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Smiley et al.(10) **Pub. No.: US 2005/0045657 A1**(43) **Pub. Date: Mar. 3, 2005**(54) **SQUEEZE BOTTLE****Publication Classification**(76) Inventors: **Charles F. Smiley**, Waunakee, WI  
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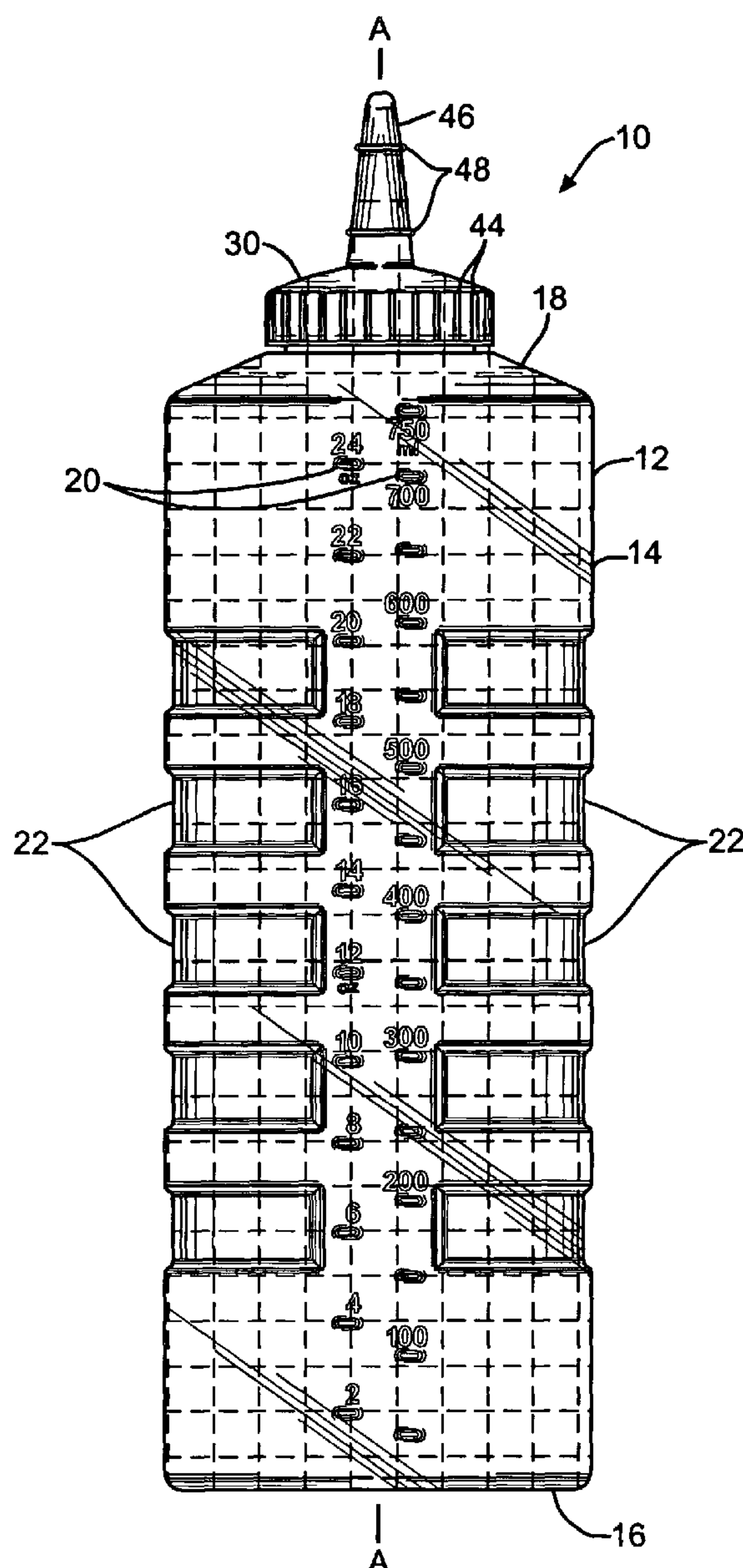
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**ABSTRACT**

A squeeze bottle having a container and a cap for containing and dispensing a viscous liquid such as a food condiment or sauce. The container is constructed of a transparent flexible plastic material including a container colorant. The cap is positioned on the container. The cap is constructed of a rigid plastic material including a cap colorant matching the container colorant. The cap includes a tip to allow flow of the viscous liquid from the container through the cap.

(21) Appl. No.: **10/649,446**(22) Filed: **Aug. 25, 2003**

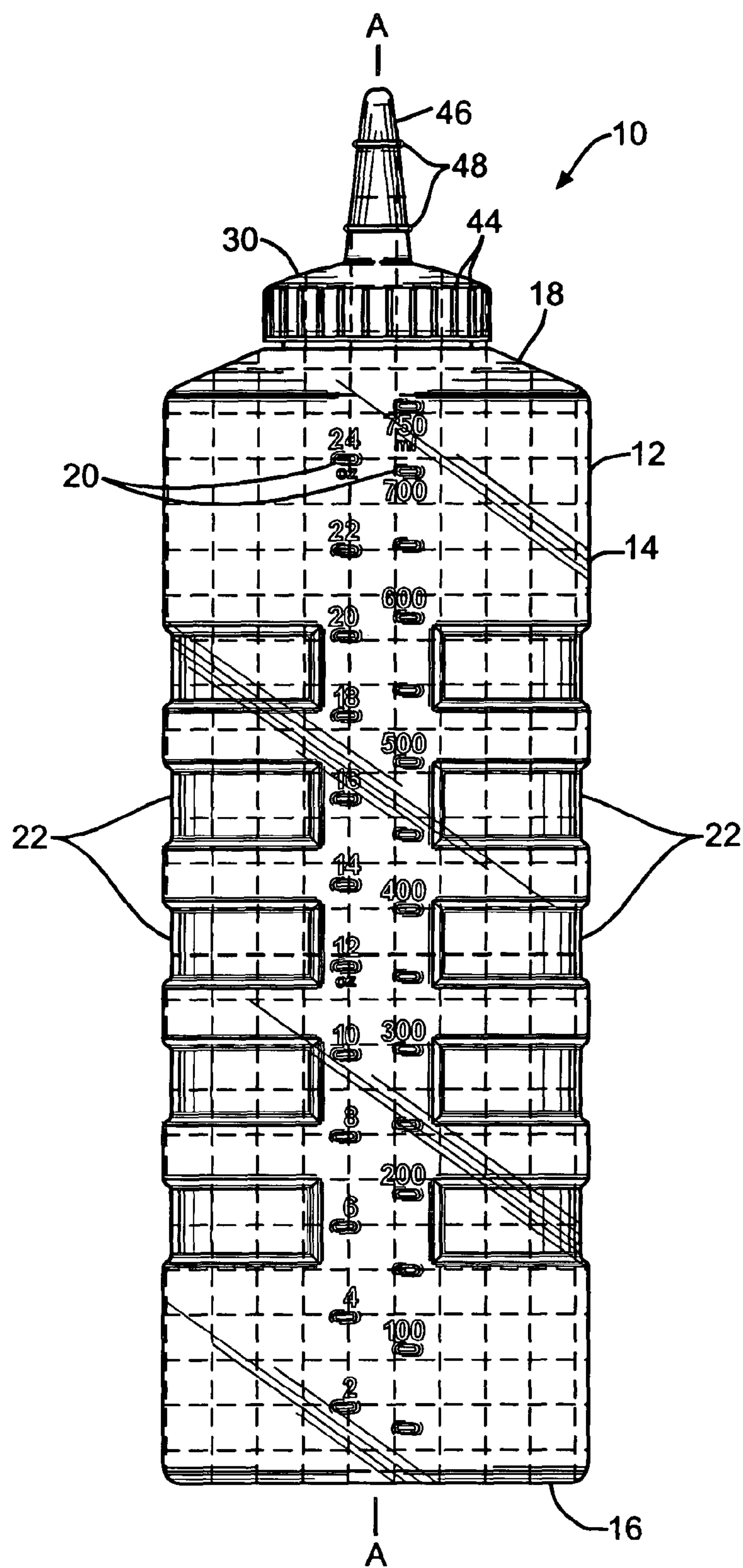


FIG. 1

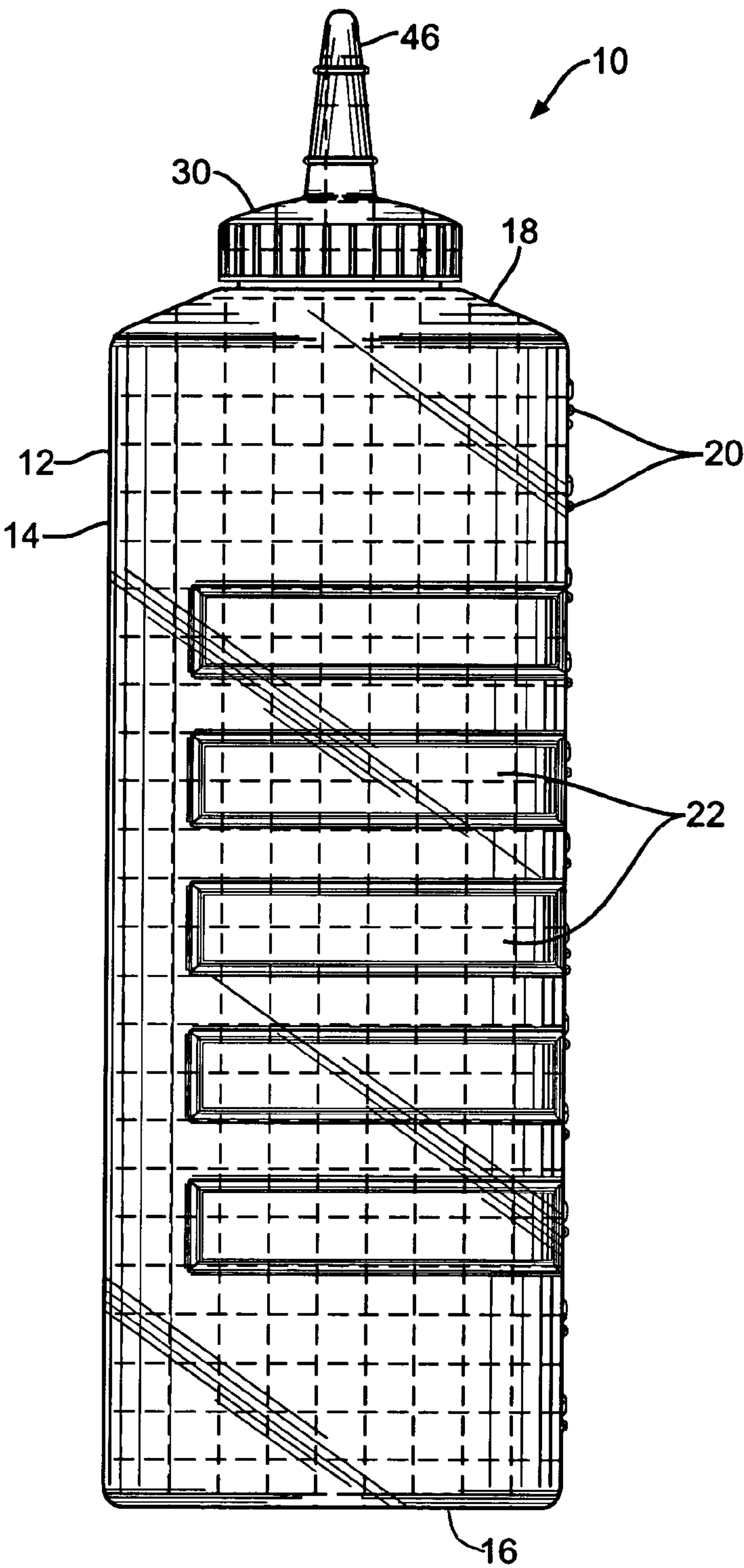


FIG. 2





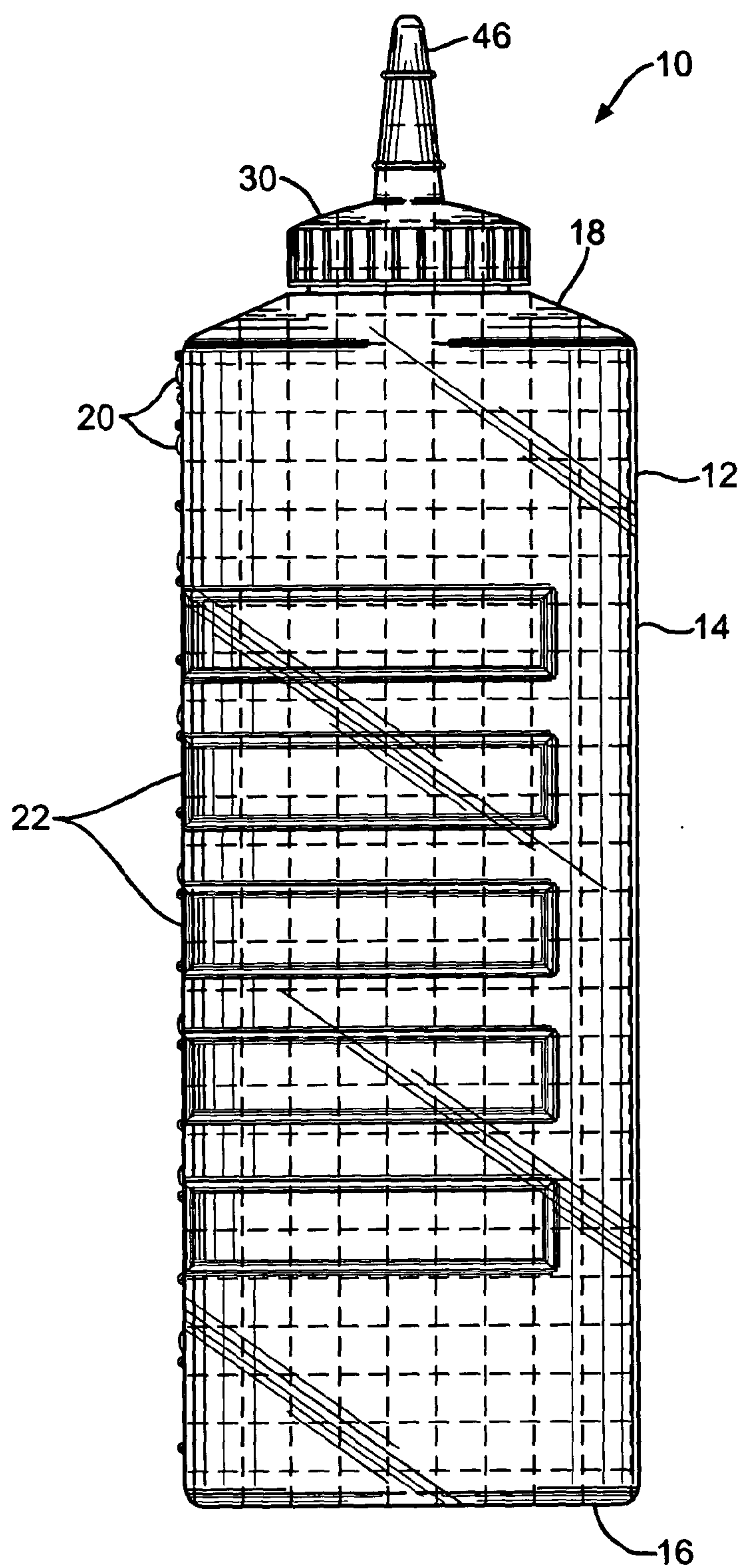


FIG. 4

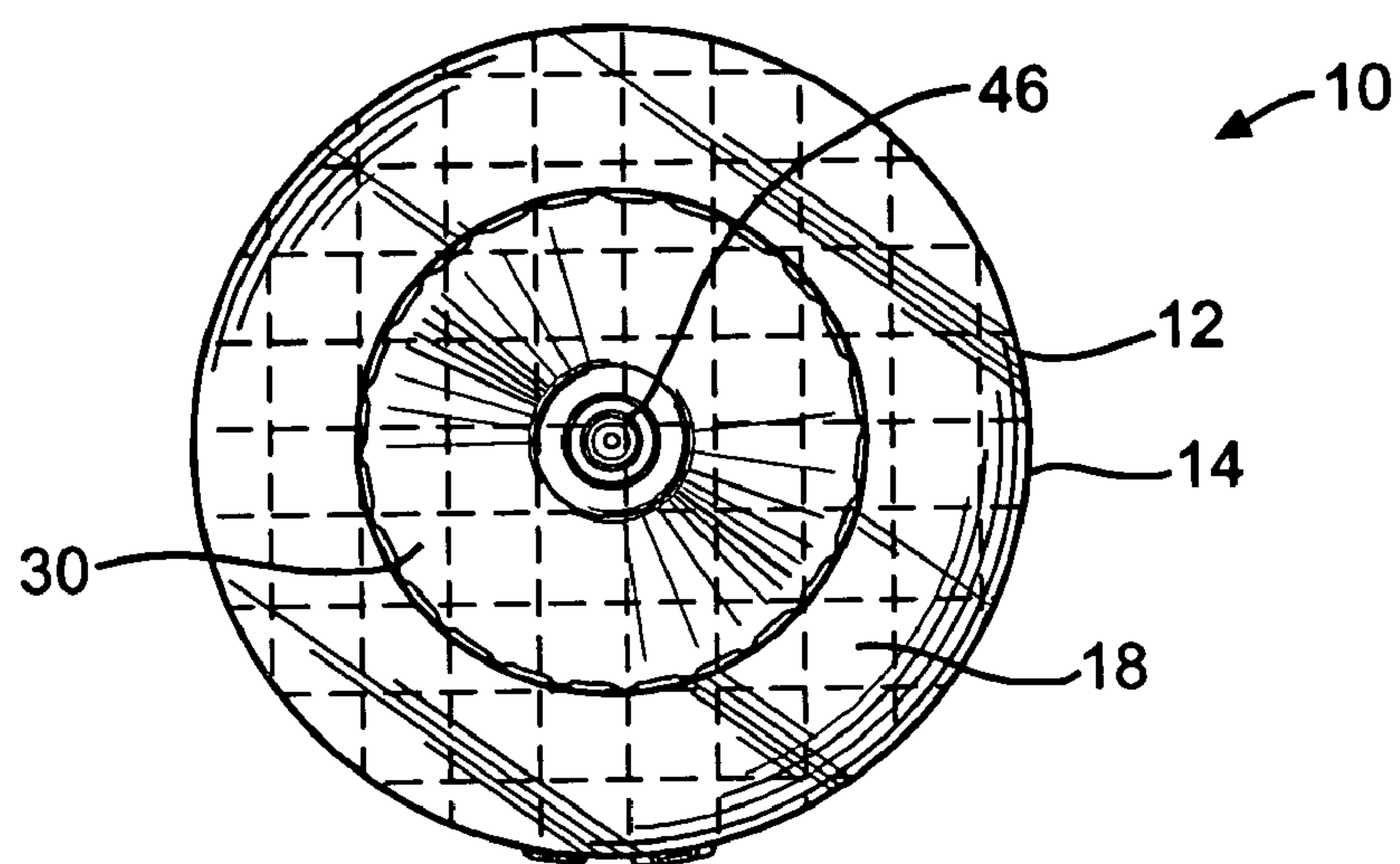


FIG. 5

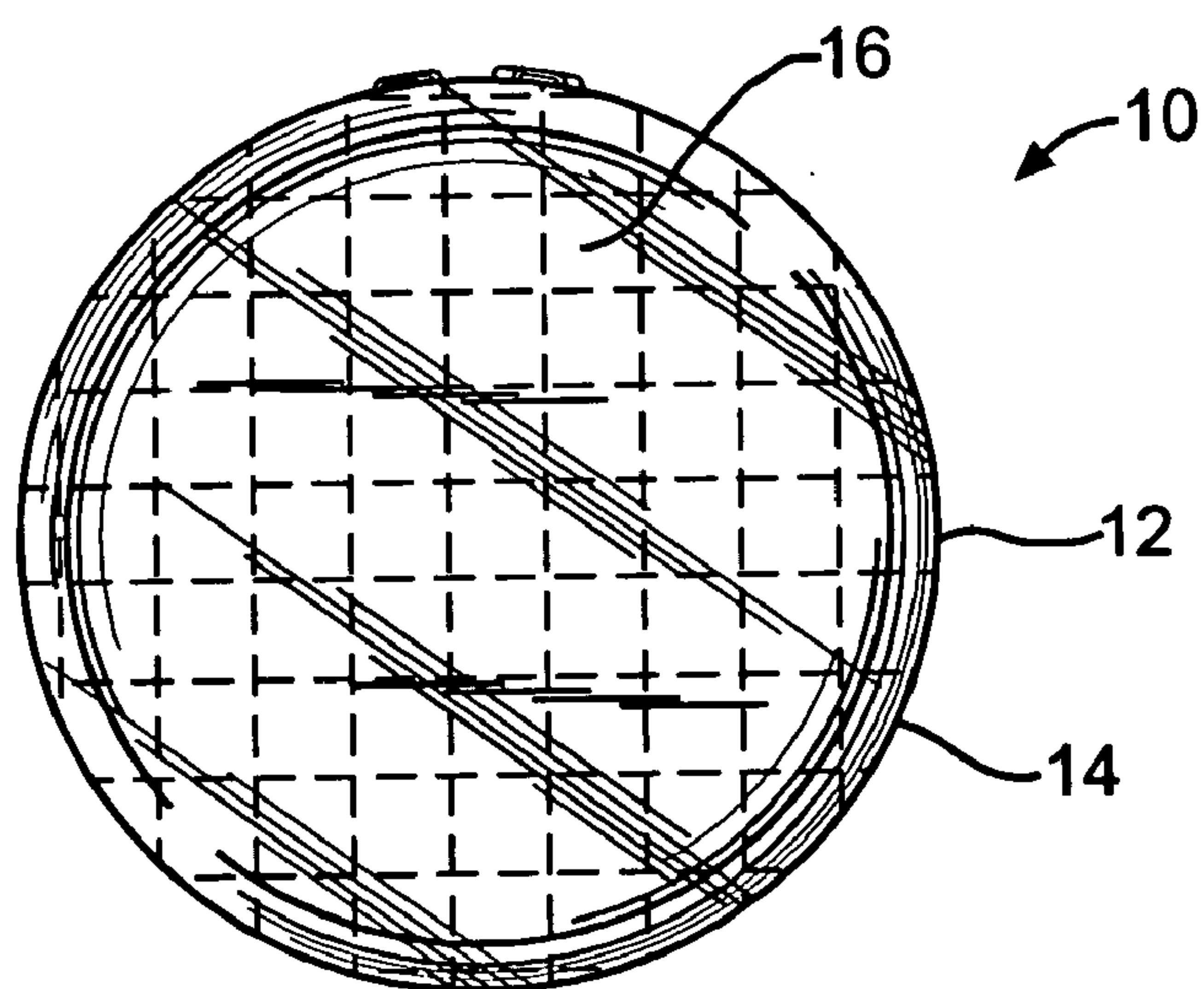


FIG. 6

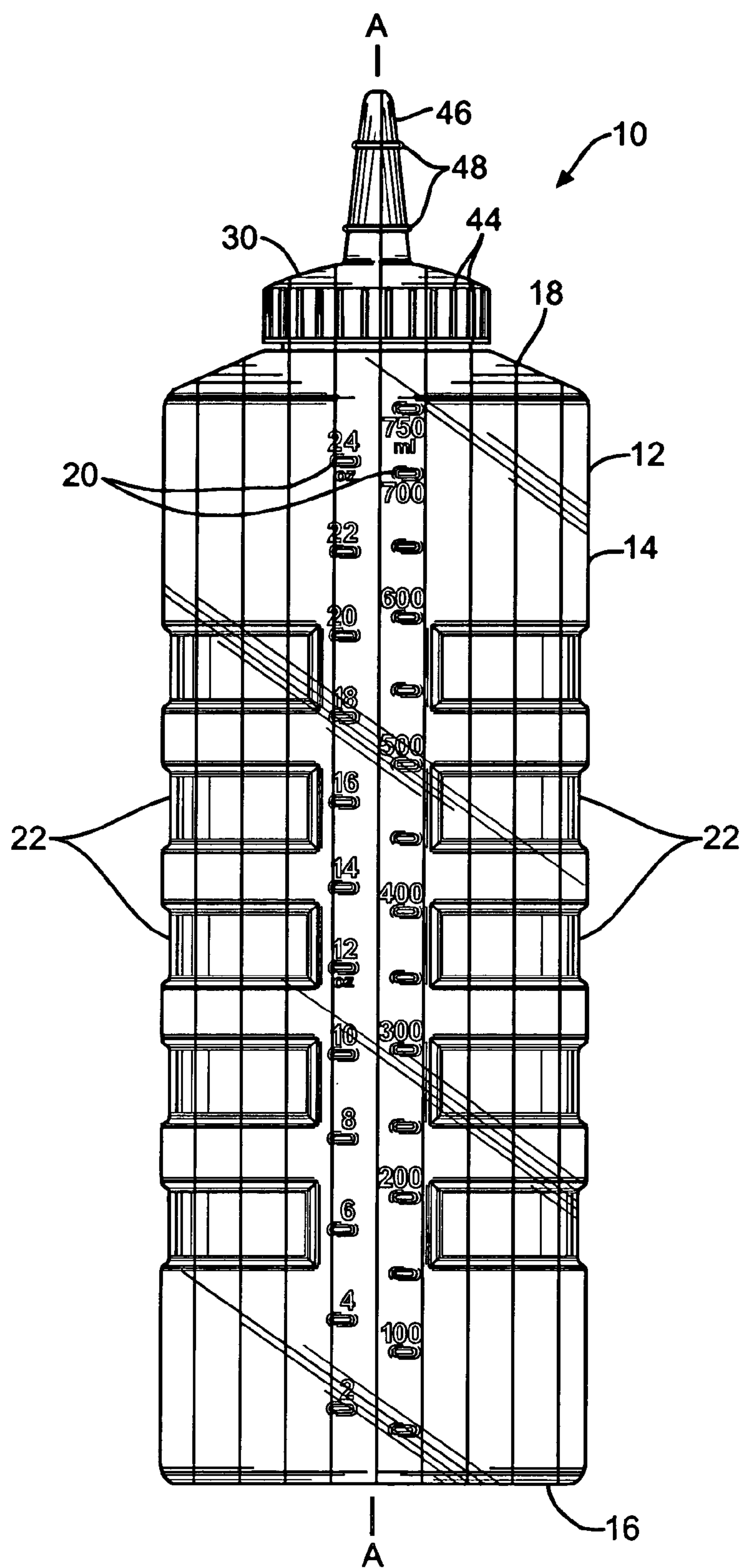


FIG. 7

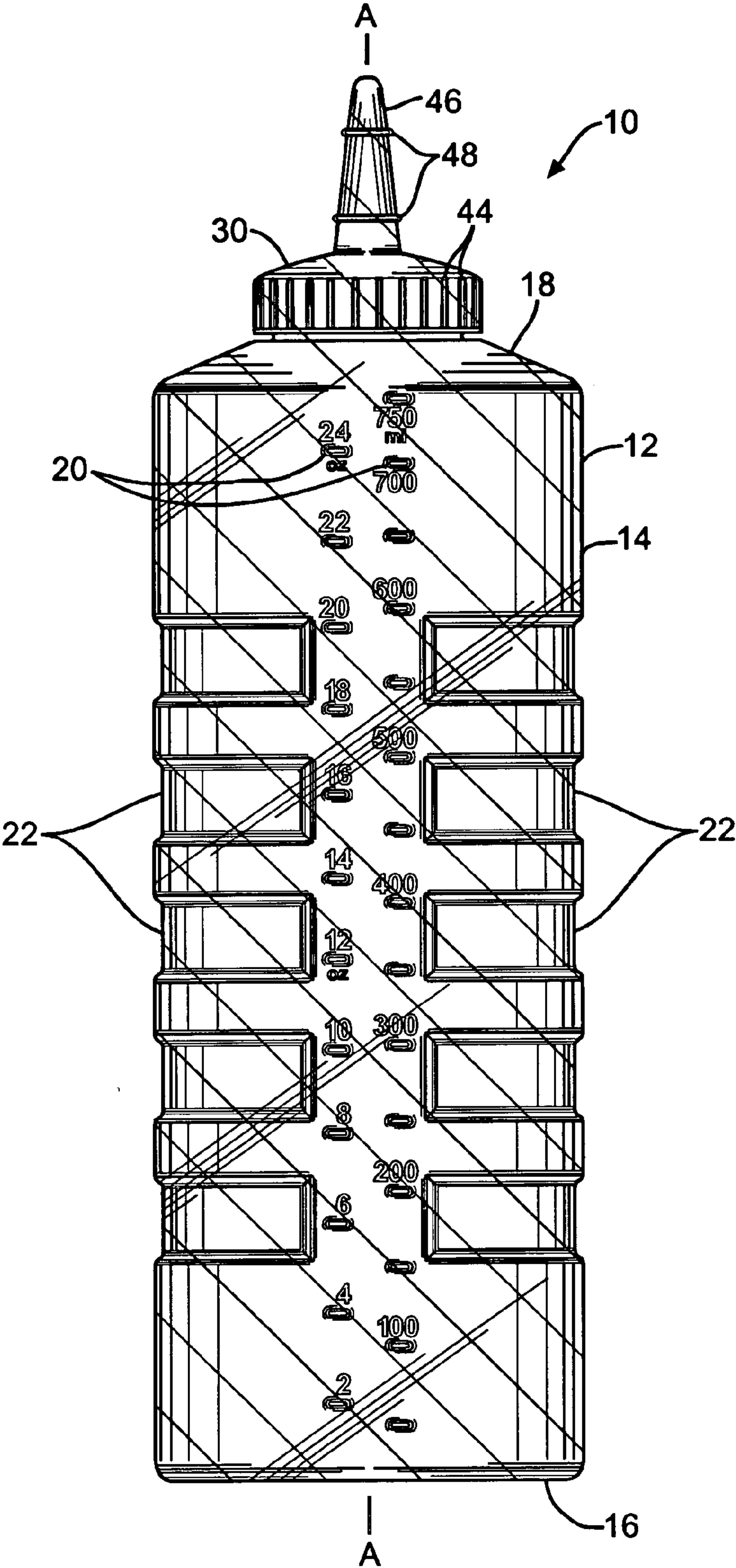


FIG. 8





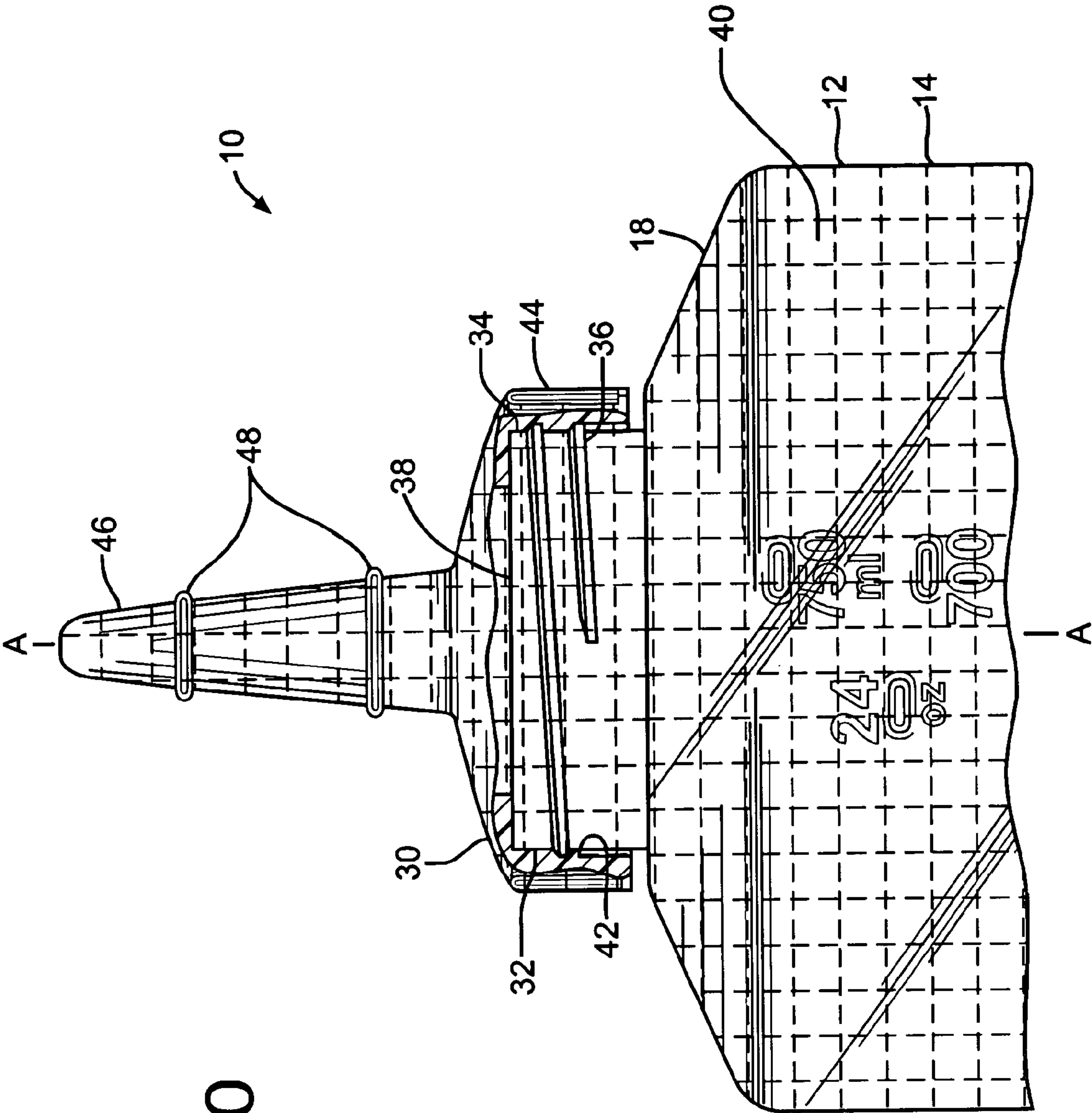


FIG. 10



## SQUEEZE BOTTLE

### BACKGROUND OF THE INVENTION

[0001] The present invention relates generally to squeeze bottles. More particularly, the invention is directed to a squeeze bottle for containing and dispensing a viscous liquid such as food condiments and sauces.

[0002] It has been found that there are problems with the matching of caps and containers for squeeze bottles. There have also been problems with identifying the types of condiments or sauces contained in squeeze bottles that have been grouped together. Several attempts have been made to identify contents by using labels or markings. Small identification collars have also been used between containers and caps. These methods are faulty because the labels and markings fall off, wear off or become unreadable. In the case of the identification collars, there is no assurance that the cap and appropriate container become reunited after cleaning. These methods often result in additional cost and labor.

[0003] In some cases, such as with ketchup and mustard, the cap and the container have been colored opaque red and yellow, respectively. These types of bottles have failed to provide a system of coordination for the many other condiments and sauces that are now being used in addition to ketchup and mustard. Further, the opaque materials used for the containers of these types of squeeze bottles make it visually impossible to ascertain the amount of the condiment or sauce left in the container. This requires the operator to physically open the squeeze bottle or pick up the squeeze bottle to determine the amount. Accordingly, there is a need for a squeeze bottle that eliminates the above-identified problems. The present invention satisfies this need.

### SUMMARY OF THE INVENTION

[0004] The present invention is directed to a squeeze bottle for containing and dispensing a viscous liquid such as a food condiment or sauce. The squeeze bottle includes a container constructed of a substantially transparent flexible plastic material. A container colorant is included in the flexible plastic material.

[0005] The squeeze bottle further includes a cap positioned on the container. The cap is constructed of a rigid plastic material. A cap colorant that matches the container colorant is included in the rigid plastic material. The cap has a tip to allow flow of the viscous liquid from the container through the cap.

[0006] The primary object of the present invention is to provide a squeeze bottle for containing and dispensing a viscous liquid that includes a container constructed of a substantially transparent colored flexible plastic material and a matching cap.

[0007] Other objects and advantages of the present invention shall become apparent to those skilled in the art upon a review of the following detailed description of the preferred embodiments and the accompanying drawings.

### BRIEF DESCRIPTION OF THE DRAWINGS

[0008] FIG. 1 is a front elevational view of a squeeze bottle according to the present invention that includes the symbol for yellow;

[0009] FIG. 2 is a first side elevational view thereof;

[0010] FIG. 3 is a back elevational view thereof;

[0011] FIG. 4 is a second side elevational view thereof;

[0012] FIG. 5 is a top view thereof;

[0013] FIG. 6 is a bottom view thereof;

[0014] FIG. 7 is a second embodiment squeeze bottle according to the present invention that includes the symbol for red;

[0015] FIG. 8 is a third embodiment squeeze bottle according to the present invention that includes the symbol for green;

[0016] FIG. 9 is a fourth embodiment squeeze bottle according to the present invention that includes the symbol for brown; and

[0017] FIG. 10 is a detailed view of the container and the cap of a squeeze bottle according to the present invention.

### DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0018] The preferred embodiments and best mode of the present invention will now be described in detail with reference being made to the drawings. The squeeze bottle according to the present invention is indicated generally in the drawings by the reference number "10".

[0019] Referring to FIGS. 1-6, the squeeze bottle 10 includes a container 12 having a cylindrical wall 14 that extends longitudinally along an axis A-A, a base 16 and a top 18. The container 12 is constructed of a transparent flexible plastic material that includes a container colorant at a predetermined ratio with respect to the flexible plastic material. The term "transparent" as used herein is defined as the ability to see through an object.

[0020] In a preferred embodiment, the flexible plastic material of the container 12 is a clarified low-density polyethylene (LDPE). It has been found that LDPE provides the necessary flexibility to allow the container 12 to be squeezed while allowing it to retract to its original position. This material is also important because it allows the container 12 to be transparent.

[0021] As shown in FIGS. 1-6, a container colorant such as a yellow pigment is included in the flexible plastic material at a predetermined ratio with respect to the flexible plastic material. In a preferred embodiment, the predetermined ratio is in a range from about 1% to about 4%, by volume, of the container colorant to the flexible plastic material. It has been found that this predetermined ratio allows the plastic material of the container 12 to be transparent while allowing the plastic material to have a yellow color, tint or tone.

[0022] As shown in FIG. 1, the cylindrical wall 14 includes volumetric indicia in both standard and metric units of measurement. The container 12 can be a variety of shapes and sizes. In the embodiment shown in FIG. 1, the container 12 has a 24-ounce capacity.

[0023] As shown in FIGS. 1-4, the wall 14 of the container 12 includes one or more gripping members 22. In a preferred embodiment, each side of the container 12



includes five gripping members **22** that are opposed to one another. The gripping members **22** allow the container **12** to be firmly held by the operator.

[0024] Referring to **FIGS. 1-5** and **10**, the squeeze bottle **10** includes a cap **30** positioned on the container **12**. As shown in **FIG. 10**, the top **18** of the container **12** includes a cylindrical neck **32** that extends along axis A-A. The neck **32** has an exterior surface **34** that includes threads **36**. The neck **32** includes a neck opening **38** that provides an opening to the interior **40** of the container **12**. The cap **30** includes threads **42** that are sized and adapted to mate with the threads **36** of the neck **32**. As it will be appreciated, this allows the cap **30** to be attached to the neck **32**. As shown in **FIG. 1**, the cap **30** includes one or more friction members **44** to allow an operator to firmly grasp the cap **30**.

[0025] Still referring to **FIGS. 1** and **10**, the cap **30** includes a conically shaped tip **46** that extends longitudinally along axis A-A. The tip **46** includes one or more guides **48** for cutting the tip to create an opening. The guides **48** can be used to create either a small opening near the top of the tip **46** or a large opening near the bottom of the tip due to the conical shape of the tip. Other openings can be made between the top and the bottom of the tip **46**. In an alternate embodiment, the tip **46** can be precut at the place of manufacture.

[0026] As shown in **FIG. 1**, the cap **30** is constructed of a rigid plastic material that includes a cap-colorant that matches the container colorant. In a preferred embodiment, the rigid plastic material is an opaque high-density polyethylene (HDPE). It has been found that HDPE is suitable because it is durable and long lasting.

[0027] Referring to **FIGS. 1-6**, the cap **30** includes a cap colorant such as a yellow pigment to match the container colorant of the container **12**. In this embodiment, the squeeze bottle **10** as shown in **FIGS. 1-6** is particularly applicable to contain and dispense mustard. An operator would quickly and easily recognize the yellow-colored container **12** and the matching cap **30** as a squeeze bottle for mustard. An operator would also be able to readily determine the amount of mustard in the transparent container **12**. The tip **46** of the cap **30** can be cut to allow a desired flow of mustard from the container **12** through the tip **46**. When the squeeze bottle **10** is cleaned, the container **12** can be easily and quickly matched with the cap **30** having the desired opening in the tip **46**. In addition to the functional features, the squeeze bottle **10** has a pleasing aesthetic appearance.

[0028] Referring to **FIG. 7**, a second embodiment squeeze bottle **10** is shown. In this embodiment, the container colorant of the container **12** and the cap colorant of the cap **30** are red pigments. This allows the second embodiment to be particularly applicable for use with ketchup.

[0029] A third embodiment squeeze bottle **10** is shown in **FIG. 8**. In this embodiment, the container colorant of the container **12** and the cap colorant of the cap **30** are green pigments. The third embodiment is particularly applicable for use with relish.

[0030] A fourth embodiment squeeze bottle **10** is shown in **FIG. 9**. In this embodiment, the container colorant of the container **12** and the cap colorant of the cap **30** are brown

pigments. The fourth embodiment squeeze bottle **10** is particularly applicable for use with barbeque sauce.

[0031] It should be understood that a squeeze bottle **10** according to the present invention can include a wide variety of container and cap colorants. Accordingly, the colorants are not limited to the four colorants described above.

[0032] The above detailed description of the present invention is given for explanatory purposes. It will be apparent to those skilled in the art that numerous changes and modifications can be made without departing from the scope of the invention. Accordingly, the whole of the foregoing description is to be construed in an illustrative and not a limitative sense, the scope of the invention being defined solely by the appended claims.

We claim:

1. A squeeze bottle for containing and dispensing a viscous liquid comprising:

a container constructed of a substantially transparent flexible plastic material including a container colorant at a predetermined ratio with respect to said flexible plastic material; and

a cap positioned on said container, said cap constructed of a rigid plastic material including a cap colorant matching said container colorant, said cap having a tip to allow flow of a viscous liquid from said container through said cap.

2. The bottle of claim 1, wherein said container has a longitudinally extending cylindrical wall having a base and a top.

3. The bottle of claim 2, wherein said top includes a neck having a neck opening, said cap being positioned at said neck.

4. The bottle of claim 2, wherein said wall includes volumetric indicia.

5. The bottle of claim 5, wherein said wall includes at least one gripping member.

6. The bottle of claim 1, wherein said flexible plastic material is a clarified low-density polyethylene (LDPE).

7. The bottle of claim 1, wherein said container colorant and said cap colorant are yellow pigments.

8. The bottle of claim 1, wherein said container colorant and said cap colorant are red pigments.

9. The bottle of claim 1, wherein said container colorant and said cap colorant are green pigments.

10. The bottle of claim 1, wherein said container colorant and said cap colorant are brown pigments.

11. The bottle of claim 1, wherein said predetermined ratio is in a range from about one percent to about four percent, by volume, of said container colorant to said flexible plastic material.

12. The bottle of claim 1, wherein said tip includes at least one guide for cutting said tip to create a tip opening.

13. The bottle of claim 1, wherein said cap includes at least one friction member.

14. The bottle of claim 1, wherein said rigid plastic material is a high-density polyethylene (HDPE).

15. The bottle of claim 1, wherein said cap is substantially opaque.