E101 / 41531/2014-MUM

ABSTRACT

A pre-installed bottle puncturing mechanism, and bottle thereof, in order to stop reusing of used bottles, said bottle comprising: at least a two-chambered bottle comprising an operative upper chamber and an operative lower chamber; at least a separator adapted to separate said operative upper chamber from said operative lower chamber; and an auxiliary opening mechanism, other than the normal opening mechanism in order to open up or tear up or puncture the bottle after at least a first use, characterised, in that, said auxiliary opening mechanism comprising a pin type device attached at the bottom part of said bottle and further extending to and also being attached to said separator.

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I claim,

1. A pre-installed bottle puncturing mechanism, and bottle thereof, in order to stop reusing of used bottles, said bottle comprising:
   i. at least a two-chambered bottle comprising an operative upper chamber and an operative lower chamber;
   ii. at least a separator adapted to separate said operative upper chamber from said operative lower chamber; and
   iii. an auxiliary opening mechanism, other than the normal opening mechanism in order to open up or tear up or puncture the bottle after at least a first use, characterised, in that, said auxiliary opening mechanism comprising a pin type device attached at the bottom part of said bottle and further extending to and also being attached to said separator.

2. The pre-installed bottle puncturing mechanism, and bottle thereof, in order to stop reusing of used bottles as claimed in claim 1 wherein, said at least an operative upper chamber is relatively bigger in volume than said at least an operative lower chamber.

3. The pre-installed bottle puncturing mechanism, and bottle thereof, in order to stop reusing of used bottles as claimed in claim 1 wherein, said both the chambers are filled with liquid.

4. The pre-installed bottle puncturing mechanism, and bottle thereof, in order to stop reusing of used bottles as claimed in claim 1 wherein, said auxiliary opening mechanism comprising:

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a. at least a first radial pre-defined serration in said separator order to aid tearing off the bottle once the auxiliary opening mechanism is used;
b. at least a second radial pre-defined serration in the operative bottom surface of said operative lower chamber order to aid tearing off the bottle once the auxiliary opening mechanism is used;

characterised, in that:

the pulling of said pin type device after finishing liquid from said operative upper part of said bottle allows a user to access liquid from said operative lower part of said bottle by making two permanent holes at said first radial pre-defined serration and said second radial pre-defined serration.

5. The pre-installed bottle puncturing mechanism, and bottle thereof, in order to stop reusing of used bottles as claimed in claim 1 wherein, said pin type device is not detachable.

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FIELD OF THE INVENTION:

This invention relates to the field of mechanical engineering.

Particularly, this invention relates to a pre-installed bottle puncturing mechanism, and bottle thereof.

BACKGROUND OF THE INVENTION:

Bottles are commonplace in home and industrial use to store fluid, to move fluids, and for the like fluid related activities. A reusable bottle is a bottle that can be reused, either for multiple trips to a bottler or is reused by a household.

Over the last many years, plastic bottles are abundantly used because of their light weight and transportability. Most types of plastic bottles are safe to reuse at least a few times if properly washed with hot soapy water. But recent revelations about chemicals in Lexan (plastic #7) bottles are enough to scare even the most committed environmentalists from reusing them (or buying them in the first place).

Reusing bottles could develop bacteria in the bottle between uses. Mouth contact to the bottle openings can easily transfer bacteria to the water content which can subsequently contaminate both bottle and water. Contamination causes bacterial and fungal growth in the water while kept in storage.

Studies have indicated that food and drinks stored in such containers—including those ubiquitous clear Nalgene water bottles hanging from just about every hiker's backpack—can contain trace amount of Bisphenol A (BPA), a synthetic chemical that interferes with the body's natural hormonal messaging system.

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The same studies found that repeated re-use of such bottles—which get dinged up through normal wear and tear and while being washed—increases the chance that chemicals will leak out of the tiny cracks and crevices that develop over time.

A university student's master's thesis suggested that repeatedly rewashing plastic water bottles can lead to the leaking diethylhydroxylamine (DEHA) into the drinking water, and can be detrimental to human health.

Te fact that bottles are re-usable has led to spurious packaging entities profiting out of these as these entities use the original bottles and packaging to infiltrate the bottles with spurious good, thereby proliferating the counterfeit market. It is, therefore, encouraged to destroy bottles after use. However, there is a need for an easier mechanism to aid such destruction after use.

OBJECTS OF THE INVENTION:

An object of the invention is to provide a mechanism for bottles in order to render it non re-usable, after at least a first use.

Another object of the invention is to eliminate counterfeit goods and spurious packaging occurring due to reuse of bottles.

SUMMARY OF THE INVENTION:

According to this invention, there is provided a pre-installed bottle puncturing mechanism, and bottle thereof, in order to stop reusing of used bottles, said bottle comprises:

i. at least a two-chambered bottle comprising an operative upper chamber and an operative lower chamber;

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ii. at least a separator adapted to separate said operative upper chamber from said operative lower chamber; and

iii. an auxiliary opening mechanism, other than the normal opening mechanism in order to open up or tear up or puncture the bottle after at least a first use, characterised, in that, said auxiliary opening mechanism comprising a pin type device attached at the bottom part of said bottle and further extending to and also being attached to said separator.

Typically, said at least an operative upper chamber is relatively bigger in volume than said at least an operative lower chamber.

Typically, said both the chambers are filled with liquid.

Typically, said auxiliary opening mechanism comprises:

a. at least a first radial pre-defined serration in said separator order to aid tearing off the bottle once the auxiliary opening mechanism is used;
b. at least a second radial pre-defined serration in the operative bottom surface of said operative lower chamber order to aid tearing off the bottle once the auxiliary opening mechanism is used;

characterised, in that:

the pulling of said pin type device after finishing liquid from said operative upper part of said bottle allows a user to access liquid from said operative lower part of said bottle by making two permanent holes at said first radial pre-defined serration and said second radial pre-defined serration.

Typically, and bottle thereof, in order to stop reusing of used bottles as claimed in claim 1 wherein, said pin type device is not detachable.

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BRIEF DESCRIPTION OF THE ACCOMPANYING DRAWINGS:

The invention will now be described in relation to the accompanying drawings, in which:

Figures 1 to 3 illustrate various embodiments of the pre-installed bottle puncturing mechanism, and bottle thereof.

DETAILED DESCRIPTION OF THE ACCOMPANYING DRAWINGS:

According to this invention, there is provided a pre-installed bottle puncturing mechanism, and bottle thereof in order to stop reusing of used bottles.

Figure 1 illustrates a schematic of the pre-installed bottle puncturing mechanism, and bottle thereof.

In accordance with an embodiment of this invention, there is provided a **bottle (11)** with **two chambers (12, 13)**. The **operative upper chamber (12)** is relatively bigger in volume whereas the **operative lower chamber (13)** is relatively smaller in volume. Both the chambers are separated, by means of a **separator (15)**, through the same material used to manufacture the bottle. Both the chambers are filled with liquid such as water.

In accordance with an embodiment of this invention, there is provided an **auxiliary opening mechanism**, other than the normal opening mechanism in order to open up or tear up or puncture the bottle after at least a first use. The auxiliary opening mechanism, typically, may be a lug, a leaf, a pull-tab, a stay-on-tab, a press-tab, or any such tab adapted to open up the bottle. Typically, the auxiliary opening mechanism is located at the operative lower side or operative bottom of the bottle. In at least a preferred embodiment, the auxiliary opening mechanism is a **small pin**

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type of device (14) which is attached at the bottom part of the bottle. The pin type of device is extended to the separator (15).

In accordance with another embodiment of this invention, there is provided at least a **first radial pre-defined serration (16)** in the separator (15) order to aid tearing off the bottle once the auxiliary opening mechanism is used.

In accordance with yet another embodiment of this invention, there is provided at least a **second radial pre-defined serration (17)** in the operative bottom surface of the operative lower chamber (13) order to aid tearing off the bottle once the auxiliary opening mechanism is used.

The operative upper part (12) of bottle serves as a normal bottle. But when liquid in the operative upper part (12) gets empty, the user has to compulsorily pull the pin type device (14) to use liquid in the second chamber (13). When the pin type of device (14) is pulled it makes two permanent holes (16, 17) in the bottle (11). First hole (16) is at the separator (15) and second hole (17) is at the operative bottom surface. The pin type device (14) is not detachable.

Before the pin type device (14) is pulled out, the bottle has to be turned upside down (with its cap tightly sealed). Thus, the second chamber (13) becomes the operative upper part and the first chamber (12) the operative lower part, in this configuration. Once the pin type device is pulled, the hole (16) allows water to flow from the second chamber (13) to the first chamber (12) and can be used.
This arrangement makes it compulsory for the user to puncture the bottle to use water in second chamber. The volume of second chamber is kept smaller so that water inside cannot be stored for further use.

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While this detailed description has disclosed certain specific embodiments of the present invention for illustrative purposes, various modifications will be apparent to those skilled in the art which do not constitute departures from the spirit and scope of the invention as defined in the following claims, and it is to be distinctly understood that the foregoing descriptive matter is to be interpreted merely as illustrative of the invention and not as a limitation.

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1. A pre-installed bottle puncturing mechanism, and bottle thereof, in order to stop reusing of used bottles, said bottle comprising:
   i. at least a two-chambered bottle comprising an operative upper chamber and an operative lower chamber;
   ii. at least a separator adapted to separate said operative upper chamber from said operative lower chamber; and
   iii. an auxiliary opening mechanism, other than the normal opening mechanism in order to open up or tear up or puncture the bottle after at least a first use, characterised, in that, said auxiliary opening mechanism comprising a pin type device attached at the bottom part of said bottle and further extending to and also being attached to said separator.

2. The pre-installed bottle puncturing mechanism, and bottle thereof, in order to stop reusing of used bottles as claimed in claim 1 wherein, said at least an operative upper chamber is relatively bigger in volume than said at least an operative lower chamber.

3. The pre-installed bottle puncturing mechanism, and bottle thereof, in order to stop reusing of used bottles as claimed in claim 1 wherein, said both the chambers are filled with liquid.

4. The pre-installed bottle puncturing mechanism, and bottle thereof, in order to stop reusing of used bottles as claimed in claim 1 wherein, said auxiliary opening mechanism comprising:

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a. at least a first radial pre-defined serration in said separator order to aid tearing off the bottle once the auxiliary opening mechanism is used;
b. at least a second radial pre-defined serration in the operative bottom surface of said operative lower chamber order to aid tearing off the bottle once the auxiliary opening mechanism is used;

characterised, in that:

the pulling of said pin type device after finishing liquid from said operative upper part of said bottle allows a user to access liquid from said operative lower part of said bottle by making two permanent holes at said first radial pre-defined serration and said second radial pre-defined serration.

5. The pre-installed bottle puncturing mechanism, and bottle thereof, in order to stop reusing of used bottles as claimed in claim 1 wherein, said pin type device is not detachable.

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