



US 20060112967A1

(19) **United States**

(12) **Patent Application Publication**
Fleming

(10) **Pub. No.: US 2006/0112967 A1**

(43) **Pub. Date: Jun. 1, 2006**

(54) **CONTAINERS AND METHODS FOR
DISPENSING SINGLE USE ORAL HYGIENE
PRODUCTS**

(22) Filed: **Nov. 26, 2004**

Publication Classification

(76) Inventor: **Levette Goodwin Fleming**, Ellenwood,
GA (US)

(51) **Int. Cl.**
A45D 44/18 (2006.01)

(52) **U.S. Cl.** **132/310**

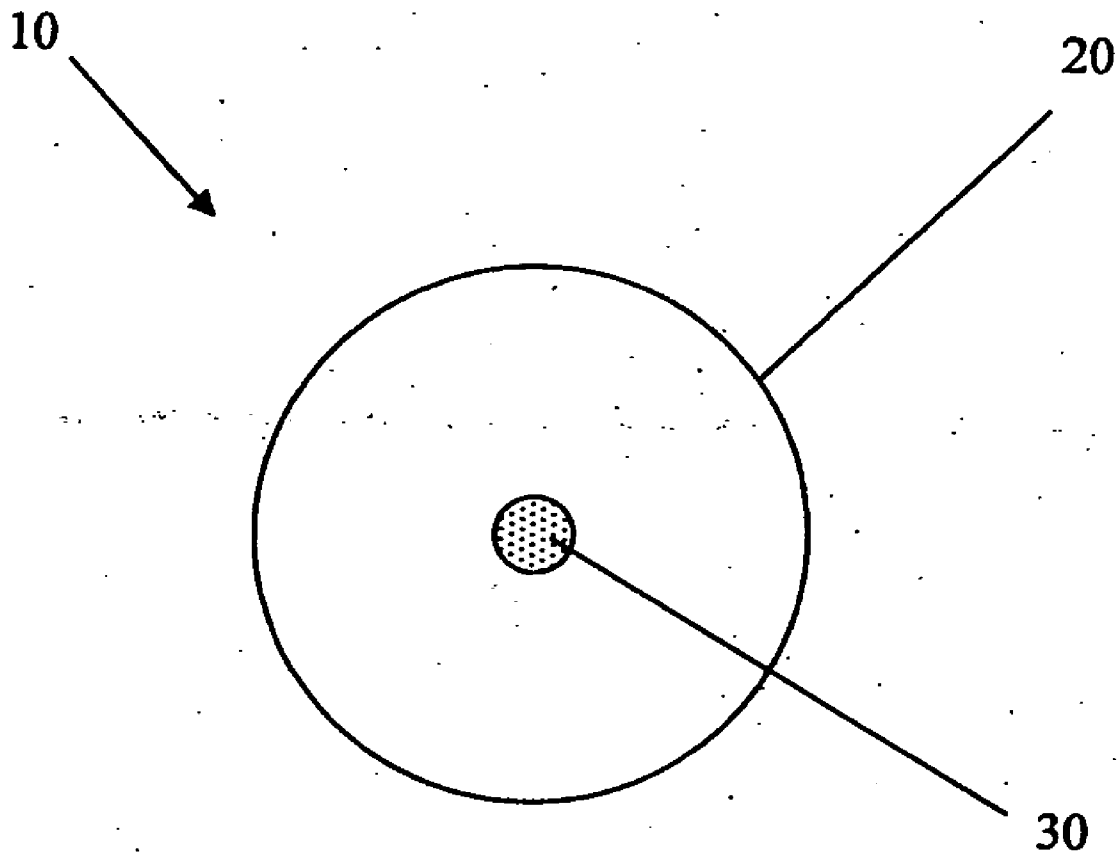
Correspondence Address:

Levette Fleming
151 Milam Drive
Ellenwood, GA 30294 (US)

(57) **ABSTRACT**

The containers and methods of the inventions comprise a shell with a puncture area on the shell. Oral hygiene products may be stored in the shell and the puncture area may be broken to release oral hygiene product from within the shell.

(21) Appl. No.: **10/997,546**



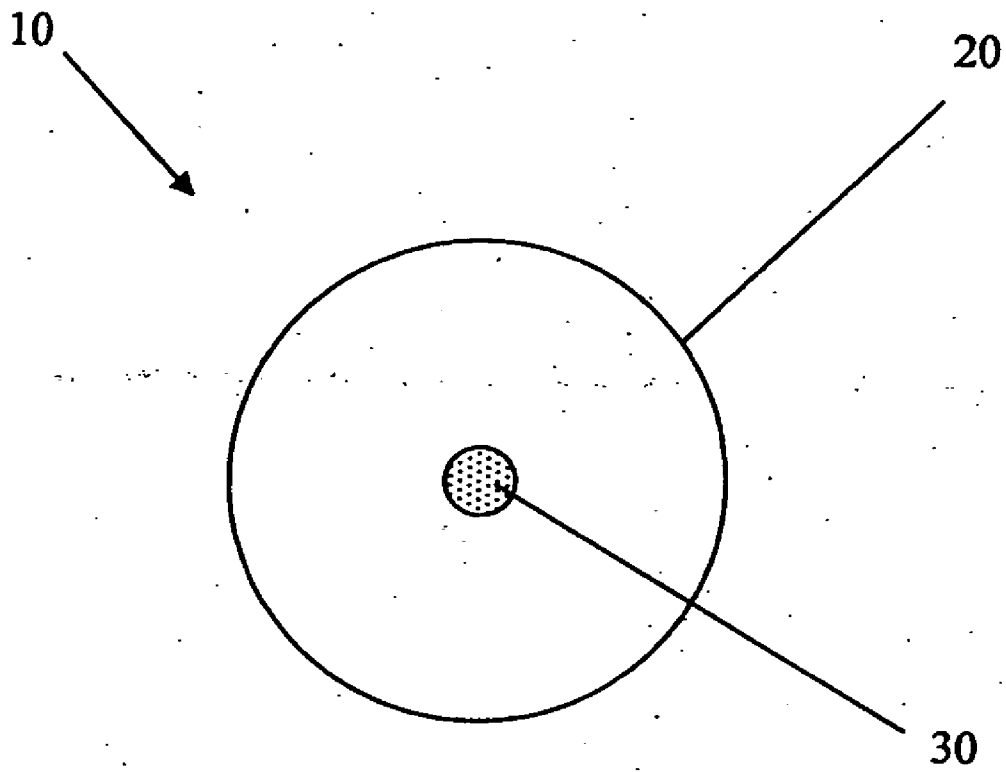


Figure 1

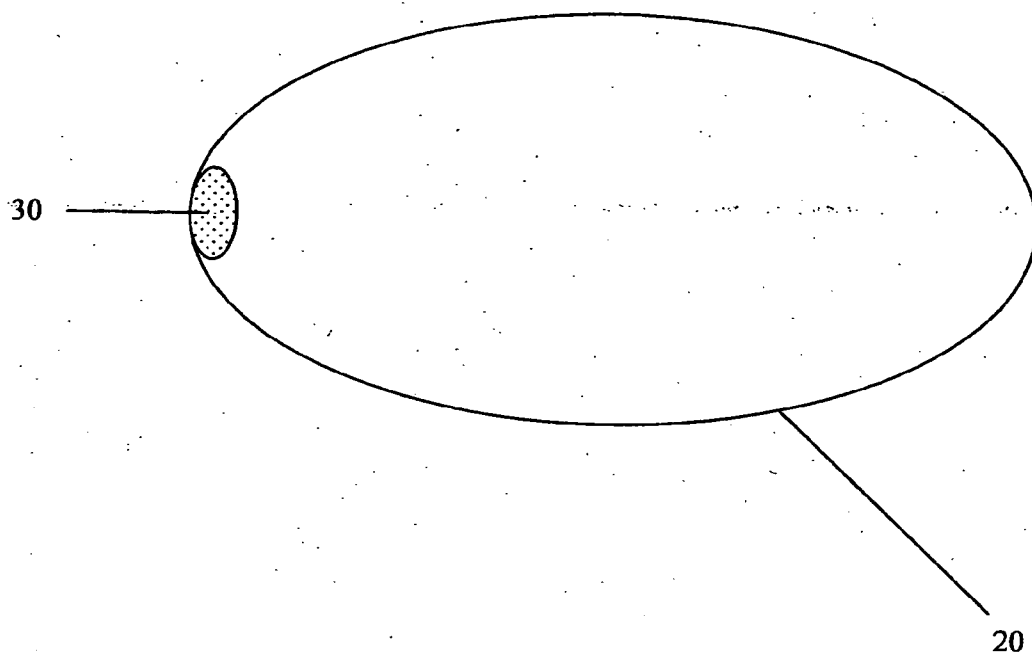


Figure 2

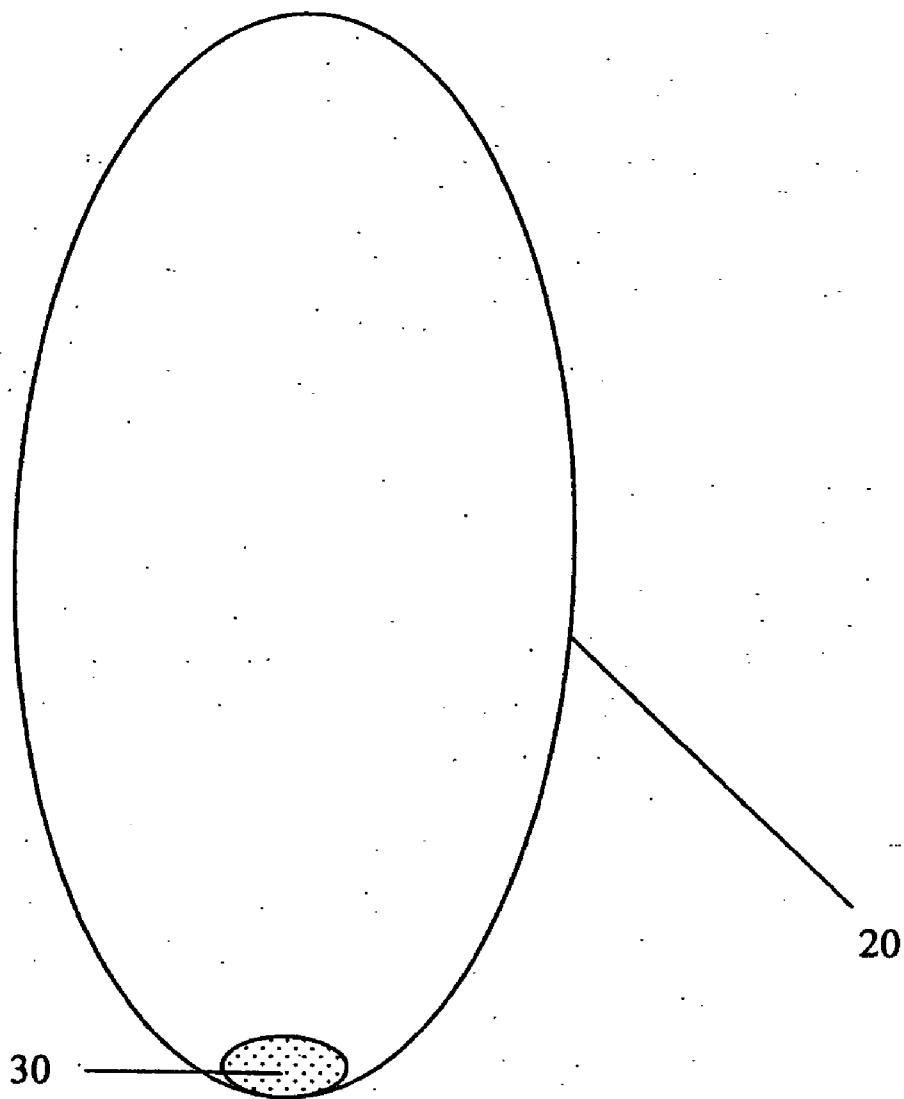


Figure 3

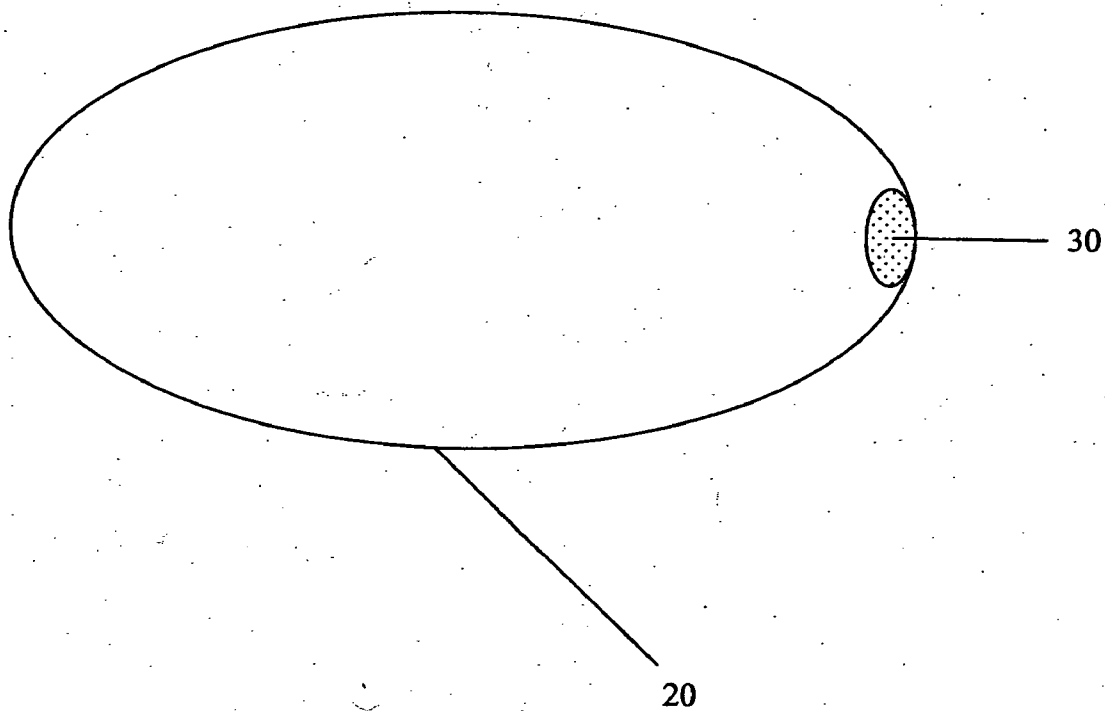


Figure 4

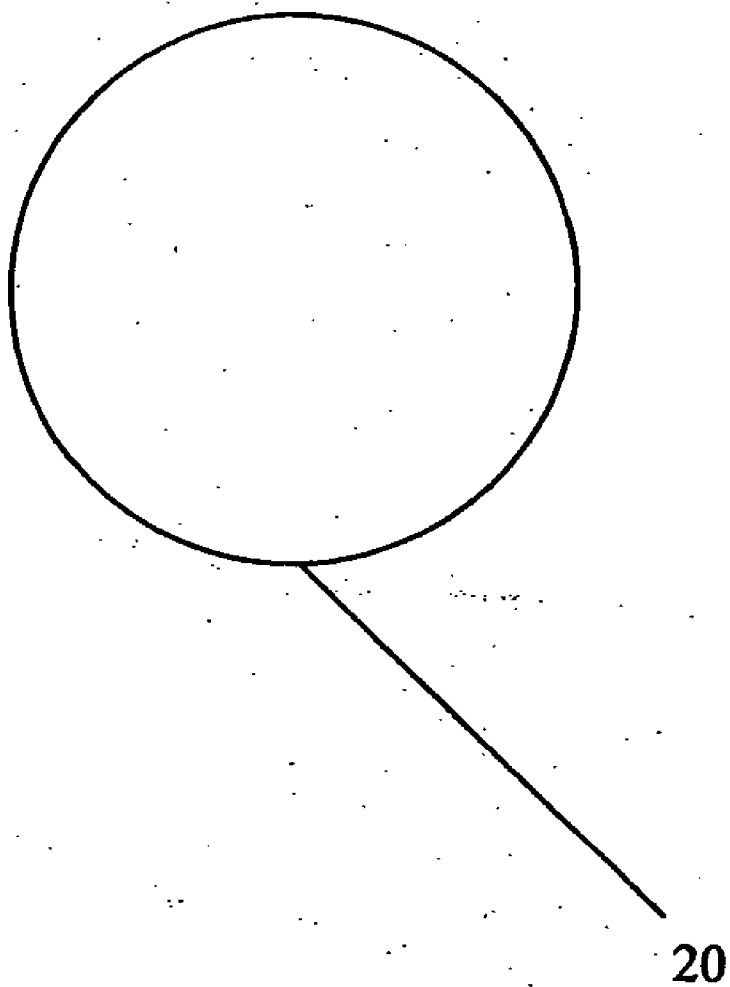


Figure 5

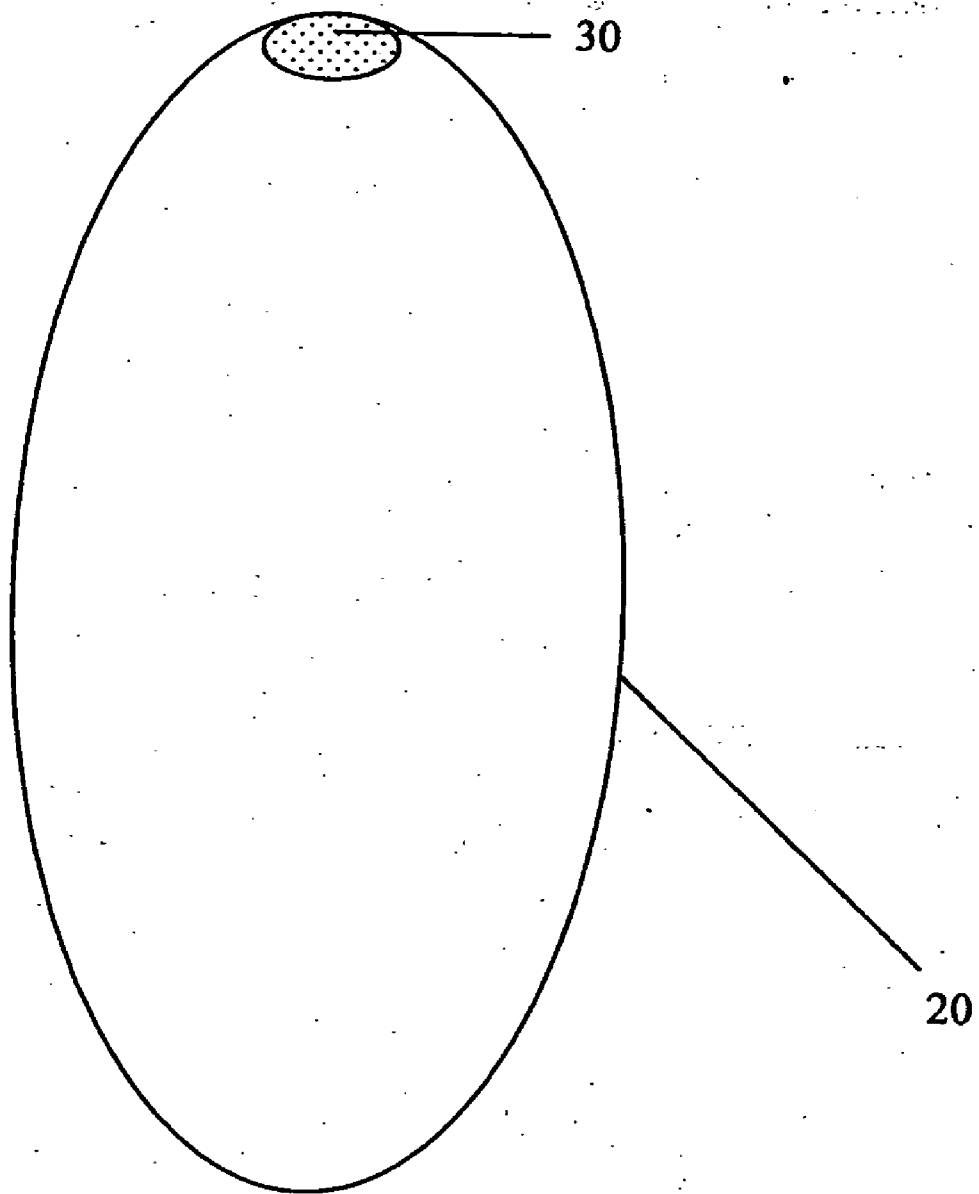


Figure 6

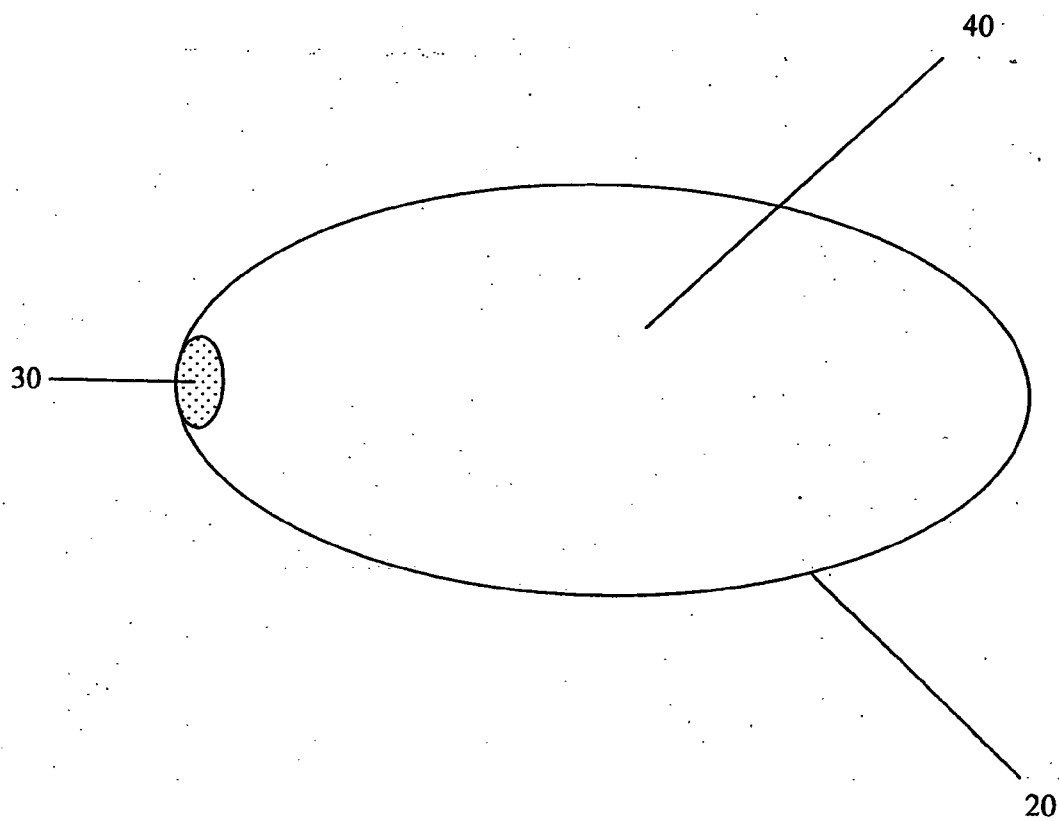


Figure 7

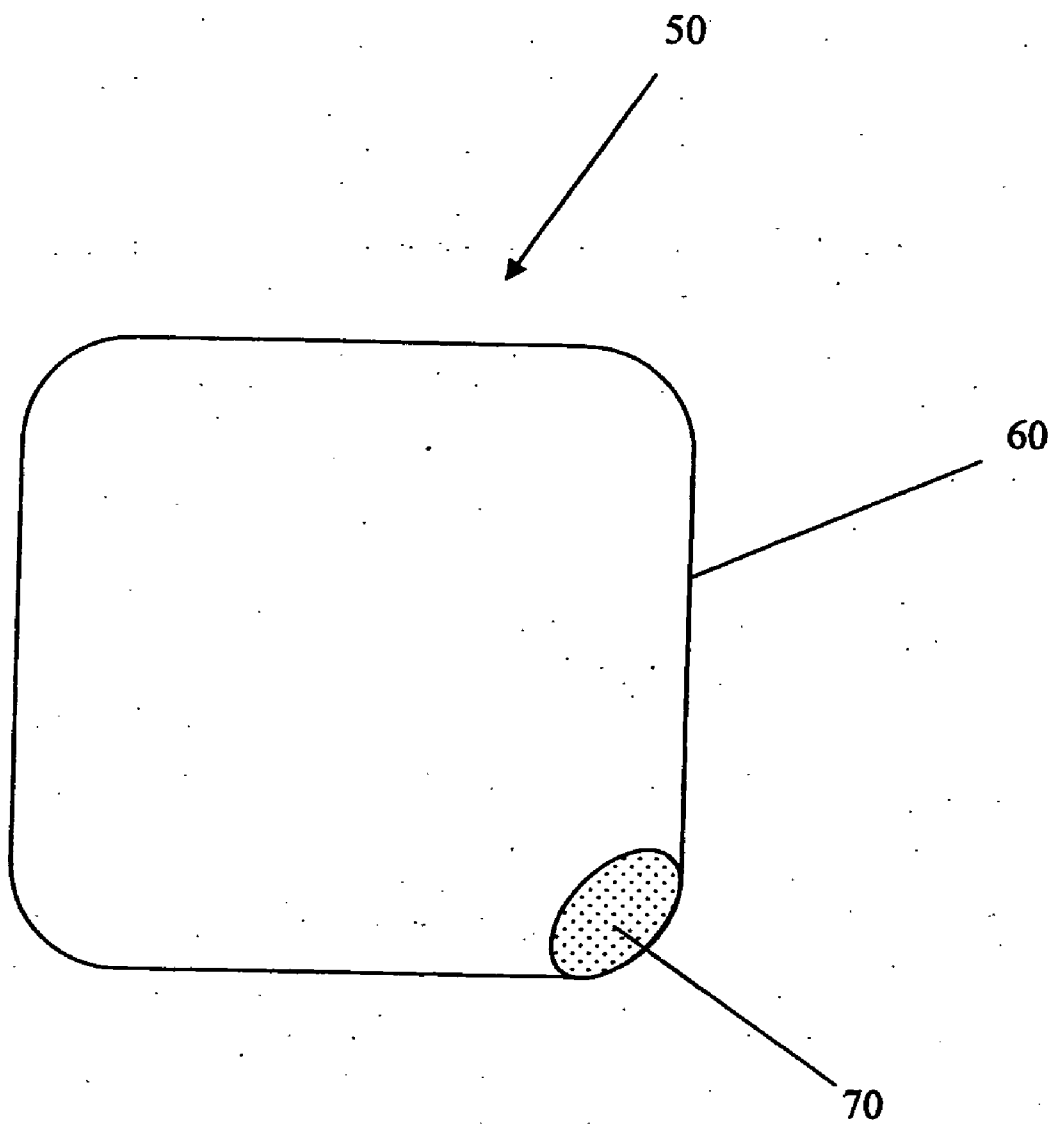


Figure 8

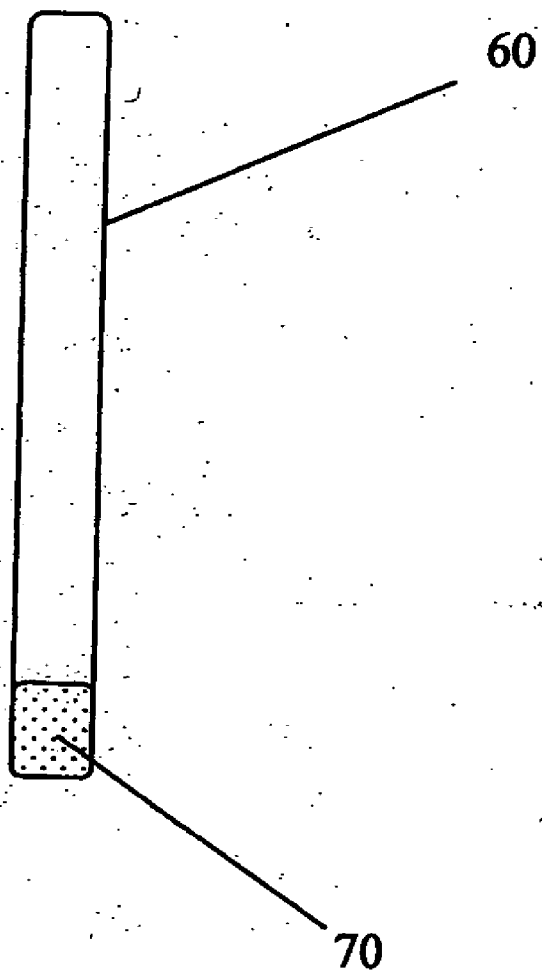


Figure 9

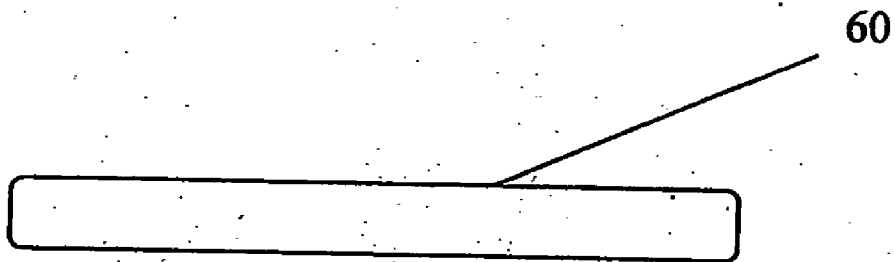


Figure 10

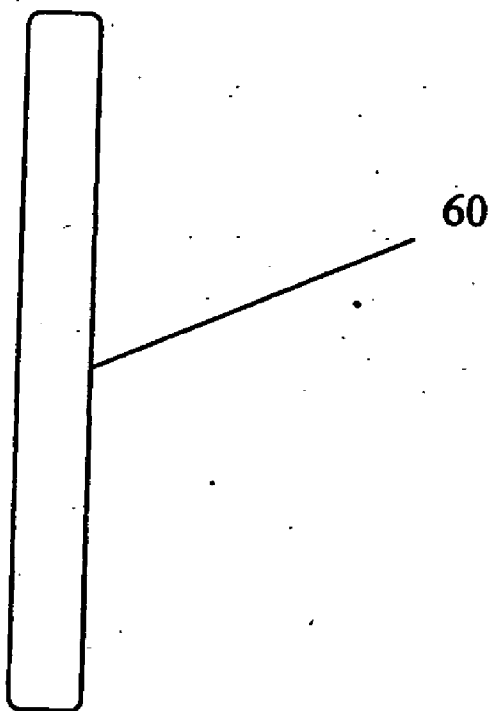


Figure 11

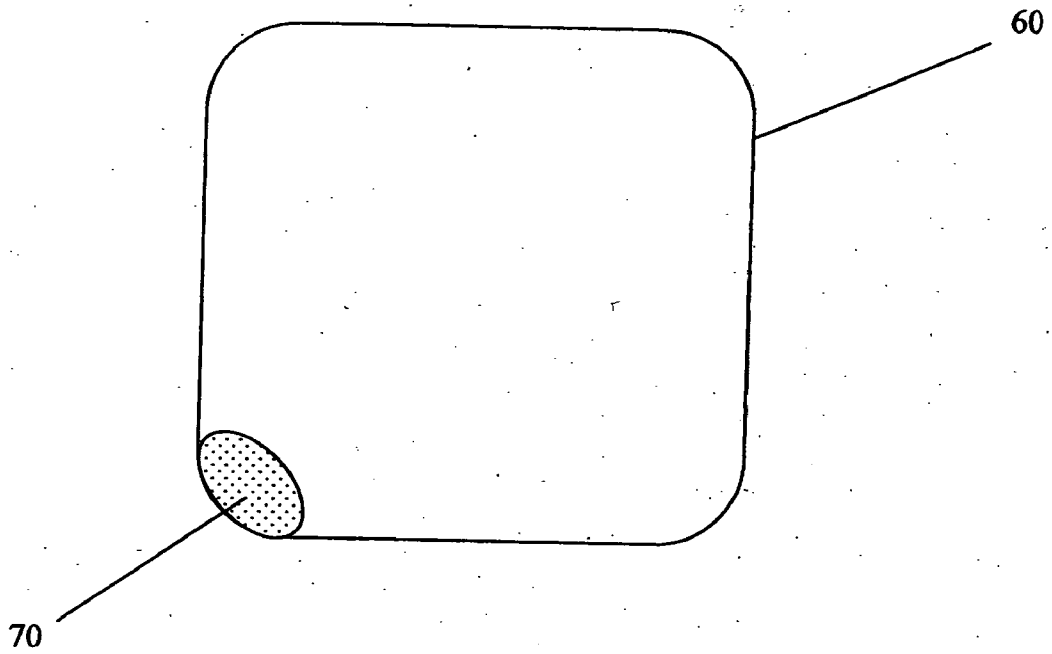


Figure 12

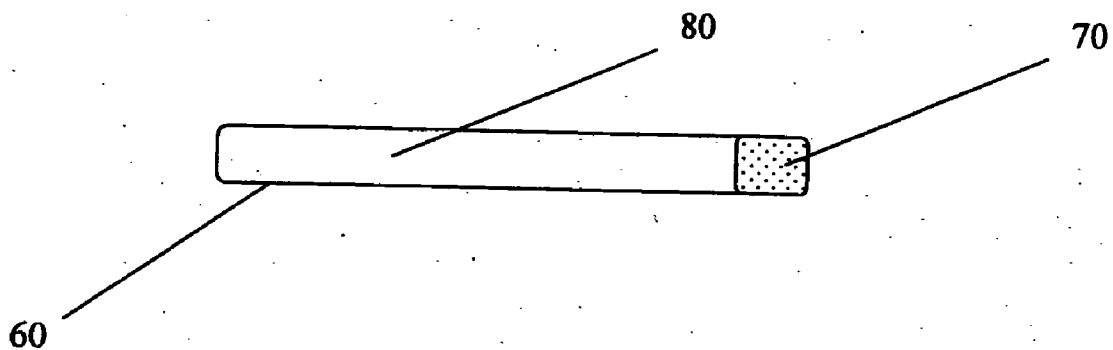


Figure 13

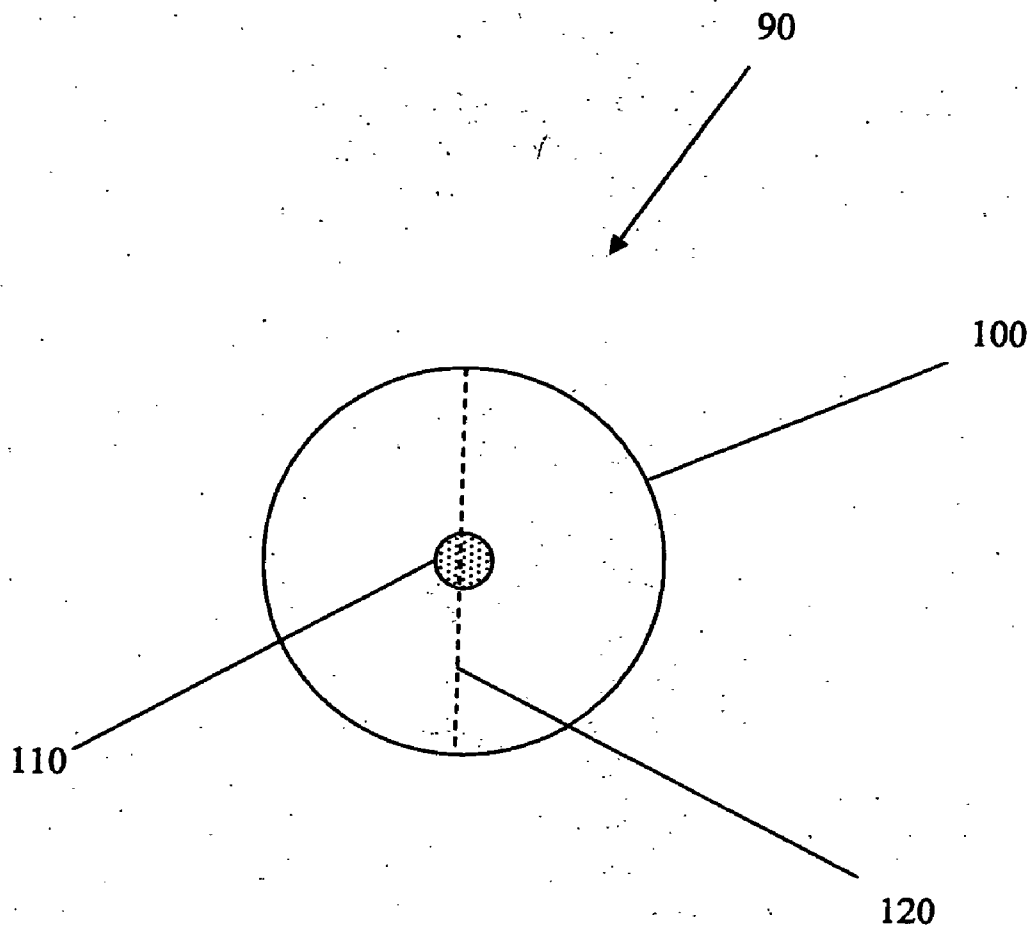


Figure 14

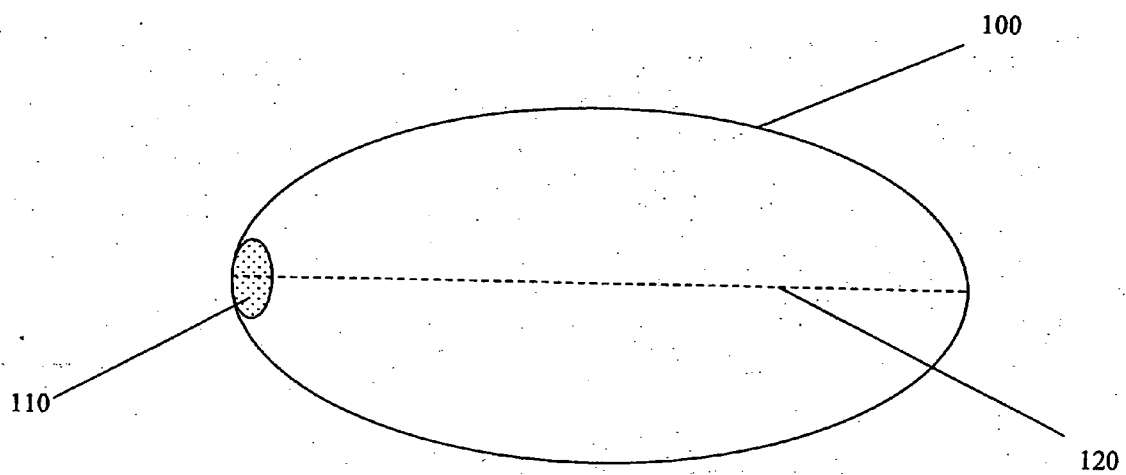


Figure 15

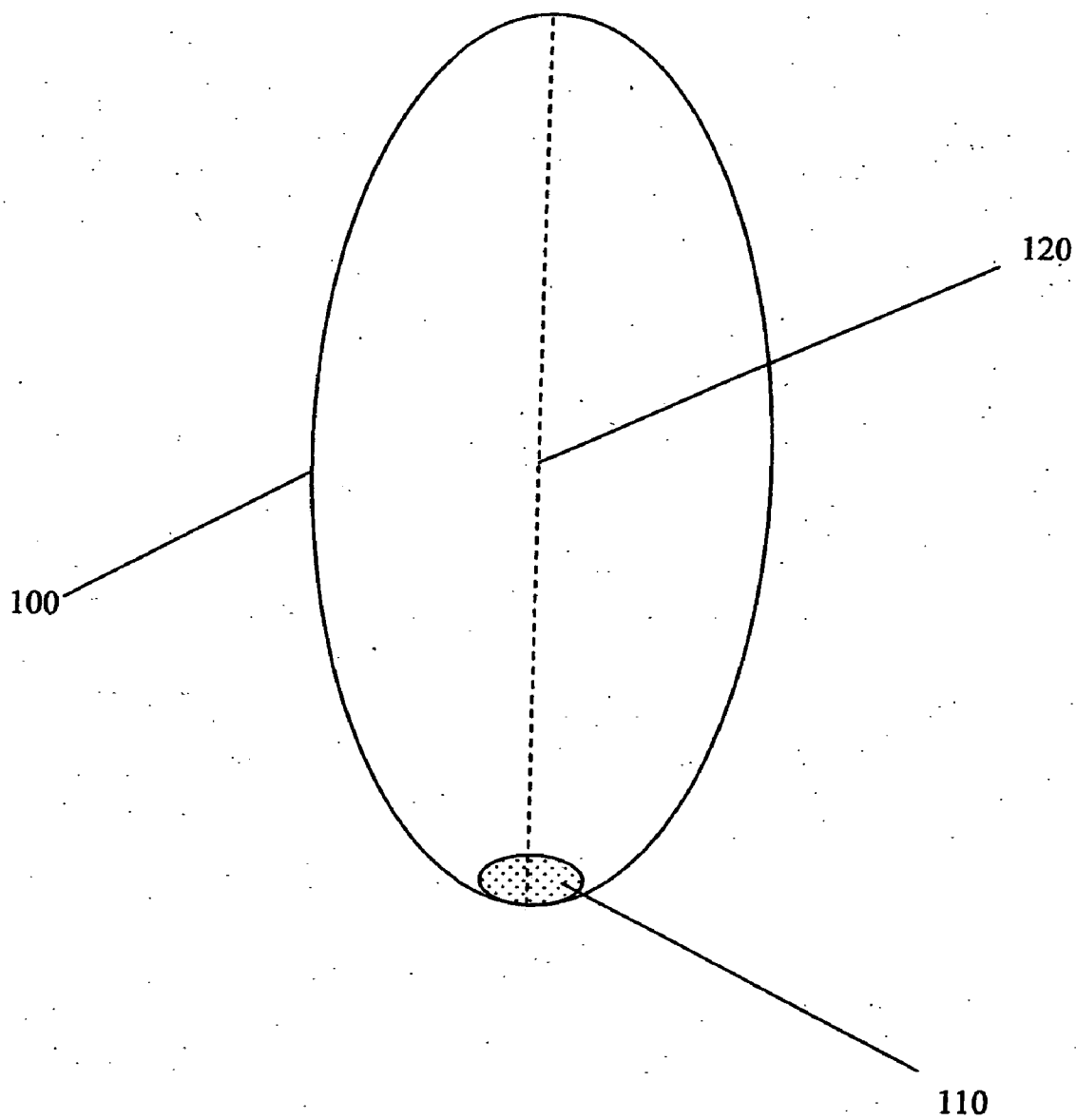


Figure 16

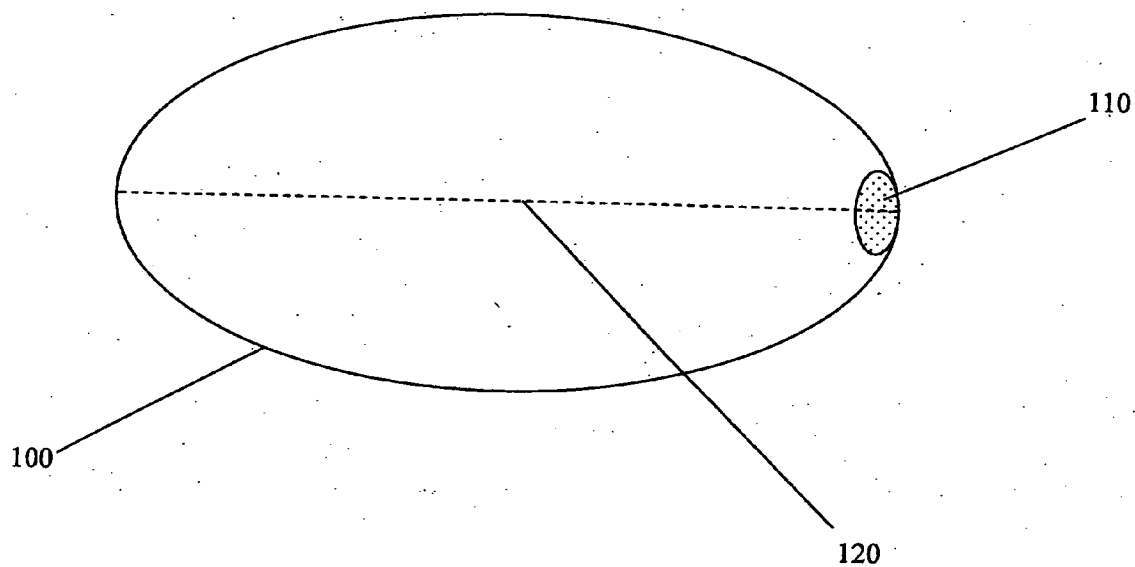


Figure 17

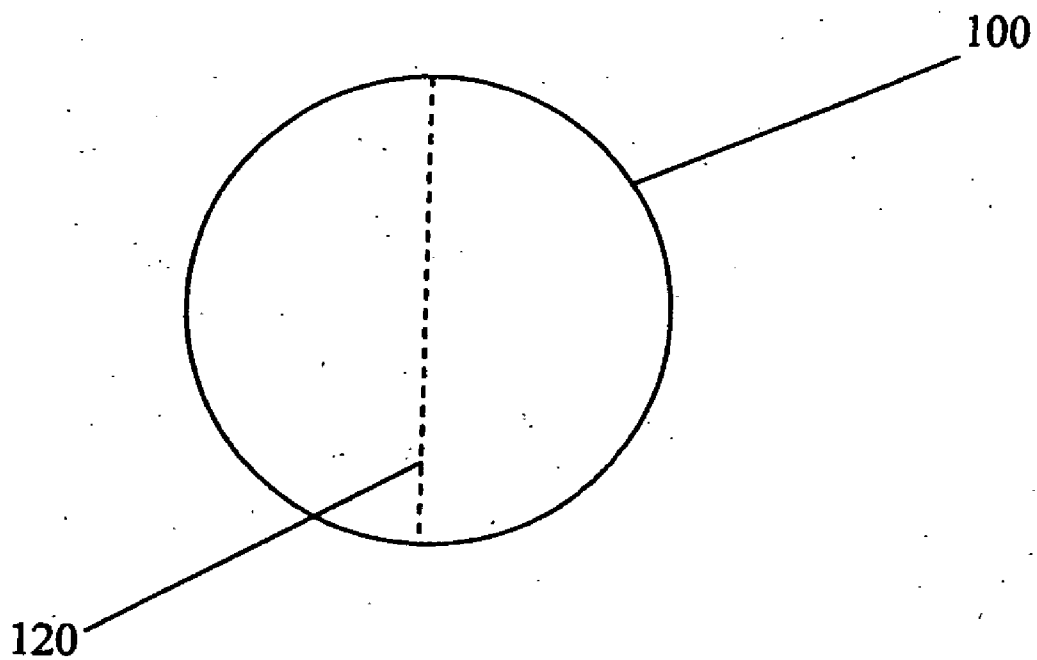


Figure 18

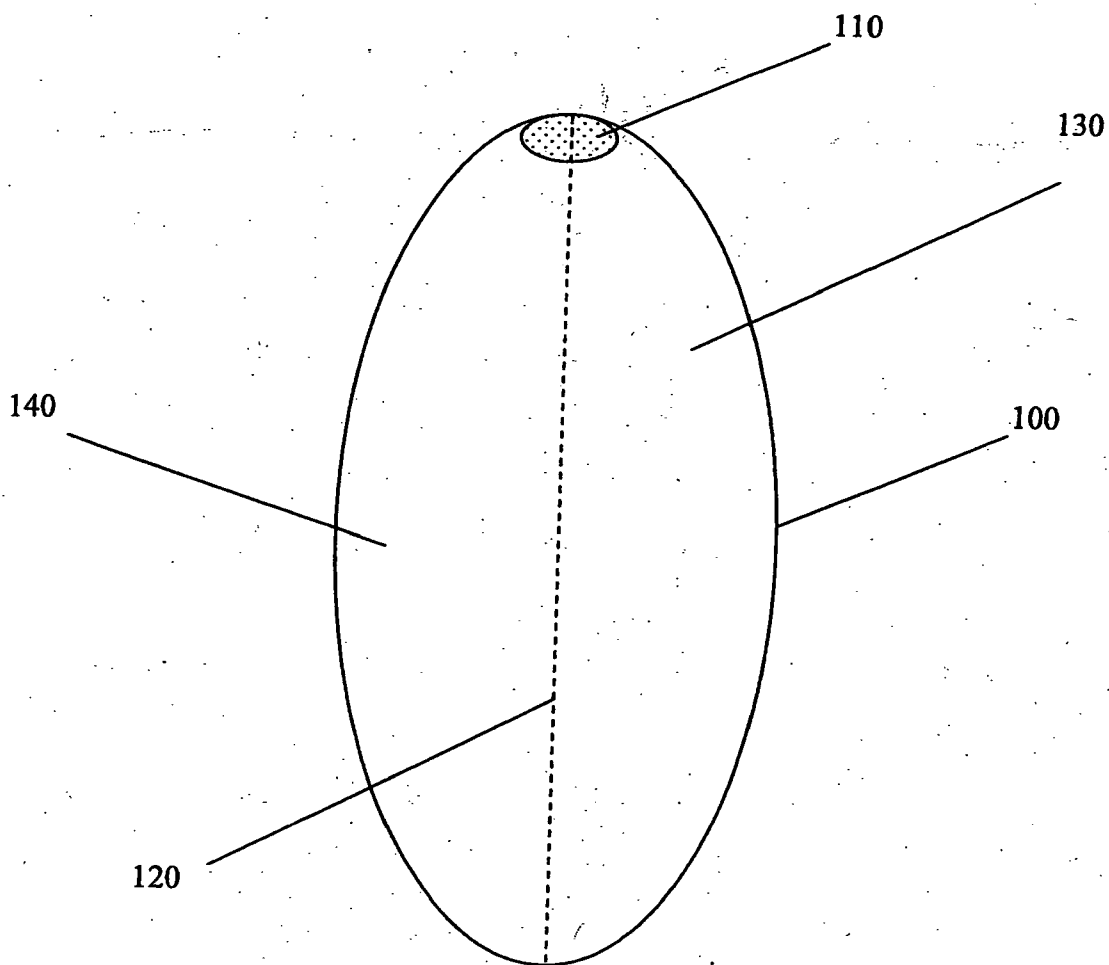


Figure 19

CONTAINERS AND METHODS FOR DISPENSING SINGLE USE ORAL HYGIENE PRODUCTS

FIELD OF INVENTION

[0001] The inventions relate to containers and methods for dispensing oral hygiene products. More specifically, the inventions relate to containers and methods for dispensing single use oral hygiene products.

BACKGROUND

[0002] Over the years, oral hygiene has become ingrained in our everyday lives. Today we are bombarded with advertisements for oral hygiene products ranging from toothpaste to mouthwash to breath mints and breath strips. Although marketing of oral hygiene products and the number of available products from which consumers may choose is ever increasing, several areas have yet to be adequately addressed. One such under addressed area is the container (hereinafter also referred to as “dispenser”) in which oral hygiene products are stored and from which the oral hygiene products are dispensed. There have been many improvements with respect to the containers for oral hygiene products; however, the improvements have left much to be desired.

[0003] As an example, toothpaste and toothpaste tubes have evolved quite a bit over the years. However, numerous drawbacks continue to exist in modern toothpaste dispensers. One such drawback relates to the predominant toothpaste dispenser, the toothpaste tube. Modern toothpaste tubes are commonly sold with a screw on/off cap. The caps are frequently dropped into the sink drain or lost altogether thereby leaving the tube without a cap. The lack of a cap can cause the toothpaste within the tube to deteriorate at a faster rate than it would were the tube sealed with a cap. If nothing else, the lack of a cap can cause a very messy situation. For instance, many people have accidentally placed their hand on a capless toothpaste tube and caused the toothpaste within the tube to squirt out onto the counter or floor.

[0004] The oral hygiene industry has attempted to address the lost cap drawback by permanently attaching the caps to the tube. Permanently attaching the cap to the tube addresses the drawbacks of losing the cap or dropping the cap down the sink drain. This attempted solution, however, has several drawbacks of its own.

[0005] One such drawback is the broken attachment drawback. The broken attachment drawback occurs when the attached cap breaks away from the tube, leaving the cap unattached to the tube. The attached cap is typically a snap-on cap that relies upon the assistance of the attachment for optimally securing the cap onto the tube. Therefore, when the attached cap breaks away from the tube, the cap becomes even less effective than the screw on/off cap because the application of a slight amount of pressure may force the cap off and away from the tube.

[0006] Another drawback of the attached cap is that toothpaste tends to build up around the edges of the cap. Although this is a problem with screw on/off caps as well, the snap-on nature of the attached caps can make this a larger problem. The caps will not snap-on as securely as they should when toothpaste has built up around the cap. Additionally, while closing the cap, the person using the toothpaste may

unknowingly place a force on the tube that in turn knocks off the cap and dispenses more toothpaste, which may then overflow out from the tube.

[0007] Yet another drawback of the toothpaste tube is the cross contamination drawback. The cross contamination drawback occurs when numerous people use the same toothpaste tube. Each person who uses the toothpaste tube potentially further contaminates the toothpaste within the tube when the person runs his or her toothbrush against the rim of the toothpaste tube. Consequently, the toothpaste may become cross-contaminated by each person using the toothpaste tube.

[0008] There are also economic drawbacks to utilizing toothpaste tubes. One economic drawback of using a toothpaste tube is the difficulty of using all of the toothpaste stored inside the tube. Everyone is familiar with the difficulty and frustration of trying to squeeze the last bit of toothpaste out of a tube of toothpaste. It often seems that the best way to insure that you get the majority of the toothpaste out of the tube is to roll the tube from the bottom every time you use the tube. Rolling the tube from the bottom for every use can be a hassle and even doing so does not guarantee that all of the toothpaste in the tube will be used.

[0009] Due to this drawback, it has become quite common to replace a toothpaste tube prior to using all of the toothpaste stored within the tube. Consequently, consumers often feel that they are wasting toothpaste and therefore wasting money. The problem of not being able to dispense all of the toothpaste in a tube is such a well known problem that there exists tools and utensils that are used for the sole purpose of trying to get more toothpaste out of a toothpaste tube.

[0010] Some of the drawbacks associated with the toothpaste tube can be avoided by using an upright toothpaste dispenser. Upright dispensers are typically pump-like and commonly hold the toothpaste within a plastic lining inside the dispenser. Typically, a larger percentage of the toothpaste within the upright dispenser may be dispensed than is dispensed from the toothpaste tube.

[0011] However, upright dispensers share some of the drawbacks of the toothpaste tubes. One such drawback is the use of a cap. Caps for upright dispensers are often in the form of an attached snap on/off cap. As with many pumps, the vacuum created by the pump can cause the toothpaste to continue flowing subsequent to the user removing pressure from the pump. Consequently, the cap can often become messy and overflow with toothpaste just like the cap on the toothpaste tube.

[0012] Another drawback of the upright dispenser is that it is often bulky and difficult to store in a medicine cabinet or drawer. A user is typically forced to store the upright dispenser on the bathroom counter where it may be in the way and/or may not match the decor of the bathroom.

[0013] Drawbacks regarding oral hygiene containers are not solely related to containers for toothpaste. Containers and/or dispensers for mouthwash have drawbacks as well. Mouthwash containers face a similar drawback of potentially losing the cap of the container, but due to its larger size, it not as prevalent as with toothpaste tubes.

[0014] The mouthwash containers are often unsightly because of their bulky size. Mouthwash containers are

regularly placed out of the sight of anyone using the bathroom counter, and therefore become inconvenient to use, which in turn, often leads to non-use. The use of mouthwash also typically necessitates the use of a cup from which to drink the mouthwash. Unfortunately, cups take up counter space, and additionally, disposable cups quickly fill up the wastebasket. Some people forgo the cup and instead drink mouthwash from the cap of the container itself. However drinking from the cap of the mouthwash container may lead to contamination of the mouthwash in the container, and consequently, creates insurmountable obstacles for those who do not want to drink from the same container as another person.

[0015] Yet another drawback of mouthwash containers is that it is often difficult to control the amount of mouthwash that you use. The containers are typically so large that it is easy to over pour and consequently waste mouthwash. Miniature travel size containers alleviate some of the problems but not all of the problems. Additionally, using numerous miniature travel size mouthwash containers would take up as much, if not more, storage space than a typical size mouthwash container.

[0016] To control portions, some containers come with a top portion that measures out a single dose. Typically, pressure is applied to the container to force the mouthwash through a pump-like system to fill an upper chamber of the container. However, once the measured single dose is in the upper chamber, many of the drawbacks discussed above remain present. For example, a user would still need to use a cup or risk contamination of, at least, the next portion of mouthwash.

[0017] In sum, there is need for containers and methods for dispensing single use oral hygiene products. Additionally, there is a need to provide consumers with oral hygiene dispensers that reduce or eliminate product contamination as well as the unsightliness and mess caused by current oral hygiene dispensers.

SUMMARY OF THE INVENTION

[0018] The containers and methods according to the inventions overcome the drawbacks of the prior art. The inventions described herein provide a container for storing and dispensing a single use oral hygiene product. The container comprises a shell with a puncture area on the shell. Oral hygiene product may be stored in the shell and the puncture area may be broken to release oral hygiene product from within the shell.

[0019] The inventions further provide a method of dispensing single use oral hygiene product from a container. The method comprises application of pressure to the shell of the container for dispensing single use oral hygiene products and breaking the puncture area on the shell. When the puncture area on the shell is broken, an aperture is formed within the puncture area to release the single use oral hygiene product.

[0020] The inventions also provide a container for storing and dispensing a single use oral hygiene products comprising a shell, a puncture area on the shell, an inner lining within the shell and at least two chambers within the shell separated by the inner lining. Oral hygiene products may be stored in the chambers of the shell and the puncture area may be broken to release the oral hygiene products from within the shell.

[0021] These and other feature and advantages of the containers and, methods according to the inventions may be more clearly understood and appreciated from a review of the following detailed description of the preferred embodiments and by reference to the appended drawings and claims.

BRIEF DESCRIPTION OF DRAWINGS

[0022] FIG. 1—FIG. 1 illustrates the front view of an, exemplary embodiment of the inventions.

[0023] FIG. 2—FIG. 2 illustrates a right side view of an exemplary embodiment of the inventions.

[0024] FIG. 3—FIG. 3 illustrates a top view of an exemplary embodiment of the inventions.

[0025] FIG. 4—FIG. 4 illustrates a left side view of an exemplary embodiment of the inventions.

[0026] FIG. 5—FIG. 5 illustrates a back view of an exemplary embodiment of the inventions.

[0027] FIG. 6—FIG. 6 illustrates a bottom view of an exemplary embodiment of the inventions.

[0028] FIG. 7—FIG. 7 illustrates an inner view of an exemplary embodiment of the inventions.

[0029] FIG. 8—FIG. 8 illustrates a front view of an alternate exemplary embodiment of the inventions.

[0030] FIG. 9—FIG. 9 illustrates a right side view of an alternate exemplary embodiment of the inventions.

[0031] FIG. 10—FIG. 10 illustrates a top view of an alternate exemplary embodiment of the inventions.

[0032] FIG. 11—FIG. 11 illustrates a left side view of an alternate exemplary embodiment of the inventions.

[0033] FIG. 12—FIG. 12 illustrates a back view of an alternate exemplary embodiment of the inventions.

[0034] FIG. 13—FIG. 13 illustrates a bottom view of an alternate exemplary embodiment of the inventions.

[0035] FIG. 14—FIG. 14 illustrates a front view of another alternate exemplary embodiment of the inventions.

[0036] FIG. 15—FIG. 15 illustrates a front view of another alternate exemplary

[0037] FIG. 16—FIG. 16 illustrates a front view of another alternate exemplary embodiment of the inventions.

[0038] FIG. 17—FIG. 17 illustrates a front view of another alternate exemplary embodiment of the inventions.

[0039] FIG. 18—FIG. 18 illustrates a front view of another alternate exemplary embodiment of the inventions.

[0040] FIG. 19—FIG. 19 illustrates a front view of another alternate exemplary embodiment of the inventions.

DETAILED DESCRIPTION

[0041] FIGS. 1 through 7 illustrate various views of an exemplary embodiment of a single use container according to the inventions. Specifically, a single use container 10 may be in the shape of an oval capsule. A single use container 10 may be a hollow shell 20 (hereafter referred to as a shell 20) with puncture area 30 on one and/or both ends of the single

use container **10**. The hollow area (also referred to as the inner storage area **40**) within the shell **20** may be used to store-oral hygiene products including but not limited to toothpaste, tooth gel, mouthwash, fluoride rinse, etc.

[0042] **FIG. 1** illustrates a front view of an exemplary embodiment of a single use container **10**. The exemplary embodiment of a single use container **10** has shell **20** and puncture area **30**. The shell **20** may be composed of any material capable of storing oral hygiene products. For example, the shell may be made of plastic when used to store mouthwash. As another example, the shell may be made of waxes, lacquers and/or resins when used to store toothpaste.

[0043] The material used in the puncture area **30** may be thinner than the rest of the container **10**. Alternatively, the puncture area **30** may be similar in thickness as the rest of the container **10** but may instead be defined by score marks on the shell **20**. The score marks in the shell **20** in addition to defining the puncture area **30** are deep enough to insure that, when pressure is applied, the shell **20** will break at or near the puncture area **30** rather than anywhere else on the shell **20**. As yet another alternative, the puncture area **30** may be both thinner than the rest of the container **10** and may have score marks. The puncture area **30** is located at one and/or both ends of the shell **20**. Alternatively, although placing the puncture area **30** at one or both ends of the shell **20** provides the optimal results, the puncture area **30** may be located anywhere on the shell **20**.

[0044] The puncture area **30** may be broken by applying pressure to the shell **20** of the single use container **10**. The pressure can be from a person's hand, a tool, etc. For example, a person might squeeze the shell **20** of the single use container **10** with his or her fingers to break open the puncture area **30**. Alternatively, the puncture area **30** may be broken by applying force directly onto the puncture area itself. Even still, the puncture area **30** may be broken by pinching the puncture area **30** and ripping or partially removing the puncture area **30** from the rest of the shell **20**. The broken puncture area **30** may then release the oral hygiene product within the shell **20** when pressure is applied to the shell **20**. Alternatively, once the puncture area **30** is punctured or opened, the pressure within the shell **20** may cause the release of the oral hygiene product without the necessity of outside pressure.

[0045] As noted above, the container **10** may be substantially oval in shape. **FIG. 2** illustrates a right side view of an exemplary embodiment of the inventions with a substantially oval shape shell **20**. Puncture area **30** is illustrated at one end of shell **20** but, as mentioned in reference to **FIG. 1**, may be at either and/or both ends of the shell **20**. **FIG. 3**, **FIG. 4**, **FIG. 5**, **FIG. 6** and **FIG. 7** illustrate the top, left, back, bottom and inner views, respectively, of an exemplary embodiment of container **10** and further illustrate that container **10** may be substantially oval in shape. Furthermore, **FIGS. 3-7** illustrate shell **20** with puncture area **30** at one end of shell **20**. As previously mentioned, in an alternative embodiment, puncture area **30** may be at either end and/or both ends of shell **20**.

[0046] Additionally, **FIG. 7** illustrates inner storage area **40** within shell **20**. Inner storage area **40** may be substantially filled with any oral hygiene product. For example, in an exemplary embodiment of the inventions, inner storage area **40** may be filled or substantially filled with toothpaste.

Thus, when the puncture area **30** is punctured or opened, the toothpaste within the inner storage area **40** may be released from shell **20**.

[0047] **FIGS. 8 through 13** illustrate various views of an alternate embodiment of the inventions. In an alternate embodiment of the inventions, a single use container **50** may be in the shape of a substantially square capsule. A single use container **50** may be a hollow shell **60** (hereafter referred to as a shell **60**) with puncture area **70** on one or more corners of the single use container **50**. The hollow area (also referred to as the inner storage area **80**) within the shell **60** may be used to store oral hygiene products including but not limited to toothpaste, tooth gel, mouthwash, fluoride rinse, etc.

[0048] **FIG. 8** illustrates a front view of an exemplary embodiment of a single use container **50**. The exemplary embodiment of a single use container **50** has shell **60** and puncture area **70**. The shell **60** may be composed of any material capable of storing oral hygiene products. For example, the shell may be made of plastic when used to store mouthwash. As another example, the shell may be made of waxes, lacquers and/or resins when used to store toothpaste.

[0049] The material used in the puncture area **70** may be thinner than the rest of the container **50**. Alternatively, the puncture area **70** may be similar in thickness as the rest of the container **50** but may instead be defined by score marks on the shell **60**. The score marks in the shell **60** in addition to defining the puncture area **70** are deep enough to insure that, when pressure is applied, the shell **60** will break at or near the puncture area **70** rather than anywhere else on the shell **60**. As yet another alternative, the puncture area **70** may be both thinner than the rest of the container **50** and may have score marks. The puncture area **70** is located at one or more corners of the shell **60**. Alternatively, although placing the puncture area **70** at one or more corners of the shell **60** provides the optimal results, the puncture area **70** may be located anywhere on the shell **60**.

[0050] The puncture area **70** may be broken by applying pressure to the shell **60** of the single use container **50**. The pressure can be from a person's hand, a tool, etc. For example, a person might squeeze the shell **60** of the single use container **50**, with his or her fingers to break open the puncture area **70**. Alternatively, the puncture area **70** may be broken by applying force directly onto the puncture area itself. Even still, the puncture area **70** may be broken by pinching the puncture area **70** and ripping or partially removing the puncture area **70** from the rest of the shell **60**. The broken puncture area **70** may then release the oral hygiene product within the shell **60** when pressure is applied to the shell **60**. Alternatively, once the puncture area **70** is punctured or opened, the pressure within the shell **60** may cause the release of the oral hygiene product without the necessity of outside pressure.

[0051] As noted above, the container **50** may be substantially square in shape. **FIG. 9** illustrates a right side view of an exemplary embodiment of the inventions with a substantially square shape shell **60**. Puncture area **70** is illustrated at one corner of shell **60** but, as mentioned in reference to **FIG. 8**, may be at one or more corners of the shell **60**. **FIG. 10**, **FIG. 11**, **FIG. 12** and **FIG. 13** illustrate the top, left, back and bottom views, respectively, of an exemplary embodiment of container **50** and further illustrate that container **50** may be substantially square in shape. Furthermore, **FIGS.**

8-13 illustrate shell **60** with puncture area **70** at one corner of shell **60**. As previously mentioned, in an alternative embodiment, puncture area **70** may be at one or more corners of shell **60**.

[0052] Additionally, **FIG. 13** illustrates inner storage area **80** within shell **60**. Inner storage area **80** may be substantially filled with any oral hygiene product. For example, in an exemplary embodiment of the inventions, inner storage area **80** may be filled or substantially filled with toothpaste. Thus, when the puncture area **70** is punctured or opened, the toothpaste within the inner storage area **80** may be released from shell **60**.

[0053] **FIGS. 14 through 19** illustrate various views of an exemplary embodiment of a single use container according to the inventions. Specifically, a single use container **90** may be in the shape of an oval capsule. A single use container **90** may be a hollow shell **100** (hereafter referred to as a shell **100**) with puncture area **110** on one and/or both ends of the single use container **90**. The hollow area within the shell **100** may be divided into two or more chambers. In an exemplary embodiment of the inventions illustrated in **FIGS. 14-19**, shell **100** is divided into two chambers, inner storage area A **130** and inner storage area B **140**, by inner lining **120**. Each chamber may be used to store oral hygiene products including but not limited to toothpaste, tooth gel, mouthwash, fluoride rinse, etc. The oral hygiene products stored in the chambers may be the same and/or different oral hygiene products. Additionally, the chambers within the shell **100** do not have to be equally sized.

[0054] **FIG. 14** illustrates a front view of yet another alternate embodiment of a single use container **90**. The exemplary embodiment of a single use container **90** has shell **100**, puncture area **110** and inner lining **120**. The shell **100** may be composed of any material capable of storing oral hygiene products. For example, the shell may be made of plastic when used to store mouthwash. As another example, the shell may be made of waxes, lacquers and/or resins when used to store toothpaste. The inner lining may also be composed of any material capable of storing and/or separating oral hygiene products such as, among other things, plastic.

[0055] The material used in the puncture area **110** may be thinner than the rest of the container **90**. Alternatively, the puncture area **110** may be similar in thickness as the rest of the container **90** but may instead be defined by score marks on the shell **100**. The score marks in the shell **100** in addition to defining the puncture area **110** are deep enough to insure that, when pressure is applied, the shell **100** will break at or near the puncture area **110** rather than anywhere else on the shell **100**. As yet another alternative, the puncture area **110** may be both thinner than the rest of the container **90** and may have score marks. The puncture area **110** is located at one and/or both ends of the shell **100**. Alternatively, although placing the puncture area **110** at one or both ends of the shell **100** provides the optimal results, the puncture area **110** may be located anywhere on the shell **100** which allows the release of the contents of both chambers, inner storage area A **130** and inner storage area B **140**, when opened or punctured.

[0056] The puncture area **110** may be broken by applying pressure to the shell **100** of the single use container **90**. The pressure can be from a person's hand, a tool, etc. For

example, a person might squeeze the shell **100** of the single use container **90** with his or her fingers to break open the puncture area **110**. Alternatively, the puncture area **110** may be broken by applying force directly onto the puncture area itself. Even still, the puncture area **110** may be broken by pinching the puncture area **110** and ripping or partially removing the puncture area **110** from the rest of the shell **100**. The broken puncture area **110** may then release the oral hygiene products within the chambers, inner storage area A **130** and inner storage area B **140**, when pressure is applied to the shell **100**: Alternatively, once the puncture area **110** is punctured or opened, the pressure within the chambers, inner storage area A **130** and inner storage area B **140**, may cause the release of the oral hygiene product without the necessity of outside pressure.

[0057] As noted above, the container **90** may be substantially oval in shape. **FIG. 15** illustrates a right side view of an exemplary embodiment of the inventions with a substantially oval shape shell **100**. Puncture area **110** is illustrated at one end of shell **100** but, as mentioned in reference to **FIG. 14**, may be at either and/or both ends of the shell **100**. **FIG. 16, FIG. 17, FIG. 18** and **FIG. 19** illustrate the top, left, back, and bottom views, respectively, of an exemplary embodiment of container **90** and further illustrate that container **90** may be substantially oval in shape. Furthermore, **FIGS. 14-19** illustrate shell **100** with puncture area **110** at one end of shell **100**. As previously mentioned, in an alternative embodiment, puncture area **110** may be at either end and/or both ends of shell **100**.

[0058] From the foregoing description of the exemplary embodiments of the inventions and operation thereof, other embodiments will suggest themselves to those skilled in the art. Therefore, the scope of the inventions is to be limited only by the claims below and equivalents thereof.

What is claimed is:

1) A container for storing and dispensing a single use oral hygiene product comprising:

- a shell; and
- a puncture area on the shell;

whereby an oral hygiene product may be stored in the shell and the puncture area may be broken to release oral hygiene product from within the shell.

2) The invention of claim 1 wherein an oral hygiene product is stored in the shell.

3) The invention of claim 1 wherein the shell is substantially oval.

4) The invention of claim 1 wherein the shell is substantially square.

5) The invention of claim 1 wherein;

the puncture area is defined by score marks and may be broken by application of pressure to the puncture area.

6) The invention of claim 5 wherein the application of pressure to the puncture area is created by the application of pressure to the shell.

7) The invention of claim 4 wherein the oral hygiene product is toothpaste.

8) The invention of claim 4 wherein the oral hygiene product is mouthwash.

9) The invention of claim 4 wherein the shell is a wax material.

9) The invention of claim 4 wherein the shell is a lacquer material.

10) A method of dispensing single use oral hygiene product from a container comprising:

application of pressure to the shell of a container for dispensing single use oral hygiene products;

and breaking the puncture area on the shell whereby an aperture is formed within the puncture area to allow the release of the single use oral hygiene product.

11) The method of claim 10 wherein the oral hygiene product is toothpaste.

12) The method of claim 10 wherein the oral hygiene product is mouthwash.

13) The method of claim 11 wherein the pressure is applied by hand.

14) The method of claim 12 wherein the pressure is applied by hand.

15) A container for storing and dispensing a single use oral hygiene products comprising:

a shell;

a puncture area on the shell;

an inner lining within the shell; and

at least two chambers within the shell separated by the inner lining;

whereby oral hygiene products may be stored in the shell and the puncture area may be broken to release oral hygiene products from within the shell.

16) The container of claim 15 wherein there are two chambers.

17) The container of claim 15 wherein oral hygiene products are stored within the two chambers and the oral hygiene products are not the same.

18) The container of claim 15 wherein the container is substantially oval.

19) The container of claim 16 wherein the two chambers are substantially the same size.

20) The container of claim 16 wherein the two chambers are substantially different in size.

* * * * *