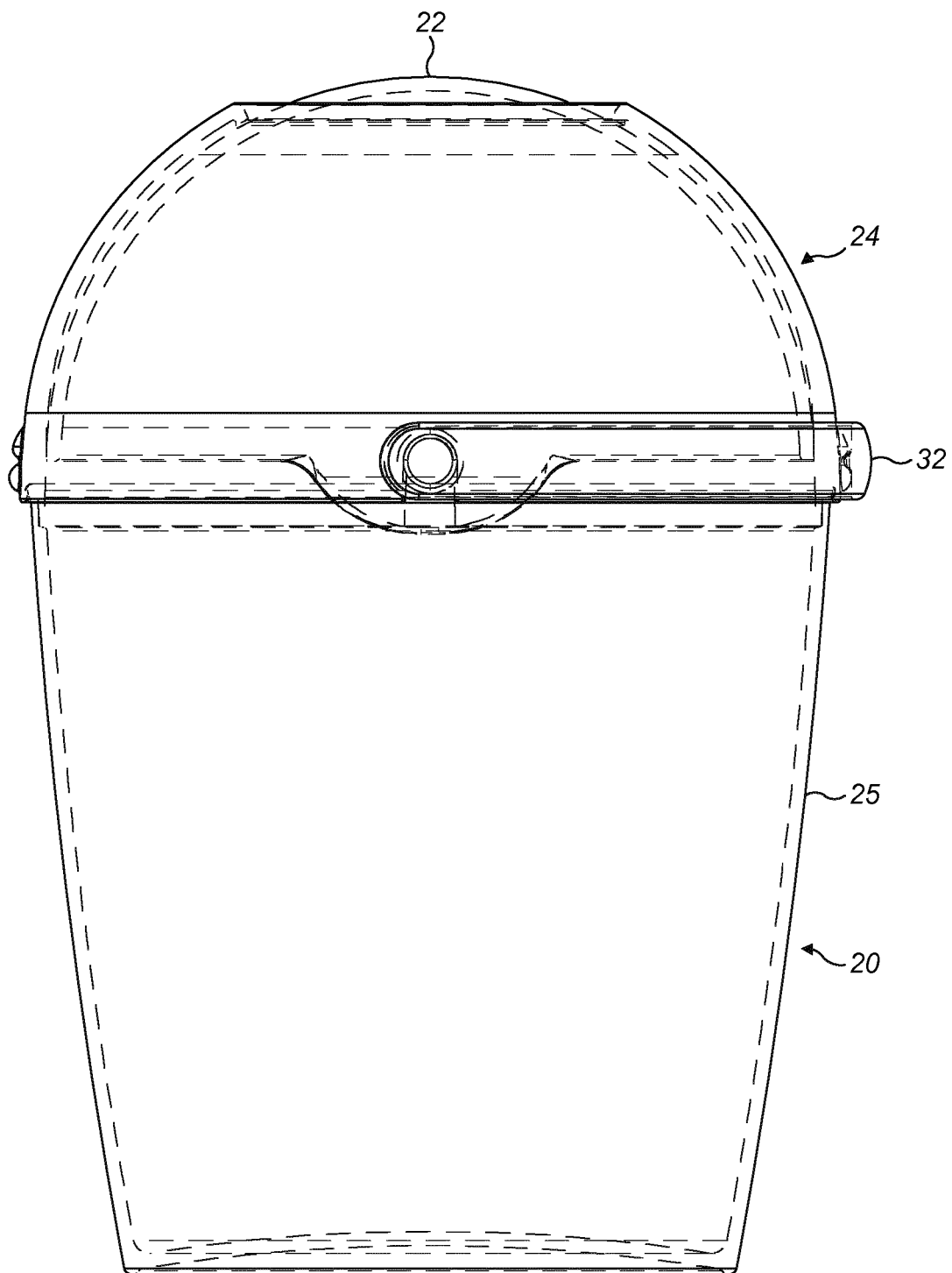


FIG. 2

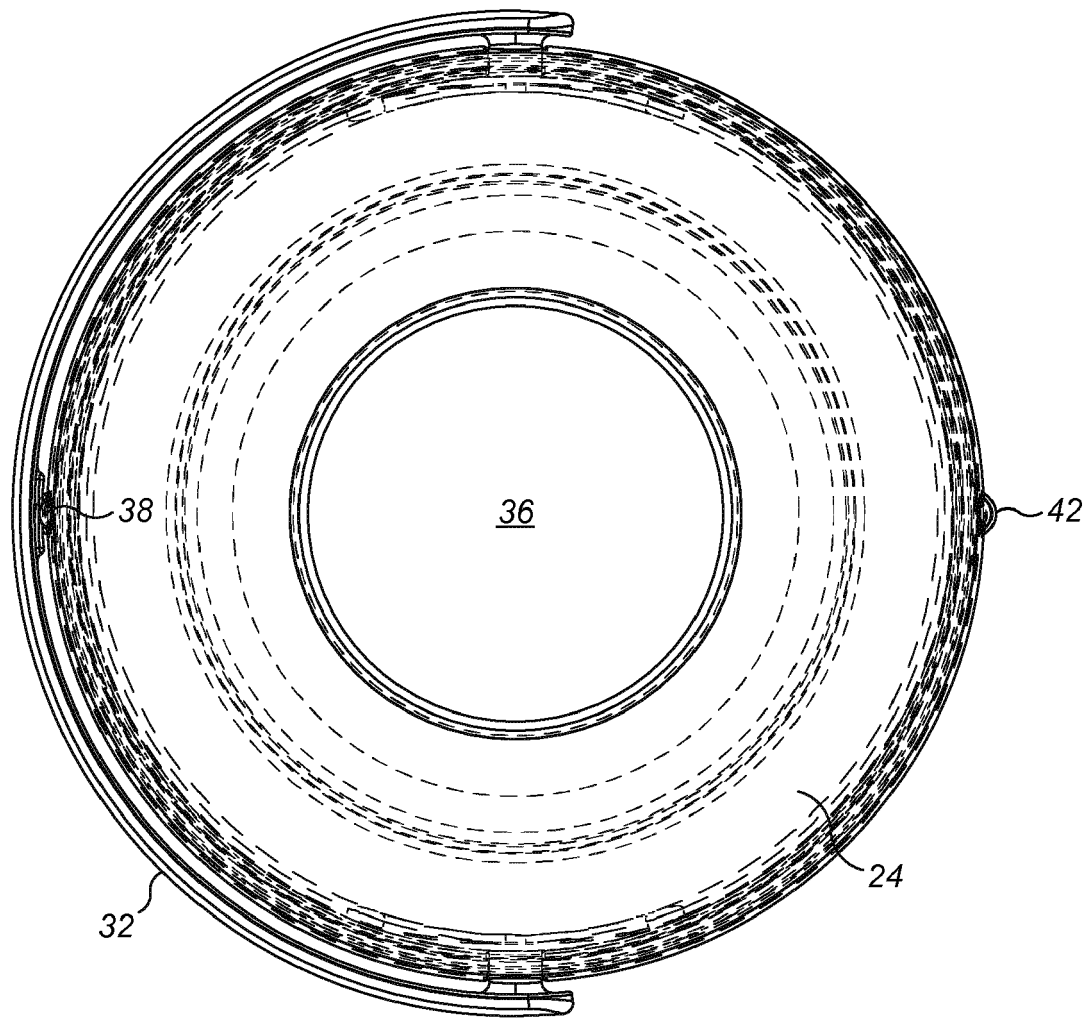


FIG. 3

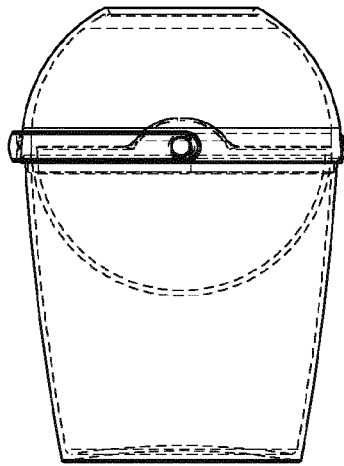


FIG. 4i

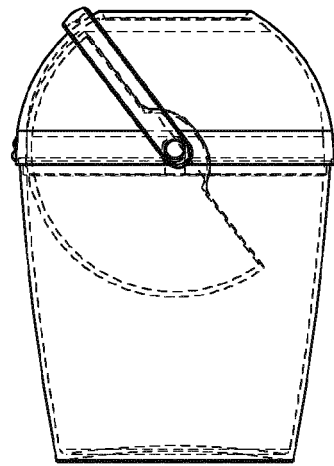


FIG. 4ii

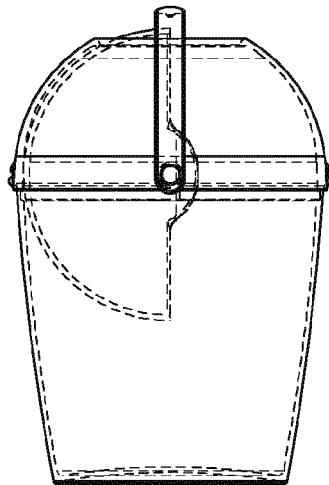


FIG. 4iii

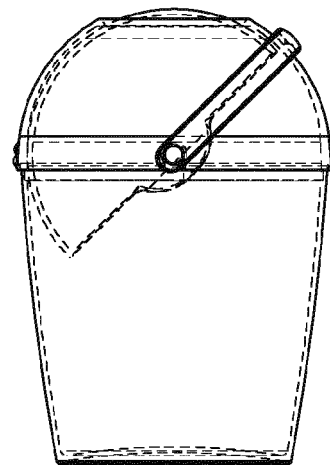


FIG. 4iv

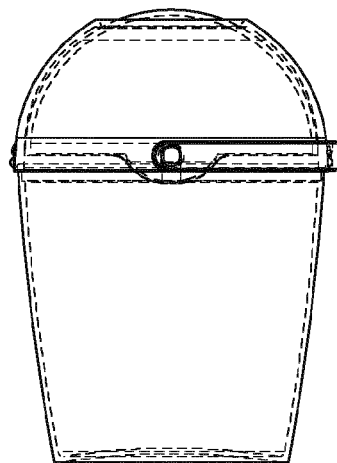


FIG. 4v

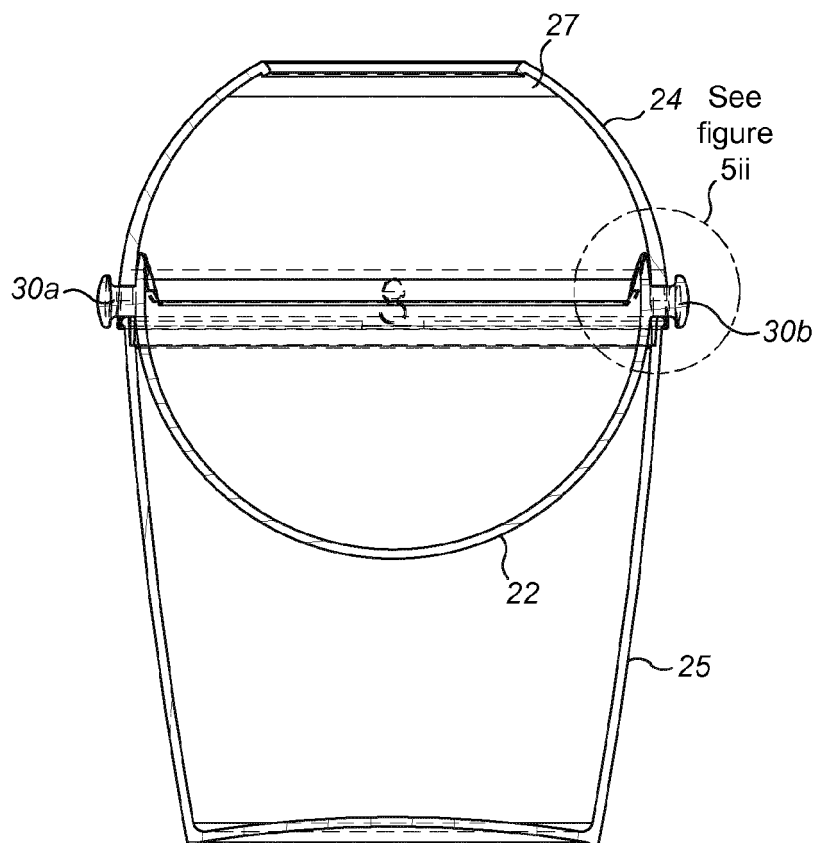


FIG. 5i

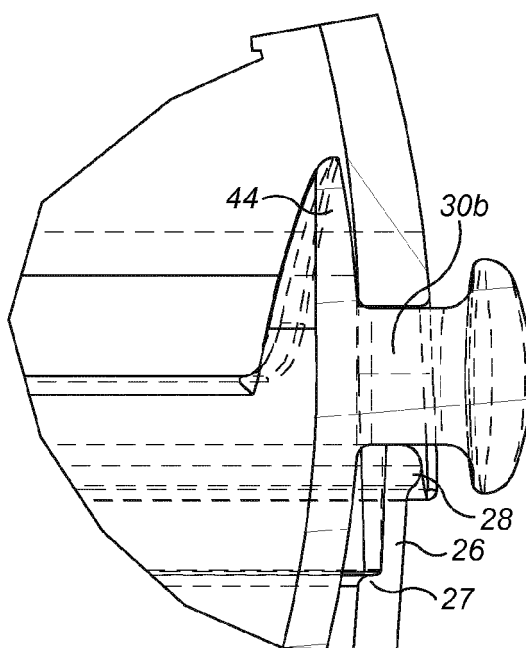


FIG. 5ii

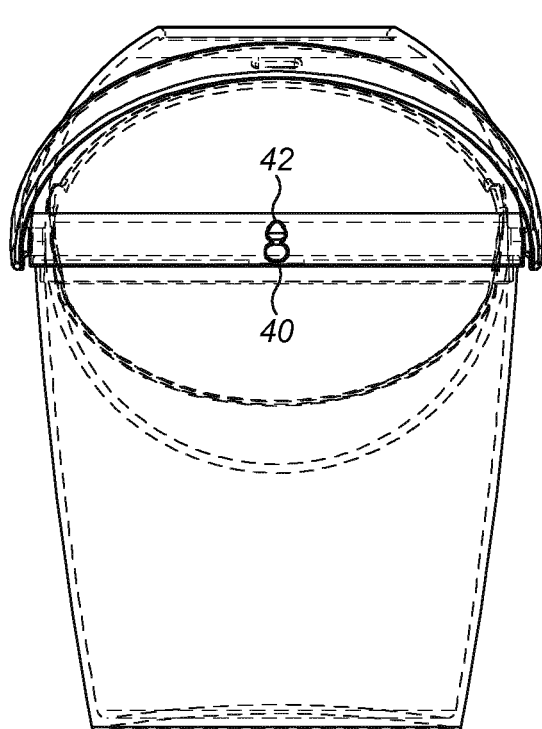


FIG. 6i

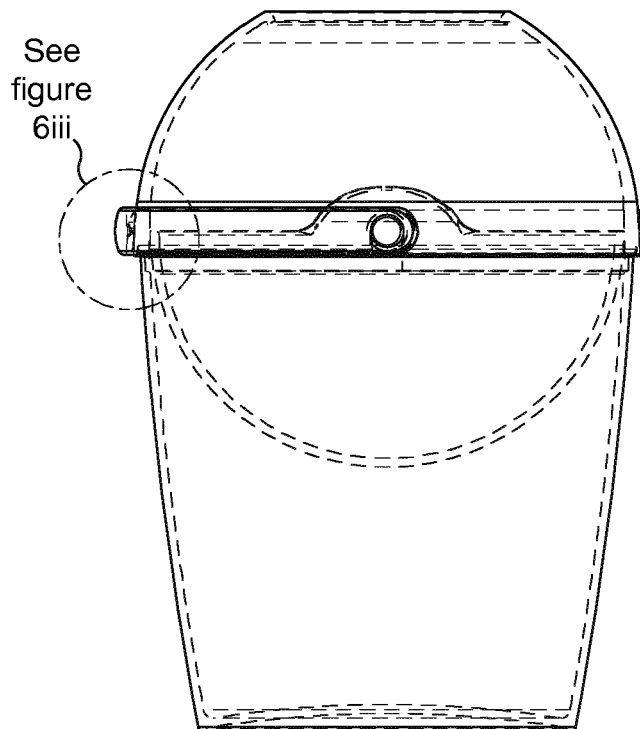


FIG. 6ii

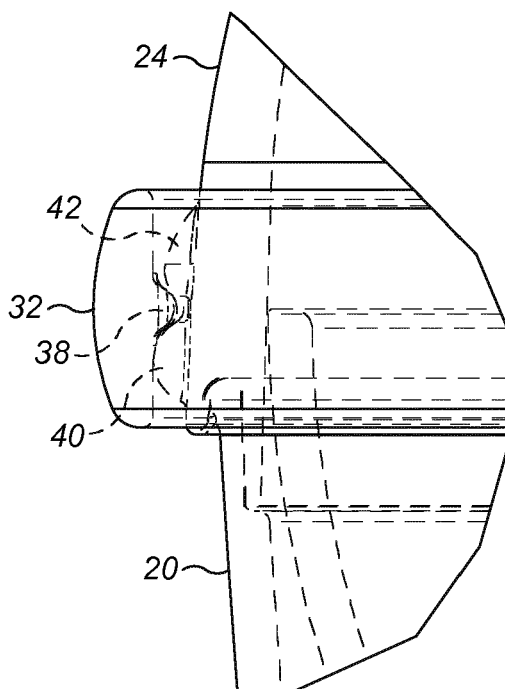


FIG. 6iii

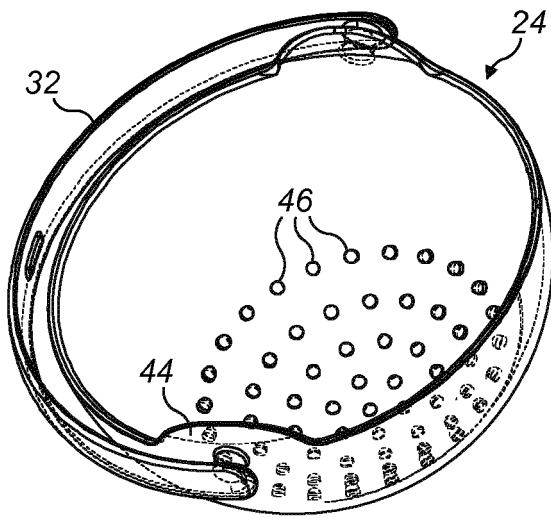


FIG. 7i

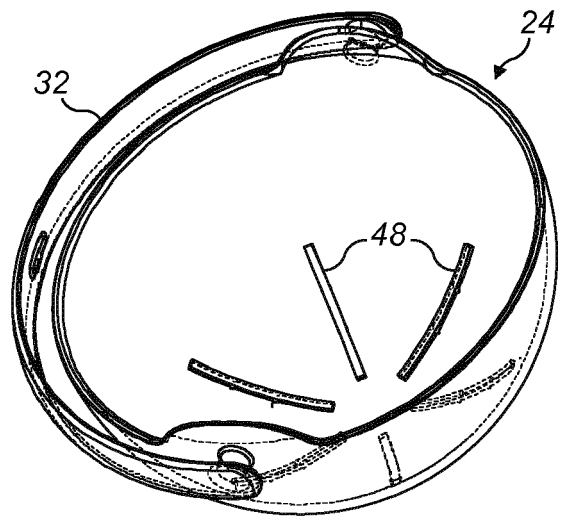


FIG. 7ii

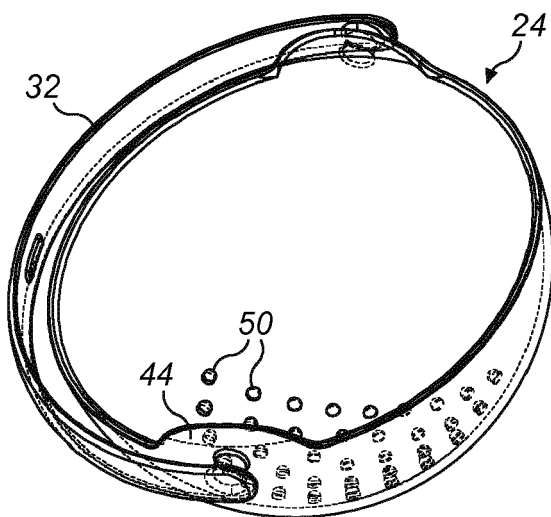


FIG. 7iii

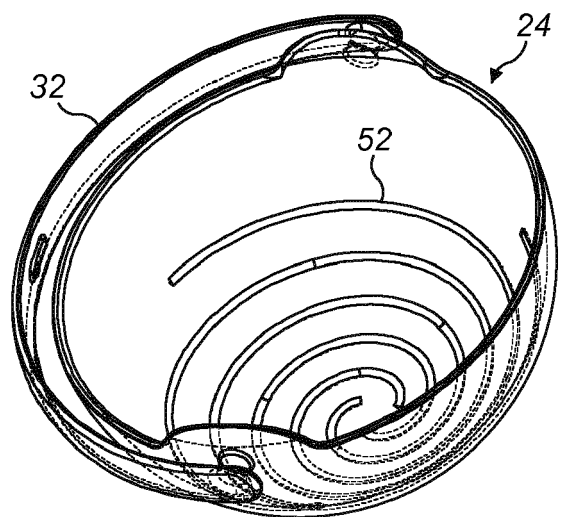


FIG. 7iv

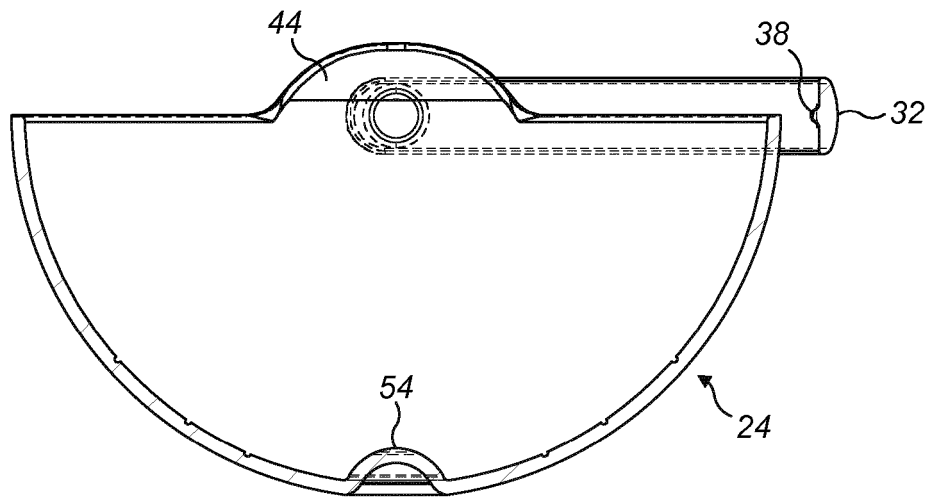


FIG. 7v

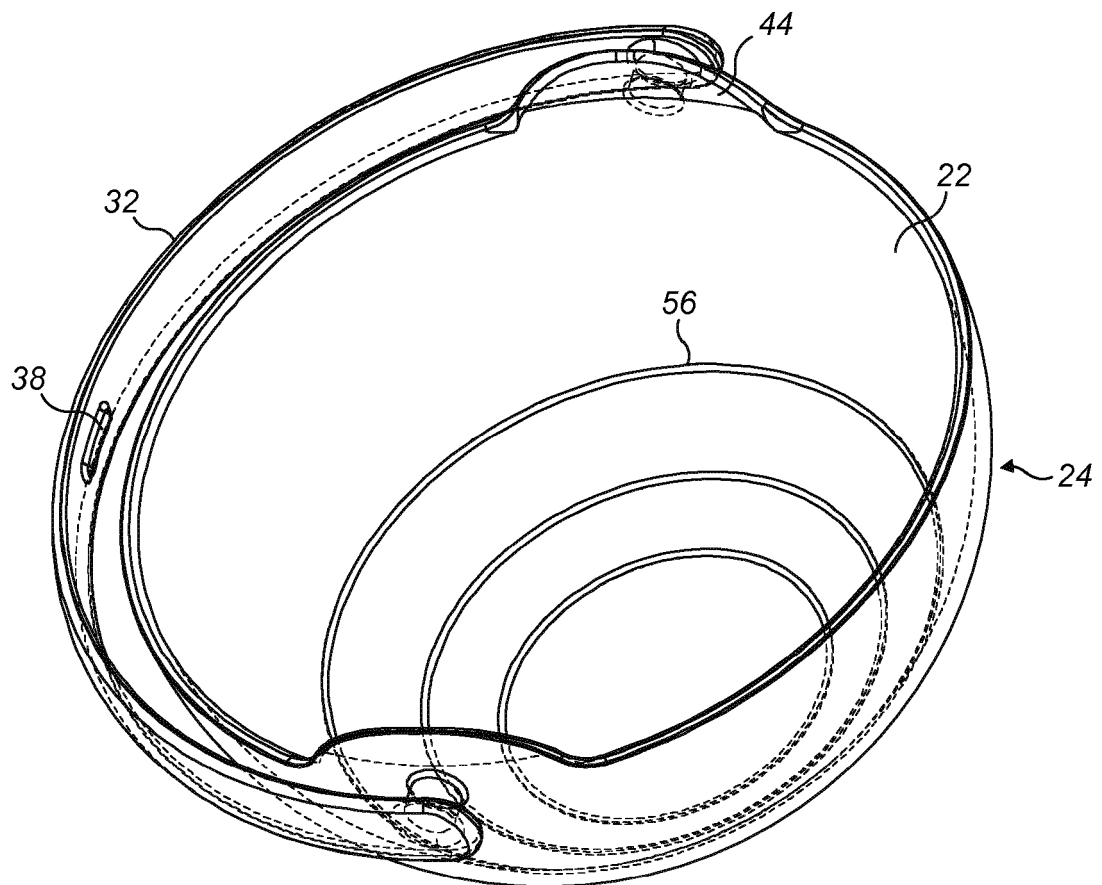


FIG. 8

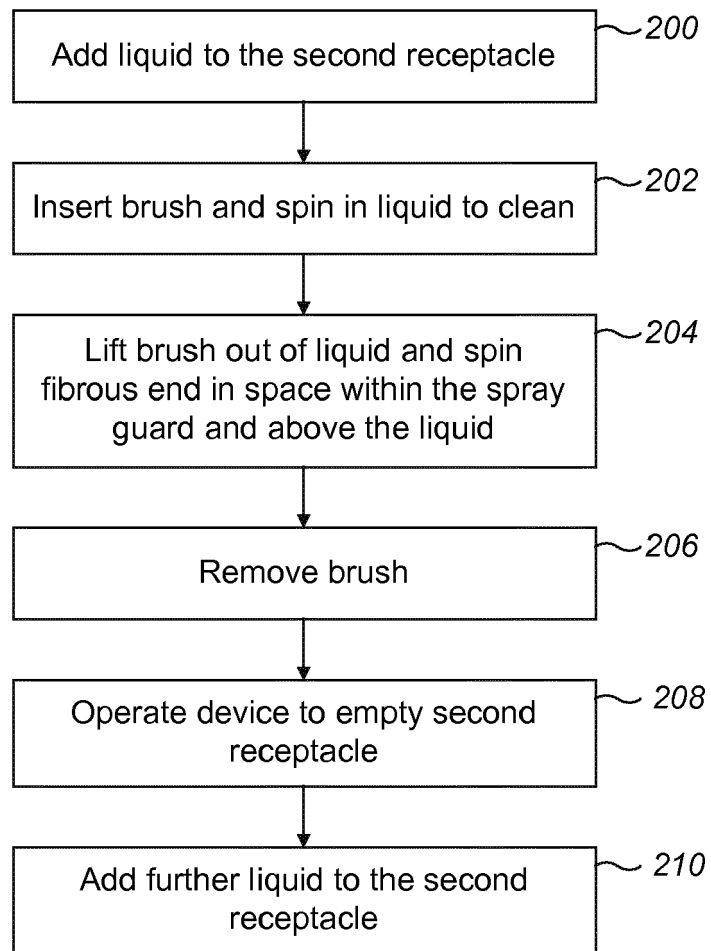


FIG. 9

PRIOR ART

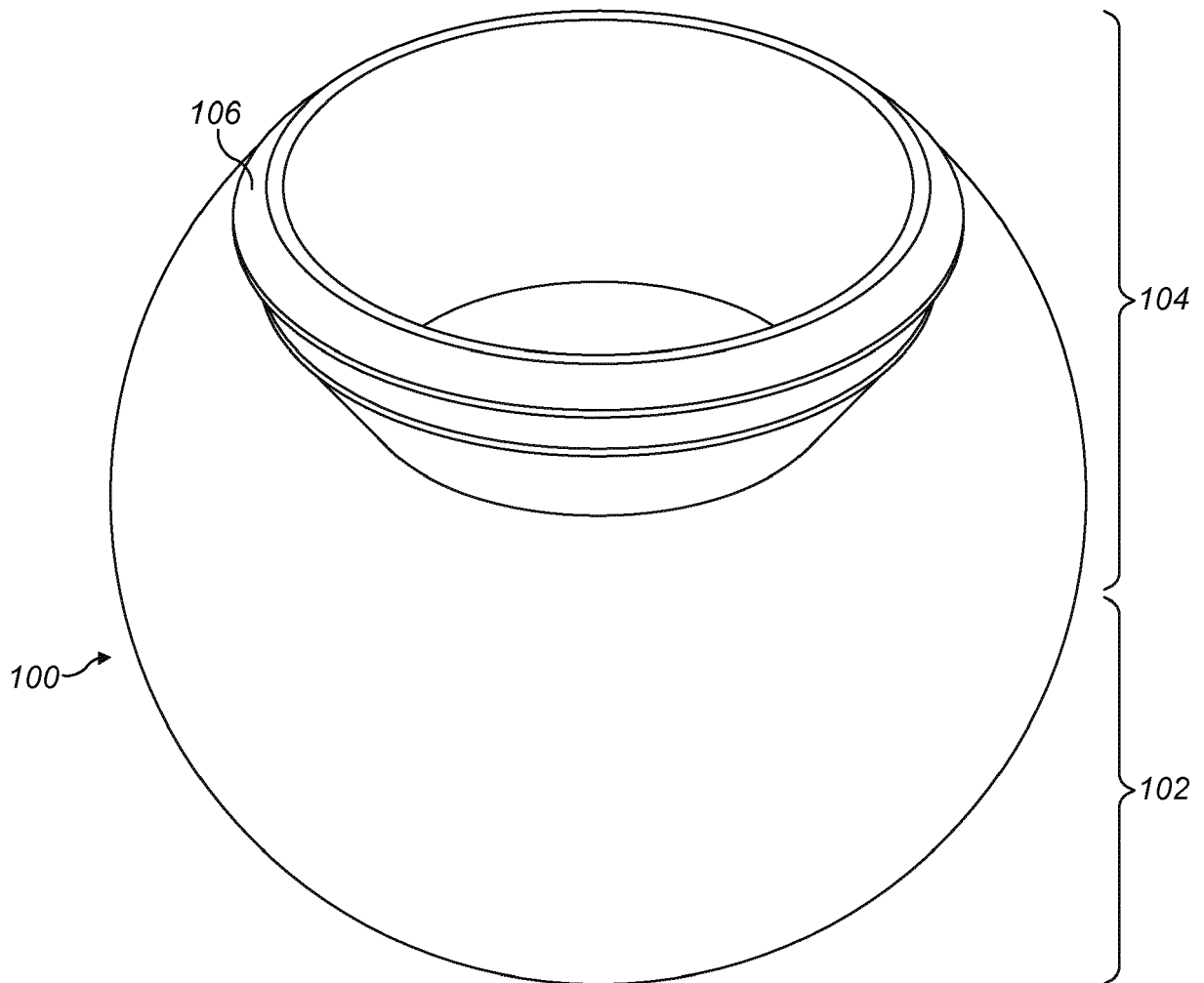


FIG. 10

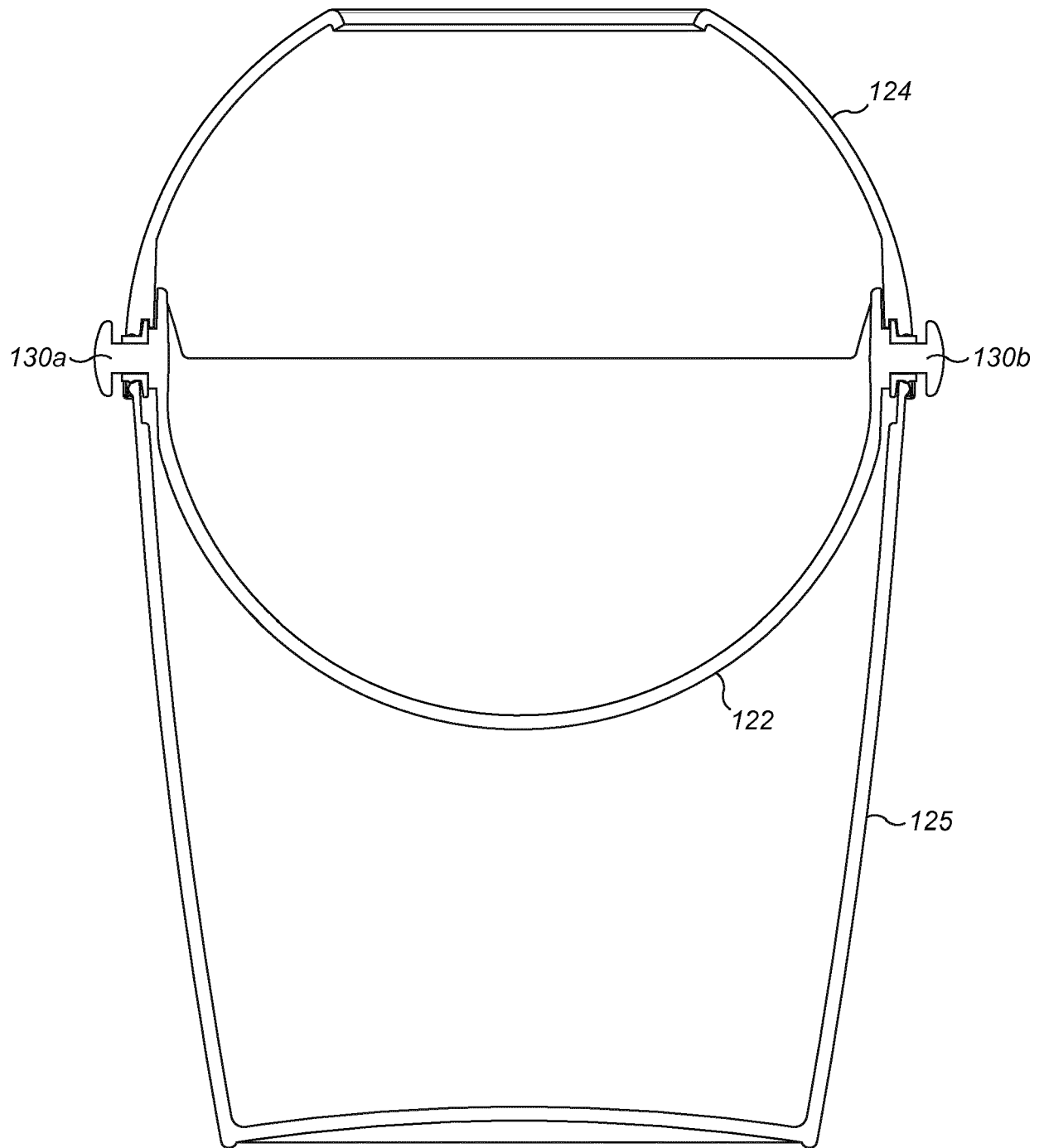


FIG. 11i

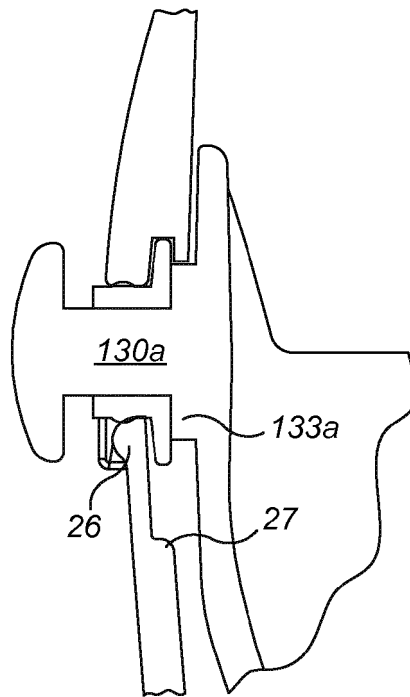


FIG. 11ii

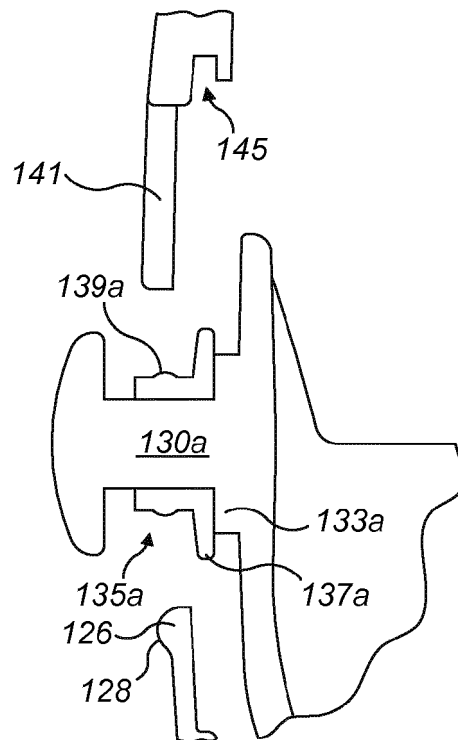


FIG. 11iii



EUROPEAN SEARCH REPORT

Application Number
EP 18 17 5452

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X	GB 2 122 477 A (HERBAUT MICHAEL LEANDRE) 18 January 1984 (1984-01-18) * figures *	1-15	
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X	US 2015/232268 A1 (GARLAND THOMAS ALAN [US]) 20 August 2015 (2015-08-20) * figures *	1-15	
X	US 7 683 779 B1 (PACHECO JUAN M [US]) 23 March 2010 (2010-03-23) * figures *	1-15	
			TECHNICAL FIELDS SEARCHED (IPC)
			A46B
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 27 September 2018	Examiner Raybould, Bruce
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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**ANNEX TO THE EUROPEAN SEARCH REPORT
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5 This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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27-09-2018

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