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(54) **Improved capsule for liquid and powder containers**

(57) An improved capsule (1), specifically designed for containers for holding liquids and powders, such as pharmaceutical, veterinary, cosmetic, food, dietetic products and the like, comprises a capsule plug having a tubular portion adapted to be engaged in the neck of a container and comprising an outer circular portion (4), and being characterized in that the capsule (1) further comprises a cylindric portion (5) associated with the circular portion (4) by a circular crown (6) rigid with the circular portion of the plug and that, between the cylindric portion and circular crown are provided notches (7) for facilitating the separation of the cylindric portion from the circular crown by a pressing force, without raising or withdrawing operations, the pressing being provided by a finger starting from a preferential portion of the circular crown (6) made rigid with the cylindric portion (5).

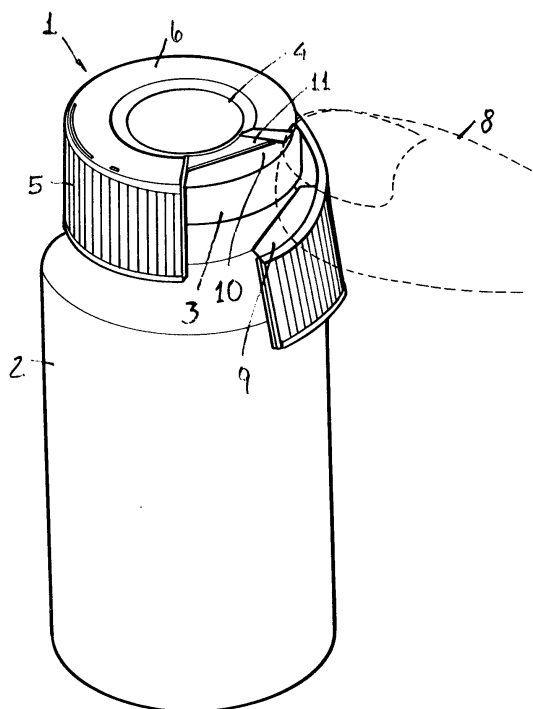


FIG. 1

Description

BACKGROUND OF THE INVENTION

[0001] The present invention relates to an improved capsule, which has been specifically designed for containers holding liquids and powders such as pharmaceutical, veterinary, cosmetic, food, dietetic and the like products.

[0002] As is known, the above mentioned capsules, conventionally comprise a capsule portion which can be separated by tearing for clearing or freeing a plug element, from a crown member rigid with the neck of the container or vessel.

[0003] The mentioned prior closures, however, are affected by some drawbacks: in particular, an operator must locate, in different capsules, the position to be affected upon in order to open the capsule.

[0004] Moreover, in a lot of prior capsules, the tearing portion is arranged at a curved surface of the capsule, thereby it would be necessary, for locating the portion to be broken away, to turn the container, even through several turning movements.

[0005] Moreover, the mentioned portion or tab, which must be necessarily of a projecting configuration, makes the capsule hardly workable, as said capsule is applied to the container in high speed container handling apparatus.

[0006] Another type of prior capsules provides to include a tearing tongue at a top surface of the capsule: thereby, these capsules can be opened exclusively by raising and tearing away a circular crown, with an end side breaking away.

[0007] Thus, these capsules too are of difficult operation, and, frequently, they require the use of an opening tool, such as a knife or scissors, in order to rise the capsule portion to be broken away.

[0008] Yet other capsules, of conventional arrangement, are made of an aluminium material, thereby they can frequently damage or injuring an operator, because of the difficult tearing thereof.

[0009] Furthermore, the mentioned aluminium capsules conventionally comprise a plastics material gasket which must preliminarily assembled to the capsule body, thereby causing making difficulties.

[0010] Yet another drawback of the mentioned aluminium capsules is that since said capsules comprise two different materials, i.e. a plastics material and aluminium, they require very complex sorting operations for separating the different capsule materials, as the capsules are disposed of.

[0011] Furthermore, the aluminium capsules are susceptible to easy polluting during the making thereof, thereby they must be frequently necessarily sterilized.

SUMMARY OF THE INVENTION

[0012] Accordingly, the aim of the present invention is

to provide such an improved capsule, specifically designed for containers for holding liquids and powders such as pharmaceutical, veterinary, cosmetic, food, dietetic and the like products, which overcomes the above mentioned. problems affecting the prior art capsules.

[0013] Within the scope of the above mentioned aim, a main object of the present invention is to provide such a capsule which can be opened in a very easy manner.

[0014] Yet another object of the present invention is to provide such a capsule which can be advantageously made, both with respect to its making cost and its machining properties.

[0015] Yet another object of the present invention is to provide such a capsule which has very high hygienic properties.

[0016] According to one aspect of the present invention, the above mentioned aim and objects, as well as yet other objects which will become more apparent hereinafter, are achieved by an improved capsule, specifically designed for containers for holding liquids and powders, such as pharmaceutical, veterinary, cosmetic, food, dietetic and the like products, comprising a plug consisting of a tubular portion designed for engaging in a neck of a container and having a circular outer portion, characterized in that said capsule comprises moreover a cylindric portion coupled to said circular portion by a circular crown rigid with said circular portion of said plug and that between said cylindric portion and circular crown are provided a plurality of notches for facilitating a separation of the cylindric portion from the circular crown by a pressing force, without raising or withdrawing operations, said pressing force being provided by a finger, starting from a preferential portion of said circular crown made rigid with said cylindric portion.

BRIEF DESCRIPTION OF THE DRAWINGS

[0017] Further characteristics and advantages of the present invention will become more apparent hereinafter from the following detailed disclosure of a preferred, though not exclusive, embodiment of the invention, which is illustrated, by way of an indicative, but not limitative example, in the accompanying drawings, where:

Figure 1 is a perspective view of a container or vessel including a capsule according to the present invention, being shown in an opening operation thereof;

Figure 2 is a perspective view illustrating the improved capsule according to the present invention; Figure 3 is a top plan view of the improved capsule according to the present invention; and

Figure 4 is a perspective view of a container or vessel including the improved capsule according to the invention.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0018] With reference to the number references of the above mentioned figures, the capsule according to the present invention, which has been generally indicated by the reference number 1, has been specifically designed for a container or vessel for holding liquids and powders, such as pharmaceutical, veterinary, cosmetic, food, dietetic and the like products, and being of a type shown in figures 1 and 4, and being generally indicated by the reference number 2, and including a collet 3 to which the capsule 1 must be applied.

[0019] More specifically, the capsule 1 comprises a plug consisting of a tubular portion, not shown in the figures and of any suitable known types, for engaging in the neck of the container, and including an outer circular portion 4, arranged outside of the container.

[0020] The capsule 1 comprises, moreover, a cylindrical portion 5, coupled to the mentioned circular portion 4 by a coupling circular crown 6, rigid with said circular portion.

[0021] As shown, between the cylindric portion 5 and circular crown 6 are provided a plurality of notches or cut-outs 7, for facilitating a separation of the cylindric portion 5 from the circular crown 6 by applying a pressing force, from the top to the bottom, which pressing force can be provided by a finger 8 starting from a preferential portion 9 of the circular crown, which has been made rigid with the cylindric portion.

[0022] In particular, the preferential portion 9 constitutes an integrating part of the cylindric portion and is arranged at a cut-out 10, made in the circular crown 6.

[0023] At the mentioned cut-out 10, the circular crown is provided with the recessed region 11, designed for facilitating both the locating of the preferential portion 9 and the application of the finger pressing force.

[0024] The cylindric portion 5 comprises a vertical notch 12, therefrom starts the separation of the cylindric portion from the circular crown 6.

[0025] Upon having separated the cylindric portion 5 from the circular crown 6, the plug will be freed, and the container can be opened.

[0026] As is clearly shown in figure 1, to open the capsule according to the present invention it is necessary to merely apply by a finger a downward directed pressure, to easily separate a first part of the cylindric portion, to allow the latter to be easily gripped and torn away.

[0027] The locating of the preferential portion 9 is facilitated since it can be easily seen from the top of the capsule and being further facilitated since the capsule comprises the above mentioned recessed region at said preferential portion.

[0028] The recessed region allows the capsule to be opened even with any visual observation, since said preferential region can be immediately located by a touching operation.

[0029] Moreover, the capsule can be torn away without requiring any raising of capsule portions, and the tearing away of the capsule can be performed without using nails or specifically designed tools.

[0030] It has been actually found that the invention fully achieves the intended aim and objects.

[0031] In fact, a capsule has been provided which can be opened in a much simpler manner than conventional capsules and which, moreover, can be made as safe as possible.

[0032] The capsule according to the present invention has the further feature that it is provided with a pre-tearing slit, arranged at its top surface and which, accordingly, can be immediately and easily located by a user, in opening the container.

[0033] Moreover, the capsule according to the present invention can be easily opened since the pre-tearing slit, in addition to being immediately seen, allows the capsule to be opened by a simple pressing force, applied from the top to the bottom, followed by a slight tearing immediately causing a breaking of the lateral band of the capsule and the detaching thereof from the circular crown.

[0034] Yet another advantage of the invention is that of replacing prior aluminium capsules, having the above mentioned drawbacks, and which can be hardly torn away.

[0035] Yet another important advantage of the present invention is that the container can be immediately and easily opened even in a blind-type of condition.

[0036] In practicing the invention, the used materials, as well as the contingent size and shapes, can be any, depending on the requirements and the status of the art.

Claims

1. An improved capsule, specifically designed for containers for holding liquids and powders, such as pharmaceutical, veterinary, cosmetic, food, dietetic and the like products, comprising a plug consisting of a tubular portion designed for engaging in a neck of a container and having a circular outer portion, **characterized in that** said capsule comprises moreover a cylindric portion coupled to said circular portion by a circular crown rigid with said circular portion of said plug and that between said cylindric portion and circular crown are provided a plurality of notches for facilitating a separation of the cylindric portion from the circular crown by a pressing force, without raising or withdrawing operations, said pressing force being provided by a finger, starting from a preferential portion of said circular crown made rigid with said cylindric portion.
2. A capsule according to Claim 1, **characterized in that** said preferential portion constitutes an integrating part of said cylindric portion and is arranged

at a cut-out made in the circular crown.

3. A capsule according to Claim 1 or 2, **characterized in that**, at said cut-out, said circular crown has a recessed region, for facilitating a locating of said preferential portion and an application of a pressure force to said preferential portion by a finger. 5
4. A capsule according to one or more of the preceding claims, **characterized in that** said cylindric portion comprises a vertically extending notch, therefrom said cylindric portion starts to be separated from said circular crown. 10
5. A capsule according to one or more of the preceding claims, **characterized in that** said capsule comprises one or more of the disclosed and/or illustrated features. 15

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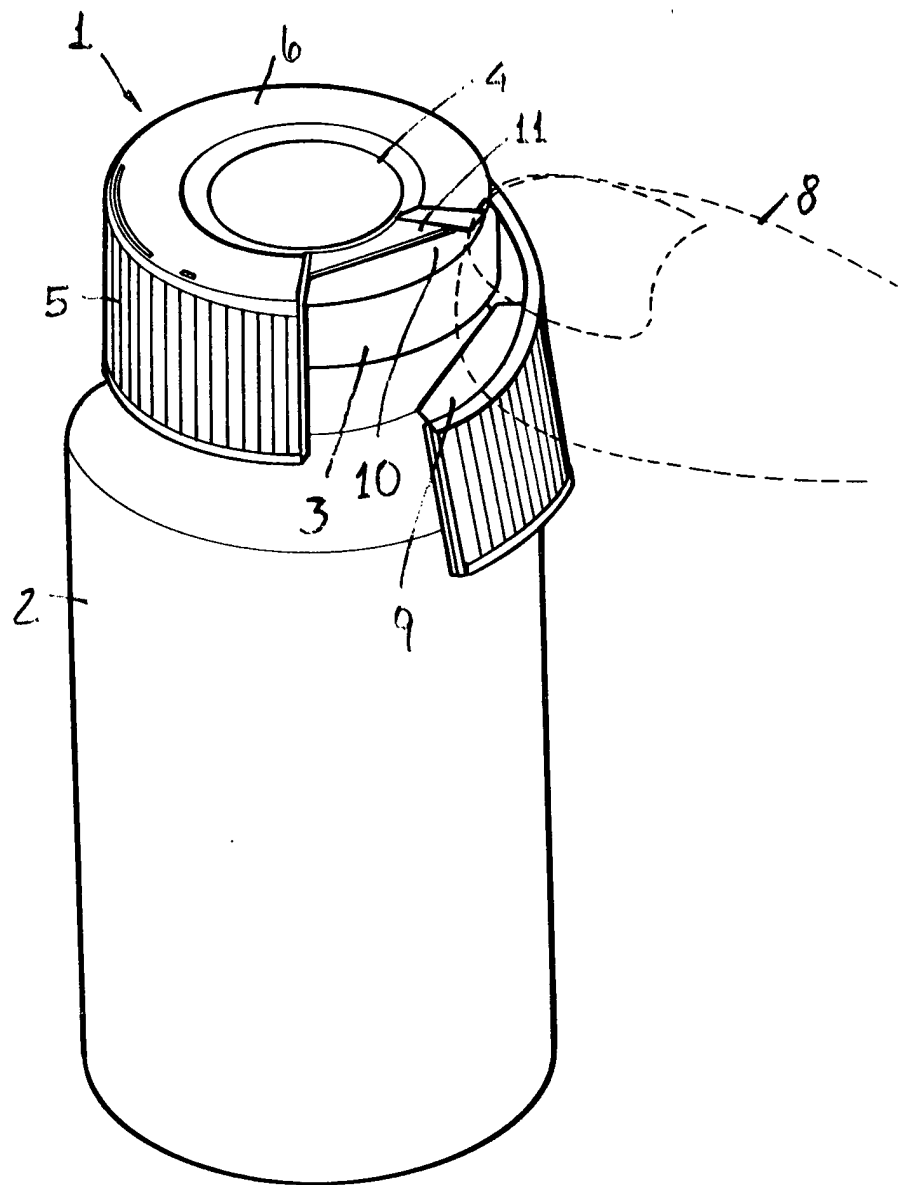


FIG. 1

