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(54) **DISPENSING KIT FOR DISHWASHER PRODUCTS**

(57) The dishwasher products dispenser kit comprises a first container (2a) and a second container (2b) arranged in an adjacent configuration and predisposed to contain separately a respective product to be dispensed, and a covering element (3) wound at least partially around said first container (2a) and said second container (2b). At least one of the first container (2a) and the second

container (2b) has at least one shaped portion (10), having a longitudinal extension, shaped so as to cooperate, in the adjacent configuration, with a corresponding portion facing the other said container (2a, 2b), in order to define an engagement channel (11) for a prong of a dishwasher rack.

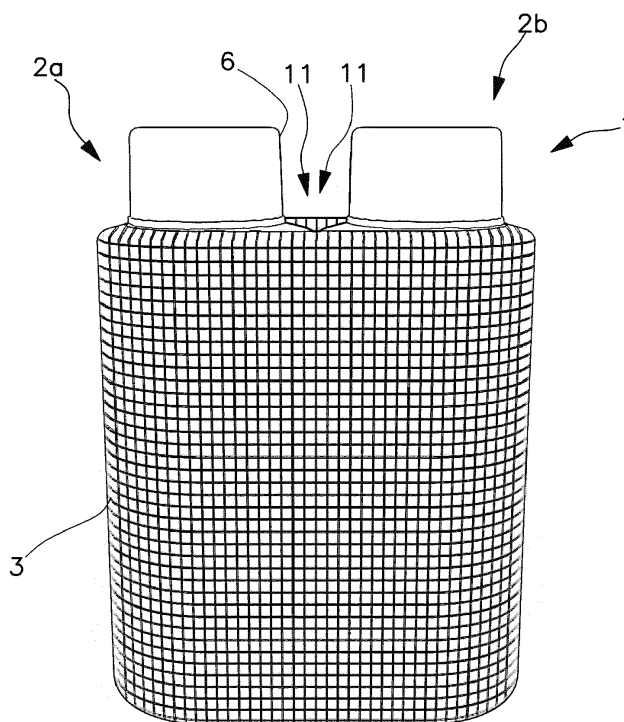


Fig.1

Description

Technical field

[0001] The present invention relates to a dispenser kit for dishwasher products and the like.

Prior art

[0002] Dispensing devices predisposed to release active products inside the dishwashers are currently known. These dispensing devices consist essentially of a container which has a dispensing portion of the active product, provided with a closing element of material dispersible in water, for example paraffin wax; the container is usually made of plastic material. The dispensing portion generally consists of a cylindrical neck. In use, at a temperature above 60° C, the dispersion of the closing element is determined, thus enabling the leakage of the liquid present in the container. A dispensing device of this kind is shown for example in DE 10 2005 004487.

[0003] According to a known embodiment, the container has an elongated shape, for example a prismatic shape, so as to enable it to be housed inside the dishwasher cutlery basket, open at the top to enable insertion of the cutlery from above. This shape makes it difficult to position the dispensing device, in particular in the dishwasher models that do not have a top cutlery basket.

[0004] Patent application WO 2009/095638 illustrates a dispenser device for dishwasher products in which the container has the shape of a flattened parallelepiped, having a suitably narrowed width. The dispensing neck is arranged at a narrow face of the container. This narrow shape enables the container to be placed between the prongs of the rack which usually houses the dishes inside the dishwasher. The narrow shape of the container is nevertheless an obstacle to an effective dispensing of the products, during the washing cycle.

[0005] Currently, therefore, the problem of a correct positioning of the dispensing device inside the dishwasher remains. It is in fact required that the container of the active products is arranged in a position suitable for an effective dispensing of the products, during the washing cycle, and at the same time in a stable and safe manner in order to avoid damage to the dishes or to the dishwasher itself.

[0006] The application EP 3082557 in the name of the Applicant illustrates a dispensing device comprising a container of the products to be dispensed, equipped with a dispensing portion, a closing member made of a water dispersible material to enable the dispensing portion to be opened. The same container also comprises a cavity on the outer surface, which can be coupled with a prong of a dishwasher rack, to enable it to be inserted and thus dispense the product during a washing cycle.

[0007] The patent application GB 2549531 illustrates a dispensing device for use in a dishwasher which has a flattened shape and comprises at least one deformable

portion, the volume of which varies upon reaching a predetermined temperature, thanks to the characteristics of the material of which it is made. The device is provided with attachment means comprising portions of a peripheral edge shaped so as to form hooks. The shaped portions enable to keep the device attached to the bottom of the dishwasher rack, during use.

[0008] However, the solutions illustrated do not fully satisfy the requirements of simplicity of use and stability required by the specific area.

[0009] Furthermore, dispensing devices for the care of dishwashers are known, containing a biphasic substance, adapted to be released during a washing cycle inside the dishwasher in order to act with a combined effect. However, these dispensing devices are relatively expensive, due to the complexity of obtaining the particular contained solutions.

Disclosure

[0010] The object of the present invention is to solve the above problems, by devising a dishwasher products dispenser kit adapted to be arranged in a stable and safe manner inside the dishwasher, in a position suitable for an effective dispensing of the products.

[0011] Within this object, a further aim of the present invention is to provide a dishwasher products dispenser kit that enables an easy dispensing of the products themselves.

[0012] Another object of the invention is to provide a dishwasher products dispenser kit of simple constructive and functional conception, which is certainly reliable, versatile in use, and relatively inexpensive.

[0013] The aforementioned objects are achieved, according to the present invention, by the dishwasher products dispenser kit according to claim 1.

[0014] According to a prerogative of the invention, the dishwasher products dispenser kit comprises a first container, a second container, adapted to contain separately a respective product to be dispensed and arranged in an approached configuration. The kit also comprises a covering element at least partially wound around the first container and the second container, to delimit laterally, between them, an engagement channel for a prong of the rack of a dishwasher.

[0015] In particular, each container is provided with a dispensing portion and a closing member for the same dispensing portion, made of water dispersible material to enable the same dispensing portion to be opened during washing phase.

[0016] At least one of the first container and the second container has at least one shaped portion, having a longitudinal extension, shaped so as to cooperate, in the aforementioned adjacent configuration, with a corresponding portion facing the other container, thus defining the aforementioned engagement channel.

[0017] The engagement channel delimited in this way therefore enables the insertion of a respective prong so

as to ensure the positioning of the dispenser kit in a position adapted to dispense each product separately contained in the first container and in the second container, respectively, during a washing cycle. This solution enables an easy positioning of the kit in a dishwashing machine thanks to the fact of providing at least one engagement channel which is easy to insert in a corresponding prong of a rack. Moreover, the solution according to the present invention is structurally simple and easy to make.

[0018] This solution makes it possible to use, in particular, at least two products each one of a low cost, for a combined use during a washing cycle in any dishwasher.

[0019] Preferably each said container is provided with a first surface arranged, in use, below, from which develops said dispensing portion, a base, opposite to said first surface, and a side surface which extends between said first surface and said base.

[0020] According to an aspect of the invention, the covering element is wound around the lateral surface of each said container and extends up to said first surface of each said container, so as to wind at least a portion of said first surface of each said container. This configuration of the covering element is advantageous because it enables the containers to be joined firmly.

[0021] Preferably, the covering element winds at least one peripheral edge of said first surface of each said container.

[0022] According to an aspect of the invention, said covering element extends up to said base, winding at least a portion of said base.

[0023] Preferably, said covering element winds at least one peripheral edge of said base. The configuration of the covering element which also winds the base, at least in part, keeps the joined containers even more firmly.

[0024] According to a particular aspect of the invention, the aforementioned shaped portion has a rounded, connected, beveled or recessed shape.

[0025] According to an advantageous aspect of the invention, at least one of the first and the second container of the kit has a cylindrical shape.

[0026] According to an advantageous aspect of the invention, the first and second containers of the kit have the same shape.

[0027] Preferably, the covering element is made by means of an adhesive tag or by means of a band of suitable material, wound adherently around the first and second containers.

[0028] The first and second containers can be physically separated.

[0029] Alternatively, the first and the second containers are made together, for example by means of a wall or a connecting septum.

[0030] According to this aspect of the invention, the combination of at least one engagement channel, of the covering element and of the wall or septum which joins the containers, satisfies the need for stability and safety, since the containers are kept in a stable position of in-

sertion in the rack by the wall or septum, as well as by the covering element, and the channel enables easy insertion of the kit.

[0031] An object of the present invention is the use of a product dispenser kit in which the kit is inserted in a rack of a dishwashing machine with the dispensing portions of said containers facing downwards and with said at least one engagement channel, closed laterally by said covering element, inserted in a relative prong of said rack. The arrangement of the kit with the delivery portions pointed downwards and the at least one engagement channel inserted in a corresponding prong of the rack makes it possible to ensure effective dispensing of the products and, at the same time, to position the kit in a stable manner.

[0032] The method for dispensing dishwasher products, which is also an object of the invention, includes as well the step of arranging a dispenser kit and orienting said containers with the respective dispensing portions oriented downwards.

[0033] The method provides then for the insertion of at least one said engagement channel in a related prong of a rack of a dishwashing machine.

[0034] Finally, the method provides for operating said dishwashing machine enabling the dissolution of the closing members of the containers in contact with water and the consequent dispensing of products contained inside said containers.

Description of drawings

[0035] The details of the invention are more evident in the detailed description of an embodiment of the dishwasher products dispenser kit according to the invention, shown as an example in the accompanying drawings, where:

Figure 1 shows a perspective view of the dishwasher products dispenser kit;

Figures 2, 3 and 4 respectively show a side, plan and perspective view of a component used in the dispenser kit according to the invention;

Figure 5 shows a perspective view of the dispenser kit according to a different embodiment;

Figures 6, 7 and 8 respectively show a side, plan and perspective view of the dispenser kit shown in Figure 5.

Embodiments of the invention

[0036] With particular reference to these figures, the reference numeral 1 indicates the dishwasher products dispenser kit according to the present invention. The kit 1 comprises a first container 2a and a second container 2b and a covering element 3 adapted to join the first container 2a and the second container 2b.

[0037] Each container 2a, 2b has a dispensing portion 4 provided with a closing member 5 made of a water

dispersible material in order to enable the same dispensing portion 4 to be opened during the washing step. This dispersible material is made up of paraffin wax for example. Alternatively, it is possible to provide for making the closing member 5 by means of a material adapted to melt in contact with the washing water inside the dishwasher, due to the heat corresponding to the washing temperature.

[0038] The dispensing portion 4 of the container 2a, 2b can be protected, when the kit is not in use inside a dishwasher, by a protective cap 6 clamped on the portion 4 itself. The tightening can take place by screwing on a corresponding thread 7 provided outside the dispensing portion 4.

[0039] The containers 2a, 2b have a substantially longitudinal development. At the ends of each container 2a, 2b, the aforementioned dispensing portion 4 and a base 8 are provided in opposite way.

[0040] In particular, each container 2a, 2b is provided with a first surface 20, opposite to the base 8, from which develops the dispensing portion 4.

[0041] The first surface 20 is facing downward in use, as explained better below.

[0042] Between the first surface 20 and the base 8 develops a lateral surface 200 of the container 2a, 2b.

[0043] According to the invention, the first container 2a and the second container 2b of the kit 1 are arranged side by side, in an adjacent configuration, so that the respective dispensing portions 4 are close to each other. Preferably the first container 2a and the second container 2b are intended to contain different substances, adapted to be dispersed within the dishwasher, in use, cooperating to reach the desired cleaning effect.

[0044] Preferably the containers 2a, 2b are placed parallel to each other.

[0045] At least one of the first container 2a and the second container 2b has at least one shaped portion 10, having a longitudinal extension, shaped so as to cooperate, in an adjacent condition, with a corresponding portion facing the other container 2a, 2b, to define an engagement channel 11 for a prong of a rack of a dishwasher.

[0046] In particular, the aforementioned shaped portion may have a rounded, beveled, connected or recessed profile.

[0047] Preferably both the first container 2a and the second container 2b, as in the case shown in the figures, have the aforementioned shaped portion 10. More particularly, in the embodiment shown in figures 1 to 4, the shaped portion 10 is made by means of a rounded template which, in the exemplified case, is part of a common cylindrical shape of the first container 2a and of the second container 2b.

[0048] In any case, in the adjacent configuration of the first container 2a and of the second container 2b the respective shaped portions 10 face each other and define the engagement channel 11, the effect of which is described in detail below.

[0049] The covering element 3 is applied around the first container 2a and the second container 2b, arranged in the adjacent configuration. In practice, in the illustrated embodiment, the covering element 3 performs a first function of joining the containers 2a, 2b which are part of the dispenser kit according to the invention, keeping them effectively in the position suitable for the combined dispensing of the products therein contained.

[0050] Preferably the covering element 3 is wound around the lateral surface 200 of each said container 2a, 2b and extends up to the first surface 20, covering at least a portion of the first surface 20, so as to hold the containers 2a, 2b firmly together.

[0051] According to an embodiment, the covering element 3 surrounds the lateral surface 200 and a peripheral edge of the first surface 20 of each container 2a, 2b.

[0052] Preferably, the covering element 3 also extends to the base 8, winding at least one peripheral edge of the base 8. In this way the covering element 3 contributes to making the union of the containers even more stable.

[0053] Moreover, the covering element 3 has the effect of delimiting laterally the aforementioned engagement channel 11, defined by the juxtaposition of the shaped portion 10 of at least one of the first container 2a and the second container 2b with the corresponding facing portion of the other container 2a, 2b, preferably from the juxtaposition of the shaped portions 10 of both containers 2a, 2b.

[0054] The engagement channel 11 delimited in this way by the covering element 3 acts in an optimal manner as a space for the insertion of the dispenser kit 1 in a respective prong of the rack of any dishwasher, guaranteeing a stable and safe positioning.

[0055] In the case in which the respective container 2a, 2b comprises a further shaped portion 10, usefully symmetrical with respect to a longitudinal plane for approaching the containers 2a, 2b themselves, it provides for the dispenser kit 1 a further engagement channel 11, useful for inserting a second prong of the rack.

[0056] The cylindrical shape of the first container 2a and of the second container 2b, in particular, enables the provision of a pair of shaped portions 10 for each container 2a, 2b.

[0057] The covering element 3 preferably comprises a band of plastic material, wound adherently around the first container and the second container in the adjacent configuration.

[0058] Alternatively, the covering element 3 can be made by means of one or more adhesive lags, applied around the first container 2a and the second container 2b to close laterally the engagement channel 11.

[0059] The operation of the dishwasher product dispenser kit is easy to understand from the above description.

[0060] In an initial preparation step the protective caps 6 are removed from the respective dispensing portions 4 of the first container 2a and of the second container 2b.

[0061] The dispenser kit 1 is inserted in a suitable po-

sition in the rack of the dishwashing machine, with the dispensing portion 4 facing downwards, inserting a prong of the rack into each engagement channel 11 delimited by the at least one shaped portion 10 and by the covering element 3.

[0062] In the engaged condition the dispenser kit 1 is firmly held to the rack, since the engagement channel 11 is effectively closed laterally by the covering element 3.

[0063] The dispenser kit 1 for products to be dispensed is therefore arranged in substantial alignment with the prongs of the rack, held firmly by at least one prong which engages a respective engagement channel 11.

[0064] The dispensing portions 4 of the first container 2a and of the second container 2b are facing downwards, being substantially aligned with the prongs of the rack.

[0065] By operating the dishwasher, the washing water enters the washing chamber, also investing the dispenser kit inserted on the rack. Consequently, in contact with water, the closing member 5, made of water dispersible material, dissolves, causing the leakage of the product, preferably separate products present within the first container 2a and the second container 2b.

[0066] In a second embodiment, shown in Figures 5 to 8, the dispenser kit 1' may comprise a single bottle, in which the first container 2a and the second container 2b are made up joined together by means of a wall or connecting septum 12, instead of being physically disjointed, as in the embodiment previously described.

[0067] In this embodiment, therefore, the covering element 3 mainly has the function of delimiting the engagement channel 11.

[0068] For the rest, the dispenser kit 1' is completely similar, structurally and functionally to the dispenser kit 1 described previously.

[0069] In particular, corresponding elements, structurally and functionally similar, are indicated in the illustrative figures of the second embodiment with the same numerical references previously used for the description of the first embodiment.

[0070] The dishwasher products dispenser kit according to the invention achieves the purpose of enabling their stable and secure arrangement inside the dishwasher, in a position suitable for an effective dispensing of the contained products.

[0071] This result is obtained thanks to the inventive idea of combining a pair of containers, so as to define, between them, an engagement channel, and to delimit the engagement channel thus defined, by means of a covering element.

[0072] The dispenser kit is therefore configured to be coupled with at least one corresponding prong of the dishwasher rack by inserting the same kit into the aforesaid rack.

[0073] A prerogative of the invention is the fact that, in use, the dispenser kit of the products to be dispensed is maintained in a stable position such as to have the dispensing portions of each container forming the dispenser kit facing downwards, so as to ensure the rapid delivery

of the entire dose of each product separately contained in each container.

[0074] Another advantage offered by the invention is that it enables an effective combined dispensing of two separately packaged products, so as to avoid the high costs of the biphasic substances used for similar purposes.

[0075] A further advantage of the invention is the fact that the kit has a non-complex structure and it is easy to manufacture, and also easy to position inside a dishwashing machine.

[0076] The dishwasher products dispenser kit according to the present invention is subject of numerous modifications and variations according to the different requirements. In particular, the shape of the containers of the products to be dispensed may be different from that illustrated by way of example, for example cylindrical or convex. It is also possible to provide that each provided longitudinal cavity extends over the entire length of the container.

[0077] In the practical implementation of the invention, the materials used, as well as the shape and size, may vary depending on needs.

[0078] Should the technical features mentioned in any claim be followed by reference signs, such reference signs were included strictly with the aim of enhancing the understanding of the claims and hence they shall not be deemed restrictive in any manner whatsoever on the scope of each element identified for exemplifying purposes by such reference signs.

Claims

1. Dishwasher products dispenser kit, comprising a first container (2a) and a second container (2b) arranged in an adjacent configuration and adapted to contain separately a respective product to be dispensed, each container (2a, 2b) being provided with a dispensing portion (4) and a closing member (5) of said dispensing portion (4), made of a water dispersible material in order to enable the same dispensing portion (4) to be opened during the washing step, a covering element (3) wound at least partially around said first container (2a) and said second container (2b), at least one of said first container (2a) and said second container (2b) presenting at least one shaped portion (10), having a longitudinal extension, shaped so as to cooperate, in said adjacent configuration, with a corresponding facing portion of the other said container (2a, 2b), to define an engagement channel (11) for a prong of a rack of a dishwasher, said covering element (3) defining laterally said engagement channel (11), so as to enable, by inserting a respective prong inside said delimited engagement channel (11), the positioning of the dispenser kit (1, 1') in a position adapted to dispense each product separately contained in said first container (2a) and said sec-

ond container (2b), respectively, during a washing cycle.

2. Kit according to claim 1, **characterized in that** said covering element (3) is wound around a lateral surface (200) of each said container (2a, 2b) and extends up to a first surface (20) of each said container (2a, 2b) from which said dispensing portion (4) develops, said covering element (3) surrounding at least a portion of said first surface (20) of each said container (2a, 2b). 5
3. Kit according to claim 2, **characterized in that** said covering element (3) extends up to a base (8) of each said container (2, 2b), said base (8) being opposed to said first surface (20), said covering element (3) surrounding at least a portion of said base (8). 10
4. Kit according to claim 1, 2 or 3, **characterized in that** said shaped portion (10) has a rounded or beveled or connected profile or a recess. 15
5. Kit according to claim 4, **characterized in that** said at least one container (2a, 2b) comprises a further shaped portion (10) adapted to cooperate with a corresponding facing portion, in said adjacent configuration, of said other container (2a, 2b), in order to define, in cooperation with a further corresponding facing portion of the other said container (2a, 2b) a further engagement channel (11) for the insertion of a further said prong. 20
6. Kit according to claim 5, **characterized in that** said at least one container (2a, 2b) has a cylindrical shape. 25
7. Kit according to one of the preceding claims, **characterized in that** said first container (2a) and said second container (2b) have the same shape. 30
8. Kit according to one of the preceding claims, **characterized in that** said first container (2a) and said second container (2b) are joined by a septum or union wall (12). 35
9. Kit according to one of the preceding claims, **characterized in that** said covering element (3) shapes an adhesive tag. 40
10. Kit according to one of the claims 1 to 9, **characterized in that** the said covering element (3) shapes a band wound adherently around said first container (2a) and said second container (2b). 45
11. Method for dispensing products for dishwashers **characterized in that** it comprises the steps of: 50

a. arranging a dispenser kit according to one of

claims 1 - 10;

b. orienting said containers (2a, 2b) with the respective dispensing portions (4) facing downwards;

b. inserting said at least one engagement channel (11) into a relative prong of a rack of a dishwashing machine, said engagement channel (11) being closed laterally by said covering element (3);

c. operating said dishwashing machine enabling the dissolution of said closing members (5) in contact with the water and the consequent dispensing of the products contained inside said containers (2a, 2b).

12. Use of a dispenser kit for dishwasher products according to one of claims 1 - 10, **characterized in that** said kit is inserted in a rack of a dishwashing machine with said dispensing portions (4) facing downwards and with said at least one engagement channel (11), closed laterally by said covering element (3), inserted in a relative prong of said rack.

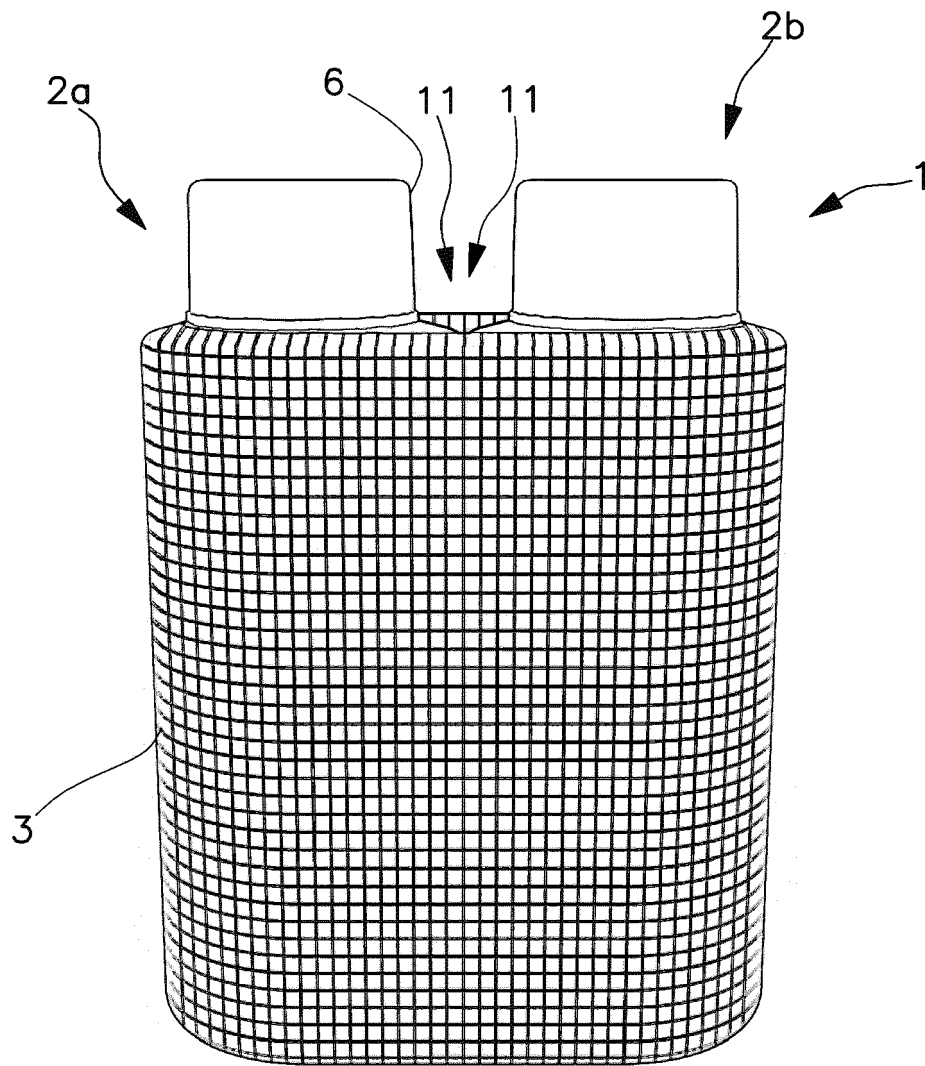
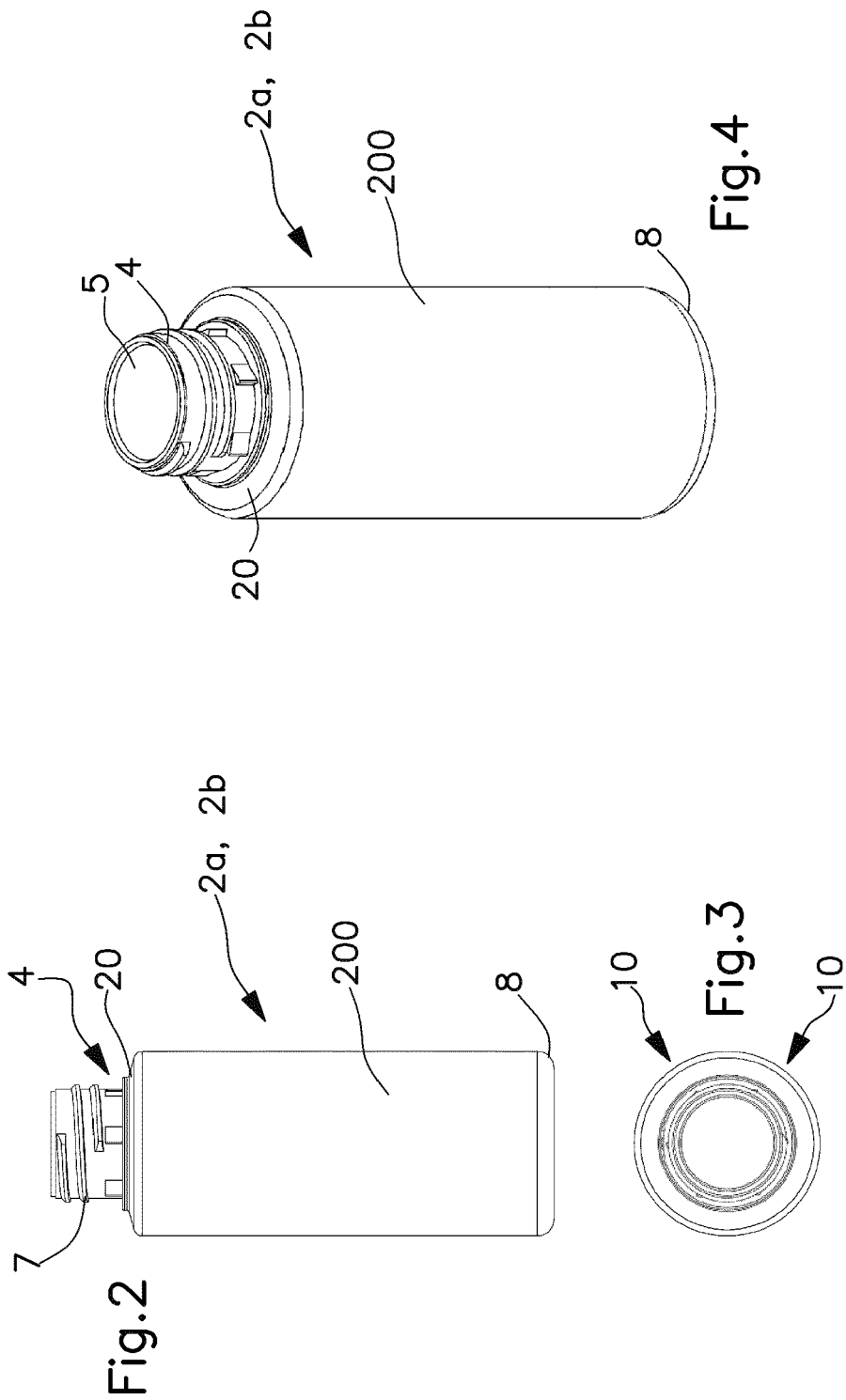


Fig.1



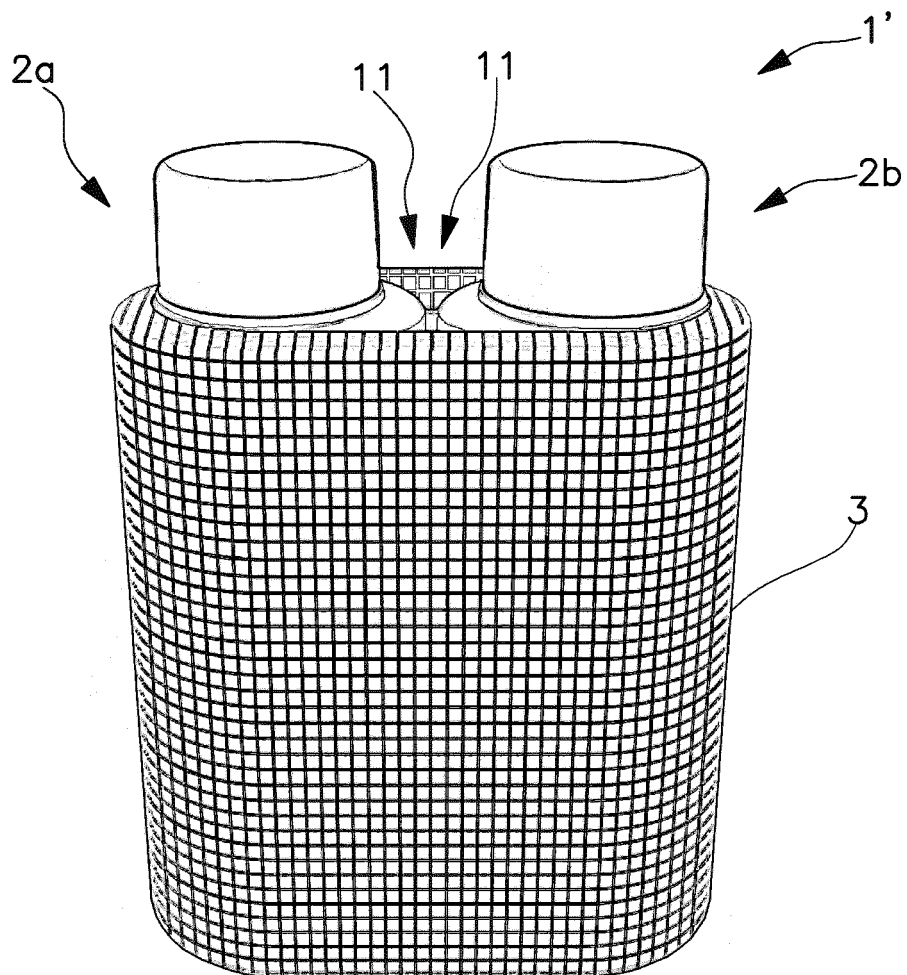
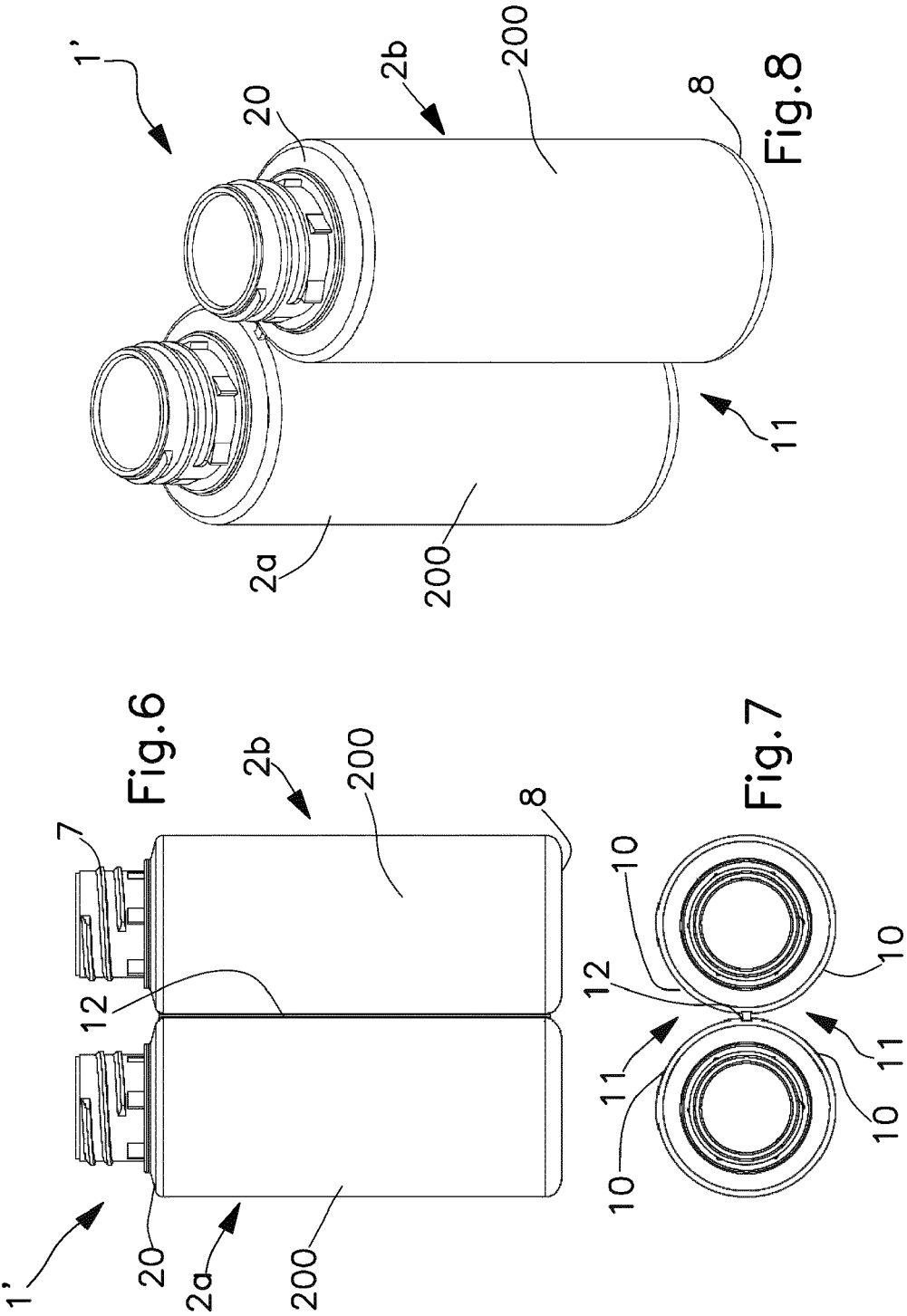


Fig.5





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Application Number
EP 19 16 1703

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EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
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