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(54) A Protective Cap For Cans

(57) The objects of the present invention are achieved through use of a two-part can cap having a first stationary part in the form of a ring (12) attached to the top surface of a can for receiving a second part (10) in a fixed manner. Said second part is a threaded circular body suitable for rotatably engaging with said first part to establish a leak- proof connection. Said fixing ring also having threads (13) mating with said cap provides a conventional closure. Further, a handle (11) is provided on the cap to be torn-off along a perforated circumferential line other than a binding line.

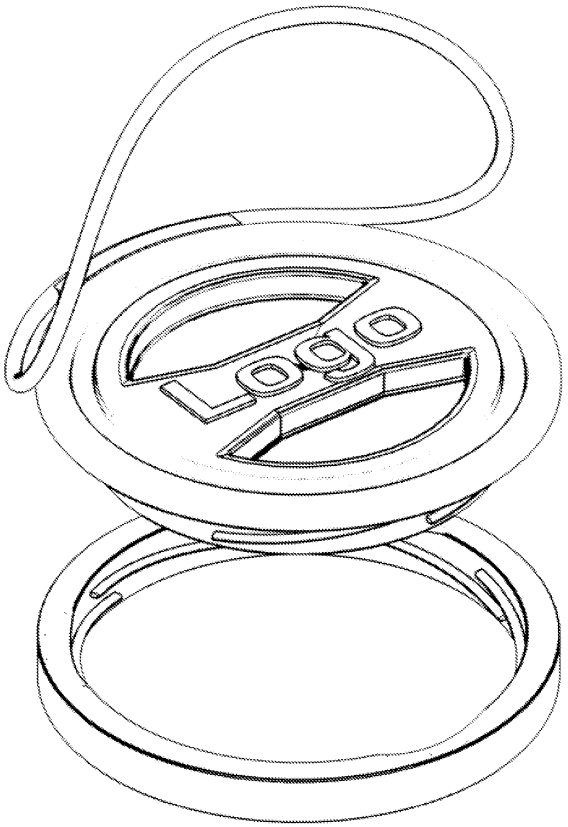

Fig. 1

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Description

Technical Field of the Invention

[0001] The present invention relates to a cap adapted to be used for canned drinks such as carbonated drinks, beer cans etc...

Background of the Invention / Prior Art

[0002] There is significant amount of work on drink can caps in the patent literature; in a nutshell, all aiming at easing carriage of cans and eliminating hygiene concerns, the latter being caused by dust in storage environments which is accumulating on the peripheral portions of can top surfaces around the drinking mouth and thereby posing a serious health risk.

[0003] Beside cardboard carriers to store and carry a cans, polymer based carriers were also very much worked to be satisfactorily commercialized in the market. In the field, beside measures taken to eliminate hygiene concerns and providing necessary carrier means, another prior issue is to provide a carrier with an optimum design so as to not occupy a volume much larger than that of the original product and which is significantly in the shape of the top surface of a can, to be hence suitable for storing cans one above another in a conventional manner.

[0004] Polymer-based circular caps are mounted on can bodies in the manner to cover their entire top surfaces. The circular caps are generally planar, sheet-like structures entirely covering the top surface of a can. The present invention provides a two-part can cap fixedly attached to the top surface of a can with a stationary first part and a removable second part, the releasable connection between the two parts being reestablishable upon rupture of a one-time use safety ring. The two-part cap according to the present invention practically eliminates any health hazard associated with insufficient hygiene of a can's top surface.

[0005] Further, the cap of the present invention, while efficient in achieving the anti-hygienic effect is advantageous due to it simplicity in configuration, therefore providing a cost-efficient design. A user can easily open the cap being aware of the fact that he/she is the first person to open it and can consume the can content by direct contact with the mouth of the container without needing a straw and can place his/her lips close both to the external part of the can's top surface and to the mouth portion emptied by the tear-off tab.

Objects of the Invention

[0006] One of the objects of the present invention is to provide a can practically eliminating any health hazard associated with insufficient hygiene of a drink can's top surface.

[0007] Another object of the present invention is to provide a cap for a drink can which is simple in configuration, therefore providing a cost-efficient design.

[0008] Yet another object of the present invention is to provide a can providing a releasable connection between two parts thereof, such connection being reestablishable upon rupture of a one-time use safety ring.

Summary of the Invention

[0009] The objects of the present invention are achieved through use of a two-part can cap having a first stationary part in the form of a ring attached to the top surface of a can for receiving a second part in a fixed manner. Said second part is a threaded circular body suitable for rotatably engaging with said first part to establish a leak-proof connection. Said fixing ring also having threads mating with said cap provides a conventional closure. Further, a handle is provided on the cap to be torn-off along a perforated circumferential line other than a binding line.

Brief Description of the Figures

[0010] In the following, the invention is described in more detail with reference to the drawings, which are given solely for the purpose of exemplifying the invention.

[0011] According to the present invention, Fig.1 shows an exploded view of the first embodiment where the fixing ring has inner threads.

Fig. 2a shows an upper perspective view of the cap according to the first embodiment of the present invention.

Fig. 2b shows a lower perspective view of the cap according to the first embodiment of the present invention.

Fig. 2c shows a perspective view of the fixing ring according to the first embodiment of the present invention.

Fig. 3 shows a side view of the cap and the fixing ring according to the first embodiment of the present invention.

Fig. 4 shows a lower perspective of the cap and the fixing ring during engagement according to the first embodiment of the present invention.

Fig. 5 shows an exploded view of the cap and the fixing ring according to the first embodiment of the present invention.

Fig. 6 shows a lower perspective of the engaged cap and fixing ring according to the first embodiment of the present invention.

Fig.7 shows an exploded view of the second embodiment where the fixing ring has outer threads according to the present invention.

Fig. 8a shows a lower perspective view of the cap according to the second embodiment of the present invention.

Fig. 8b shows an upper perspective view of the cap according to the second embodiment of the present invention.

Fig. 8c shows a perspective view of the fixing ring according to the second embodiment of the present invention.

Fig. 9 shows an exploded view of the cap and the fixing ring according to the second embodiment of the present invention.

Fig. 10 shows a lower perspective of the cap and the fixing ring during engagement according to the second embodiment of the present invention.

Fig. 11 shows an exploded view of the cap and the fixing ring according to the second embodiment of the present invention.

Fig. 12 shows a lower perspective of the engaged cap and fixing ring according to the second embodiment of the present invention.

Fig. 13a shows a third embodiment where the handle is attached to the fixing ring rather than the cap according to the present invention.

Fig. 13b shows an alternate embodiment where the can cover is equipped with a safety tear ring ensuring one time use only with a tear line according to the present invention.

Detailed Description of the Invention

[0012] Below are listed essential parts of the cap according to the present invention, the reference numbers of which will be referred to in this detailed description.

10 Cap
11 Handle
12 Fixing ring
13 Threads of the cap
14 Threads of the fixing ring
15 Binding line of the handle
16 Cap perimeter
17 Outer wall of the fixing ring
18 Inner wall of the fixing ring
19 Recess
20 Tear tip
21 Tear ring (one time use safety ring)
22 Tear line (perforated)

[0013] Now referring to the figures outlined above, the cap (10) according to the present invention is preferably made of a polymer-based material in the form of a planar and circular sheet-like structure entirely covering the top surface of a can and incorporating a circular handle means (11) surrounding said cap (10) along its periphery.

[0014] The cap (10) of the present invention is manufactured in the form of a two-part body having a first ring-shaped stationary part (12) fixedly attached to the top surface of a can for receiving a second part, the cap (10) itself.

[0015] Said second part (10) is a threaded circular body suitable for rotatably engaging with said first part (12) to establish a leak-proof connection. Said fixing ring (12) has threads mating with said cap (10) to provide a conventional threaded closure.

[0016] According to a first embodiment of the present invention, said fixing ring (12) is provided with inner threads (14). The threads (13) of the cap (10) engage therewith to establish a threaded connection. Further, the fixing ring (12) of the present invention may feature outer threads (14) as shown in Fig. 7 and onwards. According to this embodiment, the cap's (10) threads (13) surround the fixing ring (12) from outside.

[0017] Said handle (11) is provided on the cap (10) to be torn-off along a perforated or bridged circumferential line except a binding line (15) as shown in Fig. 2a, Fig. 8b and Fig. 9. Said handle (11) may preferably be provided adjacent to a peripheral zone (16) on the upper surface of the cap (12). Upon rupture of said perforated line in a conventional and simple manner, a user may conveniently carry a can in one hand or even with a single finger. As shown in Fig. 13a, the handle (11) may also be provided on the fixing ring (12) instead of the cap (10) itself, its function always remaining the same.

[0018] Said fixing ring (12) has an outer wall (17) and an inner wall (18), the surfaces of which are selectively provided with threads according to the first and second embodiments of the present invention. Said fixing ring (12) is fixedly secured to the top surface of a can and securely held thereon by means of a recess (19) thereof, engaging with the upper surface peripheral protrusion of the can such that the established connection is undetectable to the extent that it can endure both the mechanical stress due to the weight of the can and the stress imposed by a user to detach the same.

[0019] The cap (10) according to the present invention also ensures that a user is aware of the fact that he/she is the first person to open it and can consume the can content by direct contact with the mouth of the container without hygiene concerns. This is achieved by a one-time use tear ring (21) having a tip portion (20) for easy grip.

[0020] As shown in Fig. 13b, a user can easily grip the tear tip (20) to tear away the perforated line (22) of the tear ring (21) and then open the cap (10) by rotating the

same in a conventional manner. As it will not be possible to reestablish the perforated connection (22) after rupture, the user will not doubt whether the can surface is hygienic.

[0021] In a nutshell, the present invention provides a very simple yet functional two-part cap assembly with a cap (10) suitable for covering a can surface. Said cap (10) being in the form of a circular, sheet-like structure connected to a fixing ring (12) by means of a threaded connection. Said fixing ring (12) is fixedly attached to the top surface of said can and establishes a releasable connection with said cap (10).

[0022] The handle (11) according to the present invention has at least partially a tearable line which is comprised of perforations or one or more tearable bridging connections.

Claims

1. A cap assembly suitable for covering a drink can's top surface, said cap assembly comprising a cap (10) being in the form of a circular, sheet-like structure connected to a fixing ring (12) by means of a threaded connection and a handle (11) at least partially having a tearable line, said fixing ring (12) being fixedly attached to the perimeter of the top surface of said can and establishing a releasable connection with said cap (10).

2. A cap assembly suitable for covering a can surface as in Claim 1 wherein said handle's (11) at least partial tearable line is comprised of perforations or one or more tearable bridging connections.

3. A cap assembly suitable for covering a can surface as in Claim 2 wherein said handle's (11) at least partial tearable line surrounds the periphery (16) of said cap (10) and is associated with a non-tearable line (15) for fastening the handle (11) to the cap (10).

4. A cap assembly suitable for covering a can surface as in Claim 1 or 3 wherein said fixing ring (12) is provided with inner threads (14) with which the threads (13) of the cap (10) engage to establish a connection.

5. A cap assembly suitable for covering a can surface as in Claim 1 or 3 wherein said fixing ring (12) is provided with outer threads (14) with which the threads (13) of the cap (10) engage to establish a connection so as to surround said fixing ring (12) from outside.

6. A cap assembly suitable for covering a can surface as in Claim 1 wherein said fixing ring (12) is provided with a tearable-line handle (11) along its periphery.

7. A cap assembly suitable for covering a can surface as in any previous claims wherein said cap (10) comprises a one-time use tear ring (21) having a tip portion (20) to tear away a perforated or bridged line (22) of the tear ring (21).

8. A cap assembly suitable for covering a can surface as in Claim 6 wherein said handle's (11) tearable line is comprised of perforations or one or more tearable bridging connections.

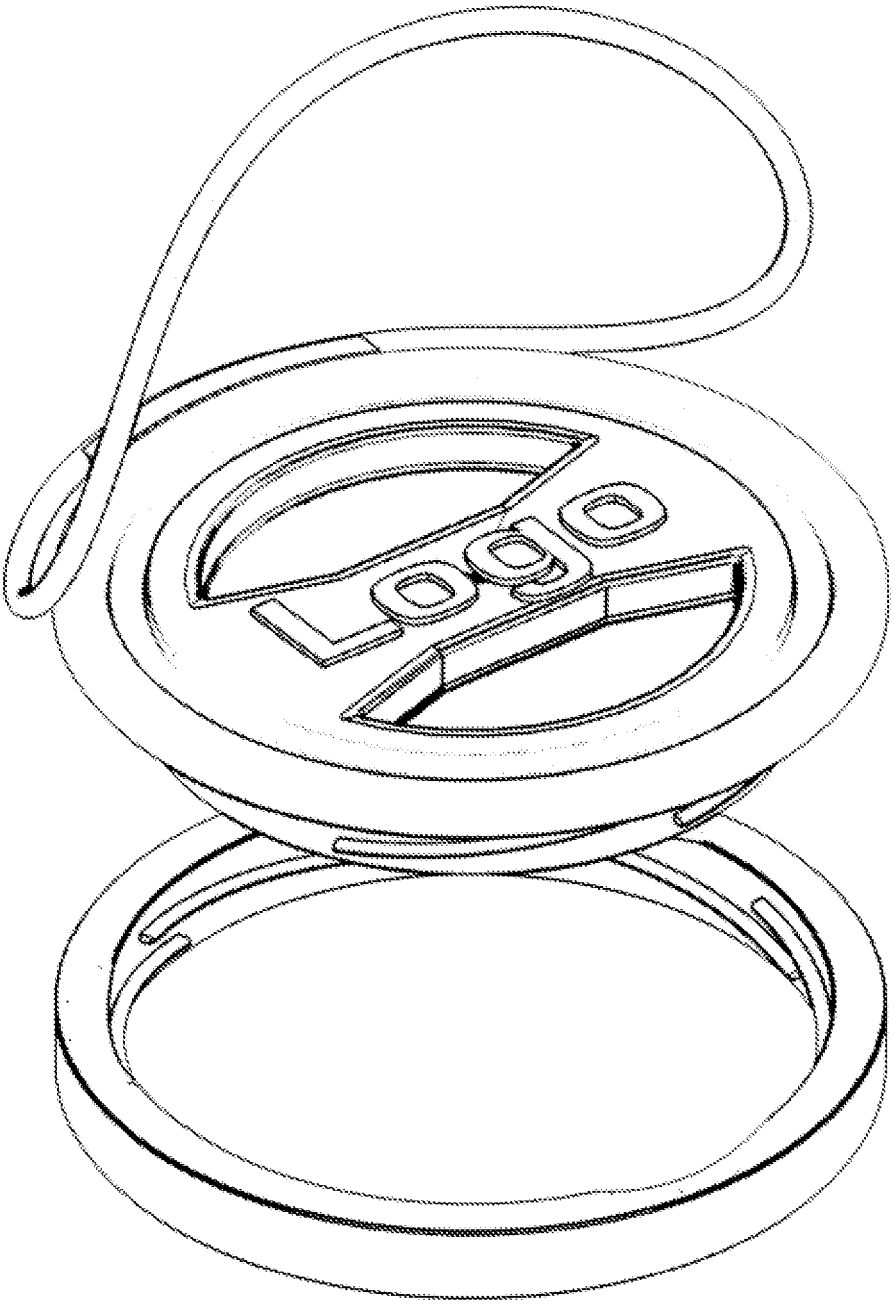

Fig. 1

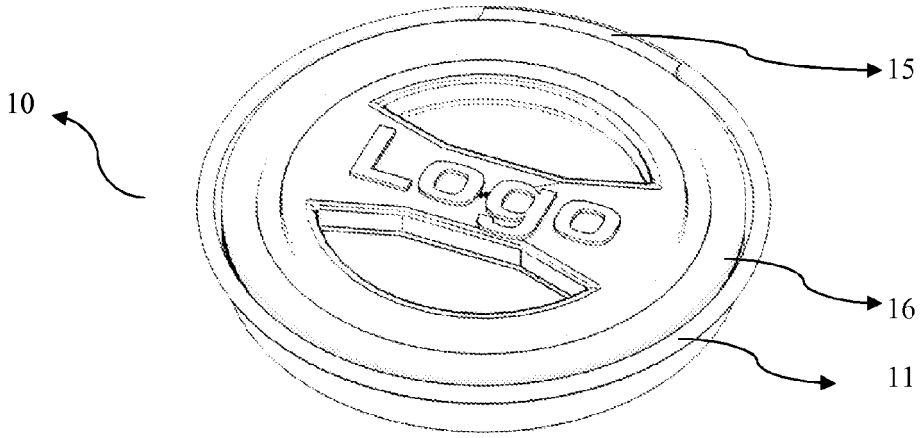

Fig. 2a

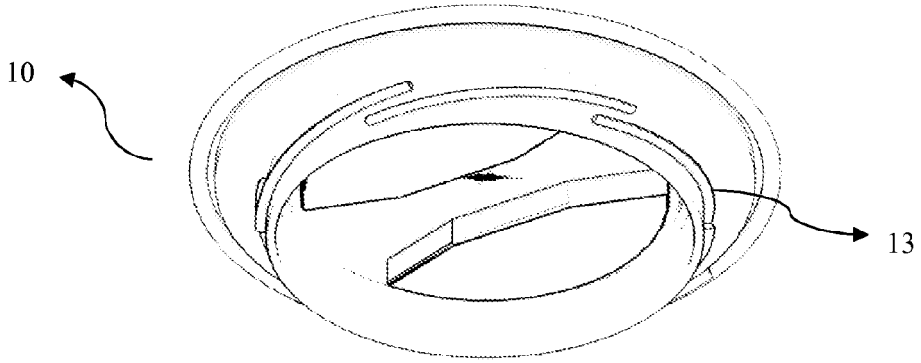

Fig. 2b

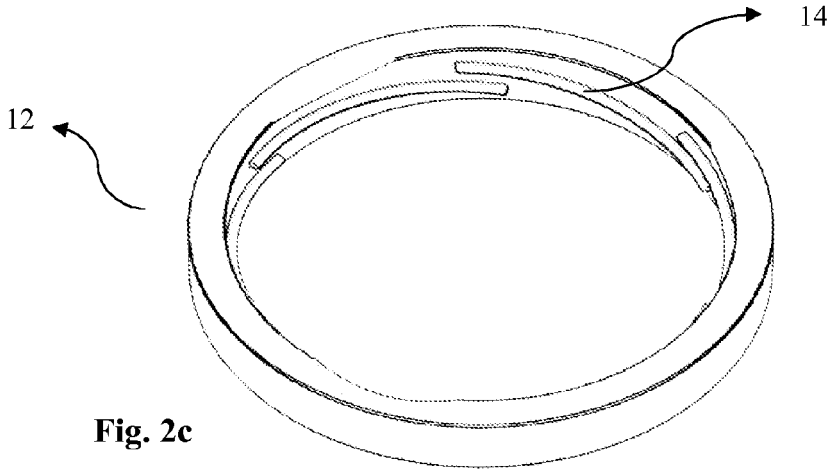

Fig. 2c

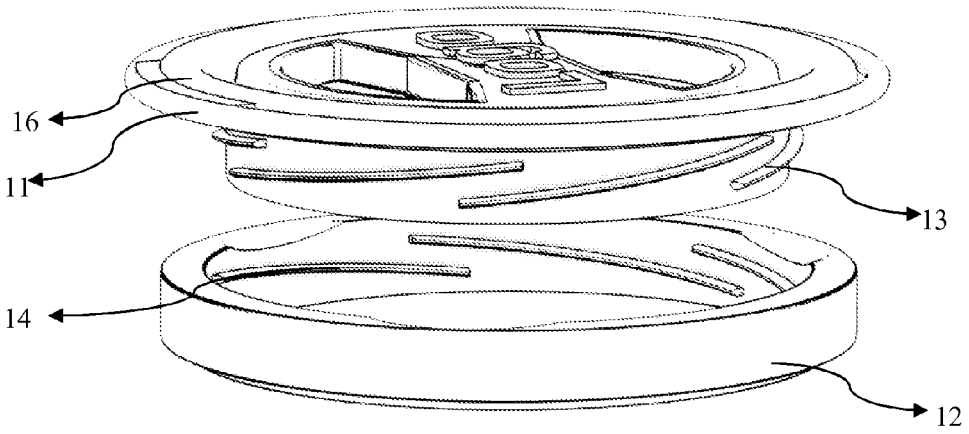

Fig. 3

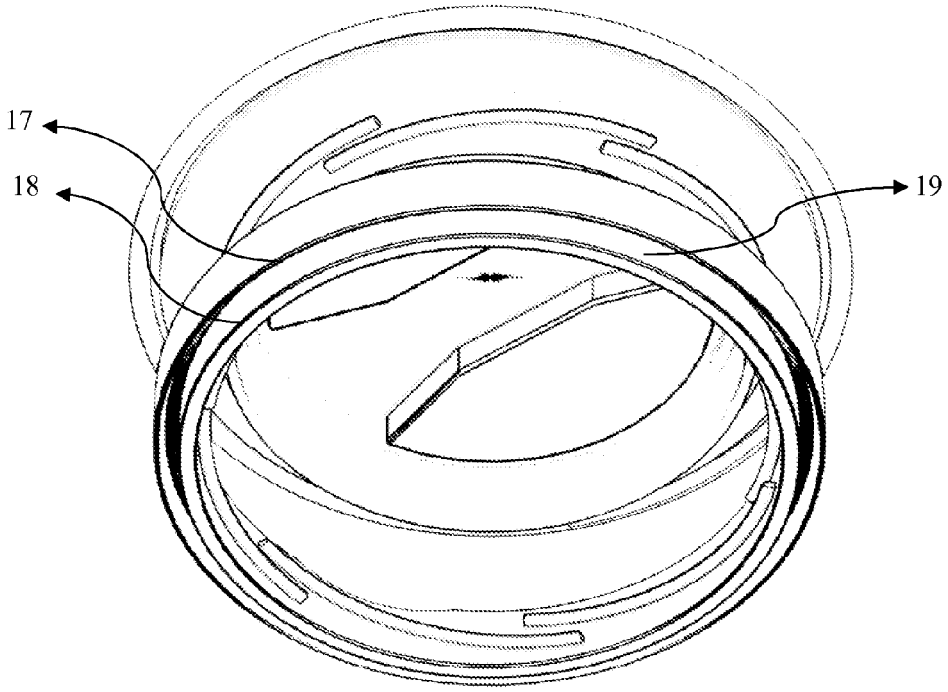

Fig. 4

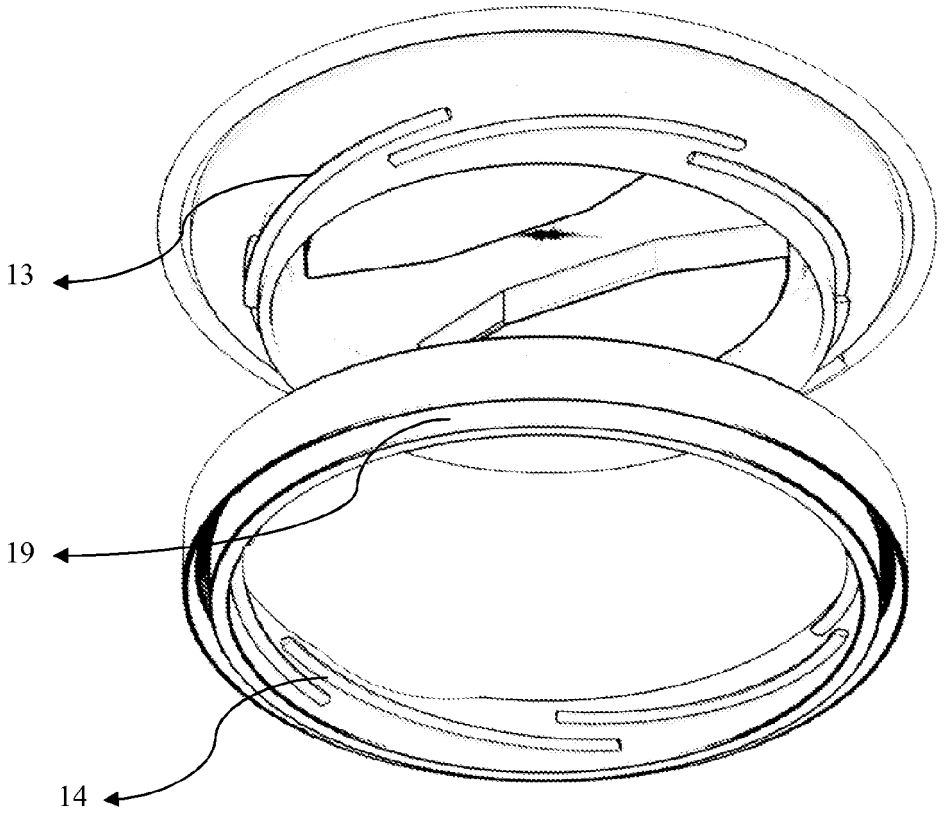

Fig. 5

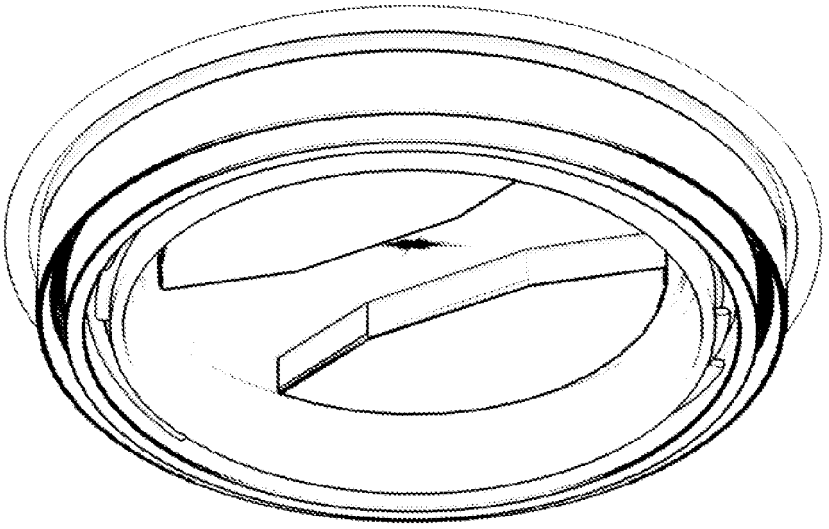

Fig. 6

Fig. 7

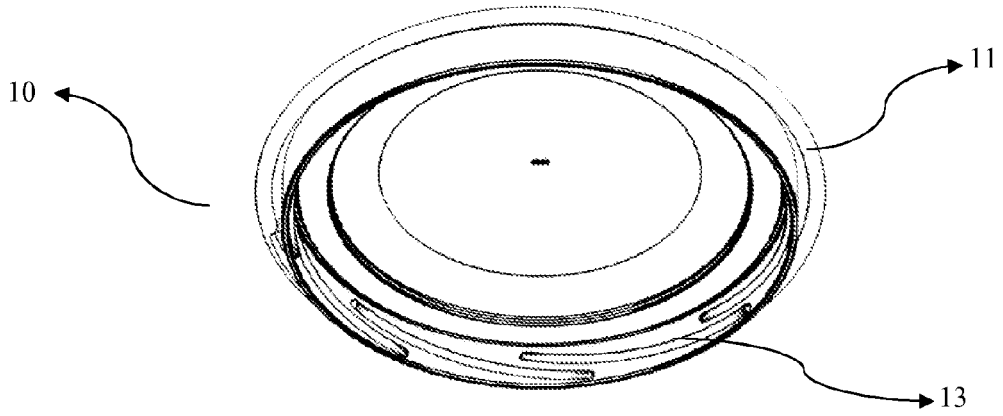

Fig. 8a

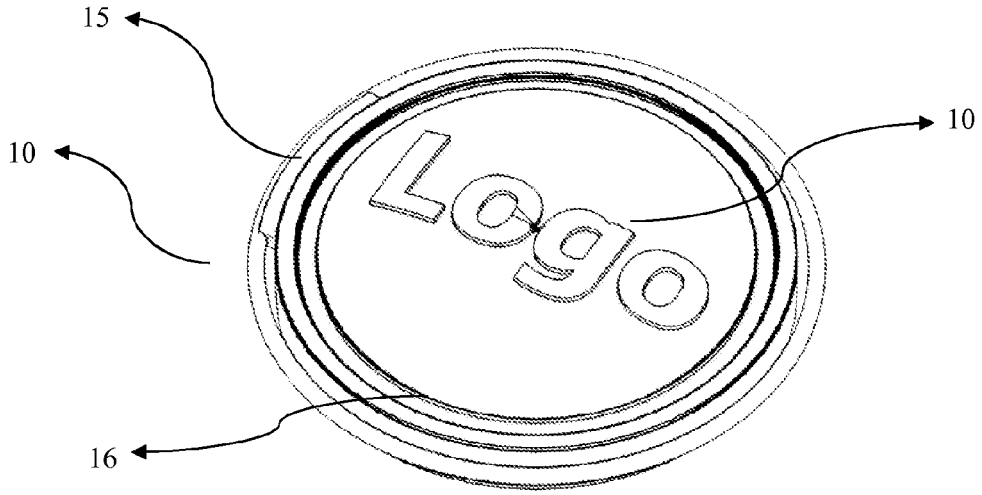

Fig. 8b

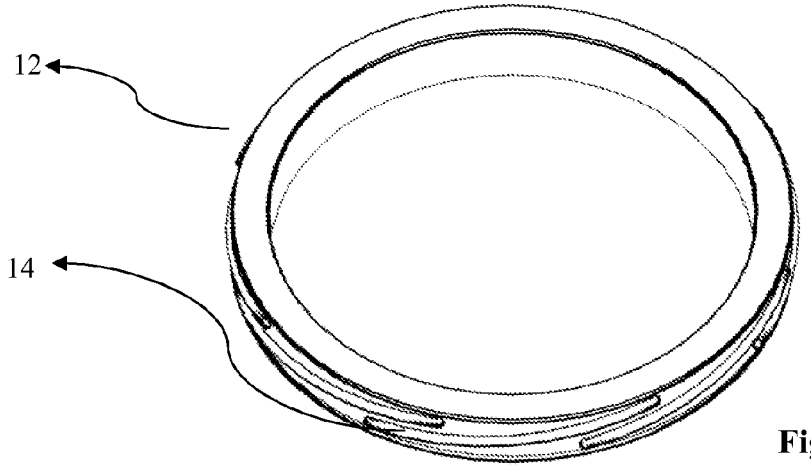

Fig. 8c

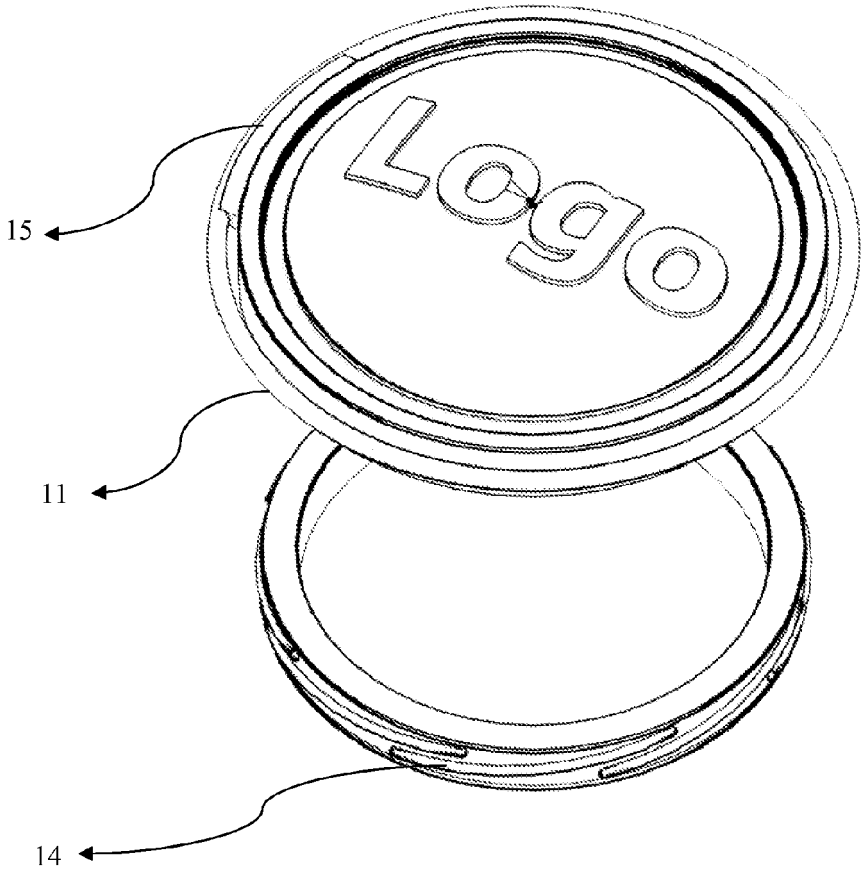

Fig. 9

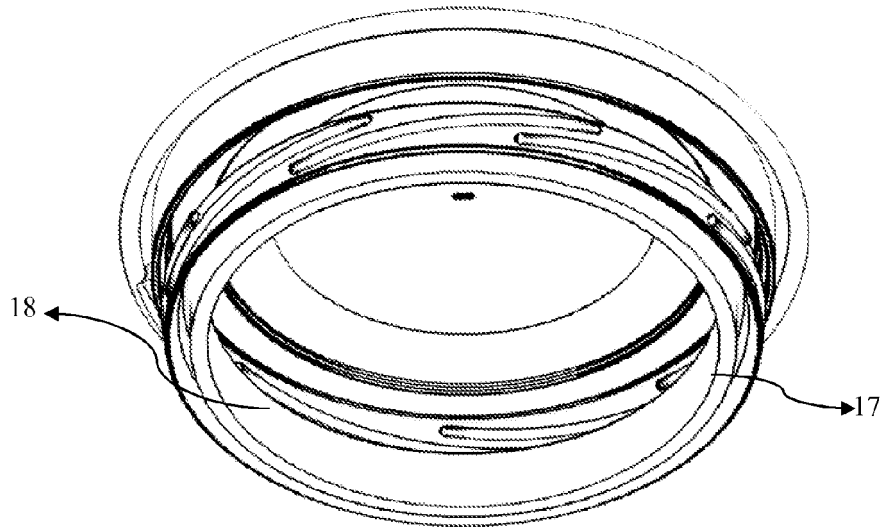

Fig. 10

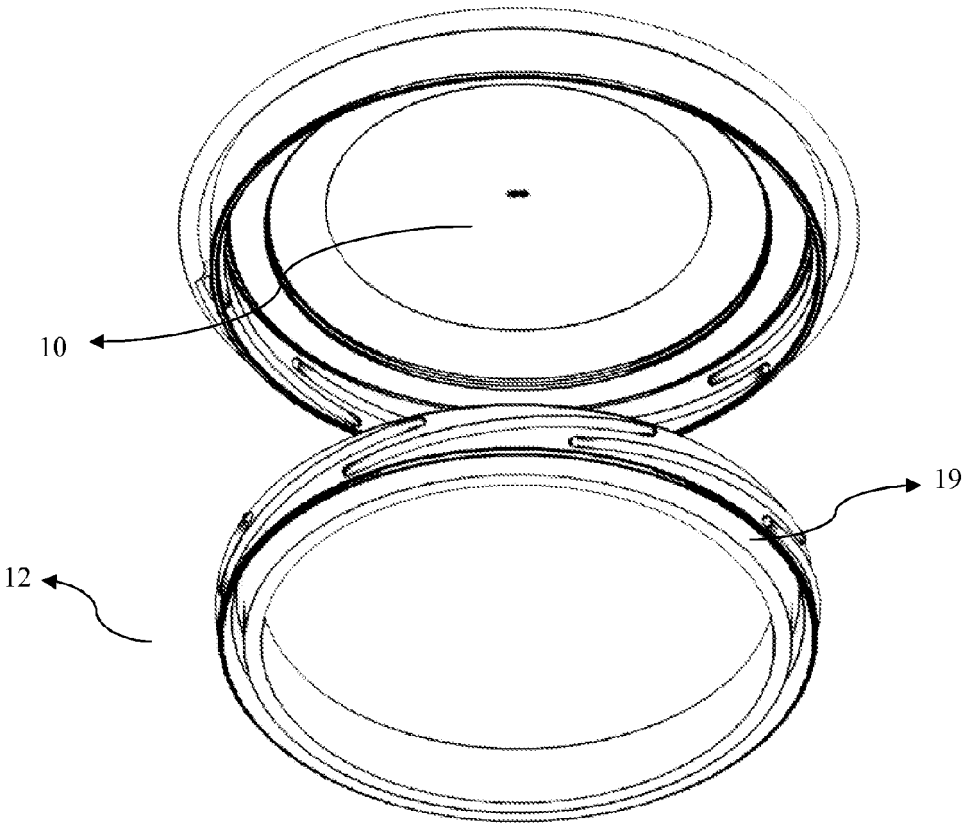

Fig. 11

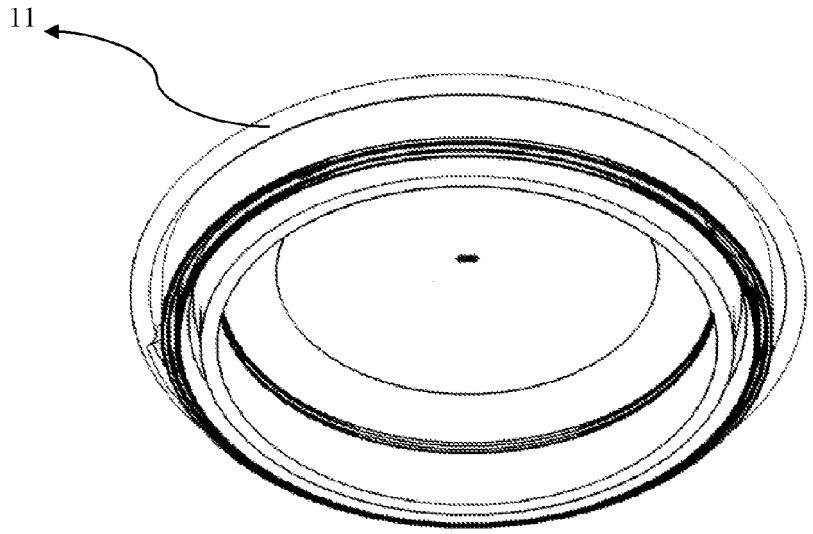

Fig. 12

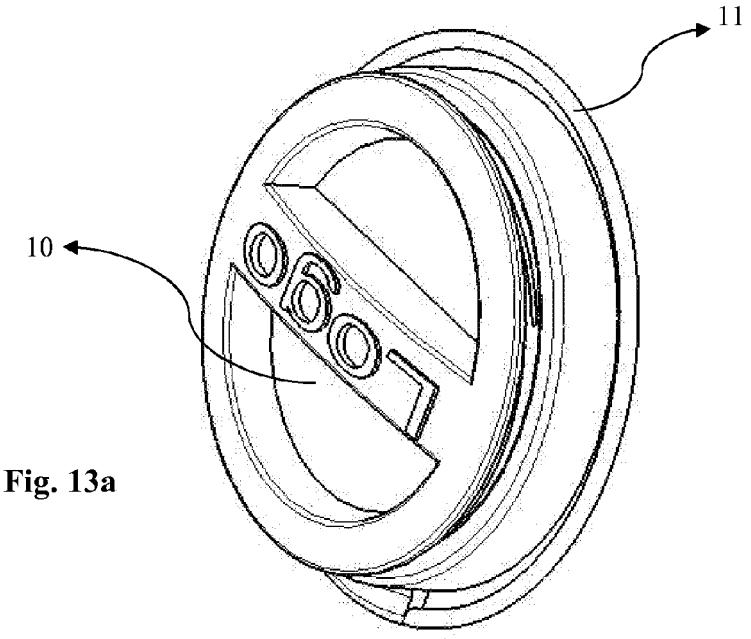

Fig. 13a

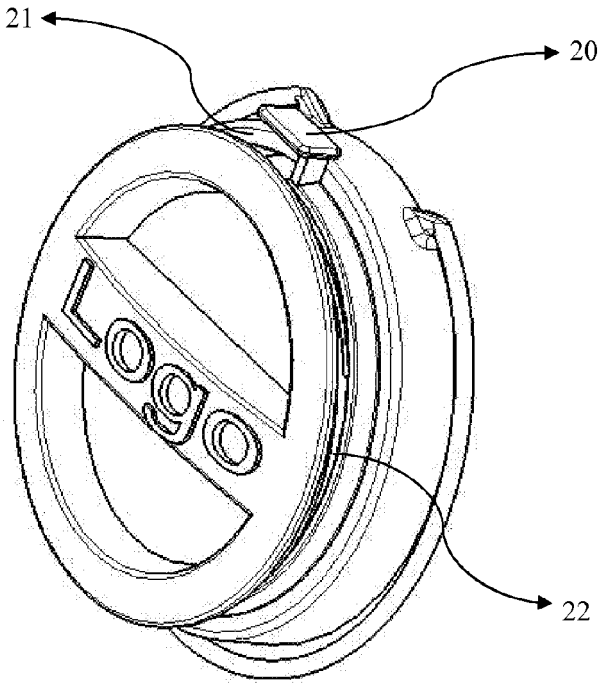

Fig. 13b

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EUROPEAN SEARCH REPORT

Application Number
EP 09 16 4346

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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A	NL 2 000 169 C2 (4SIGHT INNOVATION B V [NL]) 5 February 2008 (2008-02-05) * page 8, line 12 - page 13, line 10; figures 1-7 *	1-8	
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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	9 December 2009	Leijten, René

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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