(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 1 836 937 A1

(12) EUROPEAN PATENT APPLICATION

(43) Date of publication:
26.09.2007 Bulletin 2007/39

(51) Int Cl.:
A47G 23/02 *(2006.01)* ***B67C 9/00*** *(2006.01)*

(21) Application number: **07005961.3**

(22) Date of filing: **22.03.2007**

(84) Designated Contracting States:
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC MT NL PL PT RO SE SI SK TR
Designated Extension States:
AL BA HR MK YU

(30) Priority: **22.03.2006 US 784978 P**

(71) Applicant: **Mehta, Ketan C.**
Santa Rosa CA 95405 (US)

(72) Inventor: **Mehta, Ketan C.**
Santa Rosa CA 95405 (US)

(74) Representative: **Epping - Hermann - Fischer**
Patentanwaltsgesellschaft mbH
Ridlerstrasse 55
80339 München (DE)

(54) Bottle Holder

(57) A bottle holder is described. The bottle holder has one receptacle (10) for holding a bottle and a second receptacle (20), for holding portions of the bottle, such as a cap and a tube. The bottle holder is configured to hold the bottle in an inverted position, allowing the bottle to drain any liquid out. The bottle holder also has an aperture in the receptacle so that moisture is not trapped within the bottle.

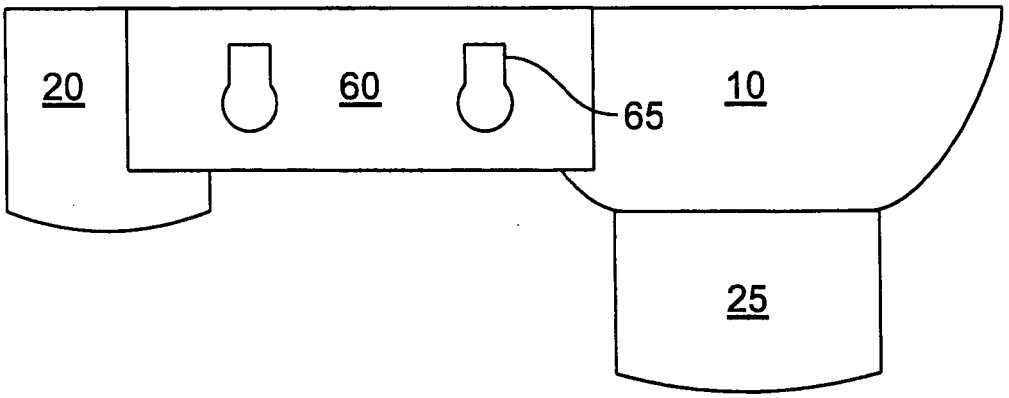

FIG. 4

EP 1 836 937 A1

Description

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application claims the benefit of U.S. Provisional Application Serial No. 60/784,978, filed on March 22, 2006, which is incorporated by reference herein.

BACKGROUND

[0002] This invention relates generally to mechanical devices. Bottles can be used for containing liquids, powders, or other types of materials for consumer use. Often, the bottles are made from durable materials, such as plastics, glass or metals. These materials lend themselves to reuse by the consumer. Because the bottle may be reused as a container for a different type of material or because the material that was in the bottle previously may be prone to contamination or spoilage, the consumer may wish to clean the bottle prior to refilling with a new substance.

[0003] Cleaning can be particularly important when the bottle is reused for materials that are to be ingested by a human or applied to the human body. At least one problem associated with cleaning a bottle for reuse is the difficulty in finding an adequate location for subsequent uncontaminated drying of the bottle. For example, when drying the bottle should ideally be positioned where fluid is allowed to drip out, but so that vapor is not trapped inside the bottle.

SUMMARY

[0004] The details of one or more embodiments of the invention are set forth in the accompanying drawings and the description below. Other features, objects, and advantages of the invention will be apparent from the description and drawings, and from the claims.

[0005] A device is described herein. The device includes a first receptacle and a second receptacle. The first receptacle is configured to retain a bottle in an inverted position, the first receptacle having a bottle neck support extending from a bottom portion of the receptacle, the bottle neck support having an aperture therein. The second receptacle is connected to the first receptacle, wherein the second receptacle has an aperture in a bottom surface, the second receptacle is adapted to support a cap associated with the bottle.

[0006] Embodiments of the device may include one or more of the following features. The device can have a back configured to connect the device to a wall. The device can have a connecting piece for connecting the first receptacle to the second receptacle. The first receptacle can have a width of 2 3/4 inches. The second receptacle can have a width of 2 1/8 inches. The first receptacle can include a shoulder support region. The shoulder support region can have a depth of at least 3/4 inches. The shoulder support region can have a depth sufficient to keep a bottle from tipping over when inverted in the first receptacle. The shoulder support region can be curved. The device can include a stand for supporting the first and second receptacles on a flat surface. The device can include a pocket on the stand. The stand can be foldable and/or can be formed of two or more telescoping portions. The stand can have a foot for supporting the stand on a surface. The stand can have at least one suction cup on the foot for adhering to the surface. The device can have a back plate. The back plate can fit into a jacket portion of a stand.

[0007] Advantages of the techniques and devices described herein include one or more of the following. A holder is provided for allowing a bottle and cap to dry without trapping liquid inside the bottle. A convenient storage apparatus for the bottle and cap are also provided. The holder can be mounted onto a surface, such as a wall, which allows the bottle opening to be open to the air. Also, because the bottle can be inverted in the holder, dust is less likely to enter the bottle and contaminate the interior of the bottle. In some embodiments, the holder has a stand so that the holder need not be mounted on a wall, but stands on a counter or table.

DESCRIPTION OF DRAWINGS

[0008]

FIG. 1 is a perspective plan view of a bottle holder.
FIG. 2 is a side view of the bottle holder.
FIG. 3 is a schematic of a bottle.
FIG. 4 is a back side view of the bottle holder.
FIG. 5 is a side view of a bottle holder holding bottle components.
FIG. 6 is a perspective view and a front view of a bottle holder with specific dimensions.
FIG. 7 is a perspective view of an embodiment of a bottle holder.
FIG. 8 is a perspective view of an embodiment of a bottle holder with a pocket.
FIG. 9 is a perspective view of a stand for supporting a bottle holder.
FIG. 10 is a side view of a stand and a bottle holder.
FIG. 11 is a perspective view of a stand supporting a bottle holder and a bottle.

[0009] Like reference symbols in the various drawings indicate like elements.

DETAILED DESCRIPTION

[0010] Referring to FIGS. 1 and 2, a bottle component holder 100 includes at least a first receptacle 10 and a second receptacle 20. The first receptacle 10 and the second receptacle 20 are joined together by a connector 30.

[0011] The first receptacle 10 is sized for holding a body of a bottle 200 in an inverted position (bottle 200

shown in FIG. 3). The first receptacle 10 has an inner surface 15 with a curvature or features to compliment the upper shoulders 210 of a bottle 200. The inner surface 15 can prevent the bottle from toppling when the bottle 200 is in the holder. For example, the inner surface 15 can have sufficiently tall sides to stabilize the bottle 200. In some implementations, the curvature prevents debris from collecting in the receptacle or allows for easy removal of debris from the inner surface 15 of the first receptacle 10. An aperture 40 in the receptacle 10 provides a location for fluid to escape from the bottle 200 when the bottle is inverted within the receptacle 10. The inner surface 15 can extend down from a bottle shoulder supporting portion 17 of the receptacle 10, forming a cylindrical neck support 25. Neck support 25 supports the neck 220 of bottle 200. The neck support 25 can have a sufficient length so that when the neck 220 is in the neck support 25, the neck support 25 prevents the bottle 200 from falling out of the bottle component holder 100.

[0012] The second receptacle 20 is configured to retain a cap 230 for bottle 200. The second receptacle 20 has an inner surface 35 that includes features to retain the cap 230. An aperture 50 in the bottom of the second receptacle 20 allows for fluid to escape from the bottom side of the cap 230. In some implementations of caps, a tube 240 extends from the bottom of the cap 230. Tube 240 can be positioned in the aperture 50 of the receptacle 20 to allow liquid to be able to drain out of the tube 240.

[0013] Referring to FIG. 4, in some implementations, connector 30 can have a back portion 60 with one or more elements for mounting the bottle component holder 100 onto a surface, such as a wall. The elements can be holes 65, such as key hole shaped holes for fitting over a fastener in the wall, such as a nail head or a screw head, hook and loop style fasteners, hooks for engaging with a hole in a mounting bracket attached to the wall, an adhesive, such as a pressure sensitive adhesive, suction cups for fastening onto a smooth surface or other suitable fastener. The back portion 60 can include a recess where the fastener can be placed, which allows for flush mounting of the bottle component holder 100 to the surface. The connector 30 can connect the first and second receptacles 10 and 20 at a top portion of the receptacles, a bottom portion or in between. Further, the connector 30 can be sized to be coextensive with one or more of the first and second receptacles. In implementations where the receptacles are connected at a top portion, the back portion 60 can extend from the top portion of a respective receptacle to a distance less than the depth of one or both of the receptacles. Alternatively, the back portion 60 can have a height that is greater than the depth of one of the receptacles or equal to a depth of one of the receptacles.

[0014] The holder 100 can be formed of a moldable material, such as a plastic or metal. Plastic can be molded into the appropriate shape. A metal bottle holder can be stamped from a sheet of metal.

[0015] Referring to FIG. 5, in one exemplary implementation, the bottle component holder 100 can be adapted to hold a bottle, such as a bottle described in U.S. Patent No. 6,520,384, which is incorporated herein for all purposes. The body 210 of the bottle is inverted into a first receptacle 10 and the neck of the bottle 200 is support by neck support 25. The aperture in neck support 25 allows residual fluid to drain out of bottle 200. A tube 240 extends through the aperture in the second receptacle 20 when a cap 230 with a tube connected thereto rests in the receptacle 20. If the bottle component holder 100 is mounted at a distance sufficiently high from a surface below, the tube 240 is free to extend from the receptacle 20 and any liquid in the cap 230 or tube 240 drains out.

[0016] Referring to FIG. 6, the bottle holder can have specific dimensions to hold a bottle, such as the bottle described in U.S. Patent No. 6,520,384. The dimensions can be varied from those described in the figure, the dimensions depending on the type of bottle to be held, the bottle dimensions and the components of the bottle. The first receptacle 10 can have a diameter of between about one half inch and four inches, such as about one inch, two inches, two and three quarters inch or three inches. The second receptacle 20 can have a diameter of between about one half inch and two inches, such as about one an three eighths inch. The back portion can have a length of between about one quarter and two inches, such as about three quarters inch. The neck support 25 can have a diameter of between about one half and two inches, such as one inch. The bottle neck support can have a depth of between about one quarter inch and one inch, such as about five eighths inch. The portion of the first receptacle that supports the bottle shoulders can have a depth of less than two inches, such as between about one eighth inch and two inches, such as about one half inch, one inch or one and a half inches.

[0017] Referring to FIG. 7, in one implementation, the bottle holder includes a stand for placing the holder on a flat surface, such as a counter or a table. The stand 300 can have a stem that extends from the connector 30 and be connected to a flat support 310. The support 310 is sufficiently wide to prevent the bottle holder from toppling over when placed on a flat surface. In alternative embodiments, the stand 300 extends from one or both of the receptacles 10, 20. Instead of extending from the receptacles 10, 20 or connector 30 as a single support piece, the stand 300 can be in the form a tripod, with three legs flaring outwardly from the connector or one of the receptacles. In yet another alternative, the stand 300 has a conical shape, with the widest part at the bottom and the narrowest part toward the receptacles 10, 20. A conical shape keeps the stand 300 from interfering with the downward extension of the bottle receptacles 10, 20. In yet another alternative, the stand has the features of both a tripod and a single support, where the single support extends from one of the receptacles 10, 20 or the connector 30 and is connected to the tripod portion. The stand 300 has a height that is sufficient for allowing any

tubes or other such items that extend downwardly from the receptacles from contacting the bottom of the stand 300 or the surface that supports the stand 300.

[0018] Referring to FIG. 8, the holder can further include a pocket 320. The pocket 320 can be sized for retaining packets. As described in U.S. Patent No. 6,520,384, a packet can include a mixture, such as a salt mixture or components for forming a therapeutic solution, that is added to the bottle along with a liquid, such as water, to form the solution that is retained by the bottle. The pocket 320 can extend outwardly to fit more than one packet. In some implementations, the pocket includes one or more drain holes in a bottom of the pocket to allow for draining or drying of any liquids that might enter the pocket, such as during washing of the bottle holder. Although the pocket 320 is shown on the stand 300, the pocket 320 can be placed anywhere on the bottle holder and may be incorporated into a bottle holder that does not include a stand.

[0019] In some embodiments, the pocket is configured to fit a spoon or scooping device and powder. The powder can be removed from the pocket with the spoon. The spoon can be a separate piece from the stand. Alternatively, the spoon can be connected to the stand, such as by a chain, wire, string or other mechanism, so that the spoon is not misplaced. Referring to FIG. 9, a stand 400 for providing the bottle component holder 100 can be used in lieu of attaching the bottle component holder 100 to a wall. The stand 400 can include a foot 410 which rests on a flat surface. The foot 410 is connected to a vertically extending portion, or stem 420. The stem 420 is connected to a jacket 430. The jacket 430 forms a recess 440 or slot. The jacket 430 can be formed of a piece that has ears that extend outwardly from the stem 420 and wrap around to form the jacket 430. The ends of the ears can either not touch one another or contact one another. Alternatively, the jacket 430 can be formed of a contiguous piece, without a gap as shown in FIG. 9. The recess 440 can accept the back portion 60 (as shown in FIG. 4) and thereby support the holder 100. As shown in FIG. 10, the back portion 60 of the holder 100 can extend from the receptacles 10, 20 so that there is a gap between the back portion 60 and the receptacles 10, 20. When the back portion 60 of the holder 100 is in the recess 440 of the stand 400, the stand 400 and holder 100 form a free-standing system, as shown in FIG. 11. If the jacket 430 includes a gap, as shown in FIG. 9, and is formed slightly so that the recess 440 is slightly smaller than the back portion 60, the jacket 430 can comply to the size of the back portion 60 and can hold the back portion 60 securely. The height of the stem 420 can be sufficient that the tube 240 does not contact the foot 410 of the stand 400.

[0020] In some embodiments, the holder 100 is divided into more than one piece to make the holder more compact. The connector 30 and/or back portion 60 can be split into two pieces. The pieces can have friction fittings so that when a user receives the two pieces, the user can snap fit the pieces together, thereby forming the holder.

[0021] In some embodiments, the stem telescopes. That is, the stem 420 can be formed of multiple concentric pieces that allow the stem to be compressed into a compact configuration or be extended. When the stem is extended, the concentric pieces can remain in place by locking into one another, by pressure fitting into one another or another mechanism that prevents the stem from collapsing. In some embodiments, the stand folds.

[0022] In some embodiments, the stand includes a suction cup. The suction cup, or multiple suction cups, can be used to adhere the stand to a surface, such as a counter or table. The suction cup can be on the bottom side of the foot of the stand.

[0023] Various embodiments of the bottle holder can be made. In some embodiments, either none, one or both of the receptacles have a neck support style extension surrounding the aperture in the bottom of receptacle. The holder can include only one or more than two receptacles, such as three, four, five, six, seven, eight or more receptacles. The receptacles can be sized differently from one another or have the same dimensions. Additional receptacles can be formed for supporting other components, such as irrigator tips, nozzles, medicine droppers or other bottle attachments. The sides of the receptacles can be straight (e.g., 90 degrees) or can taper down from the top to the bottom. The holder can be modified to hold bottles, such as milk bottles and their corresponding nipples, sports bottles and their corresponding caps, bottles for dispensing food items, such as syrups, oils or other edible substances or medicines.

[0024] The bottle holder allows for liquids to drain out of the bottle and out of the cap and or any extending tubes. Because liquid is not trapped inside the bottle or cap, the bottle is able to dry more quickly than if the bottle is allowed dry on its side where water can become trapped therein. Preventing the end of the tube from contacting a surface can also help avoid contaminating the tube.

[0025] Further, the bottle holder allows for air to circulate below the bottle neck and around the bottom of the cap and/or tube. This overcomes the problem of having fluid vapor trapped inside the bottle, cap or tube. For applications where the bottle is used with food or medicine products, bacterial, fungal or mold growth can be avoided or reduced. If the bottle holder is formed from a dishwasher safe material, dishwashing the bottle holder can sterilize the bottle holder and prevent contamination of any bottle that is retained by the holder for drying. The bottle holder also provides a convenient location for bottle storage when the bottle is not in use.

[0026] The bottle holder can be formed so that multiple bottle holders can be stacked together. A tapered receptacle can enable stacking, which can conserve packaging space.

[0027] The stands described herein, which incorporate the bottle holder or support the bottle holder provide a

convenient means for supporting the bottle holder without physically or permanently attaching the holder to a wall. Because the stands can be made to collapse or fold, the stand and holder can be more compact, such as for shipping or storage. In some embodiments, the stand holds a flat plate with one or more apertures in the plate. The apertures can support a neck of a bottle.

[0028] A number of embodiments of the invention have been described. Nevertheless, it will be understood that various modifications may be made without departing from the spirit and scope of the invention. For example, any of the features described in reference to one of the embodiments can be incorporated into another of the embodiments described herein. The features are no exclusive to a single embodiment. Accordingly, other embodiments are within the scope of the following claims.

Claims

1. A device, comprising:

a first receptacle configured to retain a bottle in an inverted position, the first receptacle having a bottle neck support extending from a bottom portion of the receptacle, the bottle neck support having an aperture therein; and
a second receptacle connected to the first receptacle, wherein the second receptacle has an aperture in a bottom surface, the second receptacle adapted to support a cap associated with the bottle.

2. The device of claim 1, further comprising a back configured to connect the device to a wall.

3. The device of claim 1, further comprising a connecting piece for connecting the first receptacle to the second receptacle.

4. The device of claim 1, wherein the first receptacle has a width of 2 3/4 inches.

5. The device of claim 1, wherein the second receptacle has a width of 1 3/8 inches.

6. The device of claim 1, wherein the first receptacle further includes a shoulder support region.

7. The device of claim 6, wherein the shoulder support region is at least 1/4 inches in depth.

8. The device of claim 6, wherein the shoulder support region has a depth sufficient to keep a bottle from tipping over when inverted in the first receptacle.

9. The device of claim 6, wherein the shoulder support region is curved.

10. The device of claim 1, further comprising a stand for supporting the first and second receptacles on a flat surface.

11. The device of claim 10, further comprising a pocket on the stand.

12. The device of claim 10, wherein the stand is foldable.

13. The device of claim 10, wherein the stand is formed of two or more telescoping portions.

14. The device of claim 10, wherein the stand has a foot for supporting the stand on a surface.

15. The device of claim 14, further comprising at least one suction cup on the foot for adhering to the surface.

16. A system comprising:

the device of claim 1, wherein the device has a back plate; and
a stand having a jacket portion that receives the back plate.

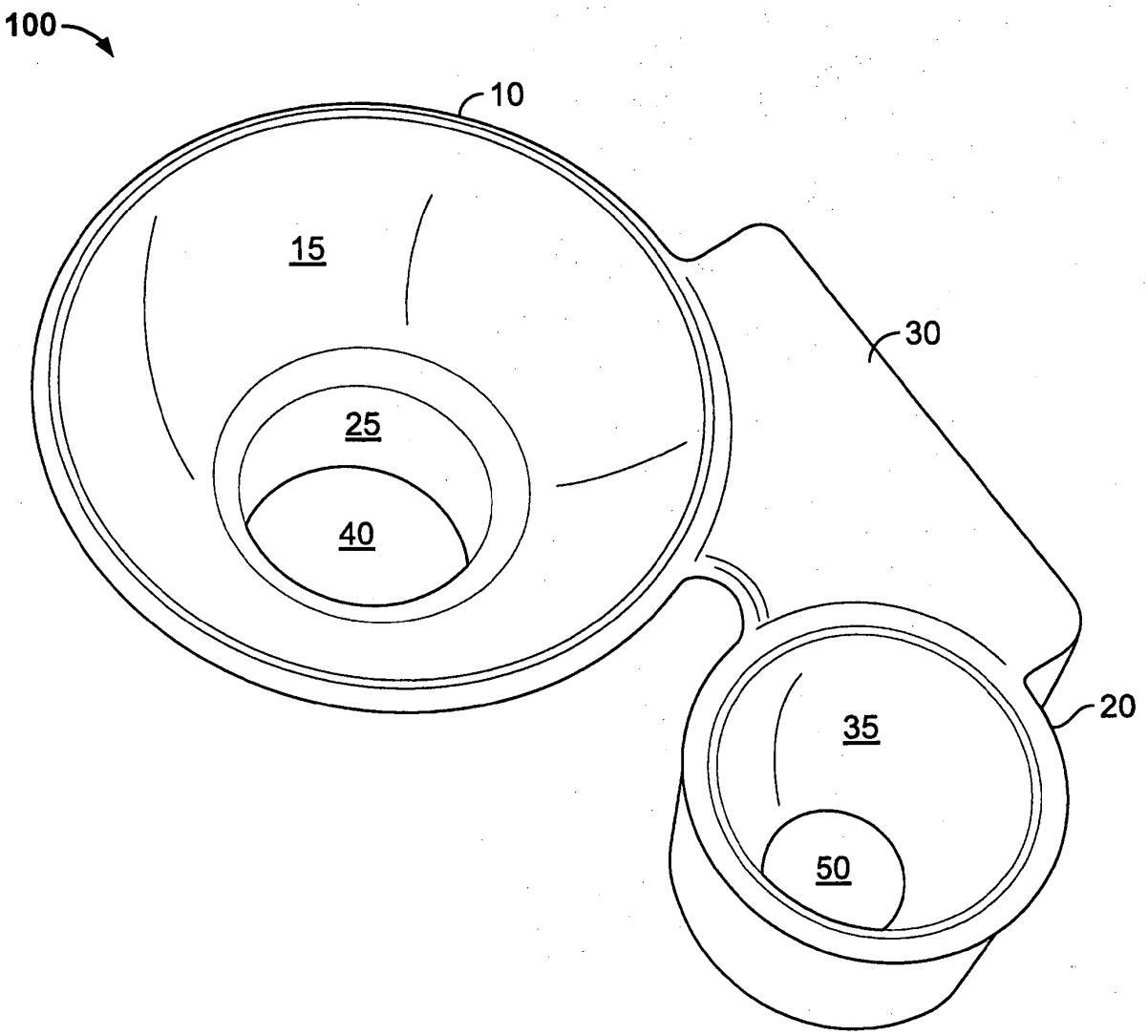

FIG. 1

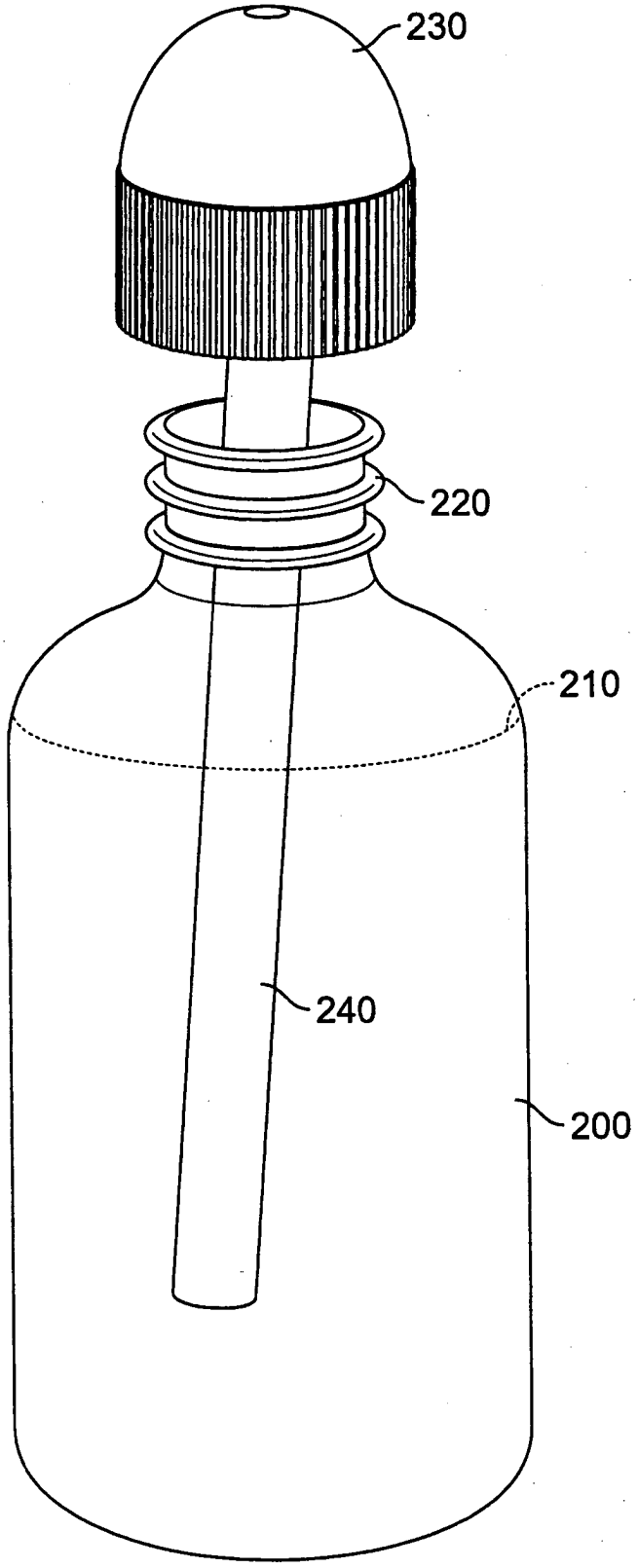

FIG. 3

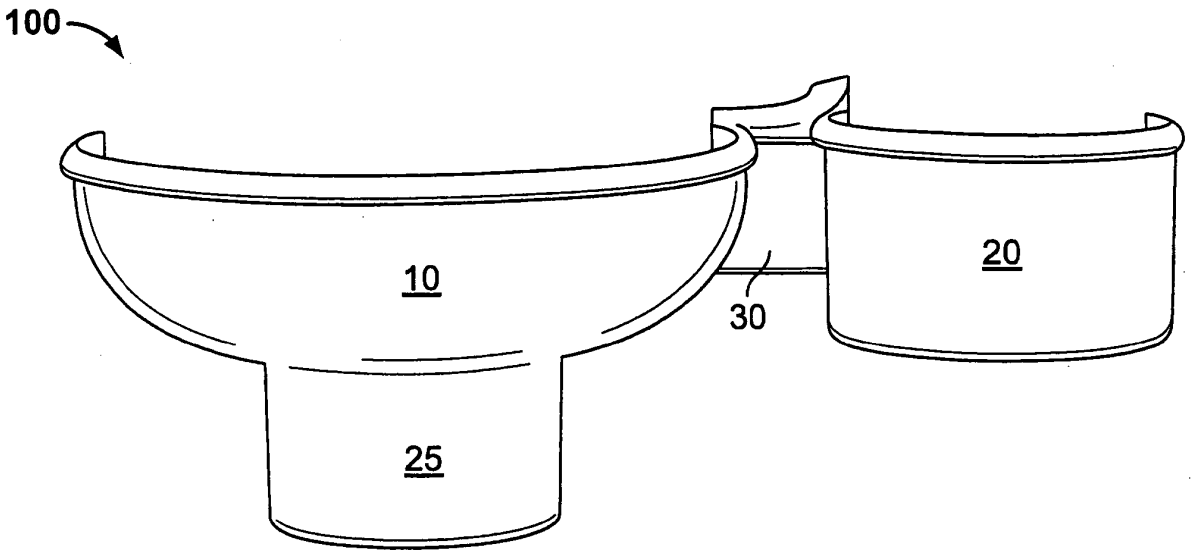

FIG. 2

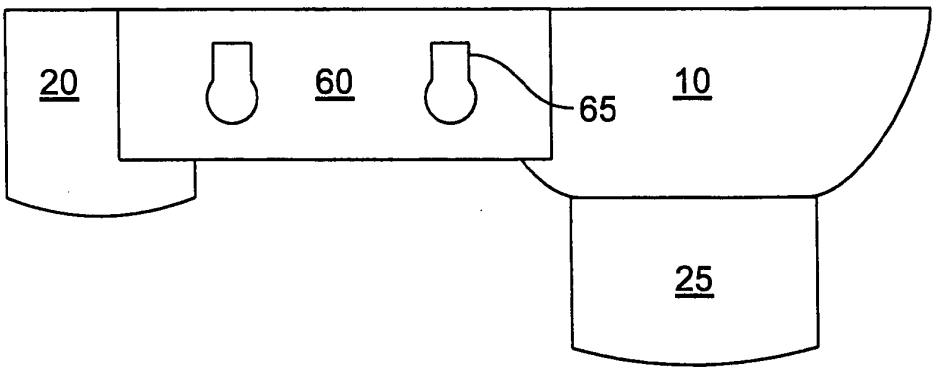

FIG. 4

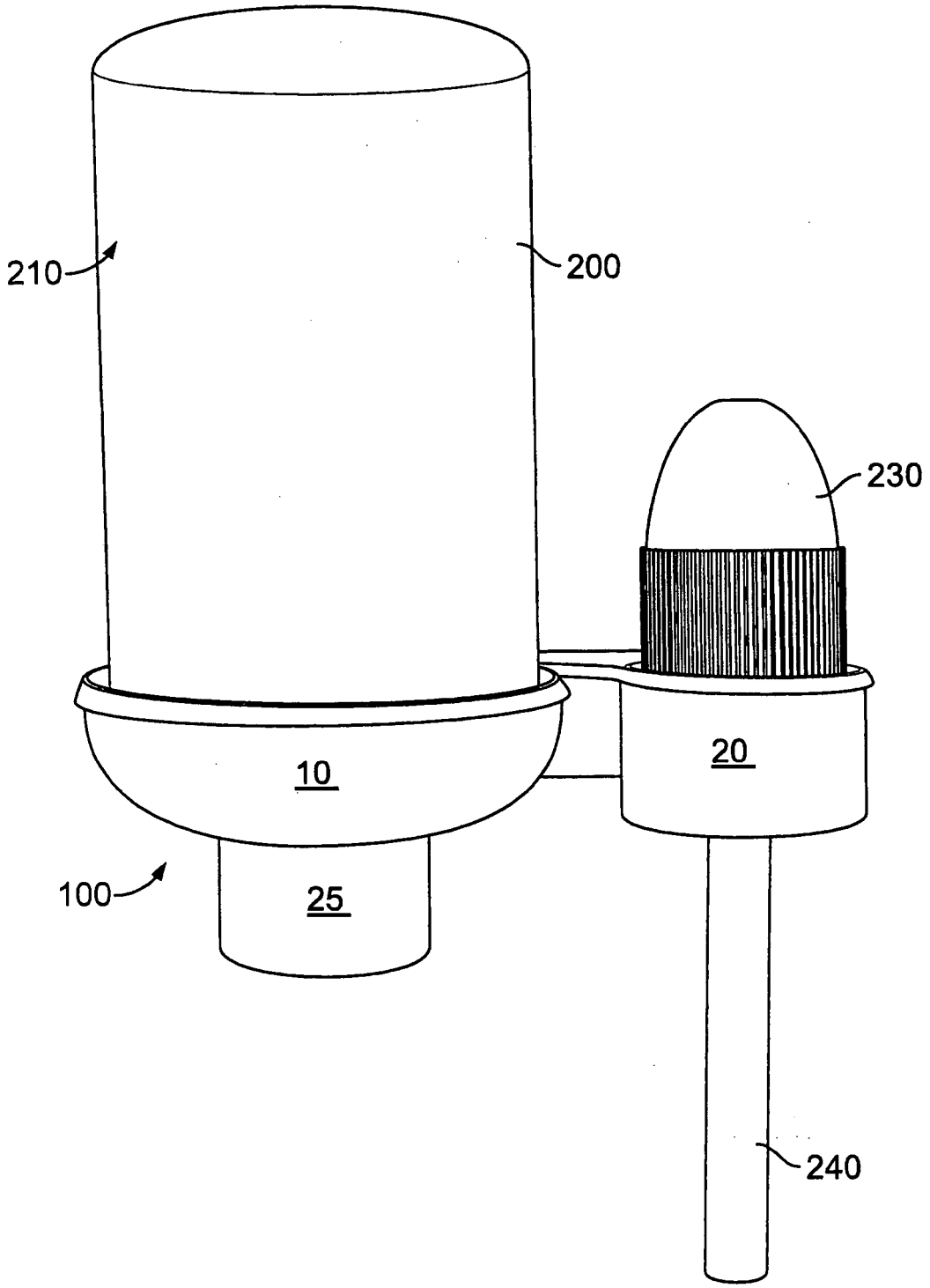

FIG. 5

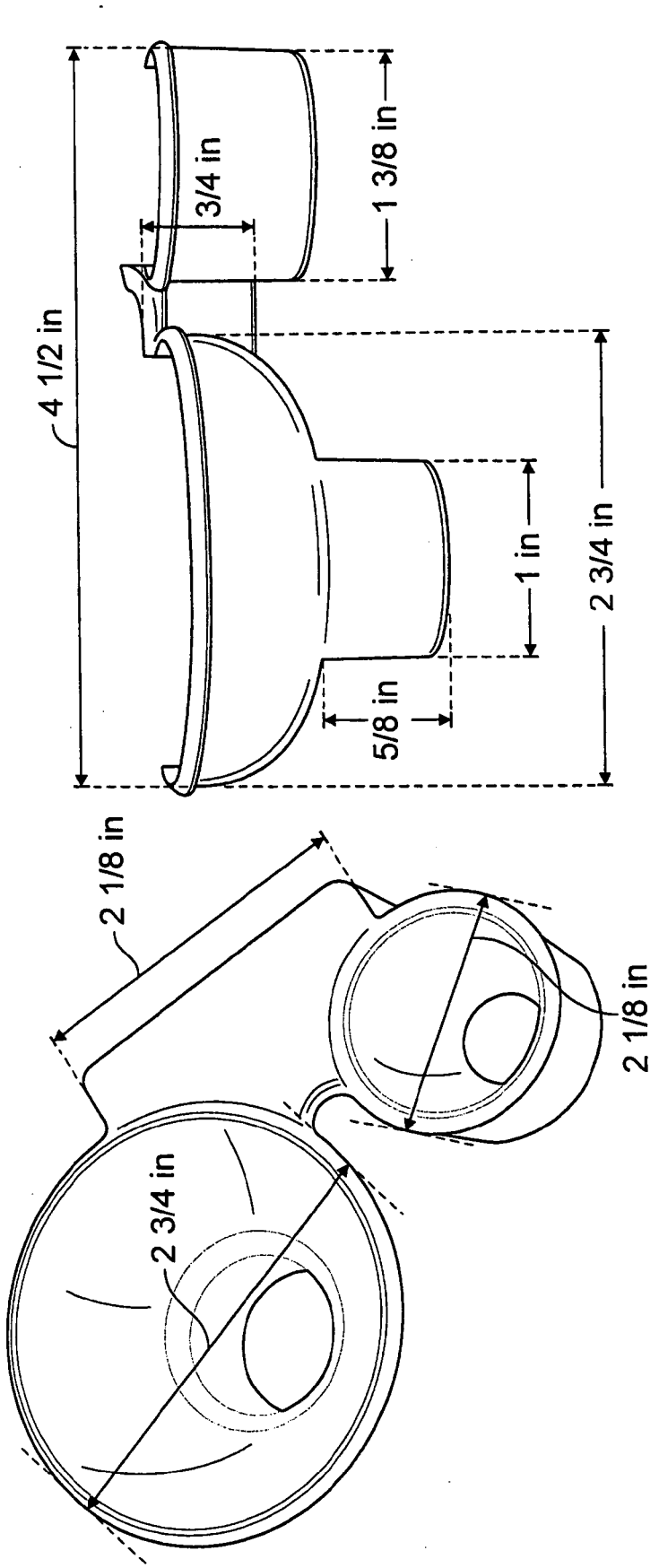

FIG. 6

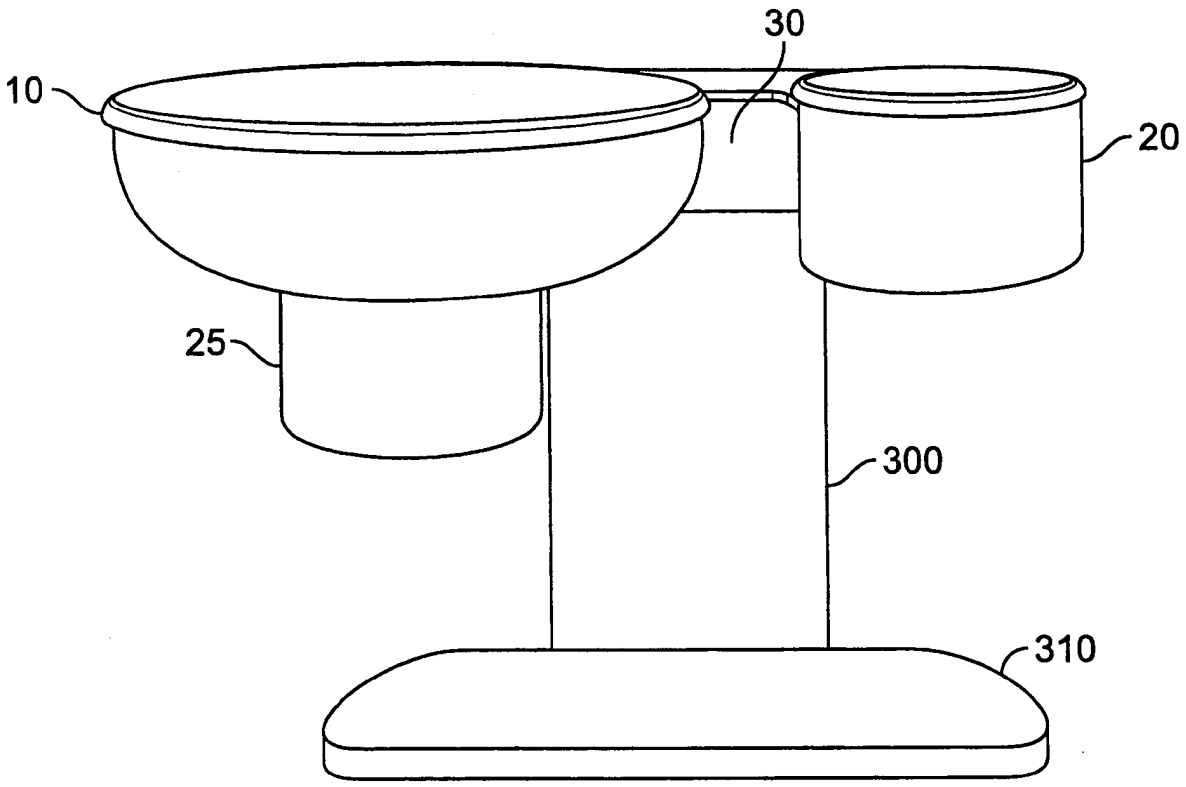

FIG. 7

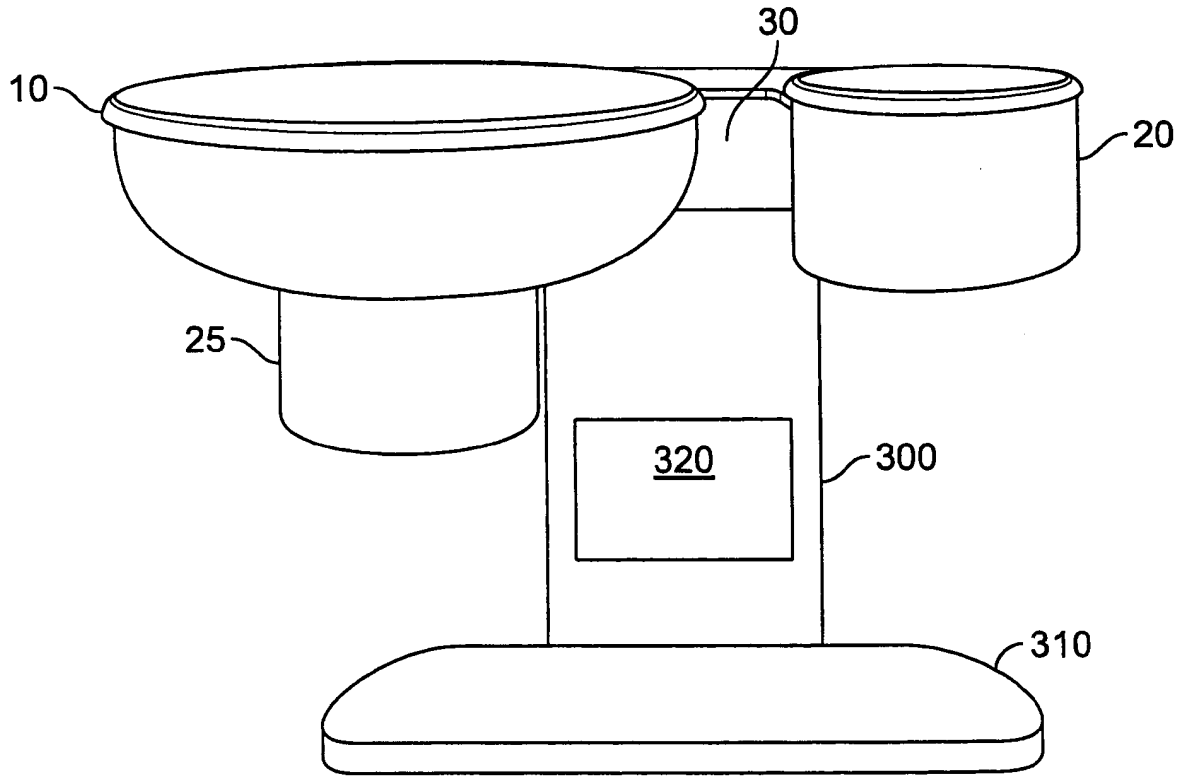

FIG. 8

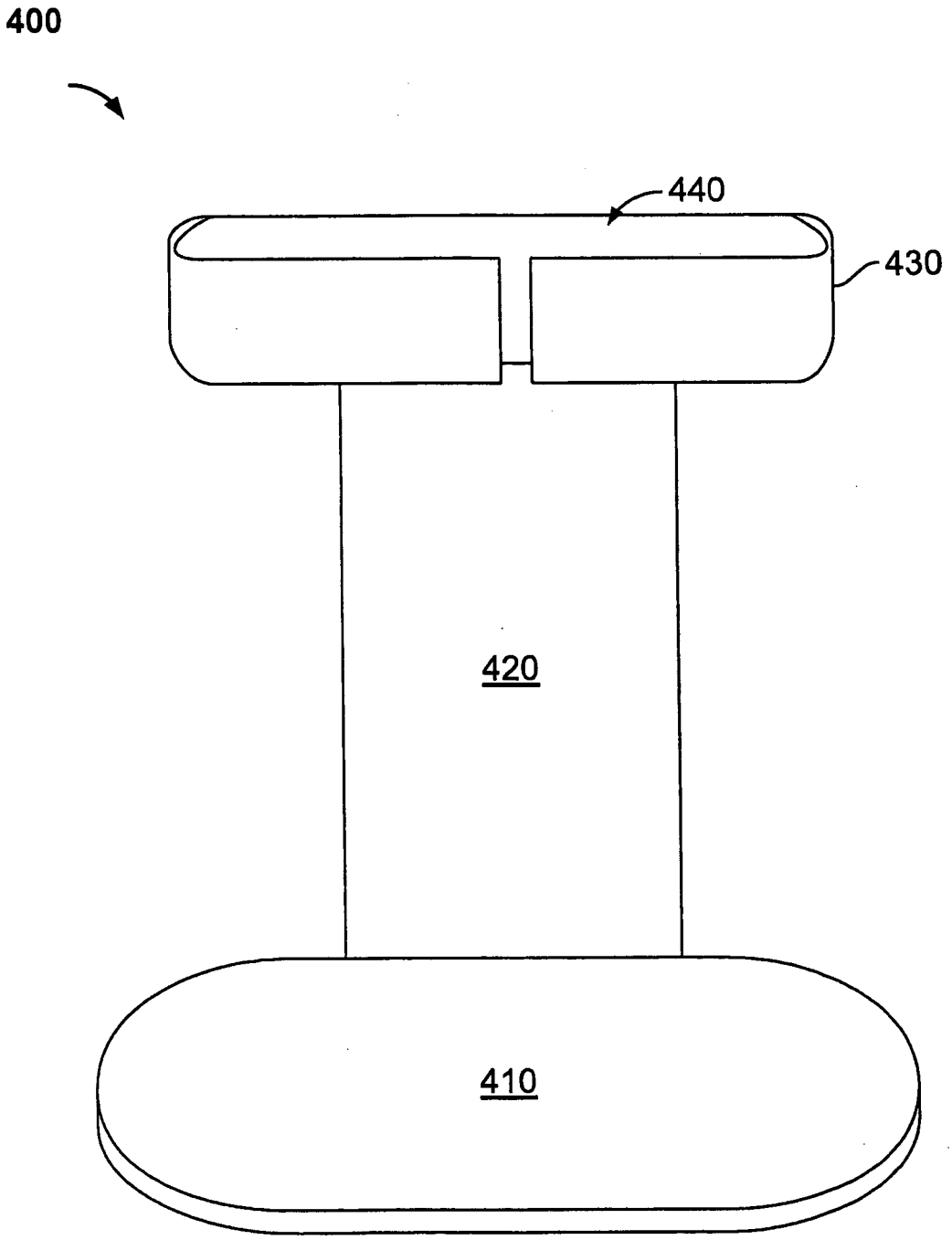

FIG. 9

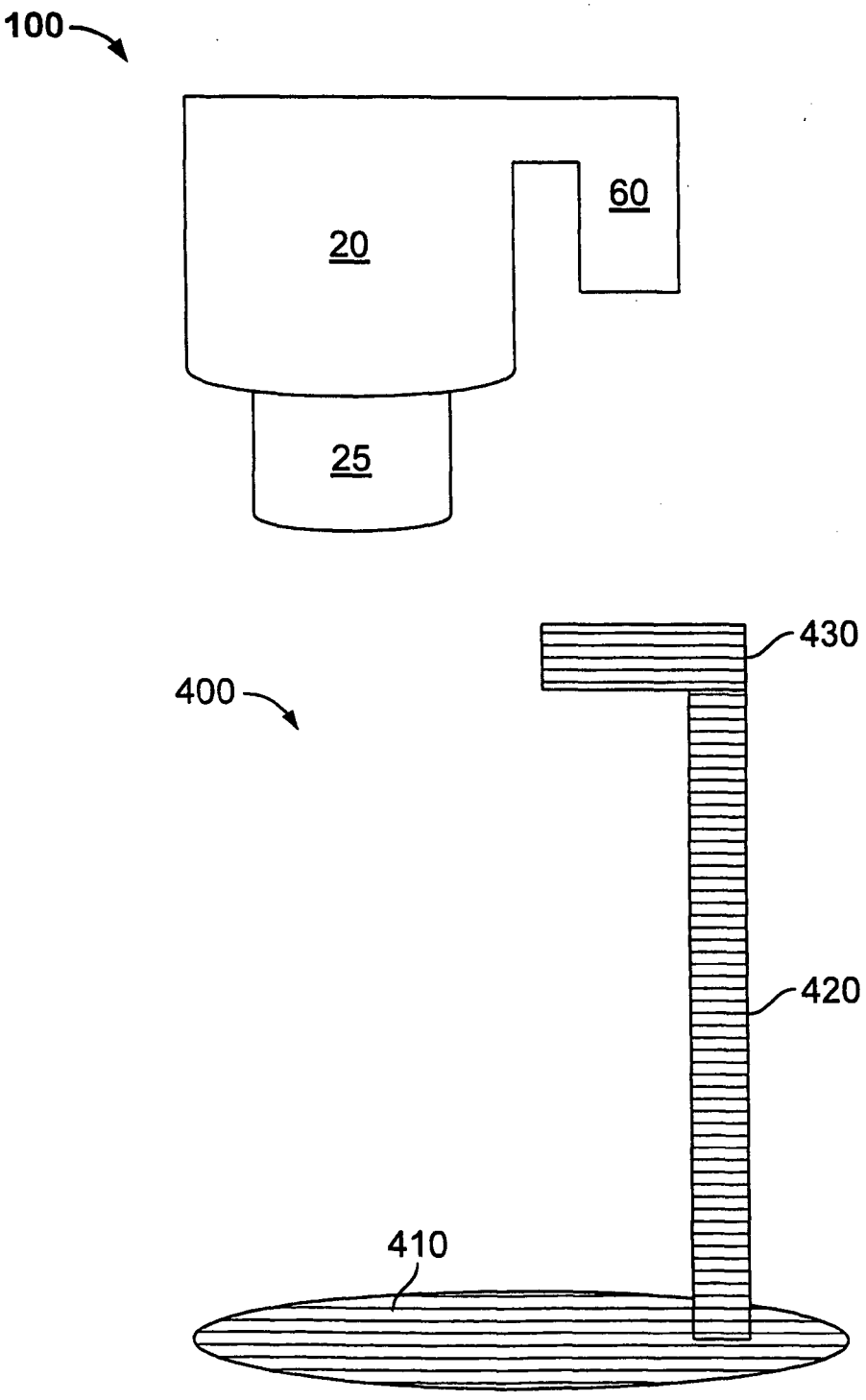

FIG. 10

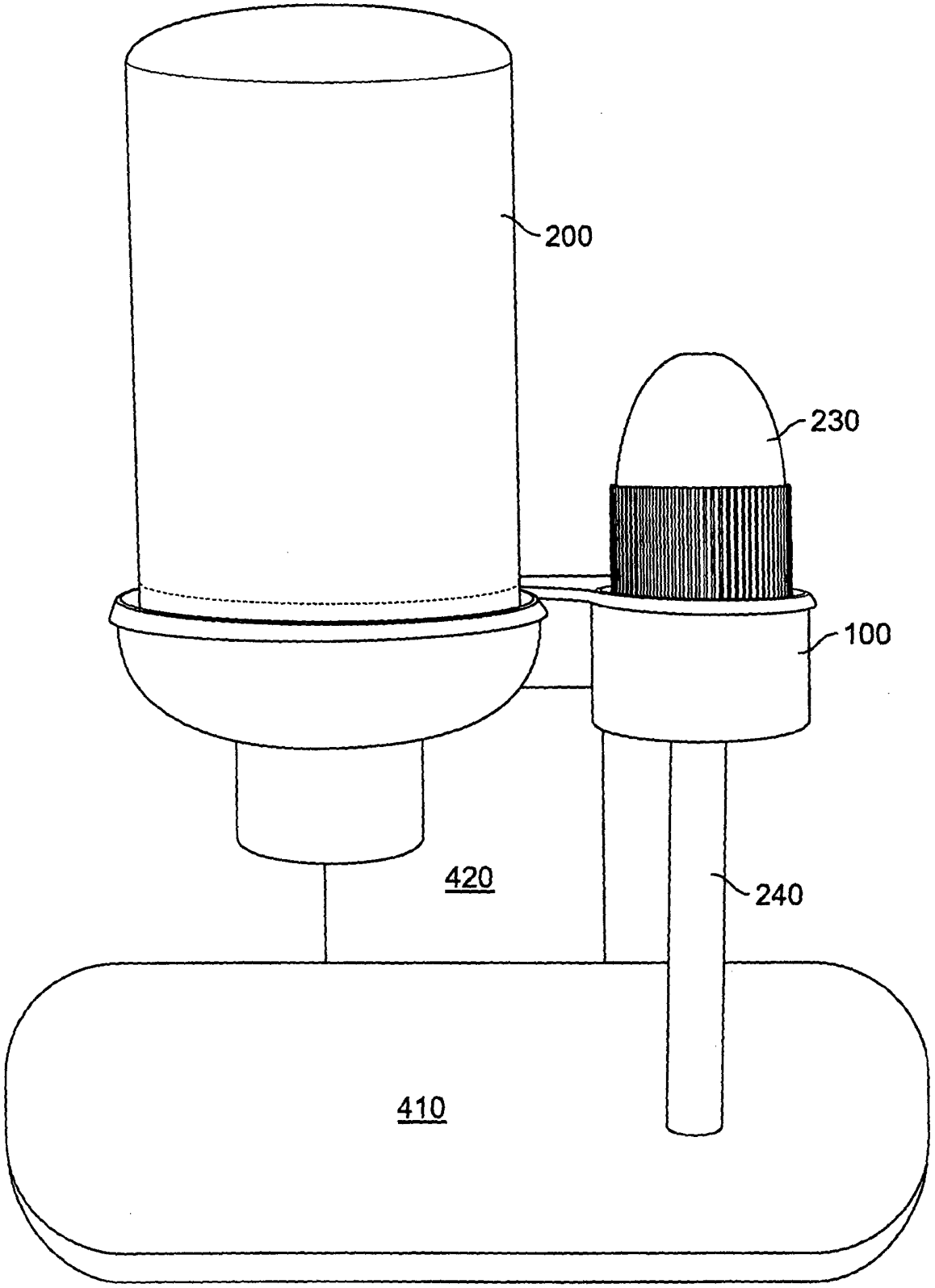

FIG. 11

European Patent Office

EUROPEAN SEARCH REPORT

Application Number
EP 07 00 5961

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 5 439 193 A (COULTER J SCOTT [US] ET AL) 8 August 1995 (1995-08-08) * column 3, line 62 - column 5, line 38; figures *	1-16	INV. A47G23/02 B67C9/00
X	US 2004/089621 A1 (GANGLOFF RODNEY W [US]) 13 May 2004 (2004-05-13) * paragraph [0035] - paragraph [0054]; figures *	1-16	
X	US 6 220 458 B1 (FALOR BRIAN K [US]) 24 April 2001 (2001-04-24) * column 3, line 30 - column 4, line 19; figures *	1-16	
X	US 6 502 711 B1 (MC RAE KERRY J C [CA]) 7 January 2003 (2003-01-07) * column 3, line 55 - column 4, line 62; figures *	1-16	
X	US 5 269 354 A (KOBERG LESLIE R [US]) 14 December 1993 (1993-12-14) * column 2, line 55 - column 4, line 46; figures *	1-10	TECHNICAL FIELDS SEARCHED (IPC) A47G B67C B67D B65D
A	US 776 332 A (KLOEPPINGER) 29 November 1904 (1904-11-29)		
A	US 843 826 A (KLOEPPINGER) 12 February 1907 (1907-02-12)		

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	30 July 2007	Vistisen, Lars

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

EPO FORM 1503 03.82 (P04C01)

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 07 00 5961

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
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

30-07-2007

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5439193 A	08-08-1995	NONE	
US 2004089621 A1	13-05-2004	NONE	
US 6220458 B1	24-04-2001	NONE	
US 6502711 B1	07-01-2003	NONE	
US 5269354 A	14-12-1993	AU 5748394 A WO 9413535 A1	04-07-1994 23-06-1994
US 776332 A		NONE	
US 843826 A		NONE	

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

REFERENCES CITED IN THE DESCRIPTION

This list of references cited by the applicant is for the reader's convenience only. It does not form part of the European patent document. Even though great care has been taken in compiling the references, errors or omissions cannot be excluded and the EPO disclaims all liability in this regard.

Patent documents cited in the description

- US 78497806 P **[0001]**
- US 6520384 B **[0015] [0016] [0018]**