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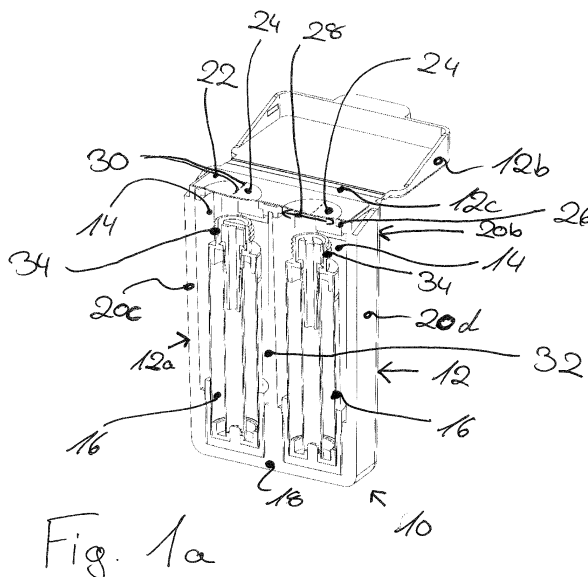
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(54) **PACK FOR AT LEAST ONE CONSUMER ARTICLE AND METHOD OF PACKAGING**

(57) The present invention provides a pack (12) for at least one consumer article, such as an electronic cigarette cartridge (16), the pack (10) comprising a base (18) and one or more side walls (20), which together at least partially delimit at least one compartment (14) for accommodating the consumer article, wherein a top side of the compartment (14) opposite to the base (18) is covered or sealed by a foil (22) which inhibits access to the compartment (14), and wherein the foil (22) comprises

at least one predefined area (24) in which the foil (22) is configured to be broken to access the compartment (14) through an opening formed through the broken predefined area (24) of the foil (22). Moreover, the present invention also relates to an electronic cigarette cartridge product (10) and to a method of packaging at least one consumer article, especially at least one electronic cigarette cartridge (16).



Description

Field of the Invention

[0001] The present invention relates to a pack for at least one consumer article, such as an electronic cigarette ("e-cigarette") or an electronic cigarette cartridge. Further, the present invention relates to a method of packaging at least one consumer article, especially at least one electronic cigarette cartridge.

Background of the Invention

[0002] Personal vaporizer devices, such as electronic cigarettes or "e-cigarettes" as they are also known, have gained in popularity over the past ten years as an alternative to traditional smoking articles, like cigarettes, cigars, and cigarillos. Because the technology employed in personal vaporizer devices is still quite young, however, developments in the design and packaging of the devices are on-going to improve their performance and reliability, as well as their practicality and ease of use.

[0003] US 2014/0196731 A1 describes an aroma pack for an electronic cigarette, which comprises an aromatic insert that is infused with a tobacco-like aroma and is located within a housing positioned inside the aroma pack. The aromatic insert emits the scent of tobacco when a top cover of the aroma pack is opened. Thus, a purchaser of the electronic cigarette within the aroma pack opening the top cover may smell the scent of tobacco, in a similar manner as occurs when a pack of traditional cigarettes is opened for the first time, so that the consumer may assume that the electronic cigarette within the aroma pack is fresh. A consumer of such articles will typically wish to have confidence that an electronic cigarette cartridge is fresh and uncontaminated before use.

[0004] In addition to freshness of the product and freedom from contamination, however, it is another design goal to render a pack of cartridges for an e-cigarette or a pack for the electronic cigarette itself resistant to access by children, and particularly resistant to access by very young children.

Summary of the Invention

[0005] In view of the above, an object of the invention is to provide a new and improved pack for at least one consumer article, such as an electronic cigarette cartridge, and an associated packaging method. In particular, it would be useful to provide such a new and improved pack and packaging method which provides a consumer with confidence that the article is fresh and uncontaminated before use, and/or that the article is not readily accessible by children, especially very young children.

[0006] In accordance with the present invention, a pack for at least one consumer article, especially for at least one electronic cigarette cartridge, as recited in claim 1 is

provided. Various advantageous and/or preferred features of the invention are recited in the dependent claims.

[0007] According to one aspect, therefore, the present invention provides a pack for at least one consumer article, especially for at least one electronic cigarette cartridge, the pack comprising: a base and one or more side walls, which together at least partially delimit at least one compartment for accommodating a consumer article, wherein a top side of the compartment opposite to the base is covered or sealed by a foil which inhibits access to the compartment, and wherein the foil comprises at least one predefined area in which the foil is configured to be broken, e.g. to be pierced or torn, to access the compartment through an opening formed through the pierced or torn predefined area of the foil.

[0008] In this way, the foil may not only seal and preserve the article in the compartment against contamination or loss of freshness, it is also able to protect the contents of the pack from access by children. That is, although the foil may be designed to be broken in at least one predefined area, that area may be configured to be broken (e.g. pierced or torn) in a manner that a child may not be capable of carrying out. For example, the at least one predefined area may be designed for a particular implement or tool to which the child may not have access. As an alternative, or in addition, the at least one predefined area may only break upon application of a level of force which a child may not be expected to be capable of exerting.

[0009] In a preferred embodiment of the pack, the at least one predefined area of the foil is configured to be pierced or torn by a connector part, especially a screw thread, of an electronic cigarette, wherein the compartment is configured to receive the connector part of the electronic cigarette into the compartment inserted through the opening formed through the frangible (e.g. pierced or torn) predefined area of the foil for connection with a consumer article, especially an electronic cigarette cartridge, accommodated in the compartment. The frangible predefined area, which is configured to be broken, e.g. by piecing or tearing, preferably comprises or is delimited by one or more line of weakness formed in the foil.

[0010] In a preferred embodiment, the foil of the pack, and especially the predefined area of the foil which is configured to be broken, has a Mullen burst strength in the range of about 120 to 150 pounds per square inch (psi) (i.e. in the range of about 800 to 1000 kPa). In a preferred embodiment, the foil of the pack, and especially the predefined area of the foil which is configured to be broken, has a puncture strength in the range of about 40 to 60 pounds (i.e. about 200 to 300 N). In this way, the foil requires the exertion of a level of force which is typically beyond the capability of a young child.

[0011] In a preferred embodiment, the at least one predefined area of the foil is marked by at least one marker on an outer surface of the foil. For example, the at least one marker may comprise at least one raised portion, at least one recess and/or at least one perforation formed

in or on the outer surface of the foil. Alternatively or in addition, the at least one marker may comprise at least one line and/or at least one symbol printed on the outer surface of the foil. In this regard, the at least one marker or symbol provided on the foil is preferably designed to be obscure or not readily understood by a young child. This may furthermore assist to enhance the resistance to access of the article(s) contained in the pack by children.

[0012] In a preferred embodiment, the at least one marker surrounds or corresponds to a contact region for the connector part of the electronic cigarette to be pressed against the predefined area of the foil for piercing or tearing the predefined area.

[0013] In a preferred embodiment, the foil is made of at least one material selected from the group consisting of: aluminium, plastic, and cardboard. The foil may optionally be a multilayer foil comprising at least two different layers, wherein the at least two different layers preferably have different coefficients of tensile strength.

[0014] In a preferred embodiment, the pack has a cuboid shape comprising a base wall from which extend a first sidewall, a second sidewall opposite to the first sidewall, a third sidewall, and a fourth sidewall opposite to the third sidewall, wherein the cuboid shaped pack encloses a cavity or space, which comprises the at least one compartment, and preferably a plurality of compartments, each of which is configured to for accommodate a respective consumer article and each of which is covered or sealed by a respective foil which inhibits access to that compartment.

[0015] According to another aspect, the invention provides an electric cigarette cartridge product, comprising a pack according to any one of the embodiments described above and an electronic cigarette cartridge contained in each compartment within the pack.

[0016] In a preferred embodiment of the product, the electronic cigarette cartridge in each compartment is arranged in such a way that a connector part of the cartridge is directed towards the predefined area of the foil to engage with a connector part of the electronic cigarette inserted into the compartment through the opening formed through the predefined area to connect the cartridge to the electronic cigarette. In one example, the engagement of the parts may involve screwing together a screw thread of the cartridge connector part and a corresponding screw thread of the electronic cigarette connector part. In an alternative embodiment, the engagement may involve pressing the electronic cigarette connector part together with the cartridge connector part in a form fit or a friction fit.

[0017] In a preferred embodiment, the electronic cigarette cartridge is held in a friction fit or by a retaining element (e.g. adhesive element) in its respective compartment. In this way, even if the foil were to be broken or removed by a child, the cartridge would not simply drop out from the compartment. Furthermore, the top side of the compartment covered by the foil is preferably di-

mensioned to be only slightly larger than the cartridge itself. While this readily enables the cartridge to pass through an opening in the top side, it is not possible for either an adult or a child to insert his/her fingers into the compartment to grasp and withdraw the cartridge by hand. Rather, the cartridge is designed to be withdrawn by engagement with a connector part of the electronic cigarette through the broken foil, whereupon the cartridge can then be withdrawn from its compartment. This therefore provides a level of sophistication in the entrainment and/or retention of the cartridge in the compartment which may be expected to be beyond the competence of a young child to access.

[0018] In preferred embodiment of the cartridge product, the pack comprises at least two compartments, and wherein each compartment contains or holds a respective one of the cartridges.

[0019] In a preferred embodiment, the pack may comprise fingerprint recognition means for recognising either identity or at least the finger size (and therefore approximate age) of the person handling the pack and seeking to access its contents.

[0020] According to a further aspect, the invention provides a method for packaging at least one consumer article, especially at least one electronic cigarette cartridge, comprising the steps of:

arranging the at least one consumer article within a compartment of a pack at least partially delimited by a base and one or more side walls, and covering a top side of the compartment opposite the base with a foil to inhibit access to the compartment, wherein the top side of the compartment is covered or sealed by the foil with at least one predefined area which is configured to be broken, especially pierced or torn, to provide access to the compartment through an opening formed through the pierced or torn predefined area.

[0021] In a preferred embodiment, at least one marker is printed or formed in or on an outer surface of the foil to mark or indicate the at least one predefined area.

[0022] In a preferred embodiment, an electronic cigarette cartridge is arranged in each compartment such that a connector part of the cartridge is directed towards the breakable or frangible predefined area of the foil covering the top side of the compartment.

Brief Description of the Drawings

[0023] For a more complete understanding of the invention and the advantages thereof, exemplary embodiments of the invention are explained in more detail in the following description with reference to the accompanying drawing figures, in which like reference characters designate like parts and in which:

Fig. 1a to 1d are a schematic front view, a schematic

side view, a cross-sectional side view and a cross-sectional front view of an electronic cigarette cartridge product according to a preferred embodiment;

Fig. 2a to 2c are schematic perspective views of such an electronic cigarette cartridge product for illustrating a method of extracting at least one electronic cigarette cartridge out of the product and fixing it to an electronic cigarette; and

Fig. 3 is an explosion diagram for illustrating a method of packaging at least one electronic cigarette cartridge according to a preferred embodiment.

[0024] The accompanying drawings are included to provide a further understanding of the present invention and are incorporated in and constitute a part of this specification. The drawings illustrate particular embodiments of the invention and together with the description serve to explain the principles of the invention. Other embodiments of the invention and many of the attendant advantages of the invention will be readily appreciated as they become better understood with reference to the following detailed description.

[0025] It will be appreciated that common and/or well understood elements that may be useful or necessary in a commercially feasible embodiment are not necessarily depicted in order to facilitate a more abstracted view of the embodiments. The elements of the drawings are not necessarily illustrated to scale relative to each other. It will further be appreciated that certain actions and/or steps in an embodiment of a method may be described or depicted in a particular order of occurrences while those skilled in the art will understand that such specificity with respect to sequence is not actually required. It will also be understood that the terms and expressions used in the present specification have the ordinary meaning as is accorded to such terms and expressions with respect to their corresponding respective areas of inquiry and study, except where specific meanings have otherwise been set forth herein.

Detailed Description of Embodiments

[0026] With reference to Fig. 1a to 1d of the drawings, an embodiment of the electronic cigarette cartridge product 10 is described: The electronic cigarette cartridge product 10 comprises a pack 12 with at least one compartment 14 and an electronic cigarette cartridge 16 in each compartment 14 within the pack 12. (The electronic cigarette cartridge 16 may also be called an electronic cigarette container.) Even though two compartments 14 are provided within the pack 12 shown in Figures 1a to 1d, a feasibility of the pack 12 is not restricted to a certain number of its compartments 14. Thus, it is possible to

form the pack 12 with only one compartment 14 or more than two compartments 14. Furthermore, it is also possible to use the pack 12 for packaging another consumer article instead of the shown electronic cigarette cartridges 16.

[0027] The pack 12 comprises a container 12a with a base/base wall 18 and one or more side walls 20a to 20d. The base 18 and the at least one side wall 20a to 20d delimit together at least partially the at least one compartment 14 for accommodating the at least one electronic cigarette cartridge 16 or another consumer article. In the shown embodiment, the pack 12 has a cuboid shape. It further comprises four side walls 20a to 20d extending from its base 18, wherein a first side wall 20a and a second side wall 20b (opposite to the first side wall 20a) are connected with each other via a third side wall 20c and a fourth side wall 20d (opposite to the third side wall 20c). The first side wall 20a may be called a front side wall of the pack and the second side wall 20b may be described as the back side wall of the pack 12. However, the feasibility of the pack 12 is not restricted to the cuboid shape shown in Figures 1 a to 1 d. Moreover, even though the pack 12 of the shown embodiment comprises a lid 12b linked to the second side wall/back side wall 20b of the container 12a via a hinge 12c, the lid 12b and the hinge 12c are only optional features of the pack 12. As will be explained below, the lid 12b is not necessary for inhibiting access to the at least one compartment 14 within the pack 12.

[0028] The pack 12 may be formed of polypropylene, for instance. Thus, it is easy to give a good moulded surface finish to it. Moreover, it is easy to ensure a good flexibility of the hinge 12c formed of polypropylene.

[0029] A top side of each compartment 14 opposite to the base 18 is covered or sealed by a foil 22 which inhibits access into each compartment 14 of the pack 12 (if not pierced or torn). Preferably, the foil 22 is a sealed foil 22 limiting the access to the at least one compartment 14 within the pack 12 (if not pierced or torn). The foil 22 may be fixed on the top side of each compartment 14 as a heat sealed foil 22.

[0030] The foil 22 comprises at least one predefined area 24 in which the foil 22 is configured to be pierced or torn. The at least one predefined area 24 may be pierced or torn to access the compartment 14 through an (not shown) opening formed through the pierced or torn predefined area 24 of the foil 22. Thus, a purchaser of the electronic cigarette cartridge product 10 has the opportunity to take the at least one electronic cigarette cartridge 16 out of the pack 12 through the at least one opening formed through the at least one pierced or torn predefined area 24 of the foil 22. Due to the foil 22 covering each compartment 14 of the pack 12 in a way that access into each compartment 14 is inhibited as long as the at least one predefined area 24 is not pierced or torn, the unpierced or untorn foil 22 demonstrates that, after its packaging, the at least one cigarette cartridge 16 within the at least one compartment 14 is in the clean and

original state provided by its producer and thus is fresh and uncontaminated. The purchaser of the electronic cigarette cartridge product 10 therefore does not have to fear a contamination of the at least one electronic cigarette cartridge 16 in the pack 12 as long as the at least one predefined area 24 of the foil 22 is not broken.

[0031] For the formation of the at least one opening through the pierced or torn predefined area 24 of the foil 22, it is necessary to apply a force or a pressure to the at least one predefined area 24. The at least one predefined area 24 of the foil 22 may be pierced or torn by applying a force or pressure to it in a direction from an outer surface of the foil 22 to an inner surface of the foil 22. An example how the purchaser of the electronic cigarette cartridge product 10 may do this is given further below. Importantly, because the predefined area 24 of the foil 22 has a puncture strength or rupture strength of about 60 pounds (i.e. about 300 N), the foil 22 requires the exertion of a force which is typically beyond the capability of a young child, making the pack resistant to child access.

[0032] The addition of the lid 12b to the pack 12 requires the purchaser of the electronic cigarette cartridge product 10 to open the lid 12b before being able to pierce or tear the at least one predefined area 24 of the foil 22 to access to the at least one compartment 14 within the pack 12. However, as is explained above, the lid 12b is not necessary for inhibiting access to the at least one compartment 14 within the pack 12.

[0033] Preferably, the foil 22 has exactly one predefined area 24 for each compartment 14 of the pack 12. In this case, the at least one predefined area 24 is located adjacent to its compartment 14 in a way that only the electronic cigarette cartridge 16 of the adjacent compartment 14 can be taken out of the pack 12 after it is pierced or torn. Thus, the purchaser of the electronic cigarette cartridge product 10 may take one of at least two electronic cigarette cartridges 16 out of the pack 12, while the at least one electronic cigarette cartridge 16 kept in the pack 12 remains fresh and unconsummated.

[0034] The foil 22 may be made of a variety of materials. For instance, the foil 22 may be made at least partially of aluminium, plastic and/or cardboard. Specially, the foil 22 may be made of a combination of these materials. Furthermore, it is possible to form the foil 22 as a multi-layer foil comprising at least two different layers. In this case the at least two different layers preferably have different coefficients of tensile strength.

[0035] In the example of Figure 1a to 1d, a foil backing element/foil backing sheet 26 is arranged at the top side of each compartment 14 (opposite to the base 18 of the pack 12), wherein at least one opening 28 extends through the foil backing element 26 (from its first main surface to its second main surface opposite to the first main surface). The first main surface of the foil backing element 26 arranged at the top side of the at least one compartment 14 is directed away from the at least one electronic cigarette cartridge 16 packed in the pack 12.

The foil backing element 26 is covered by the foil 22. In the example of Figure 1a to 1d, the first main surface of the foil backing element 26 is covered by the foil 22. Thus, those parts of the foil 22 covering the at least one opening 28 within the foil backing element 26 may be pierced or torn easily (compared to the other parts of the foil 22) and thus define the at least one predefined area 24 of the foil 22. Preferably, the foil backing element 26 may be formed of a material that inhibits the formation of an opening through the foil 26 outside of the at least one predefined area 24. This ensures that it is necessary to pierce or tear the at least one predefined area 24 of the foil 22 in order to access the at least one electronic cigarette cartridge 16 within the pack 12. The foil backing element 26 may be made of polypropylene or ABS, for instance. These materials permit a good bond of the (heat sealed) foil 22 to the foil backing element 26 and inhibit the formation of an opening through the foil 26 outside of the at least one predefined area 24. However, the foil backing element 26 shown in Figure 1 a to 1 d is an optional feature of the pack 12.

[0036] Preferably, the at least one predefined area 24 of the foil 22 is marked by at least one marker (indication means) on the outer surface of the foil 22. The at least one marker shows the purchaser of the electronic cigarette cartridge product 10 where to pierce or tear the foil 22 to extract the at least one electronic cigarette cartridge 16 packed into the pack 12 easily and fast.

[0037] For instance, the at least one marker may comprise at least one raised portion, at least one recess and/or at least one perforation 30 formed in or on the outer surface of the foil 22. In a preferred embodiment, the at least one perforation 30 formed in or on the outer surface of the foil 22 has the form of a line and/or at least one symbol on the outer surface and may be pierced or torn. Thus, the at least one perforation 30 formed in or on the outer surface of the foil 22 can fulfil the different functions of marking the at least one predefined area 24 of the foil 22 and of facilitating the formation of the opening through the at least one predefined area 24 (when a force is exerted on it). However, a feasibility of the at least one marker is not restricted to the examples given here. For instance, the at least one marker may also comprise at least one line and/or at least one symbol printed on the outer surface of the foil 22. The at least one symbol printed on the outer surface of the foil 22 may be a triangle or a circle or any other sign that informs the purchaser of the electronic cigarette cartridge product 10 where to pierce or tear the foil 22. Thus, a variety of different printed patterns may be used to mark the at least one predefined area 24 of the foil 22.

[0038] At least one divider 32 may be formed in an inner volume of the container 12a to divide the inner volume into more than one compartment 14. Moreover, at least one protrusion/rib (not shown) may protrude into the at least one compartment 14 that fixes the electronic cigarette cartridge 16 packed therein even when a rotatory force is exerted on it. Alternatively, each cartridge 16 may

be held in a friction fit between the side walls 20a to 20d defining its respective compartment 14. This facilitates the formation of a link between the electronic cigarette cartridge 16 and an electronic cigarette, as will be explained below.

[0039] Preferably, the electronic cigarette cartridge 16 in each compartment 14 of the pack 12 is arranged in such a way that a connector part 34 of the electronic cigarette cartridge 16 (for linking it with an electronic cigarette) is directed toward the predefined area 24 of the foil 22. This facilitates it for the purchaser of the electronic cigarette cartridge product 10 to engage the connector part 34 of the electronic cigarette cartridge 16 with a connector part of an electronic cigarette, as will be explained below.

[0040] With reference to Figures 2a to 2c of the drawings, an advantageous method of extracting at least one electronic cigarette cartridge 16 out of an electronic cigarette cartridge product 10 and fixing it to an electronic cigarette 38 is explained:

To extract the at least one electronic cigarette cartridge 16 (not shown in figure 2a) within the pack 12, a purchaser of the electronic cigarette cartridge product 10 only has to press a connector part 36 of an electronic cigarette 38 against the at least one predefined area 24 of the foil 22. Preferably, the at least one predefined area 24 of the foil 22 is marked by at least one marker 40 on an outer surface of the foil 22 and the at least one marker 40 surrounds or corresponds to a contact region of the connector part 36 of the electronic cigarette 38 which is pressed against the predefined area 24 of the foil 22 for piercing or tearing the predefined area 24. The at least one predefined area 24 of the foil 22 may be configured to be pierced or torn by a screw thread 36 of the electronic cigarette 38 (as an example of its connector part 36), for instance. As is shown by arrow 42 in figure 2a, the contacted predefined area 24 of the foil 22 may be pierced or torn by performing a small movement of the electronic cigarette 38 towards the foil 22.

[0041] As can be seen in Figure 2b, the at least one compartment 14 of the pack 12 is configured to receive the screw thread/connector part 36 of the electronic cigarette 38 into the compartment 14 after it is inserted through the opening formed through the pierced or torn predefined area 24 of the foil 22. Thus, it is possible to form a connection with the electronic cigarette cartridge 16 accommodated in said compartment 14. For instance, after the screw thread 36 of the electronic cigarette 38 is inserted into the compartment 14 through the opening formed through the predefined area 24 it may be possible to connect the electronic cigarette cartridge 16 to the electronic cigarette 38 by screwing the screw thread 36 of the electronic cigarette 38 and the screw thread 34 of the electronic cigarette cartridge 16 together. This may

be done by simply rotating the electronic cigarette 38, as is indicated by arrow 44 in Figure 2b. The at least protrusion/rib (not shown) formed within the compartment 14, and/or the friction fit between the side walls 20a to 20d immobilizes the electronic cigarette cartridge 16 even though the electronic cigarette 38 may exert a rotatory force on it.

[0042] After forming a connection between the connector part 36 of the electronic cigarette 38 and the connector part 34 of the electronic cigarette cartridge 16, for instance by screwing the screw thread 36 of the electronic cigarette 38 and the screw thread 34 of the electronic cigarette cartridge 16 together, the electronic cigarette cartridge 16 fixed to the electronic cigarette 38 may be extracted out of its compartment 14 by pulling the electronic cigarette 38 away from the pack 12, as is shown by arrow 46 in Figure 2c.

[0043] Finally, an embodiment of the method of packaging at least one consumer article is described with reference to Figure 3 of the drawings:

In the example of Figure 3, at least one electronic cigarette cartridge 16 is packed as an example of the at least one consumer article. However, it is also possible to use the method described here for packaging another consumer article.

[0044] In a first method step, the at least one electronic cigarette cartridge 16 is placed within at least one compartment 14 of a pack 12. Preferably, exactly one electronic cigarette cartridge 16 is arranged in each compartment 14 of the pack 12. In the example of Figure 3, the at least one compartment 14 is provided in the pack 12 described above. However, a performance of the method described here is not restricted to the use of said pack 12.

[0045] The at least one electronic cigarette cartridge 16 may be arranged in its at least one compartment 14 in such a way that a connector part 34 of said cartridge 16 is directed towards a top side of its compartment 14 (opposite to a base 18 of the pack 12). This allows a later extraction of the at least one electronic cigarette cartridge 16 out of the pack 12 according to the method explained above.

[0046] In another method step, the top side of the at least one compartment 14 (opposite to the base 18) is covered or sealed with a foil 22 to inhibit access into the at least one compartment 14. The foil 22 used for covering/sealing the top side of the at least one compartment 14 has at least one predefined area 24 which is configured to be pierced or torn to provide access to the at least one compartment 14 through an opening formed through a pierced or torn predefined area 24. Thus, the at least one electronic cigarette cartridge 16 packed according to the method described here is easily extractable by a purchaser. Moreover, the purchaser can be sure that the at least one electronic cigarette cartridge 16 in the pack 12 is fresh and uncontaminated as long as the at least one predefined area 24 of the foil is not broken.

[0047] In an optional method step, at least one marker may be printed or formed in or on an outer surface of the foil 22 to mark or indicate the at least one predefined area 24. For instance, a foil backing element 26 may be formed with at least one raised ring portion 48 which surrounds its at least one opening 28. Thus, the at least one predefined area 24 of the foil 22 is clearly marked by at least one raised portion on the outer surface of the foil 22 after the (heated sealed) foil 22 is bonded to the foil backing element 26.

[0048] Although specific embodiments of the invention are illustrated and described herein, it will be appreciated by those of ordinary skill in the art that a variety of alternate and/or equivalent implementations exist. It should be appreciated that the exemplary embodiment or exemplary embodiments are examples only and are not intended to limit the scope, applicability, or configuration in any way. Rather, the foregoing summary and detailed description will provide those skilled in the art with a convenient road map for implementing at least one exemplary embodiment, it being understood that various changes may be made in the function and arrangement of elements described in an exemplary embodiment without departing from the scope as set forth in the appended claims and their legal equivalents. Generally, this application is intended to cover any adaptations or variations of the specific embodiments discussed herein.

[0049] It will also be appreciated that in this document the terms "comprise", "comprising", "include", "including", "contain", "containing", "have", "having", and any variations thereof, are intended to be understood in an inclusive (i.e. non-exclusive) sense, such that the process, method, device, apparatus or system described herein is not limited to those features or parts or elements or steps recited but may include other elements, features, parts or steps not expressly listed or inherent to such process, method, article, or apparatus. Furthermore, the terms "a" and "an" used herein are intended to be understood as meaning one or more unless explicitly stated otherwise. Moreover, the terms "first", "second", "third", etc. are used merely as labels, and are not intended to impose numerical requirements on or to establish a certain ranking of importance of their objects.

List of Drawing Signs

[0050]

10	electronic cigarette cartridge product
12	pack
14	compartment
16	consumer article or electronic cigarette cartridge
18	base
20	side wall
22	foil
24	predefined area
26	foil backing element
28	opening

30	perforations
32	divider
34	connector part
36	connector part
5 38	electronic cigarette
40	marker
42	arrow
44	arrow
46	arrow
10 48	raised ring portion

Claims

- 15 1. A pack (12) for at least one consumer article (16), especially for at least one electronic cigarette cartridge, the pack (10) comprising:
 - 20 a base (18) and one or more side walls (20), which together at least partially delimit at least one compartment (14) for accommodating a consumer article (16),
 - 25 wherein a top side of the compartment (14) opposite to the base (18) is covered or sealed by a foil (22) which inhibits access to the compartment (14), and
 - 30 wherein the foil (22) comprises at least one predefined area (24) in which the foil (22) is configured to be broken, especially pierced or torn, to access the compartment (14) through an opening formed through the pierced or torn predefined area (24) of the foil (22).
- 35 2. A pack (12) according to claim 1, wherein the at least one predefined area (24) of the foil (22) is configured to be broken by a connector part (36), especially a screw thread (36), of an electronic cigarette (38), wherein the compartment (14) is configured to receive the connector part (36) of the electronic cigarette (38) into the compartment (14) inserted through the opening formed through the broken predefined area (24) of the foil (22) for connection with the consumer article (16), especially an electronic cigarette cartridge, accommodated in the compartment (14).
- 40 3. A pack (12) according to claim 1 or claim 2, wherein the at least one predefined area (24) of the foil is delimited by one or more line of weakness formed in the foil, and/or is marked by at least one marker (30, 40) on an outer surface of the foil (22).
- 45 4. A pack (12) according to claim 3, wherein the at least one marker (30, 40) comprises at least one raised portion (40), at least one recess and/or at least one perforation (30) formed in or on the outer surface of the foil (22).
- 50 5. A pack (12) according to claim 3 or claim 4, wherein
- 55

the at least one marker (30, 40) comprises at least one line and/or at least one symbol printed on the outer surface of the foil (22).

6. A pack (12) according to any one of claims 3 to 5, wherein the at least one marker (30, 40) corresponds to a contact region for the connector part (36) of the electronic cigarette (38) to be pressed against the predefined area (24) of the foil (22) for piercing or tearing the predefined area (24). 5
7. A pack (12) according to one of the preceding claims, wherein the foil (22) is made of at least one material selected from the group consisting of: plastic, aluminium and cardboard. 15
8. A pack (12) according to any of the preceding claims, wherein the foil (22) is a multilayer foil comprising at least two different layers, wherein the at least two different layers preferably have different coefficients of tensile strength. 20
9. A pack (12) according to any one of the preceding claims, the pack (12) having a cuboid shape comprising a base wall (18) from which extend a first side wall (20a), a second side wall (20b) opposite to the first side wall (20a), a third side wall (20c), and a forth side wall (20d) opposite to the third side wall (20c), wherein the cuboid shaped pack (12) encloses a cavity or space which comprises the at least one compartment (14), and preferably a plurality of compartments (14), each of which is configured to for accommodate a respective consumer article (16) and each of which is covered or sealed by a respective foil (22) which inhibits access to that compartment (14). 25 30 35
10. An electronic cigarette cartridge product (10), comprising: 40
a pack (12) according to any one of the preceding claims; and
an electronic cigarette cartridge (16) in each compartment (14) within the pack (12). 45
11. An electronic cigarette cartridge product (10) according to claim 10, wherein the electronic cigarette cartridge (16) in each compartment (14) is arranged is such a way that a connector part (34) of the cartridge (16) is directed towards the predefined area (24) of the foil (22) to engage with a connector part (36) of the electronic cigarette (38) inserted into the compartment (14) through the opening formed through the predefined area (24) to connect the cartridge (16) to the electronic cigarette (38), especially by screwing a screw thread (34) of the cartridge (16) and a screw thread (36) of the electronic cigarette (38) together. 50 55

12. An electronic cigarette cartridge product (10) according to claim 10 or claim 11, wherein the pack (12) comprises at least two compartments (14), and wherein a cartridge (16) is packed in each respective compartment (14).

13. A method of packaging at least one consumer article (16), especially at least one electronic cigarette cartridge, comprising the steps of:

arranging the at least one consumer article within a compartment (14) of a pack (12) at least partially delimited by a base (18) and one or more side walls (20a to 20d);
providing a foil (22) for covering a top side of the compartment (14) opposite the base (18) to inhibit access to the compartment (14), wherein the foil (22) is provided with at least one frangible predefined area (24) which is configured to be broken to provide access to the compartment (14) through an opening formed through the broken predefined area (24); and
covering the top side of the compartment (14) with the foil (22) to seal the compartment (14) and inhibit access to the consumer article (16).

14. A method according to claim 13, wherein at least one marker (30, 40) is printed or formed in or on an outer surface of the foil (22) to mark or indicate the at least one predefined area (24).

15. A method according to claim 13 or claim 14, wherein an electronic cigarette cartridge (16) is arranged in each compartment (14) such that a connector part (34) of the cartridge (16) is directed towards the frangible predefined area (24) of the foil (22) covering the top side of the compartment (14).

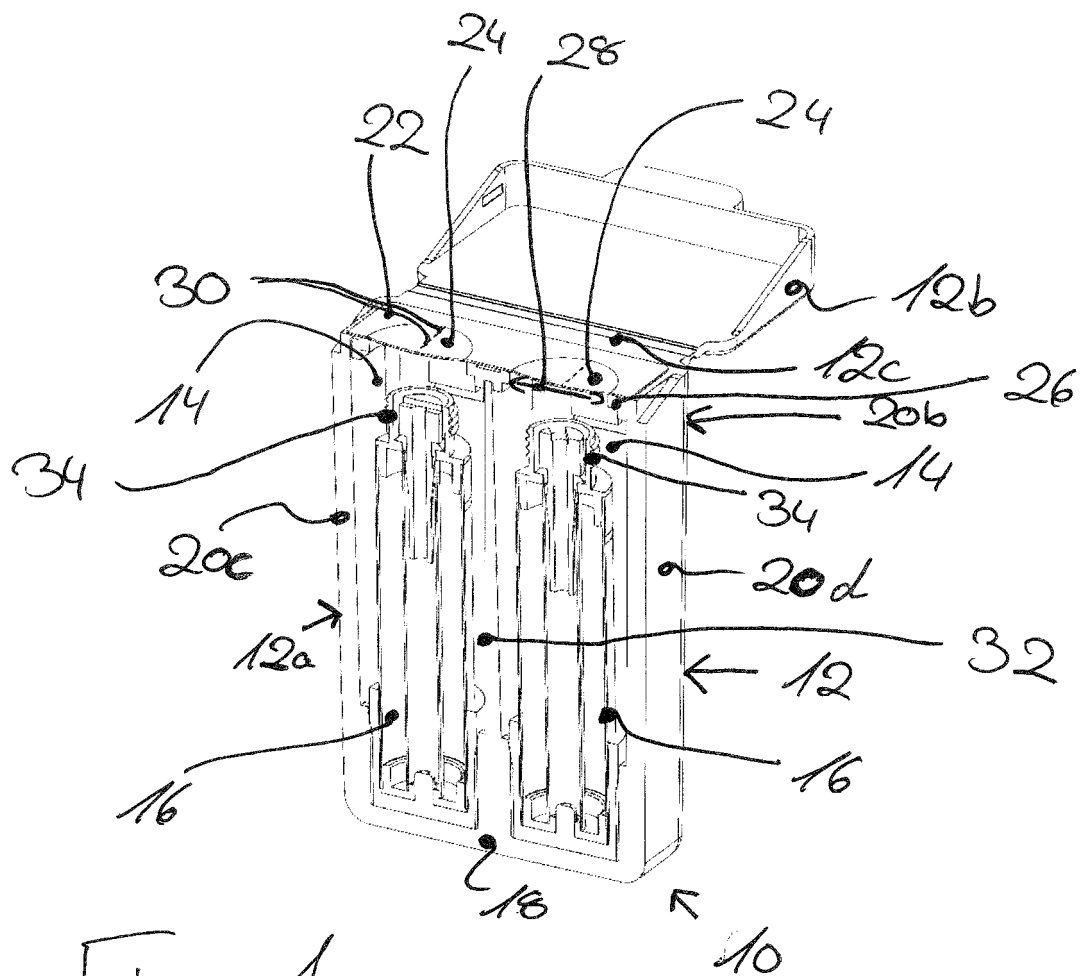


Fig. 1a

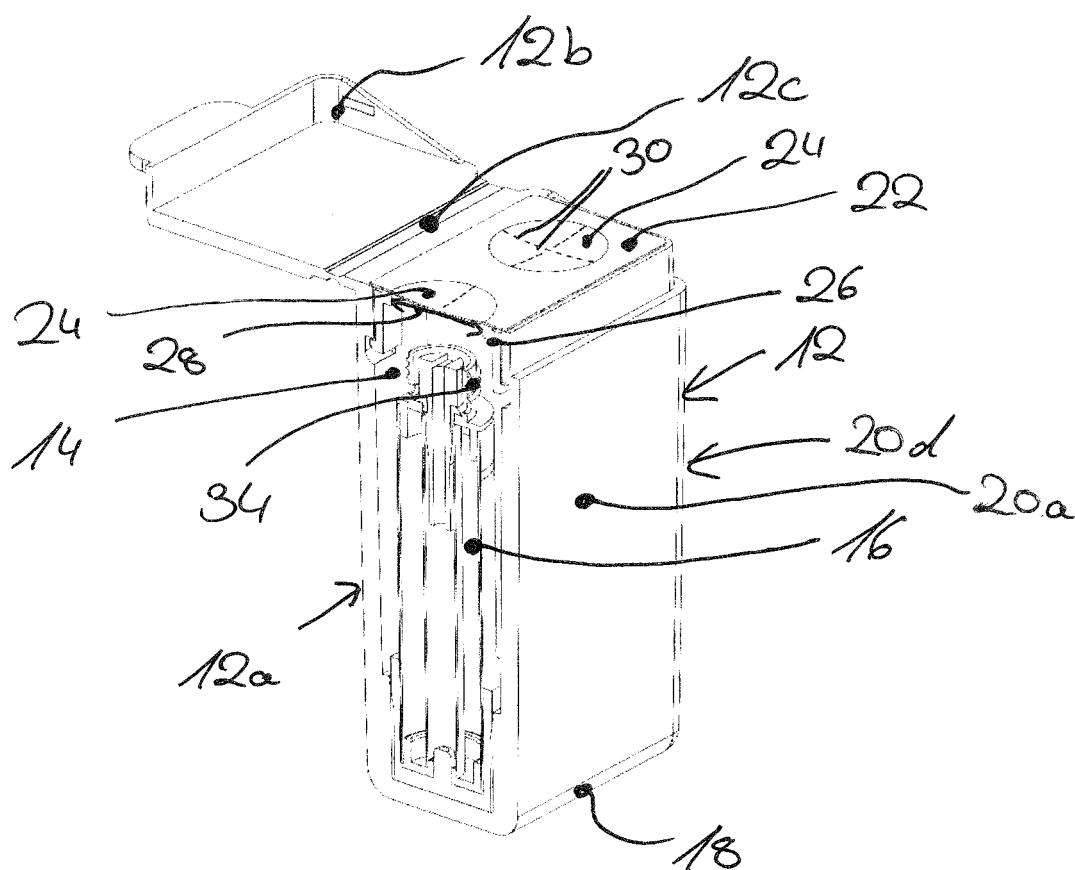
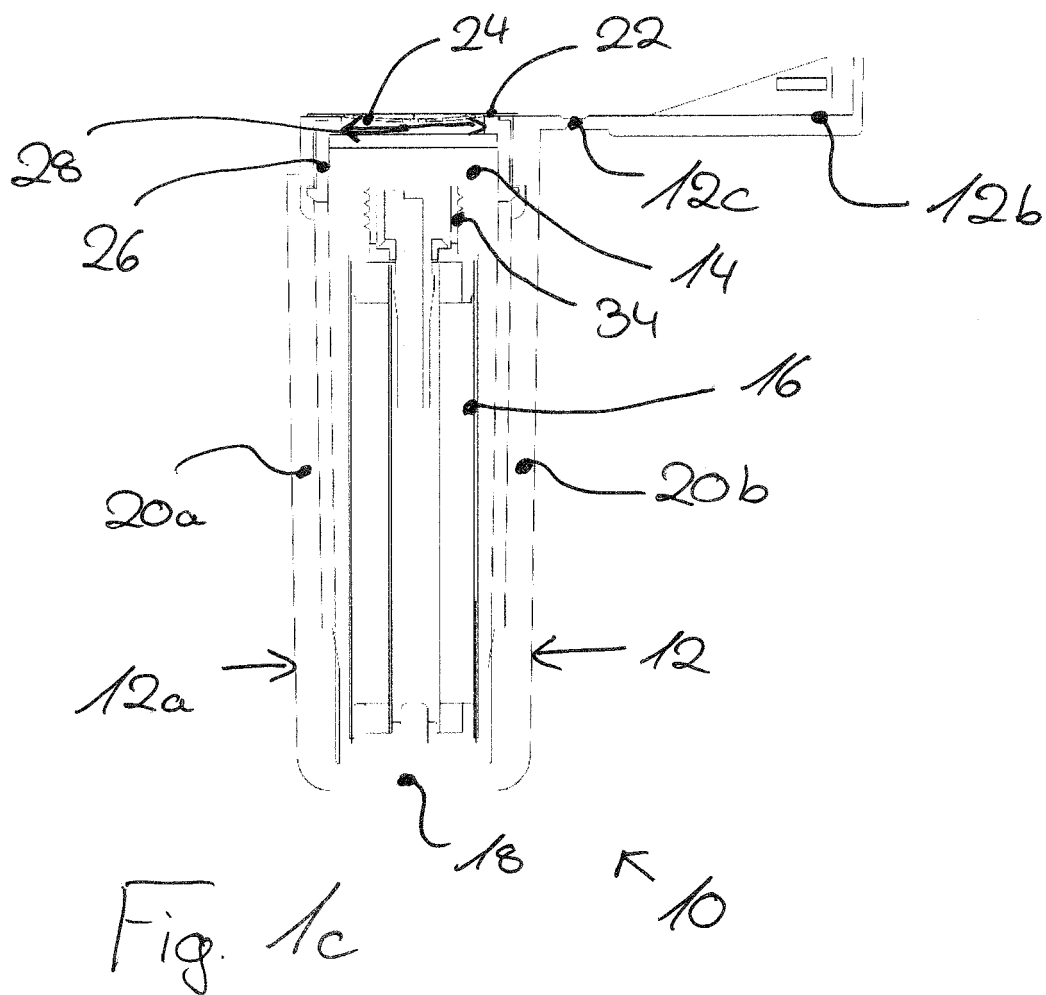


Fig. 16

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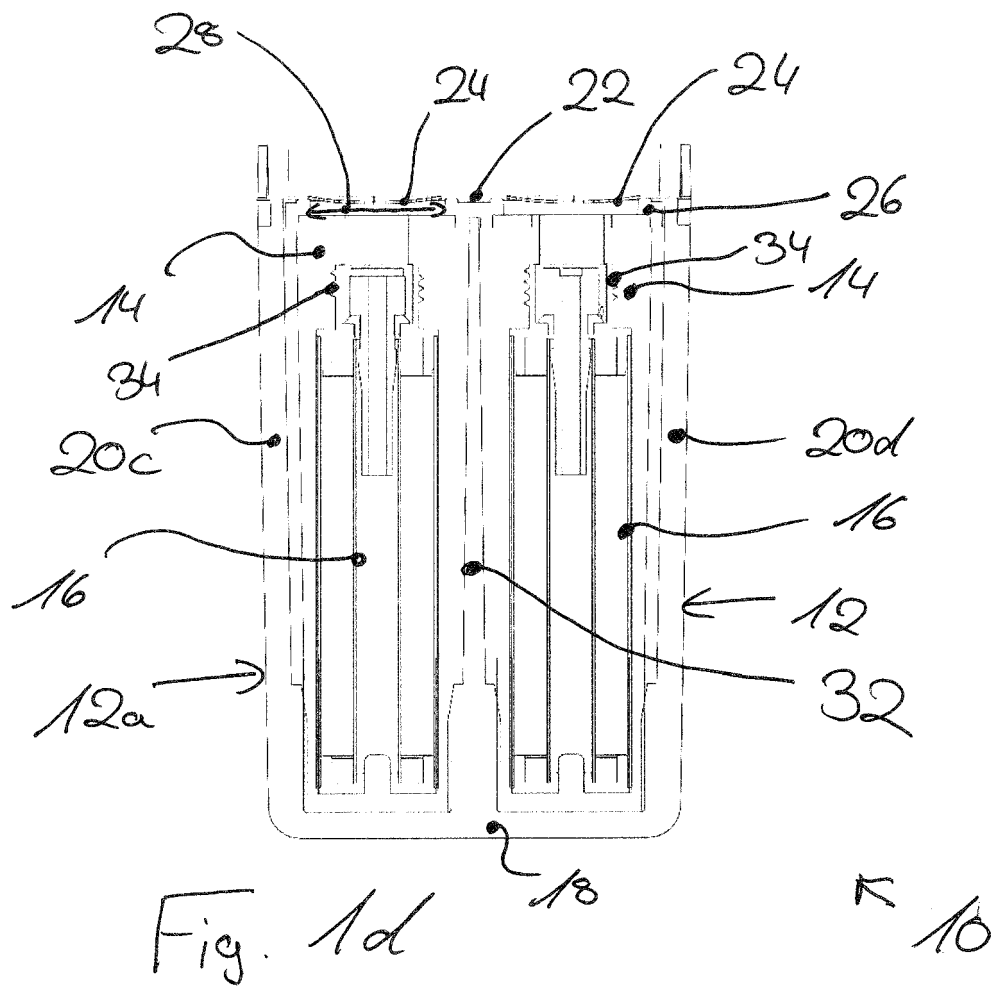


Fig. 2a

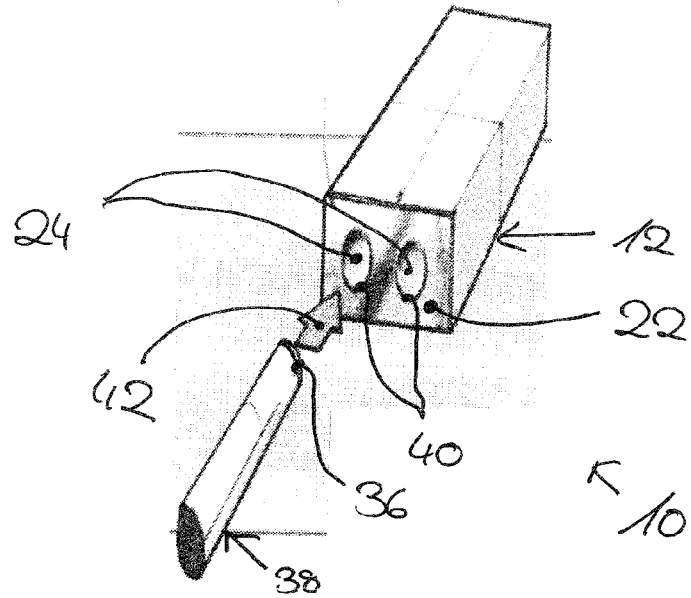


Fig. 2b

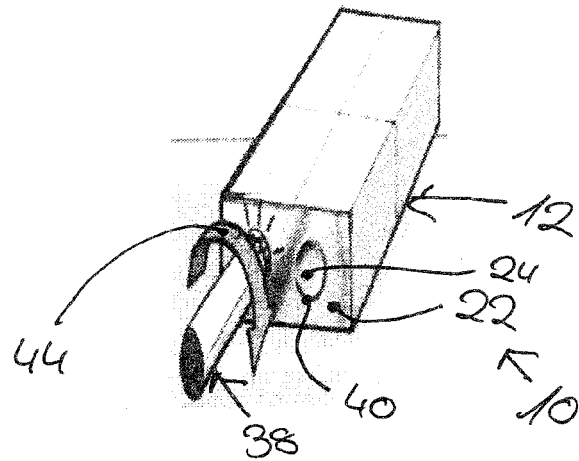
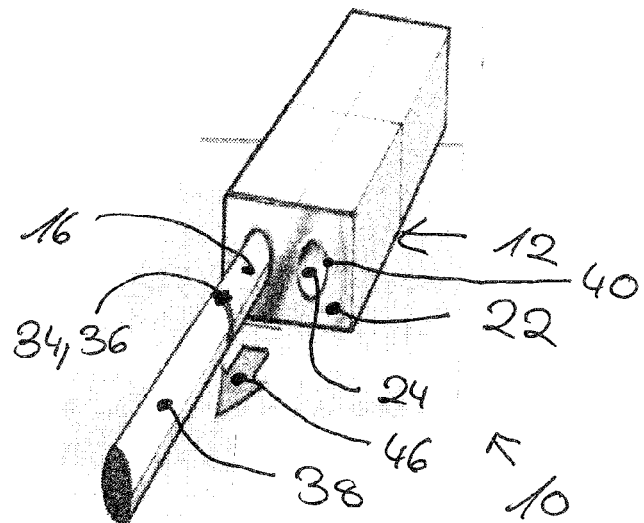


Fig. 2c



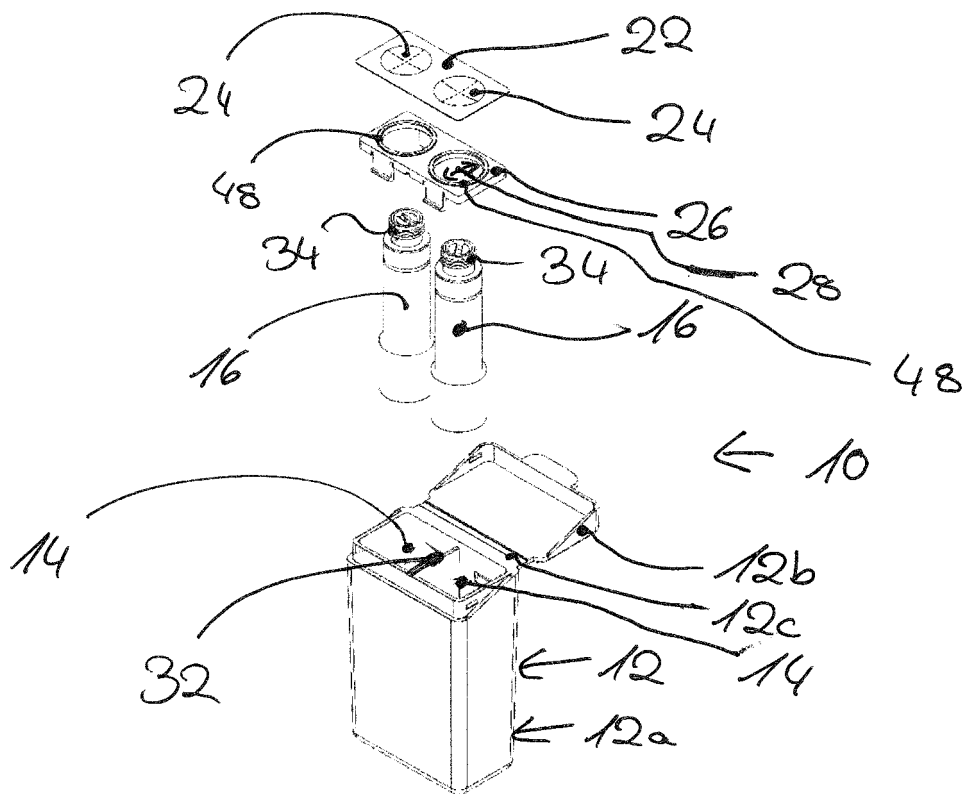


Fig. 3



EUROPEAN SEARCH REPORT

Application Number
EP 15 19 7786

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A	CN 203 446 532 U (LIU QIUMING) 26 February 2014 (2014-02-26) * figures 8,9 * -----	1,13	
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The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 25 April 2016	Examiner Galli, Monia
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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25-04-2016

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CN 203446532	U	26-02-2014	NONE	

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