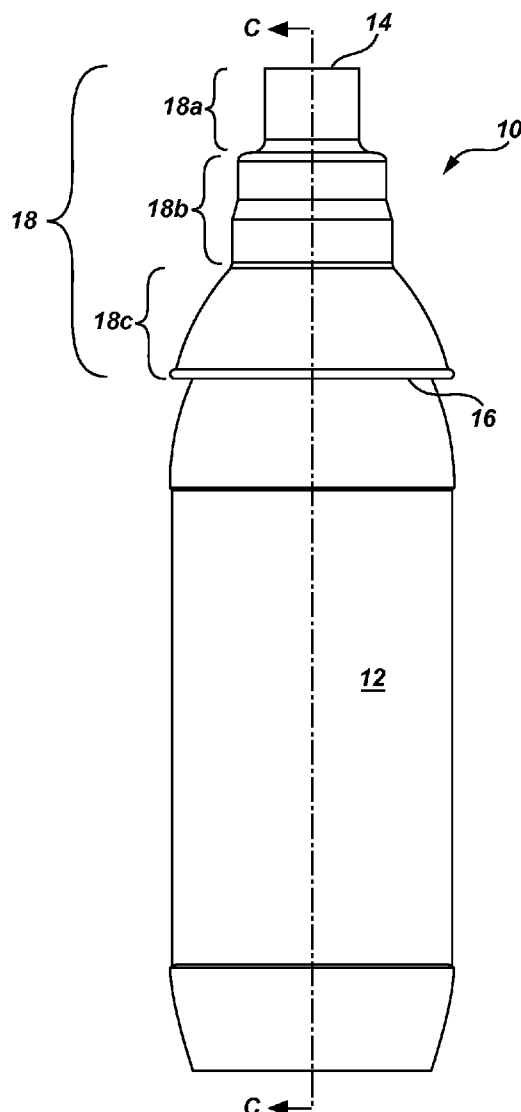




US 20090107582A1

(19) **United States**(12) **Patent Application Publication**
Sayage(10) **Pub. No.: US 2009/0107582 A1**(43) **Pub. Date: Apr. 30, 2009**(54) **DETACHABLE FUNNEL FOR WATER BOTTLES****Publication Classification**(76) Inventor: **Larry Sayage**, Muttontown, NY
(US)(51) **Int. Cl.**
B65B 39/00 (2006.01)
B65D 25/00 (2006.01)
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SAN FRANCISCO, CA 94123 (US)(52) **U.S. Cl. 141/340; 220/694; 215/386**(57) **ABSTRACT**(21) Appl. No.: **12/201,158**(22) Filed: **Aug. 29, 2008****Related U.S. Application Data**(60) Provisional application No. 60/968,858, filed on Aug.
29, 2007.

A detachable funnel apparatus for use with a container has an open wide end, an open narrow end, and sidewalls connecting the open wide end to the open narrow end whereby materials poured into the open end pass through the sidewalls and out the open narrow end when the detachable funnel apparatus is coupled to the container. The funnel is configured to removably affix to the container when stored by a coupling mechanism on the inside of the funnel such as a ring snap to create a snap connection between the funnel and a neck ring on the container or threads to connect to the threads on the container normally used by the cap of the container.



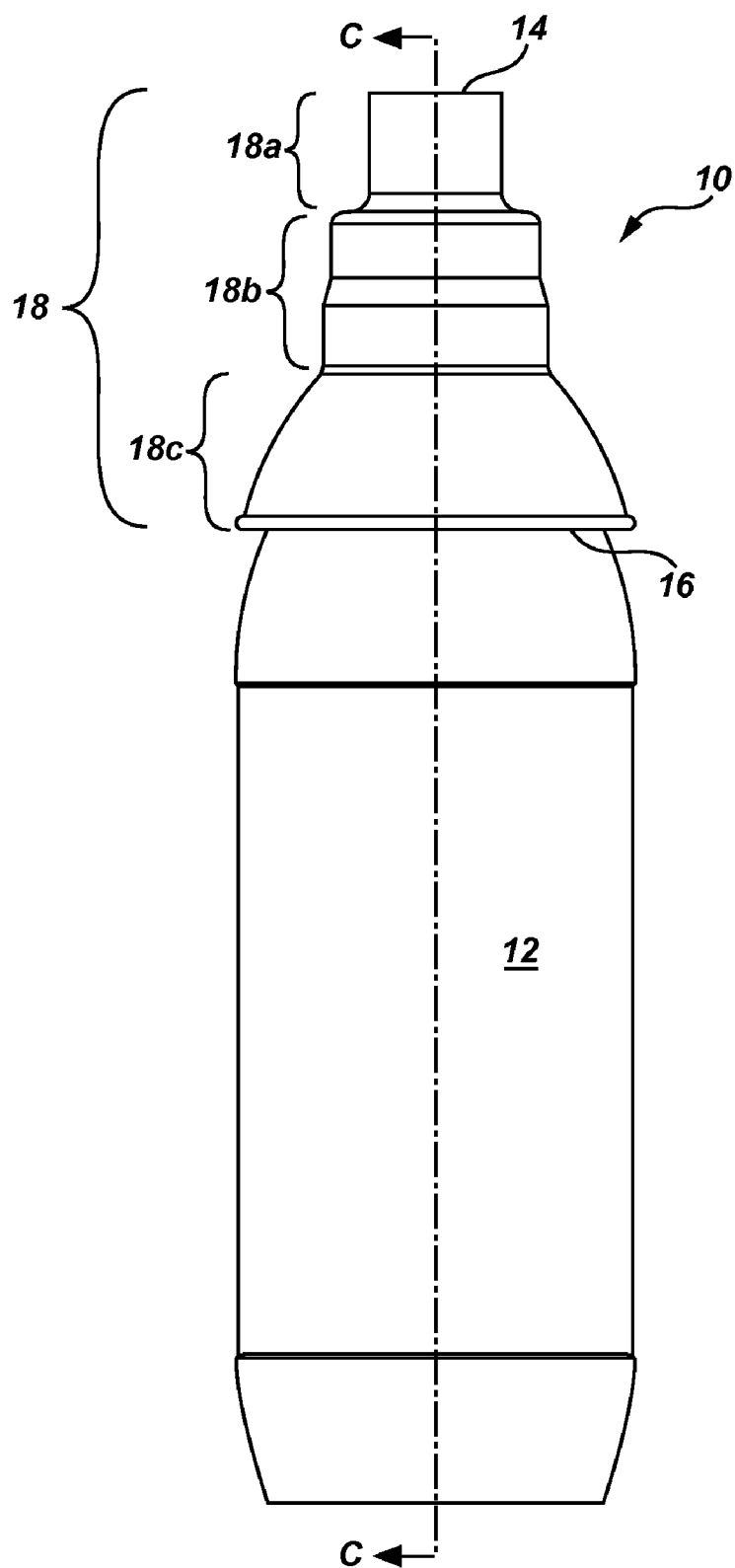
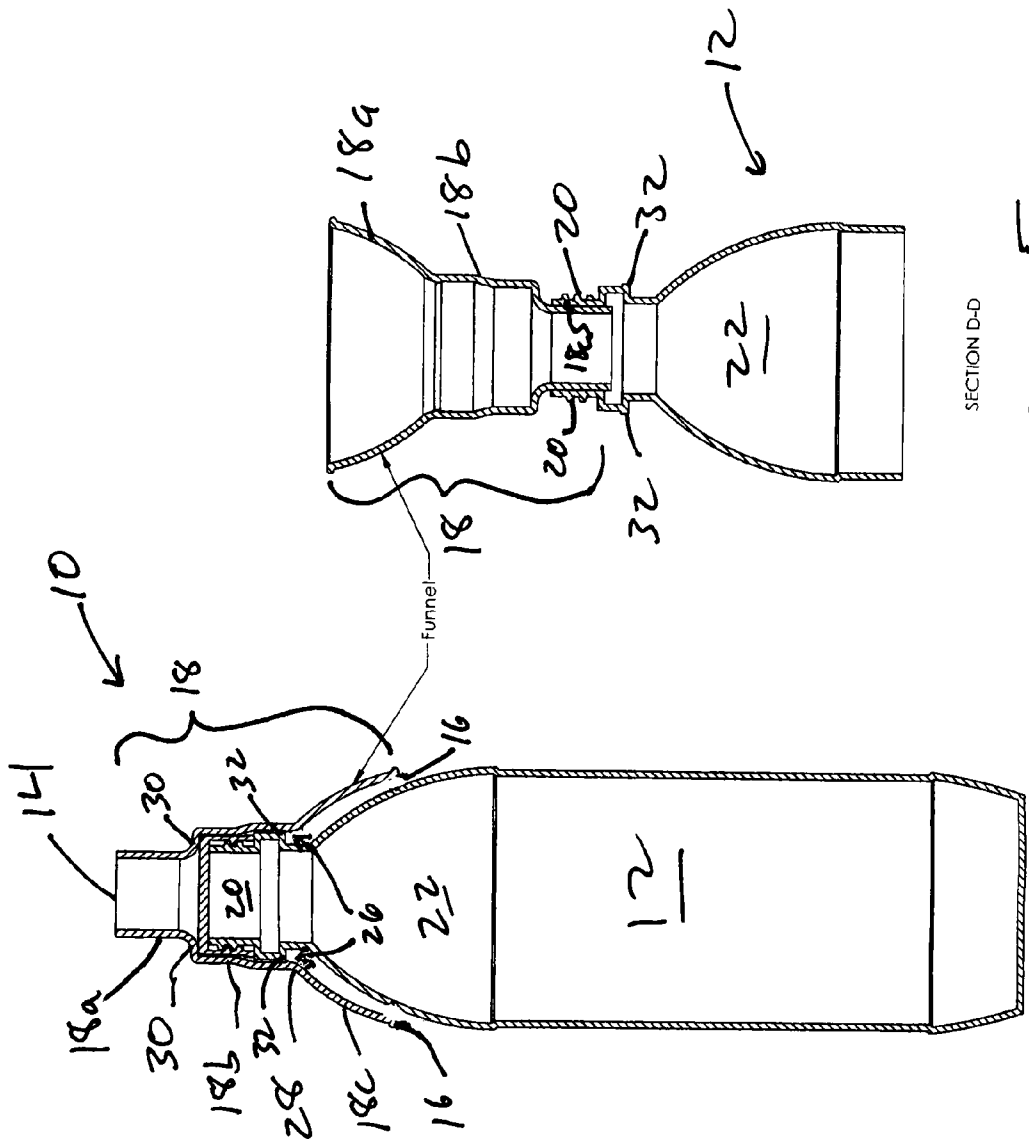


Fig. 1



SECTION D-D

Figure 5

SECTION C-C

Figure 2A

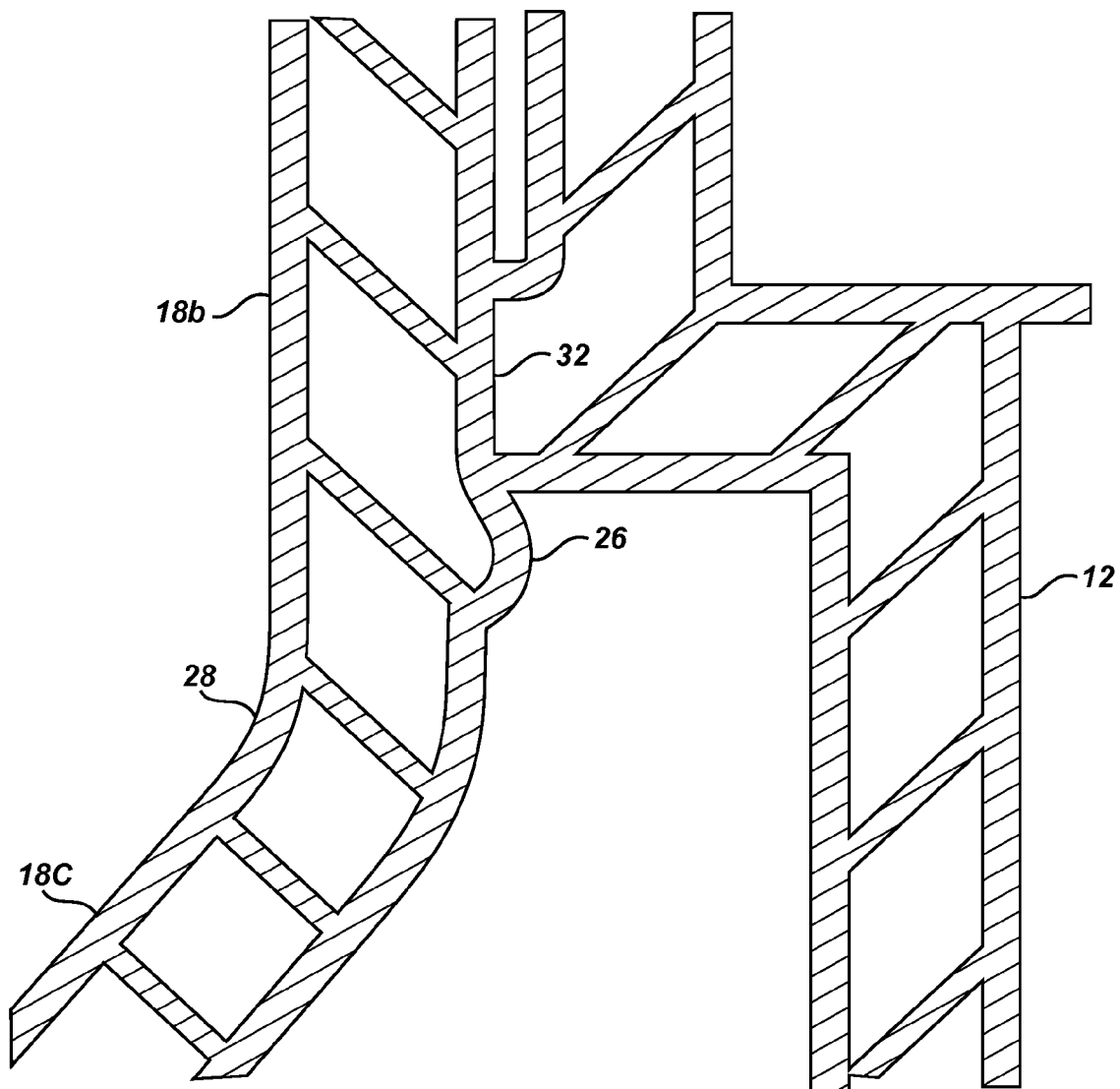


Fig. 2B

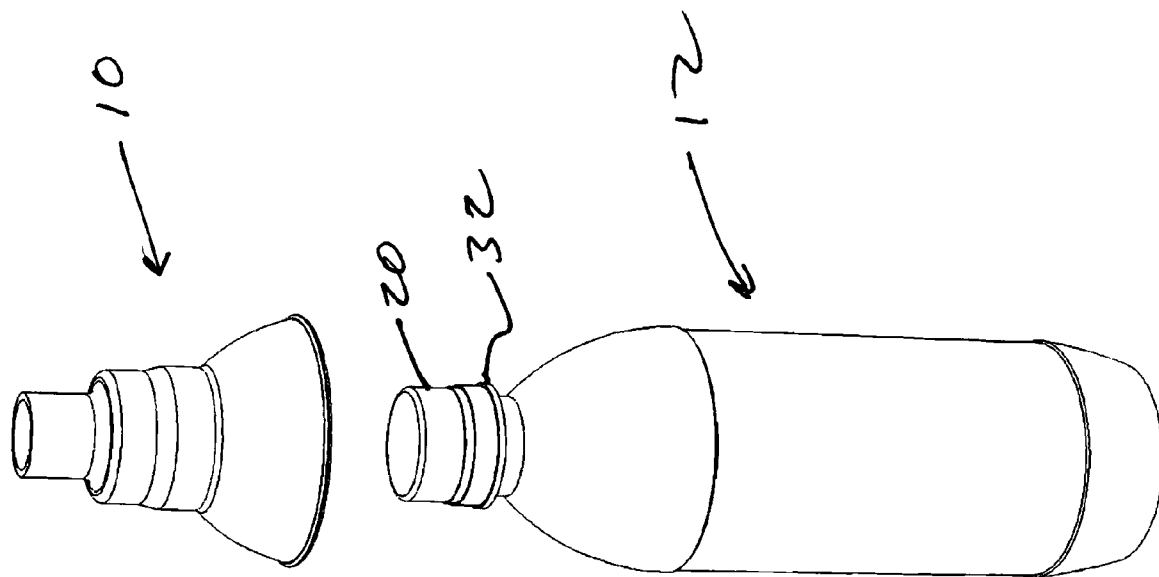


Figure 3a

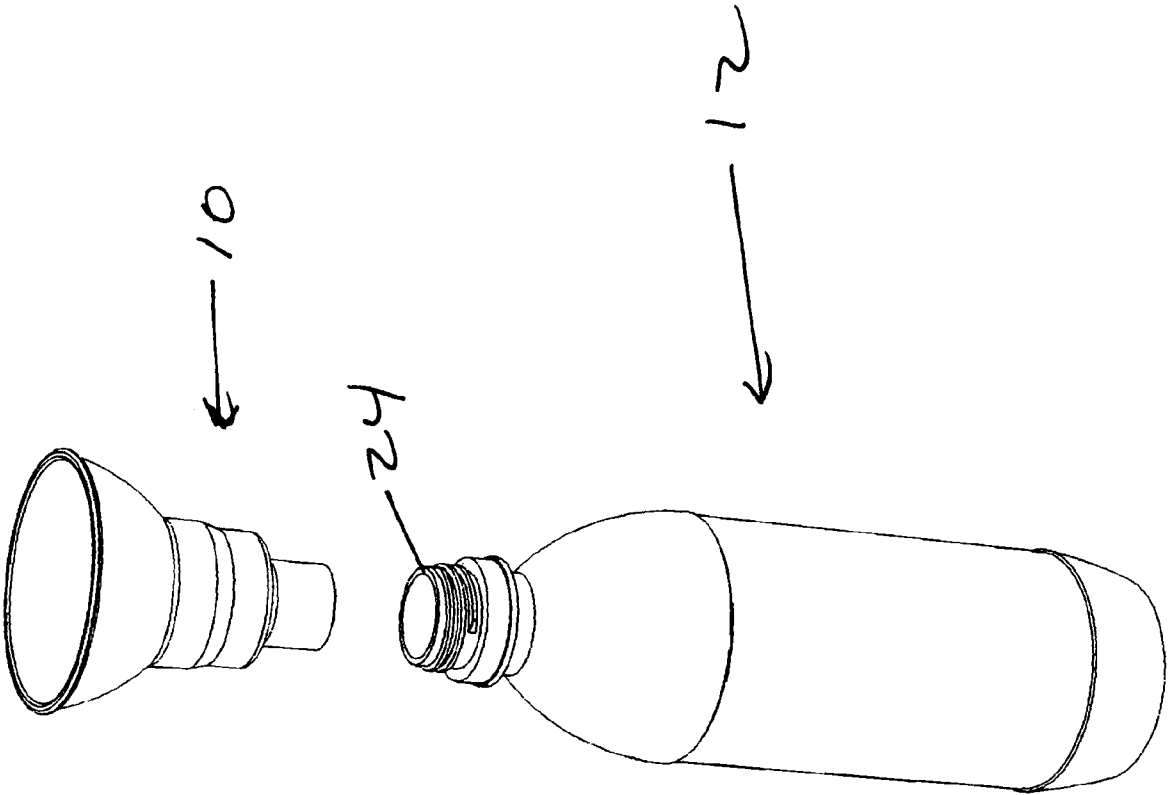


Figure 3b

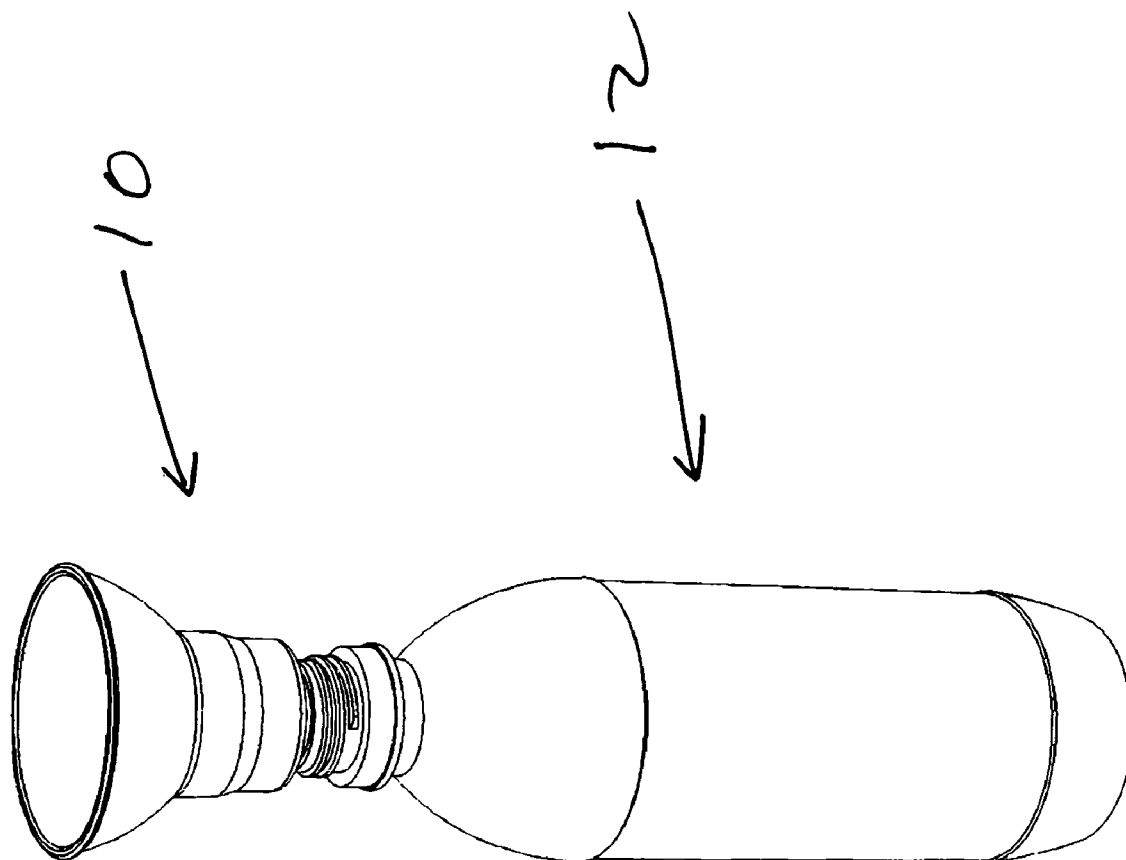
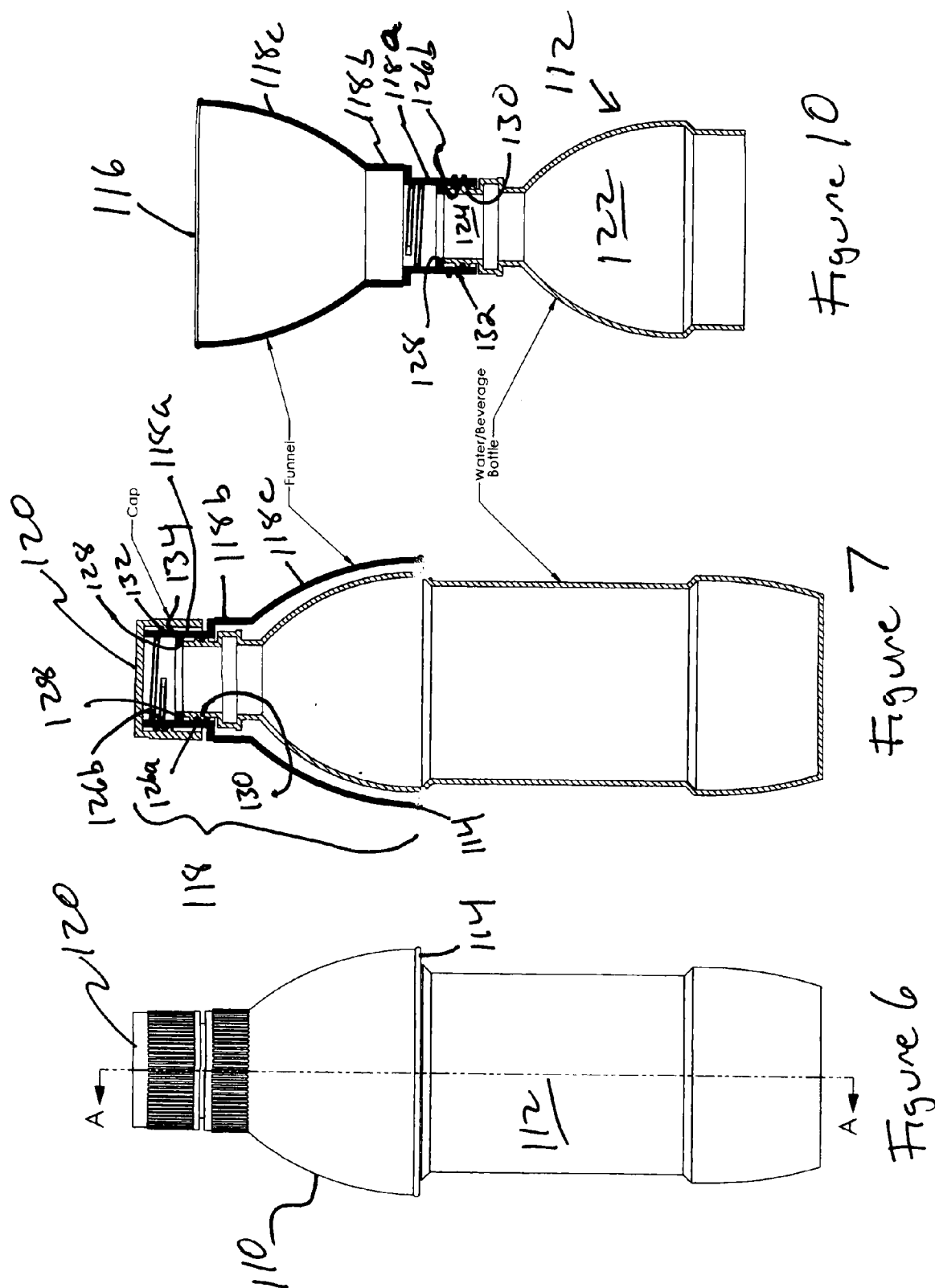


Figure 4



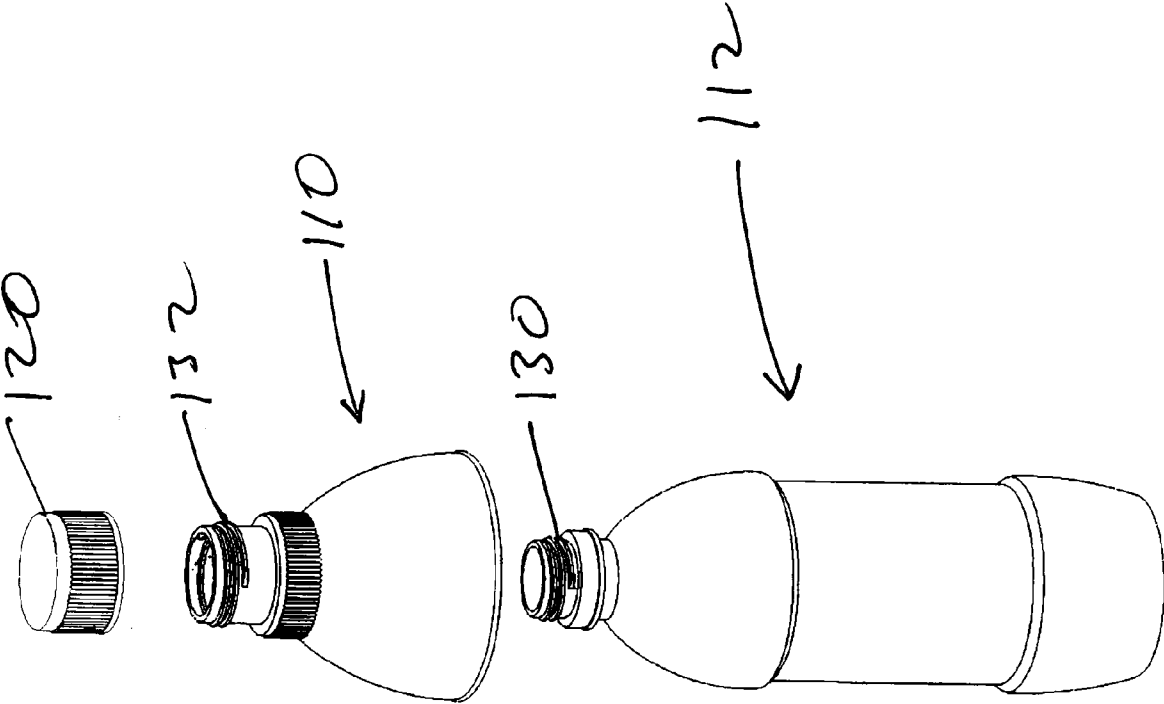


Figure 8a

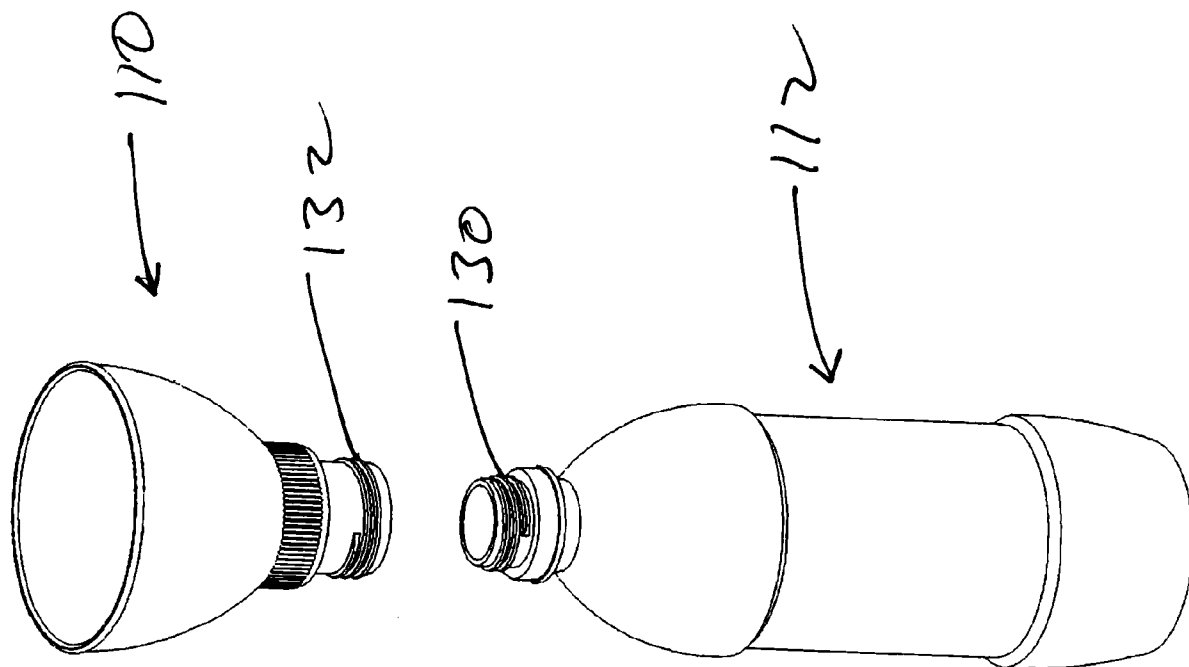


Figure 8b

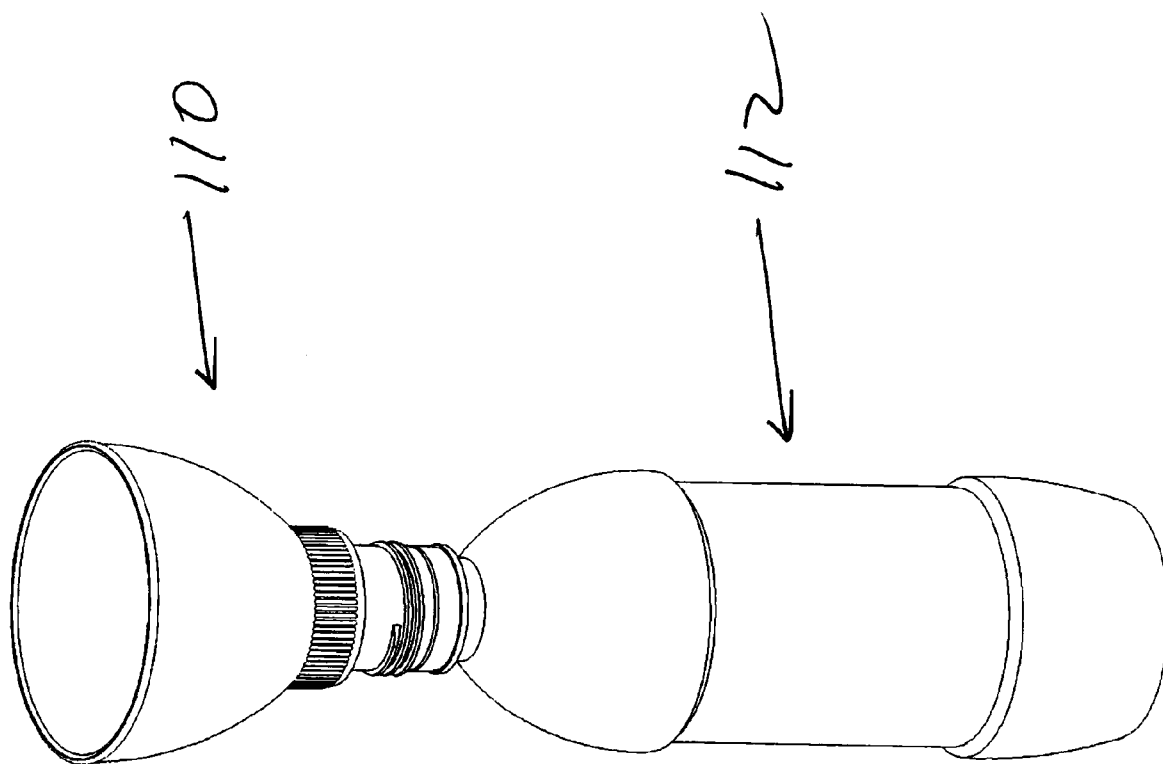


Figure 9

DETACHABLE FUNNEL FOR WATER BOTTLES

FIELD OF THE INVENTION

[0001] The present invention relates generally to bottled water containers, and more particularly to a detachable funnel assembly for use with bottled water containers.

BACKGROUND OF THE INVENTION

[0002] There has been an explosion in bottled water use in the United States, driven in large measure by marketing designed to convince the public of bottled water's purity and safety, and capitalizing on public concern about tap water quality. Health conscience consumers of bottled water have become increasingly interested in adding nutritional supplements to their bottled water, such as protein powder, energy supplements and vitamin supplements.

[0003] Supplements typically come in powdered form and are sold in either large canisters or in single or multiple serving pouches. For large canisters, a scoop is often provided by the manufacturer for the consumer to transfer the powder into a container of water. For pouches, the consumer must pour the powder from the pouch into the container of water.

[0004] The transfer of powder is relatively easy when using a drinking glass as the container. However, the exercise is more challenging when transferring the powder into a bottled water container. The small opening of the bottled water container usually results in powder being spilled.

[0005] One option for pouring powders into small openings is a funnel. The narrow end is placed in the receptacle and the powder is placed in the wide end. While funnels are a common household item, it is not convenient to carry a funnel to the gym or other locations for the sole purpose of pouring powdered supplements into a bottled water container.

[0006] The present invention seeks to solve these problems by providing a convenient portable device for pouring powdered and liquid supplements into a bottled water container.

SUMMARY OF THE INVENTION

[0007] One aspect of the present invention is a detachable funnel assembly that is affixed in an inverted position to a bottled water container when not in use, and connected to the mouth of the bottled water container for use a funnel when in use.

[0008] Other objects and advantages, which are set forth in the description of the Detailed Description of the Invention. The features and advantages described in the specification, however, are not all inclusive, and particularly, many additional features and advantages will be apparent to one of ordinary skill in the art in view of the drawings and specification herein.

BRIEF DESCRIPTION OF THE DRAWINGS

[0009] FIG. 1 is a frontal view of the preferred embodiment of the detachable funnel assembly affixed to a bottled water container in the inverted position.

[0010] FIG. 2a is a cross-sectional view of the detachable funnel assembly and bottled water container depicted in FIG. 1.

[0011] FIG. 2b is an enlarged view of the ring snap shown in FIG. 2a.

[0012] FIGS. 3a and 3b are exploded frontal views of the preferred embodiment of the detachable funnel assembly

separated from a bottled water container with the detachable funnel assembly in the inverted and funnel positions, respectively.

[0013] FIG. 4 is a frontal view of the preferred embodiment of the detachable funnel assembly affixed to a bottled water container in the funnel position.

[0014] FIG. 5 is a cross-sectional view of the detachable funnel assembly and bottled water container depicted in FIG. 4.

[0015] FIG. 6 is a frontal view of an alternate embodiment of the detachable funnel assembly affixed to a bottled water container in the inverted position.

[0016] FIG. 7 is a cross-sectional view of the detachable funnel assembly and bottled water container depicted in FIG. 6.

[0017] FIGS. 8a and 8b are exploded frontal views of an alternate embodiment of the detachable funnel assembly separated from a bottled water container with the detachable funnel assembly in the inverted and funnel positions, respectively.

[0018] FIG. 9 is a frontal view of an alternate embodiment of the detachable funnel assembly affixed to a bottled water container in the funnel position.

[0019] FIG. 10 is a cross-sectional view of the detachable funnel assembly and bottled water container depicted in FIG. 9.

DETAILED DESCRIPTION

[0020] The preferred embodiment is a detachable funnel assembly 10 as shown in FIGS. 1-5. As depicted in FIGS. 1 and 2, detachable funnel assembly 10 is shown in an inverted position affixed to bottled water container 12 for shipping and storage. Detachable funnel assembly 10 includes an open narrow end 14 and an open wide end 16. Detachable funnel assembly 12 is formed by sidewalls 18 having three sections: stem section 18a, middle section 18b, and mouth section 18c. Sidewalls 18 are configured to accept and detachably affix to bottled water container 12.

[0021] Mouth section 18c is sufficiently wide so that cap 20 of bottled water container 12 and top portion 22 of bottled water container 12 may pass through with ease. In contrast, stem section 18a is sufficiently narrow so that cap 20 may not pass through and is stopped by the top of stem section 18a.

[0022] As shown in FIGS. 2a and 2b, middle section 18b has a ring snap (also known as a snap joint) 26 thereon near intersection 28 with mouth section 18c. Ring snap 26 is located on middle section 18b such that the distance between ring snap 26 and intersection 30 of middle section 18b and stem section 18a is approximately but no less than the distance from the top (closed end) of cap 20 to just below bottle neck ring 32.

[0023] Ring snap 26 is configured to create a snap connection between detachable funnel assembly 10 and bottle neck ring 32. The snap connection is created by configuring snap ring 26 to have a slightly smaller inner diameter than the outer diameter of bottle neck ring 32. As bottle neck ring 32 passes through the portion of middle section 18b with snap ring 26, middle section 18b expands along with the diameter of ring snap 26. After bottle neck ring 32 passes through snap ring 26, snap ring 26 snaps back into place to hold detachable funnel assembly 10 to bottle water container 12. The snap connection may be released by pulling detachable funnel assembly 10 and bottled water container 12 in opposite directions.

[0024] The use of detachable funnel assembly is demonstrated in FIGS. 3-5. Once detachable funnel assembly 10 is removed from bottled water container 12, as shown in FIG. 3a, detachable funnel assembly may be re-attached to bottled

water container 12 for use as a funnel as shown in FIG. 3b. Cap 20 is removed from bottled water container 12 and stem section 18a of detachable funnel assembly 10 is inserted into container opening 24 of bottled water container 12 so that detachable funnel assembly 10 is set in the funnel position as shown in FIGS. 4-5. Supplements, in powder or liquid form, may be added to the contents of bottled water container 12 by pouring the supplements into mouth section 18c of detachable funnel assembly 10.

[0025] Detachable funnel assembly 10 is preferably formed PETE plastic material (preferably polypropylene or polyethylene) by an injection molding process, although other materials and processes may be used. Further, detachable funnel assembly 10 is sufficiently rigid to hold its shape when in use as a funnel, and yet, sufficiently flexible to expand slightly to allow the creation and release of the snap connection with bottled water container 12.

[0026] The preferred embodiment has the advantage of not disrupting the bottling process. Bottling companies may continue to bottle the water in the same manner as always without any modifications to bottled water container 12, as detachable funnel assembly 10 is simply snapped on top of bottled water containers 12 at the end of the assembly line after the water is bottled. The size of sidewall sections 18 are customized for the width and length of top portion 22 and container opening 24 of bottled water container 12 so that no re-tooling of the manufacturing of bottled water containers 12 is required.

[0027] An alternate embodiment requiring a modified bottled water container 112 is depicted in FIGS. 6-10. As depicted in FIGS. 6 and 7, detachable funnel assembly 110 is shown in an inverted position affixed to bottled water container 112 for shipping and storage. Detachable funnel assembly 110 includes an open narrow end 14 and an open wide end 116. Detachable funnel assembly 112 is formed by sidewalls 118 having three sections: stem section 118a, middle section 118b, and mouth section 118c. Sidewalls 118 are configured to accept and detachably affix to bottled water container 112.

[0028] Mouth section 118c is sufficiently wide so that cap 120 of bottled water container 112 and top portion 122 of bottled water container 112 may pass through with ease. In contrast, stem section 118a is sufficiently narrow so that cap 120 may not pass through and is stopped by the top of stem section 118a. Middle section 118b is configured to allow container opening to pass through unimpeded.

[0029] Stem section 118a is threaded on both the interior and exterior. Interior threads 126 are divided into two sections—stow threads 126a and use threads 126b, separated by ridge 128. Stow threads 126a are configured to accept exterior threads 130 of container opening 124 when detachable funnel assembly 110 is in its inverted position. Use threads 126b are configured to accept exterior threads 130 of container opening 124 when detachable funnel assembly 110 is in its use position. Ridge 128 prevents container opening 124 from passing too far through stem section 118a during both use and stowing. Exterior threads 132 are configured to accept interior threads 134 of cap 120 when detachable funnel assembly 110 is in its inverted position.

[0030] The use of detachable funnel assembly 110 is demonstrated in FIGS. 8-10. Once detachable funnel assembly 110 is removed from bottled water container 112 by unscrewing cap 120 from stow threads 126a of stem section 118a and unscrewing stem section 118a from container opening 124, as shown in FIG. 8a, detachable funnel assembly 110 may be re-attached to bottled water container 112 for use as a funnel as shown in FIG. 8b. With cap 120 removed from bottled water container 112, container opening 124 is screwed into

use threads 126b of stem section 118a so that detachable funnel assembly 110 is set in the funnel position as shown in FIGS. 9-10. Supplements, in powder or liquid form, may be added to the contents of bottled water container 112 by pouring the supplements into mouth section 18c of detachable funnel assembly 110.

[0031] The size of container opening sidewall sections 118 are customized for the width and length of top portion 122 and container opening 124 of bottled water container 112 so that re-tooling of the manufacturing of bottled water containers 112 is limited to re-tooling cap 20 to be sufficiently large to screw onto stem section 118a. This alternate embodiment has the advantage of having a fully integrated funnel and container such that the connection between detachable funnel assembly 110 and bottled water container 112 is well secured both in use and when stowed.

[0032] From the above description, it will be apparent that the invention disclosed herein provides a novel and advantageous detachable funnel assembly for bottled water containers. The foregoing discussion discloses and describes merely exemplary methods and embodiments of the present invention. One skilled in the art will readily recognize from such discussion that various changes, modifications and variations may be made therein without departing from the spirit and scope of the invention.

I claim:

1. A detachable funnel apparatus for use with a container, the container having a cap, with a closed end and an open end on top, removably attached to the container for maintaining liquids in the container, the apparatus comprising:

an open wide end;

an open narrow end; and

sidewalls connecting the open wide end to the open narrow end whereby materials poured into the open end pass through the sidewalls and out the open narrow end when the detachable funnel apparatus is coupled to the container;

wherein the sidewalls have an inner and outer side and include:

a stem section proximate to the open narrow end and configured to be sufficiently narrow so that the cap may not pass through and is stopped by the top of stem section;

a mouth section proximate to the open wide end and configured to be sufficiently wide to allow that the cap of the container and top portion of the container to pass through the open wide end;

a middle section located between the stem section and the mouth section configured to be sufficiently wide to allow that the cap of the container to pass through the middle section; and

a coupling mechanism on the inner side of the sidewalls in the middle section configured to detachably affix the apparatus to the container.

2. The apparatus of claim 1, wherein the coupling mechanism is a ring snap configured to create a snap connection between the apparatus and a neck ring on the container.

3. The apparatus of claim 2, wherein the ring snap is located on the middle section such that the distance between the ring snap and intersection of the middle section and the stem section is approximately but no less than the distance from the closed end of the cap to just below the neck ring.

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