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(54) **VERTICALLY STACKABLE WATER BOTTLE**

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(57) **ABSTRACT**

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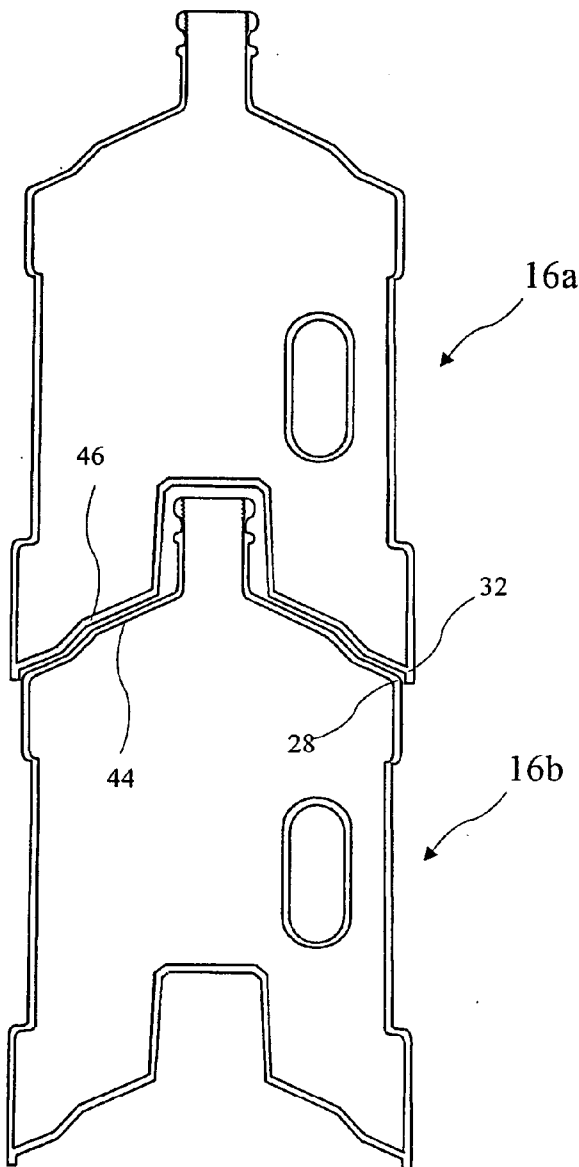
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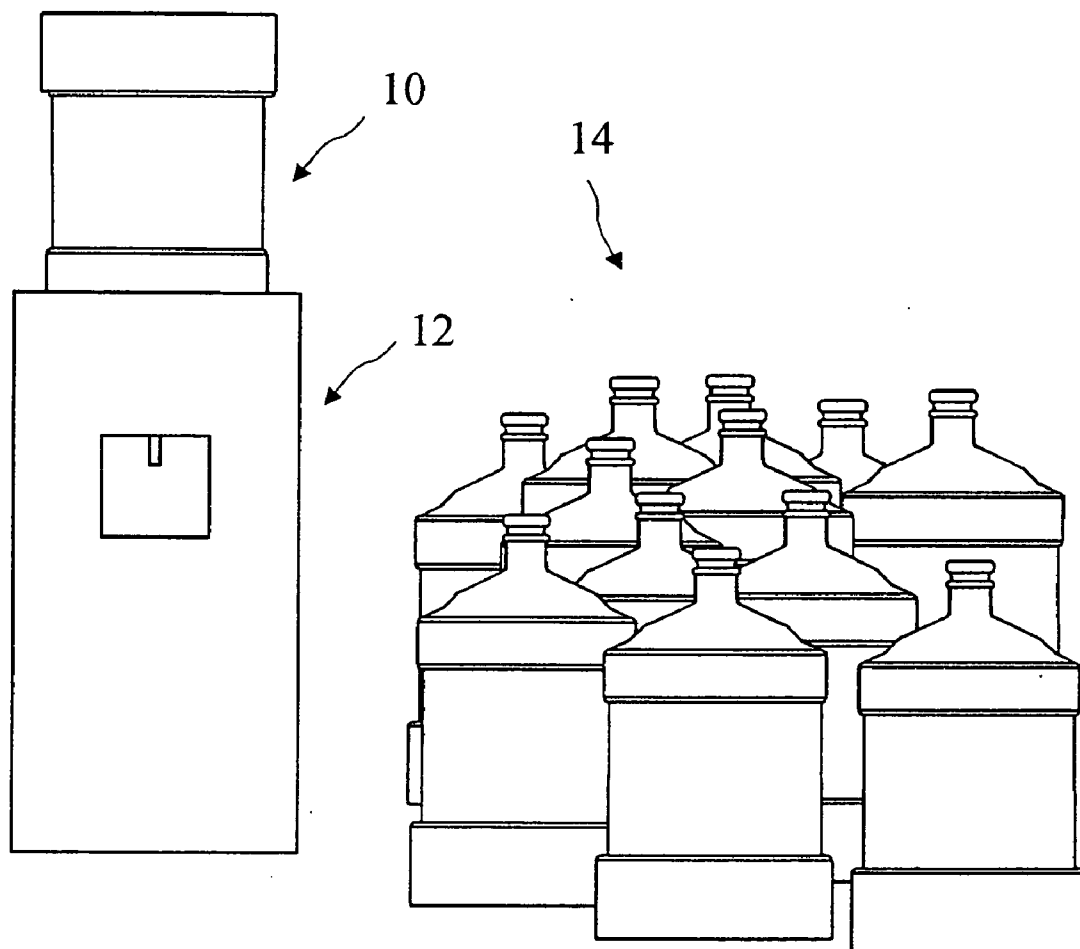
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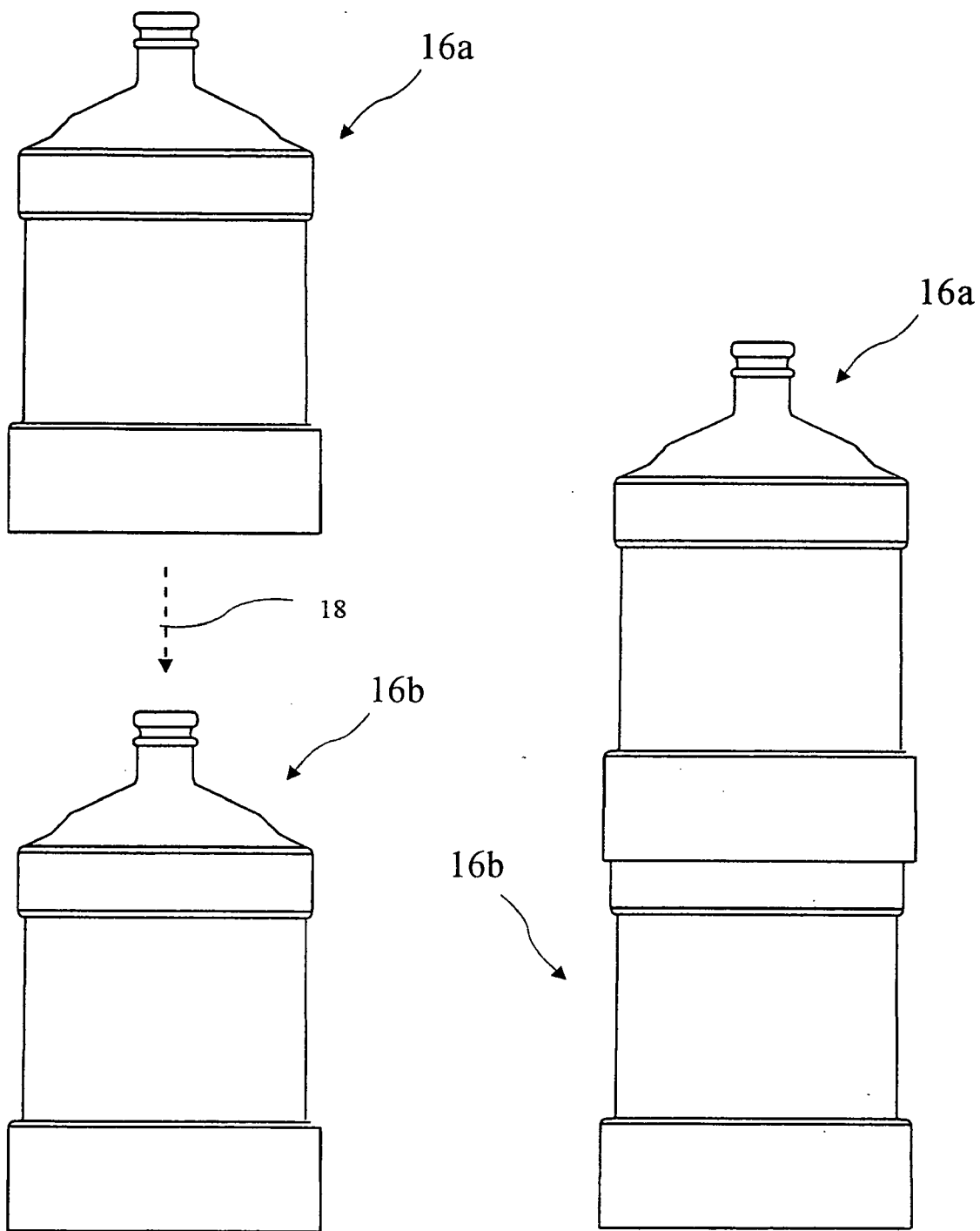
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A water bottle includes an intruding bottom portion allowing entry of a spout portion of another water bottle, and stacking surfaces for stably supporting vertically stacked water bottles. The water bottle neck is shaped for inverted cooperation with a water dispenser to release the water for drinking or cooking. An outside stacking surface at the bottom of the spout portion cooperates with an inside stacking surface at the base of the water bottle to provide stable support. The water bottle includes a molded in handle and the spout portion includes inside threads for a screw-on cap.



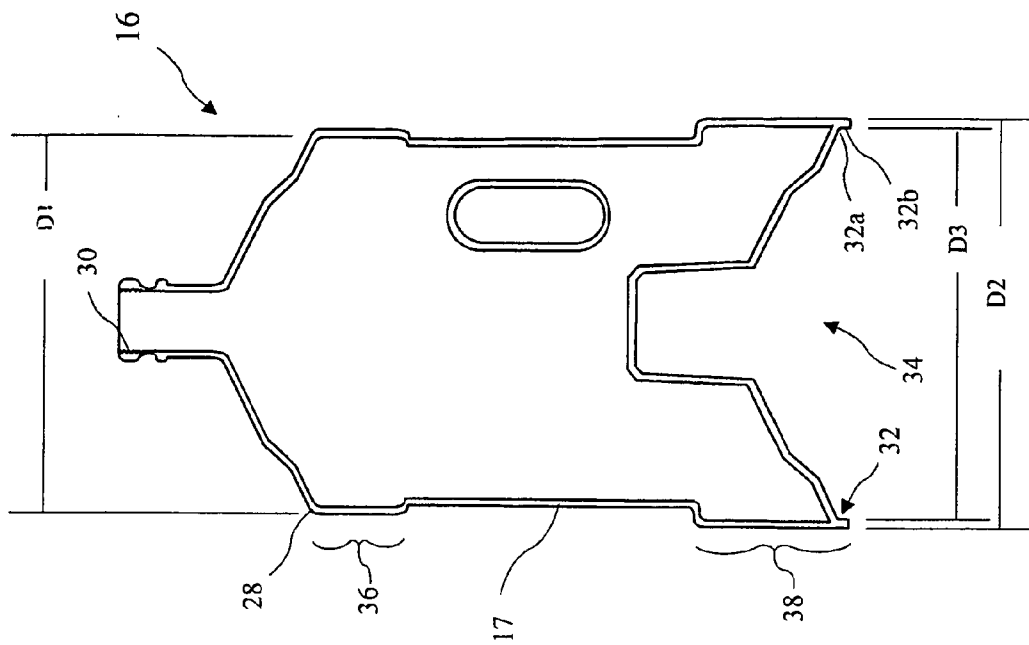


**FIG. 1**  
*(prior art)*

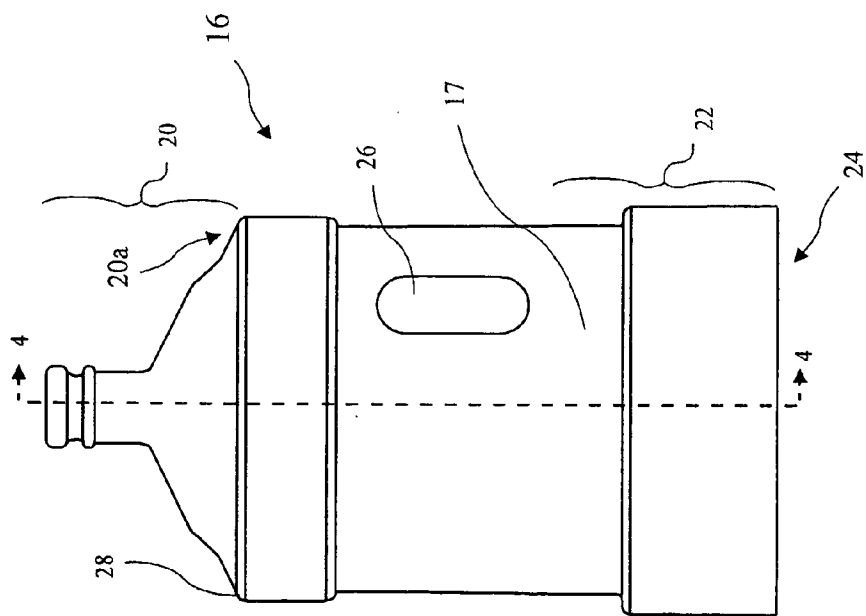


**FIG. 2A**

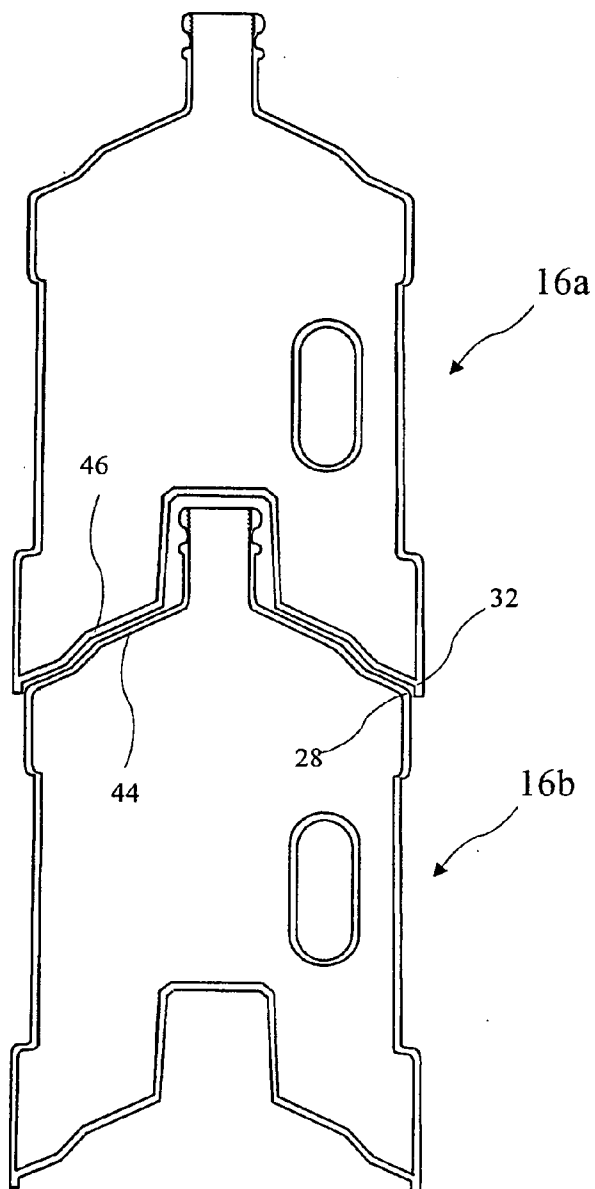
**FIG. 2B**



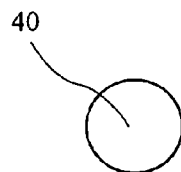
**FIG. 4**



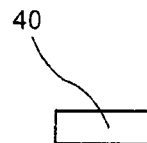
**FIG. 3**



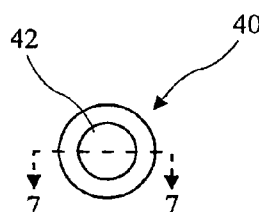
**FIG. 5**



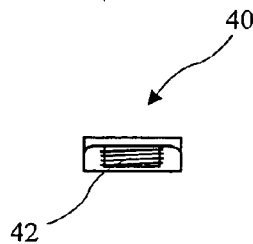
**FIG. 6A**



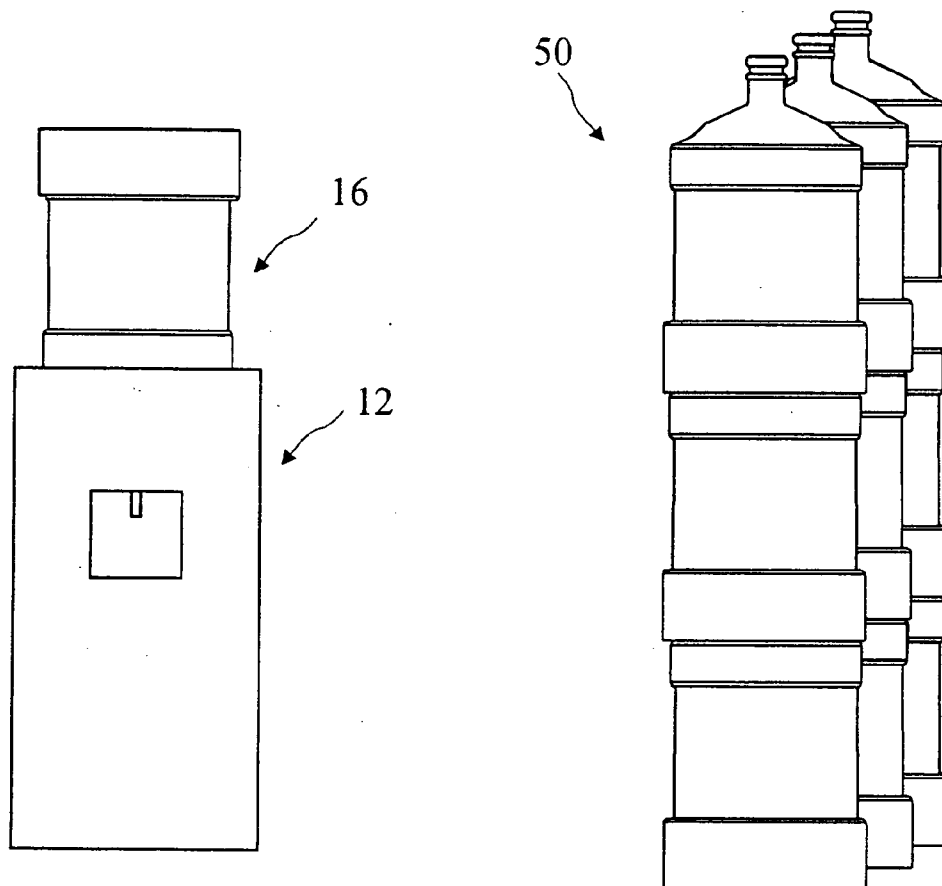
**FIG. 6B**



**FIG. 6C**



**FIG. 7**



**FIG. 8**

**VERTICALLY STACKABLE WATER BOTTLE**

**BACKGROUND OF THE INVENTION**

[0001] The present invention relates to storage of water bottles and in particular to singularly vertically stackable water bottles.

[0002] Water dispensers using water bottles are commonly used in households and in work places to provide a source of high quality drinking water and/or cooking water. In some instances, a large volume of water is rapidly consumed, and because full water bottle are only periodically delivered and empty water bottle are only periodically picked up, there is generally a number of full and/or empty water bottles requiring storage.

[0003] The bottles generally include a large tapered spout designed to cooperate with the water dispenser. The spout has a particular size and shape adapted to facilitate the inverted placing of the water bottles onto the dispenser, and the bottles are generally approximately five gallon bottles. Unfortunately, because the bottles are somewhat large and awkwardly shaped, known water bottles can only be stored side by side, and thus require substantial floor space for storage.

**BRIEF SUMMARY OF THE INVENTION**

[0004] The present invention addresses the above and other needs by providing a water bottle which includes an intruding bottom portion allowing entry of a spout portion of another water bottle, and stacking surfaces for stably supporting vertically stacked water bottles. The water bottle neck is shaped for inverted cooperation with a water dispenser to release the water for drinking or cooking. An outside stacking surface at the bottom of the spout portion cooperates with an inside stacking surface at the base of the water bottle to provide stable support. The water bottle includes a molded in handle and the spout portion includes inside threads for a screw-on cap.

[0005] In accordance with one aspect of the invention, there is provided a vertically stackable water bottle. The water bottle includes a bottle body for containing water, a vertically protruding spout portion of the bottle body adapted for inverted cooperation with a water dispenser to release the water into the water dispenser, and an intruding base portion of the bottle body shaped such that the base portion is adapted to accept the spout portion. A first stacking surface resides proximal to the spout portion and a second stacking surface resides proximal to the base portion. Cooperation of the first stacking surface and the second stacking surface is adapted to provide stable support to a first one of the stackable bottle when vertically stacked with a second one of the stackable bottle. A removable cap may be screwed on the spout portion.

[0006] In accordance with another aspect of the invention, there is provided a vertically stackable water bottle. The water bottle comprises a bottle body for containing water, a vertically protruding spout portion of the bottle body, and an intruding base portion of the bottle body shaped such that the base portion is adapted to accept the spout portion. The spout portion of the water body is adapted for inverted cooperation with a water dispenser to release the water into the water dispenser and a removable cap is screwed on the spout

portion. A lower belt of the bottle has a lower diameter which is approximately a maximum diameter of the bottle and an upper belt of the bottle having an upper diameter which is slightly smaller than the lower diameter of the lower belt. A first stacking surface comprises an upper outside edge of the upper belt and a second stacking surface comprises a lower inside edge adjacent to a lower outside edge of the lower belt. Cooperation of the first stacking surface and the second stacking surface is adapted to provide stable support to a first one of the stackable bottle when vertically stacked with a second one of the stackable bottle.

**BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING**

[0007] The above and other aspects, features and advantages of the present invention will be more apparent from the following more particular description thereof, presented in conjunction with the following drawings wherein:

[0008] **FIG. 1** is a prior art water bottle and stored prior art water bottles.

[0009] **FIG. 2A** depicts stacking vertically stackable water bottles according to the present invention.

[0010] **FIG. 2B** depicts stacked vertically stackable water bottles according to the present invention.

[0011] **FIG. 3** is a detailed view of the vertically stackable water bottle.

[0012] **FIG. 4** is a cross-sectional view of the vertically stackable water bottle taken along line 4-4 of **FIG. 3**.

[0013] **FIG. 5** is a cross-sectional view of two stacked vertically stackable water bottle taken along line 4-4 of **FIG. 3**.

[0014] **FIG. 6A** is a top view of a cap for the vertically stackable water bottle.

[0015] **FIG. 6B** is a side view of the cap for the vertically stackable water bottle.

[0016] **FIG. 6C** is a bottom view of the cap for the vertically stackable water bottle.

[0017] **FIG. 7** is a cross-sectional view of the cap taken along line 7-7 of **FIG. 6C**.

[0018] **FIG. 8** shows the vertically stackable water bottle in a water dispenser and a number of vertically stackable water bottles stored by vertically stacking.

[0019] Corresponding reference characters indicate corresponding components throughout the several views of the drawings.

**DETAILED DESCRIPTION OF THE INVENTION**

[0020] The following description is of the best mode presently contemplated for carrying out the invention. This description is not to be taken in a limiting sense, but is made merely for the purpose of describing one or more preferred embodiments of the invention. The scope of the invention should be determined with reference to the claims.

[0021] A prior art water bottle **10** residing in a water dispenser **12**, and stored prior art water bottles **14**, are shown in **FIG. 1**. The water bottle **10** is inverted and inserted into

the top of the water dispenser 12 to provide water for drinking and for cooking. The stored water bottles 14 reside side by side on the floor, thus requiring a large amount of space for their storage. Because the water bottles 10 are recycled, both full and empty water bottles must be stored. The prior art water bottle 10 typically have an interior volume of approximately five gallons.

[0022] Two vertically stackable water bottles 16 according to the present invention are shown in FIG. 2A. A first vertically stackable water bottle 16a is shown above a second vertically stackable water bottle 16b. The first vertically stackable water bottle 16a may be lowered along arrow 18 to stack the vertically stackable water bottles 16a and 16b. The stacked vertically stackable water bottles are shown in FIG. 2B. The vertically stackable water bottle 16 preferably has an interior volume of approximately five gallons.

[0023] A detailed view of the vertically stackable water bottle 16 is shown in FIG. 3. The water bottle 16 comprises a bottle body 17 including a spout portion 20 and a base portion 22. The spout portion 20 is shaped to invertedly cooperate with the water dispenser 12 (see FIG. 1) to allow water to be dispensed from the water bottle 16 through the water dispenser 12. The base portion 22 intrudes into the bottle body 17 to allow the spout portion 20 of the second water bottle 16b to be inserted into the bottom of the first water bottle 16a for vertically stacking (see FIGS. 2A and 2B). A first stacking surface (or outside ring or shoulder) 28 resides proximal to the spout portion 20, and preferably resides proximal to a bottom edge 20a of the spout portion 20. The first stacking surface 28 is substantially circular, and is preferably circular within the bounds of normal manufacturing tolerances. A base 24 resides at the bottom of the bottle body 17 and a handle 26 is molded into the bottle body 17 for carrying the water bottle 16.

[0024] A cross-sectional view of the vertically stackable water bottle taken along line 4-4 of FIG. 3 is shown in FIG. 4. A second stacking surface (or inside ring) 32 resides proximal to the base portion 22 of the bottle body 17, and more preferably proximal to the bottom of the base portion 17 or proximal to the base 24 (see FIG. 3) of the bottle body 17. The bottle body 17 includes an upper belt 36 residing below the spout portion 20 and a lower belt 38 residing above the base 24. The lower belt 38 has a lower outer diameter D2 which is approximately the maximum diameter of the bottle body 17, and the upper belt 36 has an upper outer diameter D1 which is slightly smaller than the lower diameter D2, and preferably approximately one half inch smaller than the lower diameter D2. The second stacking surface 32 has an inside diameter D3 which is approximately one half inch smaller than the diameter D2. The second stacking surface 32 may further include an inwardly curved portion 32a immediately above a cylindrical portion 32b.

[0025] A cross-sectional view of two stacked vertically stackable water bottles 16a and 16b taken along line 4-4 of FIG. 3 is shown in FIG. 5. A base surface 46 of the base portion 22 of the water bottle 16a may reside above a spout surface 44 of the spout portion 20 of the water bottle 16b supported by the cooperation of the first stacking surface 28 with the second stacking surface 32, or the base surface 46 of the base portion 22 of the water bottle 16a may reside on the spout surface 44 of the spout portion 20 of the water

bottle 16b providing support to the water bottle 16a. Preferably, the first stacking surface 28 of the water bottle 16b provides stable support to the second stacking surface 32 of the water bottle 16a.

[0026] A top view of a cap 40 for the water bottle 16 is shown in FIG. 6A, a side view of the cap 40 is shown in FIG. 6B, a bottom view of the cap 40 is shown in FIG. 6C, and a cross-sectional view of the cap 40 taken along line 7-7 of FIG. 6C is shown in FIG. 7. The cap 40 includes outside threads 42 for cooperation with the inside threads 30 (see FIG. 4) to removably attach the cap 40 to the bottle body 17.

[0027] The vertically stackable water bottle 16 in the water dispenser 12 and a number of vertically stackable water bottles stored by vertically stacking 50 are shown in FIG. 8. By vertically stacking the water bottles 16, the amount of floor space required for storing the water bottles 16 is significantly reduced.

[0028] While the invention herein disclosed has been described by means of specific embodiments and applications thereof, numerous modifications and variations could be made thereto by those skilled in the art without departing from the scope of the invention set forth in the claims.

I claim:

1. A vertically stackable bottle comprising:

a bottle body for containing liquid;

a vertically protruding spout portion of the bottle body for releasing the liquid;

an intruding base portion of the bottle body shaped such that the base portion is adapted to accept the spout portion;

a first stacking surface proximal to the spout portion; and

a second stacking surface proximal to the base portion, wherein cooperation of the first stacking surface and the second stacking surface is adapted to provide stable support to a first one of the stackable bottle when vertically stacked with a second one of the stackable bottle.

2. The vertically stackable bottle of claim 1, wherein the spout portion of the bottle body is adapted for inverted cooperation with a drink dispenser to release the liquid.

3. The vertically stackable bottle of claim 1, wherein the spout portion of the bottle body includes inside threads for attaching a cap.

4. The vertically stackable bottle of claim 1, wherein the first stacking surface comprises an outside ring proximal to a spout bottom edge of the spout portion and the second stacking surface comprises an inside ring proximal to a bottle bottom edge of the stackable bottle.

5. The vertically stackable bottle of claim 1, wherein the outside ring and the inside ring are substantially circular.

6. The vertically stackable bottle of claim 1, wherein:

bottle body includes an upper belt and a lower belt;

the lower belt of the bottle has a lower diameter which is approximately a maximum diameter of the bottle; and

the upper belt of the bottle had an upper diameter which is slightly smaller than the lower diameter of the lower belt.



7. The vertically stackable bottle of claim 6, wherein the upper diameter of is approximately one half inches smaller than the lower diameter.

8. The vertically stackable bottle of claim 6, wherein:  
the first stacking surface comprises an upper outside edge of the upper belt; and

the second stacking surface comprises a lower inside edge adjacent to a lower outside edge of the lower belt.

9. The vertically stackable bottle of claim 8, wherein the upper outside edge and the lower inside edge are substantially circular.

10. The vertically stackable bottle of claim 1, wherein cooperation of the spout portion and the base portion is adapted to provide additional support to the first one of the stackable bottle when vertically stacked with the second one of the stackable bottle.

11. A vertically stackable water bottle comprising:  
a bottle body for containing water;  
a vertically protruding spout portion of the bottle body adapted for inverted cooperation with a water dispenser to release the water into the water dispenser;  
a removable cap residing on the spout portion;  
an intruding base portion of the bottle body shaped such that the base portion is adapted to accept the spout portion;  
a first stacking surface proximal to the spout portion; and  
a second stacking surface proximal to the base portion, wherein cooperation of the first stacking surface and the second stacking surface is adapted to provide stable support to a first one of the stackable bottle when vertically stacked with a second one of the stackable bottle.

12. The vertically stackable water bottle of claim 11, wherein the spout portion of the bottle body includes inside threads for attaching the cap.

13. The vertically stackable bottle of claim 11, wherein cooperation of the spout portion and the base portion is adapted to provide additional support to the first one of the stackable bottle when vertically stacked with the second one of the stackable bottle.

14. A vertically stackable water bottle comprising:  
a bottle body for containing water;  
a vertically protruding spout portion of the bottle body adapted for inverted cooperation with a water dispenser to release the water into the water dispenser;  
a removable cap residing on the spout portion;  
an intruding base portion of the bottle body shaped such that the base portion is adapted to accept the spout portion;  
a lower belt, the lower belt of the bottle having a lower diameter which is approximately a maximum diameter of the bottle;  
an upper belt, the upper belt of the bottle had an upper diameter which is slightly smaller than the lower diameter of the lower belt;  
a first stacking surface comprising an upper outside edge of the upper belt; and  
a second stacking surface comprising a lower inside edge adjacent to a lower outside edge of the lower belt, wherein cooperation of the first stacking surface and the second stacking surface is adapted to provide stable support to a first one of the stackable bottle when vertically stacked with a second one of the stackable bottle.

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