(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) **EP 3 861 886 A1**

(12) EUROPEAN PATENT APPLICATION

(43) Date of publication:
11.08.2021 Bulletin 2021/32

(51) Int Cl.:
A45D 34/00 *(2006.01)*

(21) Application number: **20382074.1**

(22) Date of filing: **04.02.2020**

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
Designated Extension States:
BA ME
Designated Validation States:
KH MA MD TN

(71) Applicant: **Tintoré Gazulla, Cristina**
08017 Barcelona (ES)

(72) Inventor: **Tintoré Gazulla, Cristina**
08017 Barcelona (ES)

(74) Representative: **Gallego Jiménez, José Fernando**
Ingenias Creaciones, Signos e Invenciones S.L.P.
Avda. Diagonal 514, 1º 4ª
08006 Barcelona (ES)

(54) CARTRIDGE, DISPENSER AND SYSTEM FOR COSMETIC PRODUCTS

(57) A cartridge for cosmetic product, a dispenser and a system comprising the former two, the cartridge comprising: connection means, a capsule comprising a container and a dispensing mechanism attached to the container and configured to be actuated dispensing the product; a main chamber to contain inside it and attached to it the capsule, and to permit dispensing the product when the dispensing mechanism is actuated, wherein the container is displaceable with respect to the main chamber and the dispensing mechanism, and is configured to actuate the dispensing mechanism when being displaced with respect to the latter, and the connection means comprise a connection orifice on the main chamber, the connection orifice allowing applying on the capsule an external force aimed at displacing the container with respect to the main chamber and the dispensing mechanism for actuating the dispensing mechanism, the external force originating from outside the main chamber.

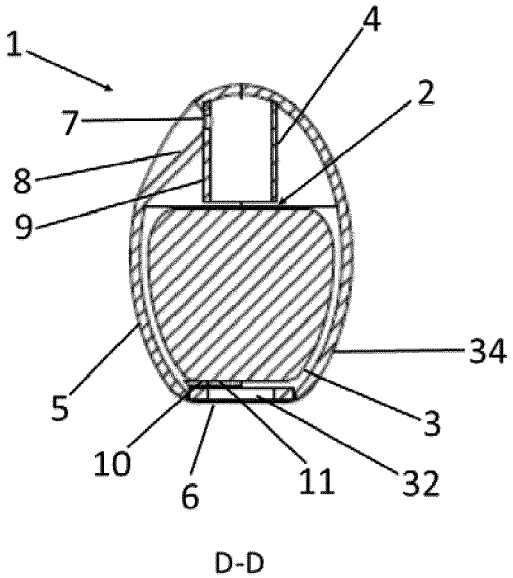


Fig. 1

EP 3 861 886 A1

Description

Technical Field

[0001] The present invention is directed, in general, to the field of cartridges for containing a cosmetic product, and to the field of dispensers for using said cartridges for dispensing and using said cosmetic product. The cosmetic product that can be contained in a cartridge of the present invention can be any product that is safe to use for cosmetic and/or personal hygiene purposes, and for example can comprise any of a fragrance, a cologne, an aroma, an oil, an essence, a cream, a lotion, a foam, a gel, a sunscreen, a shampoo, a conditioner, a colorant or dye that is safe to apply on the human body, any type of a dispersion or a liquid used for caring for the appearance and/or smell of the skin and/or hair of the user such as a dispersion comprising solid organic and/or inorganic particles and a liquid, and combinations thereof. Preferably, the cosmetic product is an aroma or a fragrance or a cologne that is safe to apply for cosmetic purposes on the skin or hair of humans and/or animals.

Background of the Invention

[0002] There are known dispensers of cosmetic products that are configured to receive capsules that contain cosmetic substances and to be used for applying said substances on the skin and/or hair. PCT patent application document WO 2018/169823 A1 describes a dispenser that is fit to receive capsules that contain cosmetic products. Therefore, WO 2018/169823 A1 does not describe cartridges that contain capsules which in turn contain cosmetic products, and therefore the dispensers mentioned in WO 2018/169823 A1 are not described therein as being configured to receive and activate cartridges that contain capsules that contain cosmetic products. This is an important difference compared to the present invention that is described further below.

[0003] Likewise, the PCT patent application document WO 2012/018999 A1 describes dispensers configured to receive in their interior a plurality of chambers containing cosmetic substances. Nevertheless, these chambers are not being described in WO 2012/018999 A1 as being cartridges that contain in their interior capsules that contain the cosmetic substances. Consequently, the present invention described further below differs significantly compared to the art described in WO 2012/018999 A1.

[0004] The prior art also comprises documents that describe dispensers which comprise one or more containers that contain cosmetic substances and said containers may be fixed inside a dispenser or may be removably attached to the latter, and the dispenser is configured to selectively activate one of the containers therein for dispensing the respective cosmetic substance. An example of such a document is the PCT patent application document WO 2017/091419 A1. It is noted that WO 2017/091419 A1 does not describe a cartridge that contains in it a capsule that contains the cosmetic substance.

[0005] The prior art available fails to describe a cartridge that is configured to avoid or inhibit dispensing the cosmetic product contained therein when a corresponding dispenser is not used. Therefore, the containers/chambers described in the prior art do not have a structure and corresponding elements that could ensure that the containers/chambers can be properly activated only via the use of an appropriate dispenser configured to receive and contain in its interior said container/chamber. This is a serious drawback for several reasons. The first reason is that the use of a dispenser is considered by the inventors of the present invention to be necessary, or at least be highly desirable, for ensuring/promoting that the user of the cartridge and of the cosmetic product contained therein will apply the correct amount of the cosmetic product every time the dispenser and the cartridge contained therein is activated. The second reason is that when the container/chamber can be easily activated without the use of the dispenser, then such activation can happen accidently and undesirably, and can happen for example when the cartridge is stored or transported e.g. in a user's bag. The third reason, is that the cosmetic products contained in containers/chambers that are not designed to impede their activation without the use of a specialized apparatus such as specially configured chamber, are usually easy to be removed and/or replaced by third parties which may not have the authorization to do so by the manufacturer of the cartridge who, for the benefit of the end users, cares profoundly about the quality and good use of the cartridges and products contained therein. Such third parties may also illegitimately copy the cartridges, especially when such cartridges do not have special technical features. The present invention solves these drawbacks of the prior art.

Description of the Invention

[0006] To that end, the present invention in its first aspect concerns a cartridge to contain a cosmetic product. The cartridge is configured to be removably attached, meaning to be removably fastened on or in a dispenser that is the object of the second aspect of the invention. The dispenser when having received the cartridge is configured to be activated by the user, thusly activating the cartridge and dispensing the cosmetic product when the latter is contained in the cartridge. It is to be understood that the present invention in its first aspect concerns the cartridge even when the latter does not contain the cosmetic product. A further aspect of the present invention is a system that comprises the cartridge of the first aspect, and a dispenser of the second aspect of the invention. Further aspects of the present invention concern a method that may comprise any of manufacturing and/or assembling the cartridge and/or the parts thereof, manufacturing the dispenser and/or parts thereof, (re)filling the cartridge with the cosmetic product, attaching or fastening the cartridge on or in the dispenser, activating the

dispenser thusly activating the cartridge and dispensing the cosmetic product when the cartridge is attached to on fastened in or on the dispenser and when the cartridge contains the cosmetic product.

[0007] Preferably, the invention in its first aspect is a cartridge for containing a cosmetic product, the cartridge having connection means and comprising:

- a capsule comprising a container able to contain the cosmetic product, and a dispensing mechanism attached to said container and configured to be actuated and dispense the cosmetic product;

- a main chamber configured to contain attached to within it the capsule and to permit dispensing towards outside the main chamber the cosmetic product when the dispensing mechanism is actuated,

wherein the cartridge is configured to be removably attached via the connection means to a cartridge receiving part (or a main chamber receiving part therein) of a dispenser, the dispenser being configured to be activated by a user thus actuating the dispensing mechanism. In the last sentence it is obviously meant that the dispenser is configured to be activated by a user thus actuating the dispensing mechanism when the cartridge is attached via the connection means to the cartridge receiving part of the dispenser.

[0008] Therefore, preferably and in accordance to the above, the invention in its first aspect is a cartridge for containing a cosmetic product, the cartridge having connection means and comprising:

- a capsule comprising a dispensing mechanism and a container that is able to contain the cosmetic product, the dispensing mechanism being attached to said container and configured to be actuated and thusly dispense the cosmetic product;
- a main chamber configured to contain inside it and attached to the same the capsule, and to permit dispensing towards outside the main chamber the cosmetic product when the dispensing mechanism is actuated,

wherein the container is displaceable with respect to both the main chamber and the dispensing mechanism, and is also configured to actuate the dispensing mechanism when being displaced with respect to the latter, and the connection means comprise a connection orifice located on the main chamber and preferably adjacent to the container, the connection orifice allowing applying on the capsule, and preferably on the container, an external mechanical force aimed at displacing the container with respect to both the main chamber and the dispensing mechanism for thusly actuating the dispensing mechanism, the external mechanical force originating from outside the main chamber and the cartridge and having a direction that passes from and through the connection orifice towards the capsule. Most preferably, the external mechanical force is being provided (performed) by a dispenser (the dispenser is not part of the cartridge), and/or the cartridge is configured to be coupled to the dispenser and receive the external mechanical force from the dispenser.

[0009] For example, when the cartridge is inserted in the cartridge receiving part of a dispenser that is according to the second aspect of the invention, the user by touching and pushing the main chamber may press the entire cartridge against a main chamber receiving part of the dispenser. In the latter case, if the main chamber receiving part may move together with the main chamber towards the direction of the force applied by the user pushing the main chamber and the chamber receiving part, then if the dispenser additionally has an actuating part that is configured to be inserted through the connection orifice inside the main chamber and press the container towards a direction that is opposite to the direction of the force applied by the user, thus essentially the actuating part applying on the dispenser an external mechanical force that is opposite to the user force and directed towards pushing the container towards the dispensing mechanism, the latter can be actuated; for this to happen the actuating part of the dispenser must be configured, e.g. shaped, as to fit and move through the connection orifice, and preferably also configured as to be adjacent to the container (thus allowing the actuating part to push the container) and to move relatively to and through the main chamber receiving part when the latter is moved by the cartridge's main chamber that is pushed by the user.

[0010] Optionally and preferably the main chamber is configured to contain removably attached to within it the capsule. Attached can be interpreted as meaning fastened, and removably as meaning that the fastened object (e.g. the fastened capsule) can be removed and/or reattached to the entity (e.g. the main chamber) that can receive in or on it said object without these actions causing any significant or critical damage to said object and/or to said entity on/in to which the object is fastened, and preferably without said actions causing any substantial damage at all. It is pointed out that the capsule is contained inside (in the interior of) of the main chamber.

[0011] For ensuring the best positioning, containment and possible fastening of the capsule inside the main chamber, it is contemplated the optional case wherein the main chamber comprises first positioning means configured to hold fixed, and preferably removably fixed, onto them an external surface of the dispensing mechanism. Likewise, it is also contemplated the optional case wherein the main chamber comprises second positioning means configured to hold attached, and preferably removably attached, onto them an outer surface of the container. The features in each of the aforementioned last two cases, address the technical problem of how to avoid the activation of the dispensing mechanism when the user is only contacting directly with his/her hands the main

chamber (and not the dispensing mechanism and/or the container of the capsule) and when the user is not using the dispenser. In a non-limiting example, if the dispensing mechanism has a cylindrical shape that projects from a side of the container, then the main chamber may comprise first positioning means which are a hollow structure of a substantially cylindrical shape adapted so that the dispensing mechanism can be inserted, at least partially, in the interior of said hollow structure being thusly fastened therein. Said hollow structure may be part of the surface on the interior of the main chamber. Likewise, in another non-limiting example, if the container has a cylindrical shape, then the main chamber may comprise second positioning means which are a hollow structure of a substantially cylindrical shape adapted so that the container can be inserted, at least partially, in the interior of said hollow structure being thusly fastened therein. Said hollow structure may be part of the surface on the interior of the main chamber. Optionally and preferably, the main chamber comprises first positioning means and second positioning means which are located with respect to each other in opposite sides in the interior of the main chamber.

[0012] The dispensing mechanism can for example be of a known type, with a non-limiting example being a spray head and/or nozzle. Therefore, optionally the dispensing mechanism comprises a spray nozzle. Optionally, the dispensing mechanism may additionally comprise other elements such as a conduit that is configured to allow and direct the flow of liquid from the interior of the container of the capsule to said spray head. The container can be of any shape or volume that allow it to fit in the main chamber of the cartridge. In a non-limiting example, the container is cylindrical and has an open mouth (an opening) that is capped and/or sealed by the dispensing mechanism attached onto it. The dispensing mechanism may optionally be fastened on the corresponding mouth of the container, thusly the dispensing mechanism being permanently or removably attached to the container. Optionally and preferably the dispensing mechanism is removably fastened onto said mouth of the container. Optionally a suspension mechanism, e.g. a spring, may exist at the union or joint between the container and the dispensing mechanism, so that when the latter moves and is being displaced with respect to the former, the suspension may push/act against such motion or displacement.

[0013] The fact that the cartridge comprises a main chamber that contains the capsule and the dispensing mechanism attached to the container of the capsule results to the prevention or inhibition of the activation of said dispensing mechanism when the dispenser is not used. In contrast to the prior art discussed further above which describes capsules that are not enclosed within a main chamber of a cartridge and which thusly can be directly activated, intentionally or unintentionally, by the user without the use of an appropriate dispenser, in the present invention the main chamber of the cartridge contains in its interior the capsule and the dispensing mechanism and thus prevents and/or inhibits the direct contact between the hands of the user and said capsule and dispensing mechanism. Consequently, when the cartridge is not fastened on and properly attached to the dispenser, the accidental or intentional activation of the cartridge, and the consequent accidental or unoptimized dispensing of the cosmetic product possibly contained in the cartridge, are prevented. This is an important technical effect because it addresses the technical problems of: i) how to ensure that the cosmetic product is applied in a controlled and optimized manner, ii) how to ensure that the correct amount of the cosmetic product is applied every time the cartridge is used by the user, iii) how to ensure that the force with which the cartridge is activated is well controlled, iv) how to ensure that the content of the cartridge is not released when the cartridge is stored and or transported (e.g. when the cartridge is in a luggage of the user), v) how to ensure that the cartridge is robust and the container containing the cosmetic product cannot be easily broken spilling the product, vi) how to ensure that the cartridge cannot be easily copied and/or refilled by parties that are not properly authorized and/or controlled and/or trained by the owner and/or proprietor of the present invention who cares about the latter's good implementation, vii) how to ensure that the cartridge can be fastened/attached in or on the dispenser in an optimized way that prevents or inhibits the damaging of the cartridge's container and the accidental spilling of the cosmetic product while ensuring the easy, simple and safe storage, transportation and use of the cartridge in combination with the dispenser. The inventors of the present invention have found that all the aforementioned problems are solved effectively when the cartridge has certain technical elements described herein. The presence of the main chamber of the cartridge contributes to solving the aforementioned problems because it inhibits the uncontrolled access to the capsule that contains the cosmetic product, and prevents the uncontrolled activation of the dispensing mechanism. As indicated further above, the dispensing mechanism is optionally and preferably part of the capsule and thus it is also optionally enclosed by the main chamber. Considering that the dispenser is configured to be activated and thusly actuate (activate) the dispensing mechanism, it can be understood that the main chamber is optionally configured to prevent the manual activation of the capsule and/or of the dispensing mechanism when the user touches directly only the main chamber i.e. when the user does not touch directly said capsule and/or said dispensing mechanism nor uses the dispenser. These functionalities are aided by the presence of the following optional technical elements.

[0014] Optionally, the main chamber is separable into an upper part and a lower part which are configured to be removably attached to each other forming the main chamber when being attached, and allowing access to the capsule when being separated. Therefore, optionally

the main chamber comprises an upper part and a lower part which are configured to be removably attached to each other forming the main chamber when being attached, and allowing access to the capsule when being separated from each other. This is a useful technical feature which allows for the dismantle of the main chamber and thus for the possible refill or repair or replacement or cleaning of the capsule and/or of the main chamber and parts thereof if and when said actions are necessary. Moreover, optionally and preferably, the main chamber has an injection orifice that is located in front of the dispensing mechanism and is configured to allow the cosmetic product to exit the main chamber and the dispensing mechanism when the latter is actuated; this is a particularly useful optional feature which allows for the good injection of the cosmetic product towards outside the cartridge, when the dispensing mechanism and the overall capsule are in the interior of the main chamber. Moreover, it is also contemplated the optional and preferable case wherein the connection means comprise a connection orifice formed on the main chamber, the connection orifice being configured to allow an actuating part of the dispenser to be inserted into the cartridge and/or to push the container towards the dispensing mechanism when the dispenser is actuated. The configuration mentioned in the previous sentence allows for the capsule and dispensing mechanism to be actuated by the use of the dispenser even when the user cannot easily contact directly with his/her hands the capsule and the dispensing mechanism when the latter two are enclosed by the main chamber. Therefore, the aforementioned technical feature in combination to the other structural elements of the cartridge contributes to the prevention of the uncontrolled or accidental activation of the cartridge and of the accidental release of the cosmetic product, especially when the cartridge is not used with the dispenser of the invention.

[0015] As can be understood from the description further above, preferably the cartridge has connection means which are adapted/configured to be attached and/or fastened on a main chamber receiving part of a dispenser, so that the cartridge as a whole is configured to be removably attached via the connection means to the main chamber receiving part of a dispenser. This allows for the cartridge and the cartridge-dispenser system to be used by the user in a facile, simple and pleasant manner. For the same reasons, optionally the connection means comprise a first magnet attached to the container and/or to the chamber and configured to attract a magnetic part of the dispenser. Preferably, the first magnet is adjacent to the connection orifice. The presence of said first magnet, in combination with some elements of the cartridge solves the technical problem of how to ensure that the cartridge, and in particular the capsule and dispensing mechanism therein, are positioned correctly in/on the main chamber receiving part of the dispenser, even when the user does not pay much attention towards inserting/positioning accurately the cartridge in the dispenser. The inventors found that once the cartridge has been inserted in the dispenser at a position at which the magnetic force between the first magnet and the dispenser is sufficiently high to result to a noticeable attraction, said attraction may lead to a further automatic adjustment of the exact position of the cartridge and/or of the capsule therein with respect to the actuating part of the dispenser, so that the cartridge can be activated by the dispenser in an optimized manner. The aforementioned automatic adjustment may happen because the cartridge tends to be positioned with respect to the dispenser so that the potential energy associated with the magnetic attraction between the two is minimized.

[0016] More generally, it is contemplated the optional case wherein the connection means comprise an outer surface of the main chamber shaped as to fit onto (e.g. fit or fit in) the main chamber receiving part of the dispenser. Therefore, the connection means may simply be a part of the main chamber shaped as to fit or be attached or be fastened or snap onto and/or into the main chamber receiving part of the dispenser. For example, if said main chamber receiving part comprises a protuberance, then the connection means may comprise a hole or recess that is shaped so as to fit on and/or around said protuberance. Similarly, in another example if said main chamber receiving part comprises a hole or recess, then the connection means may comprise a protuberance that is shaped as to fit inside said hole or recess. Similarly, in yet another example, if the connection means comprise a surface part of the main chamber wherein said surface part is flat or otherwise shaped and is of a particular size, then the main chamber receiving part of the dispenser may be shaped and/or sized similarly or identically to the aforementioned surface part of the main chamber. The configurations described in each of the aforementioned last three examples, contribute towards facilitating the good and easy use of the cartridge in combination with the dispenser.

[0017] Optionally and preferably, a cartridge according of the first aspect of the invention has a geometrical axis of symmetry that is also an axis of symmetry of each of the main chamber, the container, and the dispensing mechanism, and wherein said axis of symmetry passes through, and preferably through the center of, the connection orifice. It is to be understood that in the context of the present invention axis of symmetry (geometrical axis of symmetry) can be a line that divides an object into two equal halves, thereby creating a mirror like reflection of either side of the object. When the cartridge has the aforementioned axis of symmetry, this makes the cartridge and its use simple and aesthetically pleasing, and allows for manufacturing the cartridge and/or parts therein through relatively simple and industrially important processes such as for example injection molding, for reducing the cost and time required for assembling and manufacturing the cartridge and parts therein.

[0018] The cartridge may optionally further comprise the cosmetic product. Optionally and preferably the cos-

metic product is any of a scent, a perfume, an aroma or a cologne, and preferably a liquid perfume or cologne.

[0019] The present invention in its second aspect is a dispenser adapted to be used with the cartridge of the first aspect of the invention. The dispenser is specifically adapted to receive the cartridge so that the cartridge can be removably fastened to (on/in) and/or inserted in the dispenser. For this reason, preferably the dispenser has a cartridge receiving part that is configured to be removable attached to a cartridge via connection means of the latter. Considering all of the aforementioned, the invention in its second aspect preferably is a dispenser that, has a cartridge receiving part that is configured to be removable attached to a cartridge via connection means of the latter, the cartridge being according to the first aspect of the invention, the dispenser being configured to be activated by a user thus actuating the dispensing mechanism of the cartridge and dispensing the cosmetic product. In the last sentence it is obviously meant that the dispenser is configured to be activated by a user thus actuating the dispensing mechanism when the cartridge is attached via the connection means to the cartridge receiving part of the dispenser. Preferably, the dispenser is actuated manually by the user, and most preferably, the dispenser is actuated by a user pushing against the dispenser a cartridge attached to or inserted in the dispenser' cartridge receiving part, while holding the dispenser, most preferably using only one hand.

[0020] The main chamber receiving part of the dispenser is adapted to receive and to optionally enclose, at least partially, the cartridge and more specifically the cartridge's main chamber, with the latter two being adapted for being removable fastened/attached to the cartridge receiving part. Preferably the cartridge receiving part has a main chamber receiving part that contacts the cartridge's main chamber. For this reason, optionally and preferably the shape of the main chamber receiving part may contour to at least a part of the cartridge's main chamber that contacts and is attached to said main chamber receiving part. Likewise, the main chamber receiving part may optionally comprise a receiving chamber in which the entire cartridge is inserted fully or partially, and consequently the volume of the receiving chamber may optionally be equal to or larger than the volume of the cartridge or of the part of the cartridge that contacts and is attached to (e.g. attached onto or into) said receiving chamber.

[0021] The cartridge receiving part is a very important element of the dispenser, because by being in contact with the cartridge's main chamber it affects the actuation of the cartridge via the use of the dispenser. This is evident in the herein contemplated optional and most preferable case of the second aspect of the invention wherein the dispenser comprises

- a main body that is configured to be hold by a user;
- at least one cartridge receiving part that comprises an actuating part and an actuation mechanism that comprises a main chamber receiving part;
- suspension means attached to the actuation mechanism,

wherein

- the main body contains the actuating part, the suspension means and the main chamber receiving part, the latter comprising a main opening and being displaceable between a first position and a second position with respect to both the main body and the actuating part;
- the suspension means are configured to push the main chamber receiving part to move from the second position to the first position when the main chamber receiving part is at the second position; and,
- the actuating part is located at the main opening and protrudes from the main chamber receiving part and is configured for moving relatively to the main chamber receiving part for thusly executing a relative motion with respect to the main chamber receiving part when the latter is being displaced between the first position and the second position, in which case, said actuating part is configured to apply an external mechanical force on any solid surface that is not a part of the dispenser and contacts the actuating part during said relative motion opposing the latter, said external mechanical force aimed at displacing said solid surface with respect to the main chamber receiving part and at forcing the solid surface to follow said relative motion.

[0022] It is noted that optionally the actuating part is not constantly located at the main opening nor constantly protrudes from the main chamber receiving part, but does so only during or after said relative motion e.g. the actuating part may initially be located within the opening and protrude from it and from the main chamber receiving part only during or after the occurrence of the movement/displacement of the cartridge receiving part.

[0023] Optionally, the cartridge receiving part, and specifically the actuation mechanism therein, also comprises a support structured attached to the main chamber receiving part. Moreover, optionally the main chamber receiving part, which has a side and respective surface on which the main chamber of the cartridge is to be placed, also has on said side and said surface a main opening (such as the a aforementioned main opening) that extends across two opposite sides (one of which is said side having said respective surface) of the chamber receiving part, and from said main opening the actuating part passes through and protrudes with respect to the main chamber receiving part and to the latter's side that is to be attached to the cartridge. The latter optional case

also serves as an example of how the actuating part is configured for moving relatively to and through the main chamber receiving part for thusly executing a relative motion with respect to the main chamber receiving part when the latter is being displaced between the first position and the second position.

[0024] The suspension means are preferably inside the main body, and optionally they may be fastened onto the body, and optionally they may be located inside a cavity that is comprised by said body and is configured so that the suspension means fit in its interior and can function as described above. The suspension means optionally comprise a spring (or two or more springs) located in the aforementioned optional cavities within the main body. The cavity may be configured, e,.g. it may be sized, so that the spring can be compressed and/or stretched when the actuation mechanism moves from the first position to the second position or when the actuation mechanism moves from the second position to the first position. Optionally, the longitudinal axis of the spring is parallel to the longitudinal axis of the cartridge-body system, and/or is parallel to the geometrical axis along the dispensing mechanism and the container of the cartridge. Said geometrical axis along the container is preferably the symmetry axis of the cartridge mentioned further above. Also optionally and preferably, the dispenser has an axis of symmetry that is also an axis of symmetry of the optional main body, actuating part, main chamber receiving part and, in case that the dispenser comprises two cartridge receiving parts, of the two main chamber receiving parts of said two cartridge receiving parts.

[0025] The optional support structure and the suspension means are optionally located under the main chamber receiving part, under the cartridge (when such cartridge is loaded on the dispenser) and towards the center of the main body. Considering that the main chamber receiving part is removably attached to the cartridge, when the actuation mechanism moves between the first position and the second position, then the main chamber of the cartridge also moves between two corresponding positions with respect to the main body of the dispenser. It is contemplated that a simple, easy and practical way for activating the dispensing mechanism by displacing the actuation mechanism to the second position, would be to push the cartridge towards the main chamber receiving part, and thus towards the actuation mechanism. Therefore, regarding the dispenser of the second aspect of the invention it is contemplated the optional case wherein the dispenser is configured to be activated when the user pushes the cartridge (that has been attached to/loaded into the dispenser) towards the main chamber receiving part. In the previous sentence, pushing the cartridge should be best understood as meaning pushing the main chamber of the cartridge.

[0026] Regarding the dispenser of the second aspect of the invention, it is also contemplated the optional case wherein the dispenser comprises an actuating part configured to be at least partially inserted via the connection means of the cartridge into the cartridge and/or configured to push the container of the cartridge towards the latter's dispensing mechanism when the dispenser is actuated. As described further above, the connection means of the cartridge may optionally and preferably comprise a connection orifice, and in that case when the dispenser has an actuating part, then said actuating part can be at least partially inserted in the cartridge via said connection orifice. If furthermore, the cartridge has the aforementioned optional first position means and second position means positioned in the interior of the chamber in opposite sides for respectively holding in place the dispensing mechanism and the container of the capsule as described further above, then when the user actuates the dispenser, for example by pushing the main chamber towards the main chamber receiving part, then the actuating part could push the container towards the dispensing mechanism which when moved with respect to the container can be activated/actuated (if for example the actuating mechanism comprises a spray nozzle) thusly dispensing the cosmetic product towards outside the capsule and towards outside the cartridge and the dispenser. Moreover, optionally and preferably the dispenser comprises a second magnet that is configured to attract a magnetic part of the cartridge. If the cartridge has a first magnet as mentioned further above, then obviously this first magnet may be the cartridge's magnetic part that is attracted by the aforementioned second magnet of the dispenser. The second magnet can for example be located fixed (on)to the aforementioned optional actuating part of the dispenser.

[0027] Two additional and major technical problems that are addressed and solved by the present invention are how can a user avoid having to purchase and store large quantities of a specific cosmetic product, and how can a user frequently change the cosmetic products he/she uses without said change entailing a significant financial and/or environmental cost. The present invention solves these problems because it allows the end user to purchase and use easily cartridges that contain small amounts of cosmetic products, thusly avoiding the need for buying large bottles/containers that contain large quantities of cosmetic products. Similarly, the present invention offers the possibility to use a single device, that is the dispenser of the second aspect of the invention, to apply several, and indeed numerous, different cosmetic products contained in corresponding cartridges. Therefore, optionally and preferably the dispenser comprises a plurality of cartridge receiving parts, and for example 2, 3, 4, 5, 6 or more cartridge receiving parts, each configured to be attached to a corresponding cartridge. In a non- limiting example, optionally the dispenser comprises two cartridge receiving parts, each configured to attach to a corresponding cartridge, the two cartridge receiving parts being positioned in opposite sides of the dispenser. Overall, optionally, the dispenser comprises two or more cartridge receiving part, and the suspension means are attached to the actuation mechanism of each

cartridge receiving part.

[0028] The dispenser of the present invention can be easily transported and carried around by the user with or without cartridges being attached to the dispenser. Nevertheless, when the dispenser does have cartridges attached to it, it is important to avoid accidently activating them e.g. when the dispenser is transported within a bag of the user. Likewise, if the dispenser has more than one cartridges attached to it, it may be very useful to select which of the cartridges is to be activated every time the dispenser is used, and likewise to select to block one or more of the cartridges from being activated at any given time the dispenser is used. For the aforementioned reasons, it is contemplated the optional case regarding the second aspect of the invention, wherein the dispenser comprises selection means configured to be adjustable as to block and/or unblock the actuation of the dispenser, and/or as to select the cartridge receiving part and corresponding cartridge to be actuated in case the dispenser has more than one cartridge receiving parts each configured to attach (to be attached) to a corresponding cartridge.

[0029] For the aforementioned reasons, it is contemplated a dispenser according to the second aspect of the invention, wherein the dispenser comprises selection means configured to be adjustable between blocking and unblocking the displacement of the main chamber receiving part between the first position and the second position. In this case, further optionally,

- the actuation mechanism comprises a support structure firmly attached to the main chamber receiving part;

- the support structure and the actuation mechanism as a whole are configured to be displaceable and moving together with the main chamber receiving part when the latter is being displaced between the first position and the second position with respect to both the main body and the actuating part;

- the selection means comprise an unblocking protrusion that is attached on the support structure and is configured to move together with the actuation mechanism when the main chamber receiving part is displaced between the first position and the second position, and the selection means also comprise a movable solid selector configured to move between a blocking position and an unblocking position, wherein the solid selector comprises an unblocking cavity that is configured so that when the solid selector is at its unblocking position the unblocking protrusion can slide in and move through the unblocking cavity thus allowing the movement of the actuation mechanism from the first position to the second position, and when the solid selector is at its blocking position, the unblocking protrusion may not slide in and move through the unblocking cavity thusly inhibiting and/or blocking the movement of the actuation mechanism from the first position to the second position.

[0030] Moreover, optionally the dispenser is shaped and configured so that the user can hold the body with one hand and can manually displace, using the fingers of the same hand, the main chamber receiving part from the first position towards the second position. This optional feature ensures that the dispenser is very easy and simple to use, and permits the user to execute additional actions while using the dispenser, such as holding with his/her other hand a mirror for looking where exactly to apply the cosmetic product.

Brief Description of the Drawings

[0031] The previous and other advantages and features will be more fully understood from the following detailed description of embodiments, with reference to the attached figures, which must be considered in an illustrative and non-limiting manner, in which:

Fig. 1 illustrates a cross section of a preferred embodiment of a cartridge according to the first aspect of the invention.

Fig. 1 a illustrates a perspective of a cross section of a preferred embodiment of a cartridge according to the first aspect of the invention.

Fig. 2. illustrates a front view of a preferred embodiment of a cartridge according to the first aspect of the invention.

Fig 3. illustrates a side view of a preferred embodiment of a cartridge according to the first aspect of the invention.

Fig. 4 illustrates a cross section of a preferred embodiment of a cartridge according to the first aspect of the invention.

Fig. 5 illustrates a front view of a preferred embodiment of a dispenser that is according to the second aspect of the invention, and of two cartridges which are according to a preferred embodiment of the first aspect of the invention and are properly attached to the dispenser.

Fig. 6. illustrates a side view of a preferred embodiment of a dispenser that is according to the second aspect of the invention, and of two cartridges which are according to a preferred embodiment of the first aspect of the invention and are properly attached to the dispenser.

Fig. 7 illustrates a cross section of a preferred em-

bodiment of a dispenser that is according to the second aspect of the invention, and of two cartridges which are according to a preferred embodiment of the first aspect of the invention and are properly attached to the dispenser.

Fig. 8 illustrates a cross section of a preferred embodiment of a dispenser that is according to the second aspect of the invention, and of two cartridges which are according to a preferred embodiment of the first aspect of the invention and are properly attached to the dispenser.

Fig. 9a illustrates a front view of a preferred embodiment of a dispenser that is according to the second aspect of the invention, and of an embodiment of a cartridge that is according to the first aspect of the invention and is properly attached to the dispenser.

Fig. 9b illustrates a side view of a preferred embodiment of a dispenser that is according to the second aspect of the invention, and of an embodiment of a cartridge that is according to the first aspect of the invention and is properly attached to the dispenser.

Fig 9c. illustrates a cross section of a preferred embodiment of a dispenser that is according to the second aspect of the invention, and of an embodiment of a cartridge that is according to the first aspect of the invention and is properly attached to the dispenser.

Fig 9d illustrates a cross section of a preferred embodiment of a dispenser that is according to the second aspect of the invention, and of an embodiment of a cartridge that is according to the first aspect of the invention and is properly attached to the dispenser.

Fig. 10 illustrates a front view of a preferred embodiment of a dispenser that is according to the second aspect of the invention.

Fig. 11 illustrates a cross section of a preferred embodiment of the dispenser shown in Fig. 10.

Detailed Description of Preferred Embodiments

[0032] Fig. 1 shows a preferred embodiment of a cartridge for containing a cosmetic product, the cartridge having connection means 6 and comprising:

- a capsule 2 comprising a container 3 able to contain a cosmetic product, and a dispensing mechanism 4 attached to said container 3 and configured to be actuated and dispense the cosmetic product;

- a main chamber 5 configured to contain attached to within it the capsule 2 and to permit dispensing towards outside the main chamber 5 the cosmetic product when the dispensing mechanism is actuated,

wherein the cartridge is configured to be removably attached via the connection means 6 to a main chamber receiving part (not shown in Fig. 1) of a dispenser (not shown in Fig. 1), the dispenser being configured to be activated by a user thus actuating the dispensing mechanism 4.

[0033] Likewise, it can be said that Fig. 1 shows a cartridge having connection means 6 and comprising:

- a capsule 2 comprising a dispensing mechanism 4 and a container 3 that is able to contain the cosmetic product, the dispensing mechanism 4 being attached to said container 3 and configured to be actuated and thusly dispense the cosmetic product;

- a main chamber 5 configured to contain inside it and attached to the same the capsule 2, and to permit dispensing towards outside the main chamber 5 the cosmetic product when the dispensing mechanism 4 is actuated,

wherein the container is displaceable with respect to both the main chamber 5 and the dispensing mechanism 4, and is also configured to actuate the dispensing mechanism 4 when being displaced with respect to the latter, and the connection means 6 comprise a connection orifice 32 located on the main chamber 5 and adjacent to the container 3, the connection orifice 32 allowing applying on the capsule, and preferably on the container 3, an external mechanical force aimed at displacing the container 3 with respect to both the main chamber 5 and the dispensing mechanism 4 for thusly actuating the dispensing mechanism 4, the external mechanical force originating from outside the main chamber 5 and the cartridge and having a direction that passes from and through the connection orifice 32 towards the capsule 2.

[0034] It is noted that in the cartridge in Fig. 1 the main chamber 5 comprises first positioning means 8 configured to hold removably fixed to them an external surface 9 of the dispensing mechanism 4. More specifically, in Fig. 1 the first positioning means 8 comprise protrusions in the interior of the main chamber 5, and to and by said protrusions the dispensing mechanism 4 is respectively attached and locked in place.

[0035] Moreover, as shown in Fig. 1 the main chamber 5 comprises second positioning means 10 configured to hold removably attached onto them an outer surface 11 of the container. In this particular case shown, said outer surface 11 of the container is an external flat surface located at the bottom of the container, and the second positioning means 10 comprise a flat surface that is similarly sized to said external flat surface of the container, and is normal to the longitudinal axis (not indicated) of

the container that passes through the center of the container and that is parallel to the plane of Fig. 1.

[0036] Moreover, Fig. 1 illustrates that in the cartridge shown therein, the connection means 6 comprise a connection orifice 32 formed on the main chamber 5, the connection orifice being configured to allow an actuating part of the dispenser to be inserted into the cartridge and/or to push the container 3 towards the dispensing mechanism 4 when the dispenser is actuated. It is noted that in the cartridge shown in Fig. 1 the dispensing mechanism 4 comprises a spray nozzle 7. Moreover, as indicated in Fig. 1 the connection means 6 comprise an outer surface 34 of the main chamber shaped as to fit onto, and preferably as to contour on a corresponding surface of the main chamber receiving part (not shown in Fig. 1) of the dispenser. In Fig. 1 the connection orifice is a hole through a wall of the main chamber.

[0037] In the perspective of the cross section shown in in Fig. 1a, the cartridge is similar to the cartridge shown in Fig. 1, and comprises:

- connection means 16;
- a capsule 12 comprising a dispensing mechanism 14 and a container 13 that is able to contain the cosmetic product, the dispensing mechanism 14 being attached to said container 13 and configured to be actuated and thusly dispense the cosmetic product;
- a main chamber configured to contain inside it and attached to the same the capsule 12, and to permit dispensing towards outside the main chamber 5 the cosmetic product when the dispensing mechanism 14 is actuated, wherein the container is displaceable with respect to both the main chamber and the dispensing mechanism 14, and is also configured to actuate the dispensing mechanism 14 when being displaced with respect to the latter, and the connection means 16 comprise a connection orifice located on the main chamber and preferably adjacent to the container 13, the connection orifice allowing applying on the capsule, and preferably on the container 13, an external mechanical force F (the direction of which is indicated by a thick black arrow in Fig. 1a) aimed at displacing the container 13 with respect to both the main chamber and the dispensing mechanism 14 for thusly actuating the dispensing mechanism 14, the external mechanical force originating from outside the main chamber and the cartridge and having a direction that passes from and through the connection orifice towards the capsule 12;
- first positioning means 18 configured to hold removably fixed to them an external surface 19 of the dispensing mechanism 14,
- second positioning means 20 configured to hold removably attached to them an outer surface 21 of the container.

[0038] In the cartridge shown in Fig. 1a

- the main chamber comprises the first positioning means 18 and the second positioning means 20,
- the connection means 16 comprise an outer surface 35 of the main chamber shaped as to fit onto the main chamber receiving part of the dispenser.

[0039] In Fig. 1a the first positioning means 19 comprise a first cylindrical protuberance that projects from the rest of the internal surface of the main chamber and has a hollow cylindrical shape which is open on one end towards the interior of the main chamber, and the dispensing mechanism 14 has a similar cylindrical shape which is configured, e.g. it is sized, to be able to be inserted and thusly to can be removably fastened with said cylindrical protuberance. Moreover, as indicated Fig. 1a illustrates that the second positioning means 20 indicated therein comprise a second cylindrical protuberance which is substantially parallel and similar, albeit located in the interior of the main chamber on an opposite side, compared to the aforementioned first cylindrical protuberance. The bottom end of the main chamber of the capsule indicated in Fig. 1a, is configured to be -at least partially- inserted in, i.e. to be removably fastened (in)to (fastened at), said second cylindrical protuberance.

[0040] Fig. 1a also illustrates that the main chamber of the cartridge shown therein is separable into an upper part 5a and a lower part 5b which are configured to be removably attached to each other forming the main chamber when being (thusly) attached, and allowing access to the capsule 12 when being separated (from each other). The joint 5c between the upper part 5a and the lower part 5b when the latter two are attached together, e.g. when the upper part fits as a snap-on attachment to the lower part, is also indicated in Fig. 1a. Moreover, Fig. 1a also illustrates that the connection means 16 of the cartridge shown therein comprise a first magnet 33 attached to the container 13 and to the chamber and configured to attract a magnetic part (not shown in fig. 1a) of the dispenser.

[0041] The cartridge shown in Fig. 2 is the cartridge shown in Fig 1a. The plane of Fig. 1 and cross section therein is normal to the plane of Fig 2, and is parallel to the geometrical axis which is indicated by the dashed line in Fig. 2 and is passing through the therein indicated points D and D'. In this case said geometrical axis is a geometrical axis of symmetry of the cartridge, and is also an axis of symmetry of each of the main chamber (not shown), the container (not shown), and the dispensing mechanism (not shown), and wherein said axis of symmetry passes through the center of the connection orifice (not idicated). Also, as indicated in Fig. 2, the main chamber 5 has an injection orifice 31 that is located in front of the dispensing mechanism and is configured to allow the

cosmetic product to exit the main chamber 5 and the dispensing mechanism when the latter is actuated. The dispensing mechanism in this particular case has a spray nozzle 7 which is located behind the injection orifice 31, and therefore the cosmetic product can exit through both the injection orifice 31 and spray nozzle 7 when the dispensing mechanism is actuated.

[0042] In an embodiment of the cartridge according to the first aspect of the invention, the main chamber has a viewing window configured to allow a user of the cartridge to view the capsule within the main chamber. The aforementioned viewing window is an optional feature that solves the technical problem of how to know: whether a cartridge is filled with a cosmetic product and/or whether the amount of the cosmetic product within the cartridge is sufficiently high for the needs of the user, and/or what is the color of the cosmetic product, even when the main chamber excluding the viewing window is made of an opaque or non-transparent material that does not allow seeing through it. This is often the case when the cartridge needs to be very durable and the main chamber therefore comprises a material that is non-transparent albeit durable. The cartridge and any part thereof can be made of one or more materials, and a non-limiting list of examples of such materials includes: a metal, a plastic, a polymer, a silicone (e.g. a polysiloxane), a glass, a crystal, an amorphous solid material, a polycrystalline solid material, and combinations thereof. Optionally and preferably, the container is made of a transparent material which comprises a transparent plastic or polymer and/or a transparent glass. Similarly, optionally the viewing window when present in the cartridge comprises a transparent plastic or polymer and/or a transparent glass.

[0043] The cartridge shown in Fig. 3 is the cartridge shown in Fig. 2. The plane of Fig. 3 is normal to the plane of Fig. 2, and similarly to the indicated by the solid line in Fig. 3 geometrical axis passing through the points C, it is parallel to the geometrical axis which is indicated by the dashed line in Fig. 2 and passes through the therein indicated points D. As indicated in Fig. 3, the main chamber 5 has a viewing window 70 configured to allow a user of the cartridge to view the capsule within the main chamber.

[0044] The cartridge shown in Fig. 4 is the cartridge shown in Fig. 1 and Fig. 3. Fig. 4 shows the cross section C-C, and the plane of Fig. 4 is normal to the plane of either Fig. 1 and Fig. 3. The cartridge shown in Fig. 4 as indicated therein has a dispensing mechanism that comprises a spray nozzle 7, and also the cartridge has capsule that has a container 3 and a viewing window 70 configured to allow a user of the cartridge to view the capsule, and for example view the container 3 within the main chamber 5.

[0045] Fig. 5 illustrates a dispenser 50 loaded with two cartridges 1 properly attached thereto in a manner that permits using the dispenser for dispensing the cosmetic products contained in the cartridges. Therefore, the dispenser 50 comprises two main chamber receiving parts, each configured to attach to a corresponding cartridge, the two main chamber receiving parts being positioned in opposite sides of the dispenser. The dispenser 50 comprises a main body 51. The truncated line shown in Fig. 5 passing through the therein indicated points A, indicates a plane A-A that is normal to the plane of Fig 5. Fig 6 illustrates the same dispenser and cartridges that are shown in Fig. 5, but the geometrical plane of Fig. 6 is normal to the geometrical plane of Fig. 5. The truncated line shown in Fig. 6 passing through the therein indicated points B, indicates a plane B-B that is normal to the plane of Fig. 6.

[0046] Fig. 7. and Fig. 8 illustrate cross sections of the cartridge-dispenser set shown in Fig. 5 and Fig. 6. Fig. 7 shows the cross section A-A across the aforementioned plain A-A indicated in Fig. 5. Likewise, Fig. 8 shows the cross section B-B across the aforementioned plain B-B indicated in Fig. 6. The cartridge 1 indicated in Fig. 7 and Fig. 8 is identical to the cartridge shown in Fig. 1.

[0047] Fig. 9a, Fig. 9b, Fig. 9c and Fig. 9d illustrate the same dispenser and cartridge shown in Fig. 5-Fig. 8, with the only difference between the two sets of figures being that in Fig. 9a- Fig. 9d the dispenser has only one cartridge attached to it.

[0048] As indicated by Fig. 7, Fig. 8 and Fig. 9d when considered together, the dispenser 50 shown therein, which actually is an exemplary embodiment of the second aspect of the invention, has a cartridge receiving part that is configured to be removably attached to the main chamber of a cartridge via connection means of the latter, the cartridge being according to any of the aforementioned embodiments of the first aspect of the invention and having the main chamber, a container, connection means and an activation mechanism, the dispenser being configured to be activated by a user thus actuating the dispensing mechanism of the cartridge and dispensing the cosmetic product. Moreover, as indicated by Fig. 7, Fig. 8 and Fig. 9d considered together, the dispenser shown therein comprises

- a main body 51 that is configured to be hold by a user;
- at least one cartridge receiving part that comprises an actuating part 56 and an actuation mechanism 52 that comprises a main chamber receiving part 53;
- suspension means attached to the actuation mechanism 52,

wherein

- the main body 51 contains the actuating part 56, the suspension means 55 and the main chamber receiving part 53, the latter comprising a main opening and being displaceable between a first position FP and a second position SP with respect to both the main body and the actuating part 56;

- the suspension means 55 are configured to push the main chamber receiving part 53 to move from the second position SP to the first position FP when the main chamber receiving part 53 is at the second position SP; and,

- the actuating part 56 is located at the main opening and protrudes from the main chamber receiving part 53 and is configured for moving relatively to the main chamber receiving part 53 for thusly executing a relative motion with respect to the main chamber receiving part 53 when the latter is being displaced between the first position FP and the second position SP, in which case, said actuating part 56 is configured to apply an external mechanical force on any solid surface that is not a part of the dispenser and contacts the actuating part 56 during said relative motion opposing the latter, said external mechanical force aimed at displacing said solid surface with respect to the main chamber receiving part 53 and at forcing the solid surface to follow said relative motion.

[0049] Optionally and preferably the actuating part protrudes from an exterior side of the actuating part and of the main opening, said exterior side facing away from the center of the main body e.g. the actuating part protrudes towards a direction that is opposite or substantially opposite to the direction towards which the center of the main body is located with respect to the main chamber receiving part and/or with respect to the main opening. Preferably the actuating part 56 is fixed on the main body 51 and does not move with respect to the main body. Therefore, when main chamber receiving part moves with respect to the main body, it also moves with respect to the actuating part (i.e. the actuating part moves relatively to and with respect to the main body actuating part), thusly generating the aforementioned relative motion of the actuating part 56 with respect to the main chamber receiving part 53.

[0050] As shown in Fig. 8 the suspension means 55 of the therein shown embodiment comprise two springs which are located within two corresponding cavities within the main body, and the cavities are configured, e.g. are sized, so that the springs can be compressed when the actuation mechanism moves from the first position to the second position. In the particular embodiment shown in Fig. 8, the longitudinal axis of the spring is parallel to the longitudinal axis of the cartridge-body system, and is parallel to the geometrical axis along the dispensing mechanism and the container of the cartridge. The dispenser shown in Fig. 7, Fig. 8 and Fig. 9d is configured to be activated when the user pushes the cartridge towards the main chamber receiving part 53. Moreover, the dispenser comprises an actuating part 56 which is indicated in Fig. 7 and is configured to be at least partially inserted, as shown in Fig. 9d, via the connection means of the cartridge, into the cartridge and push the container of the cartridge towards the latter's dispensing mechanism when the dispenser is actuated. It is noted that the axis shown in each of Fig 6, Fig 9a., Fig 9b is an axis of symmetry of the dispenser shown in each figure, that is also an axis of symmetry of the main body 51, of the actuating part, of the main chamber receiving part, and, in case that the dispenses comprises two cartridge receiving parts as in Fig. 6, of the two main chamber receiving parts of said two cartridge receiving parts.

[0051] As indicated in Fig. 7 the dispenser shown therein comprises selection means (57) configured to be adjustable between blocking and unblocking the displacement of the main chamber receiving part 53 between the first position FP and the second position SP. Also, the selection means are configured to select the cartridge receiving part and corresponding actuation mechanism therein to be actuated (in this case the dispenser has two cartridge receiving parts and corresponding mechanisms). The selection means 57 of the specific embodiment shown in Fig. 7 and Fig. 8 are also shown in greater detail in Fig. 9c, and the three figures show that:

- the actuation mechanism 52 comprises a support structure 54 firmly attached to the main chamber receiving part 53;

- the support structure 54 and the actuation mechanism as a whole are configured to be displaceable and moving together with the main chamber receiving part (53) when the latter is being displaced between the first position FP (indicated in Fig 8) and the second position SP (indicated in Fig 9d) with respect to both the main body 51 and the actuating part 56;

- the selection means 57 comprise an unblocking protrusion 90 that is attached on the support structure 54 and is configured to move together with the actuation mechanism 52 when the main chamber receiving part 53 is displaced between the first position FP and the second position SP, and the selection means 57 also comprise a movable solid selector 89 configured to move between a blocking position and an unblocking position, wherein the solid selector 89 comprises an unblocking cavity 91 that is configured so that when the solid selector 89 is at its unblocking position the unblocking protrusion 90 can slide in and move through the unblocking cavity 91 thus allowing the movement of the actuation mechanism 52 from the first position to the second position, and when the solid selector 89 is at its blocking position, the unblocking protrusion 90 may not slide in and move through the unblocking cavity 91 thusly inhibiting and/or blocking the movement of the actuation mechanism from the first position FP to the second position SP.

[0052] Fig 10 shows a perspective of a dispenser ac-

cording to the second aspect of the dispenser. The exterior of the dispenser's body is shown, and said body contains protrusion for aiding the firm grasp of the body by the user, so that a user can firmly grab, hold and handle the dispenser using only one hand.

[0053] A cross section of the dispenser shown in Fig. 10, is also shown in Fig. 11 from which it is evident that the dispenser is very similar to the dispenser shown in Fig. 8 and Fig. 9d. Furthermore, in Fig. 11 a thin arrow indicates the direction towards which the main chamber receiving part 53 is to be pushed by the user and displaced and moved from the first position to the second position. The direction of the thin arrow in Fig. 11 is essentially the same as the direction of the thick arrows denoted as Fu and shown in Fig. 9c and 9d indicating the force applied by the user on the main chamber of the cartridge receiving part loaded on the dispenser for pushing the cartridge towards the main chamber receiving part and the actuation mechanism for forcing the latter two for executing the aforementioned displacement and motion. Moreover, the actuating part 56 that is also shown in fig 11 is configured to apply an external mechanical force, that is denoted as F and has a the direction that is indicated by the thick arrow in Fig. 11, on any solid surface, such as on the bottom surface of the container of the cartridge (not shown/included in figure 11) that is not a part of the dispenser and contacts the actuating part 56 during said relative motion opposing the latter, said external mechanical force aimed at displacing said solid surface with respect to the main chamber receiving part 53 and at forcing the solid surface to follow said relative motion. In this case, the direction of said relative motion is the direction of the thick arrow shown in Fig. 11.

[0054] While the foregoing is directed to embodiments of the present invention, other and further embodiments of the invention may be devised without departing from the basic scope thereof.

[0055] The scope of the present invention is defined in the following set of claims.

Claims

1. A cartridge for containing a cosmetic product, the cartridge having connection means (6, 16) and comprising:

   - a capsule (2, 12) comprising a dispensing mechanism (4, 14) and a container (3, 13) that is able to contain the cosmetic product, the dispensing mechanism (4, 14) being attached to said container (3, 13) and configured to be actuated and thusly dispense the cosmetic product;
   - a main chamber (5) configured to contain inside it and attached to the same the capsule (2, 12), and to permit dispensing towards outside the main chamber (5) the cosmetic product when the dispensing mechanism (4, 14) is actuated,

   wherein the container is displaceable with respect to both the main chamber (5) and the dispensing mechanism (4, 14), and is also configured to actuate the dispensing mechanism (4, 14) when being displaced with respect to the latter, and the connection means (6, 16) comprise a connection orifice (32) located on the main chamber (5) and preferably adjacent to the container (3, 13), the connection orifice (32) allowing applying on the capsule, and preferably on the container (3, 13), an external mechanical force aimed at displacing the container (3, 13) with respect to both the main chamber (5) and the dispensing mechanism (4, 14) for thusly actuating the dispensing mechanism (4, 14), the external mechanical force originating from outside the main chamber (5) and the cartridge and having a direction that passes from and through the connection orifice (32) towards the capsule (2, 12), the external mechanical force being provided by a dispenser, the cartridge being configured to be coupled to the dispenser and receive the external mechanical force from the dispenser.

2. A cartridge according to claim 1, wherein the main chamber comprises first positioning means (8, 18) configured to hold removably fixed to them an external surface (9, 19) of the dispensing mechanism (4, 14).

3. A cartridge according to any of the preceding claims, wherein the main chamber (5) comprises second positioning means (10, 20) configured to hold removably attached to them an outer surface (11, 21) of the container (3, 13).

4. A cartridge according to any of the preceding claims, wherein the main chamber (5) is separable into an upper part (5a) and a lower part (5b) which are configured to be removably attached to each other forming the main chamber (5) when being attached, and allowing access to the capsule (2, 12) when being separated.

5. A cartridge according to any of the preceding claims, wherein the main chamber (5) has an injection orifice (31) that is located in front of the dispensing mechanism (4, 14) and is configured to allow the cosmetic product to exit the main chamber (5) and the dispensing mechanism (4, 14) when the latter is actuated.

6. A cartridge according to any of the preceding claims, wherein the connection means (6, 16) comprise a first magnet (33) attached to the container (3, 13) and/or to the main chamber (5), the first magnet (33) preferably being adjacent to the connection orifice

(32).

7. A cartridge according to any of the preceding claims, wherein the cartridge has a geometrical axis of symmetry that is also an axis of symmetry of each of the main chamber (5), the container (3, 13), and the dispensing mechanism (4, 14), and wherein said axis of symmetry passes through, and preferably through the center of, the connection orifice (32).

8. A dispenser for dispensing a cosmetic product, that comprises

- a main body (51) that is configured to be hold by a user;
- at least one cartridge receiving part that comprises an actuating part (56) and an actuation mechanism (52) that comprises a main chamber receiving part (53);
- suspension means attached to the actuation mechanism (52),

wherein

- the main body (51) contains the actuating part (56), the suspension means (55) and the main chamber receiving part (53), the latter comprising a main opening and being displaceable between a first position (FP) and a second position (SP) with respect to both the main body and the actuating part (56);
- the suspension means (55) are configured to push the main chamber receiving part (53) to move from the second position (SP) to the first position (FP) when the main chamber receiving part (53) is at the second position (SP); and,
- the actuating part (56) is located at the main opening and protrudes from the main chamber receiving part (53) and is configured for moving relatively to the main chamber receiving part (53) for thusly executing a relative motion with respect to the main chamber receiving part (53) when the latter is being displaced between the first position (FP) and the second position (SP), in which case, said actuating part (56) is configured to apply an external mechanical force on any solid surface that is not a part of the dispenser and contacts the actuating part (56) during said relative motion opposing the latter, said external mechanical force aimed at displacing said solid surface with respect to the main chamber receiving part (53) and at forcing the solid surface to follow said relative motion.

9. A dispenser according to claim 8 wherein the dispenser comprises a second magnet preferably located attached to or incorporated in the actuating part (56).

10. A dispenser according to claim 8 or 9, wherein the dispenser comprises selection means (57) configured to be adjustable between blocking and unblocking the displacement of the main chamber receiving part (53) between the first position (FP) and the second position (SP).

11. A dispenser according to claim 10, wherein:

- the actuation mechanism (52) comprises a support structure (54) firmly attached to the main chamber receiving part (53);
- the support structure (54) and the actuation mechanism as a whole are configured to be displaceable and moving together with the main chamber receiving part (53) when the latter is being displaced between the first position (FP) and the second position (SP) with respect to both the main body (51) and the actuating part (56);
- the selection means (57) comprise an unblocking protrusion (90) that is attached on the support structure (54) and is configured to move together with the actuation mechanism (52) when the main chamber receiving part (53) is displaced between the first position (FP) and the second position (SP), and the selection means (57) also comprise a movable solid selector (89) configured to move between a blocking position and an unblocking position, wherein the solid selector (89) comprises an unblocking cavity (91) that is configured so that when the solid selector (89) is at its unblocking position the unblocking protrusion (90) can slide in and move through the unblocking cavity (91) thus allowing the movement of the actuation mechanism (52) from the first position to the second position, and when the solid selector (89) is at its blocking position, the unblocking protrusion (90) may not slide in and move through the unblocking cavity (91) thusly inhibiting and/or blocking the movement of the actuation mechanism from the first position (FP) to the second position (SP).

12. A dispenser according to any of claims 8-11, wherein the dispenser comprises two or more cartridge receiving parts, and the suspension means are attached to the actuation mechanism (52) of each cartridge receiving part.

13. A dispenser according to any of claim 8-12, wherein the dispenser has an axis of symmetry that is also an axis of symmetry of the main body (51), of the actuating part (56), of the main chamber receiving part (53), and, in case that the dispenses comprises two cartridge receiving parts, of the two main chamber receiving parts of said two cartridge receiving parts.

14. A dispenser according to any of the claims 8-13, wherein the dispenser is shaped and configured so that the user can hold the main body (51) with one hand and can manually displace, using the fingers of the same hand, the main chamber receiving part (53) from the first position (FP) towards the second position (SP).

15. A system comprising a cartridge according to any of claims 1-7, and a dispenser according to any of claim 8-14.

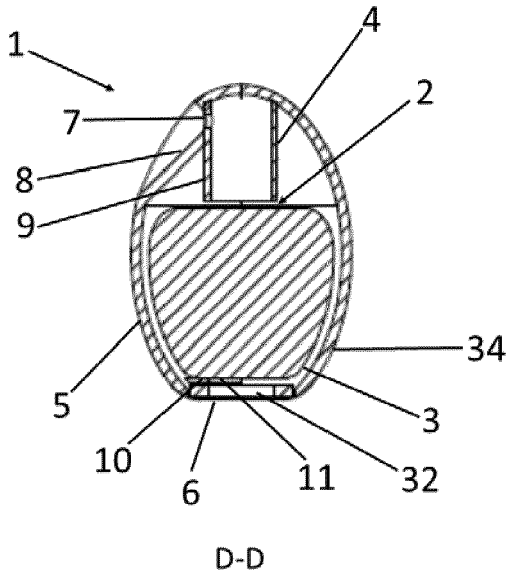


Fig. 1

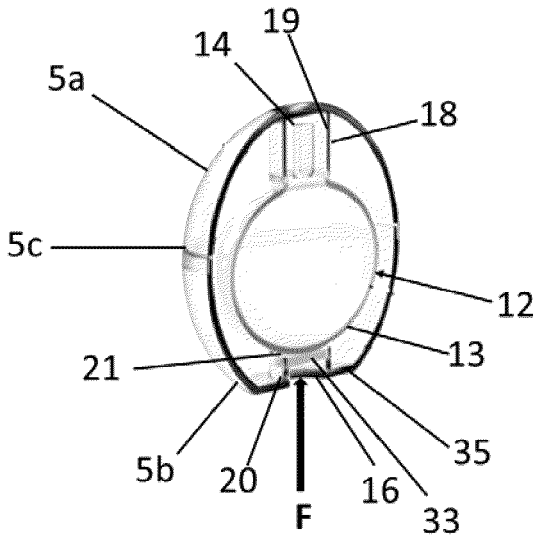


Fig. 1a

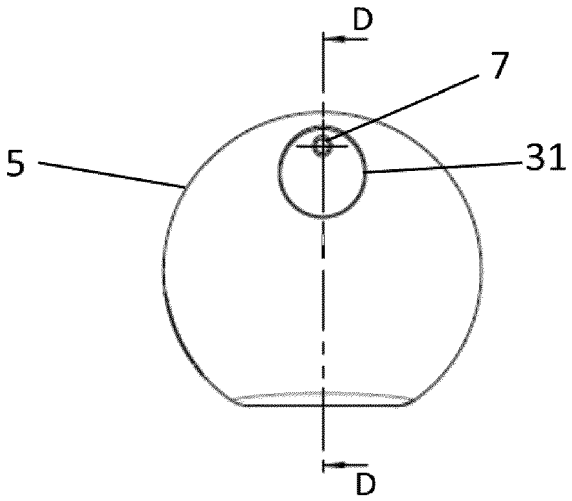


Fig. 2

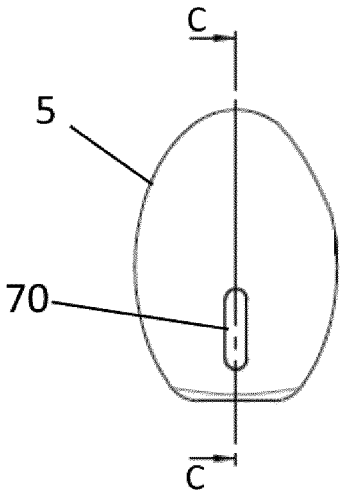
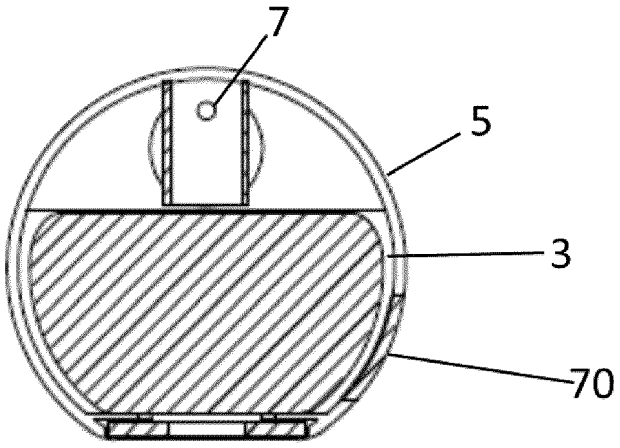


Fig. 3



C-C

Fig. 4

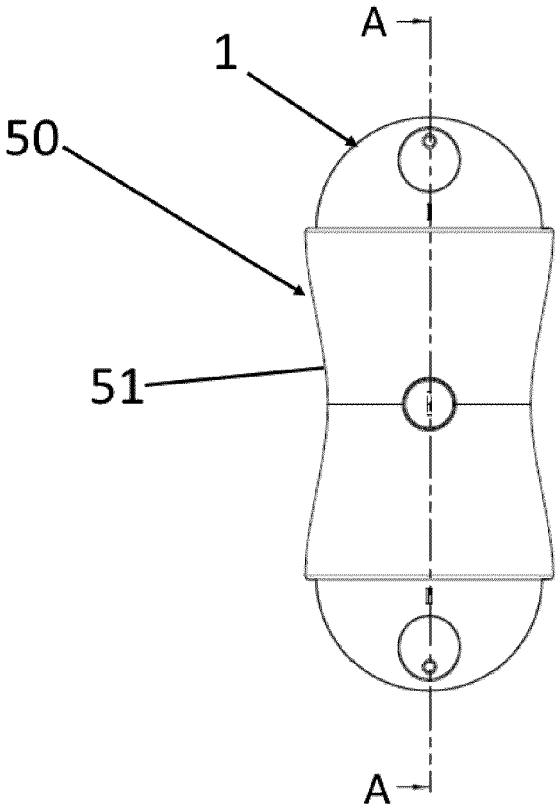


Fig. 5

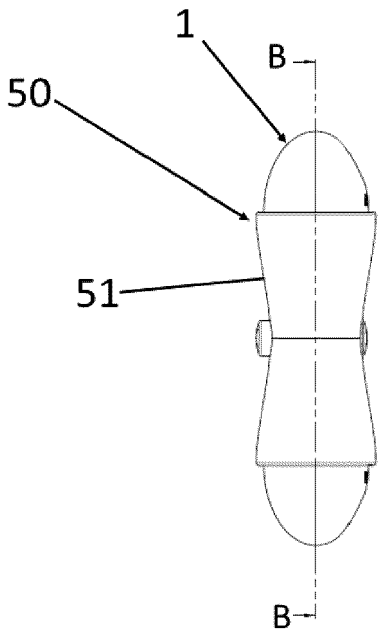


Fig. 6

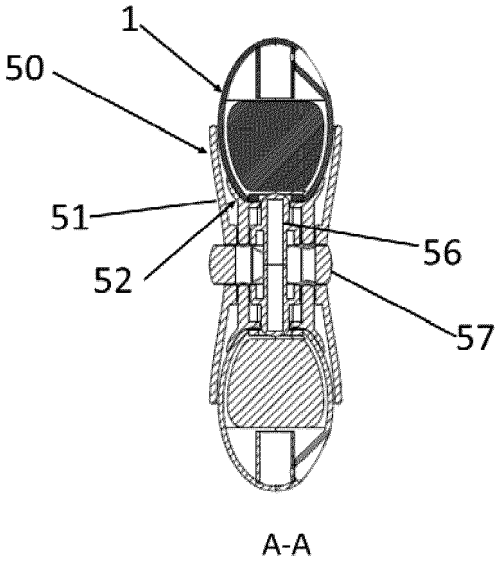


Fig. 7

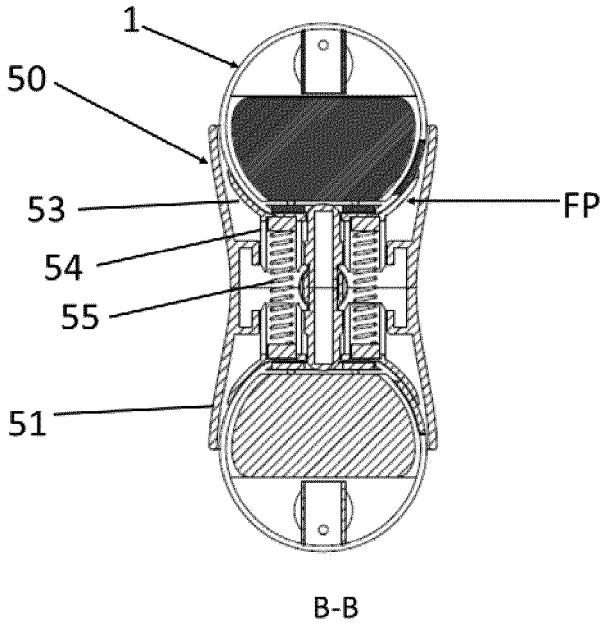


Fig. 8

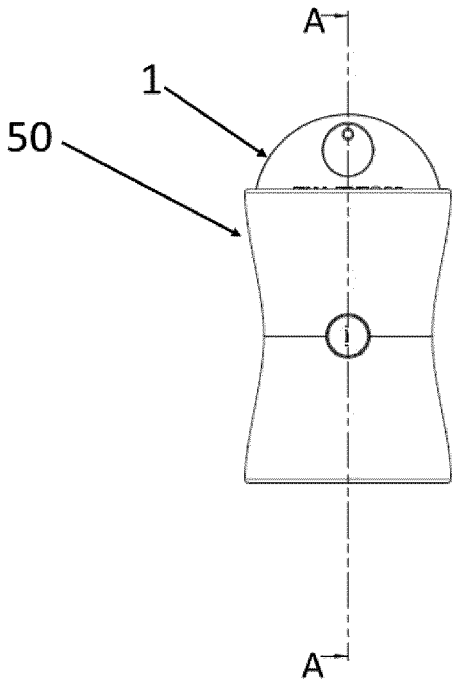


Fig. 9a

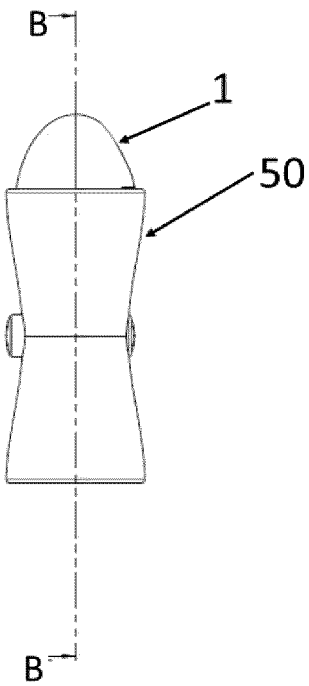
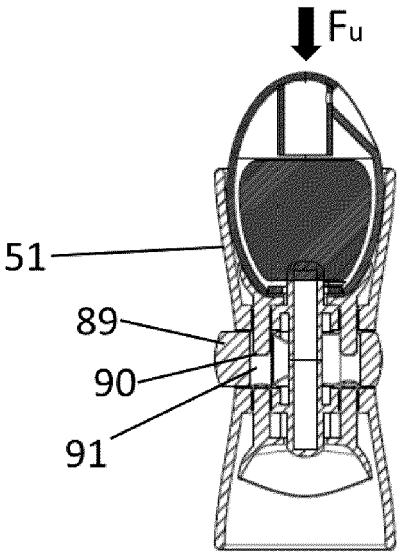
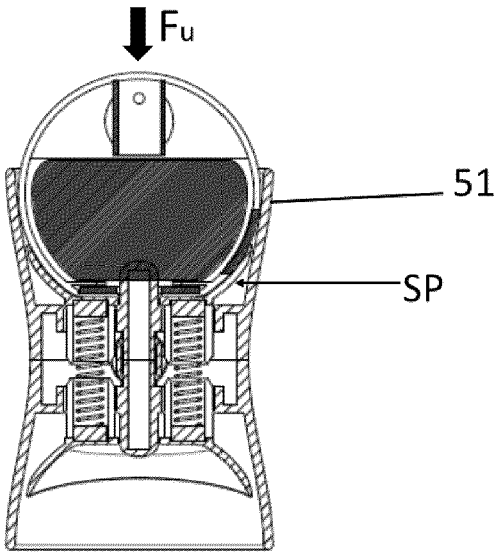


Fig. 9b



A-A

Fig. 9c



B-B

Fig. 9d

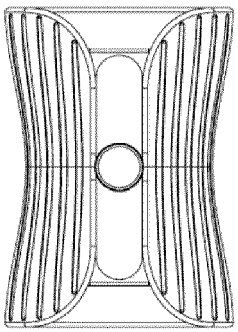


Fig. 10

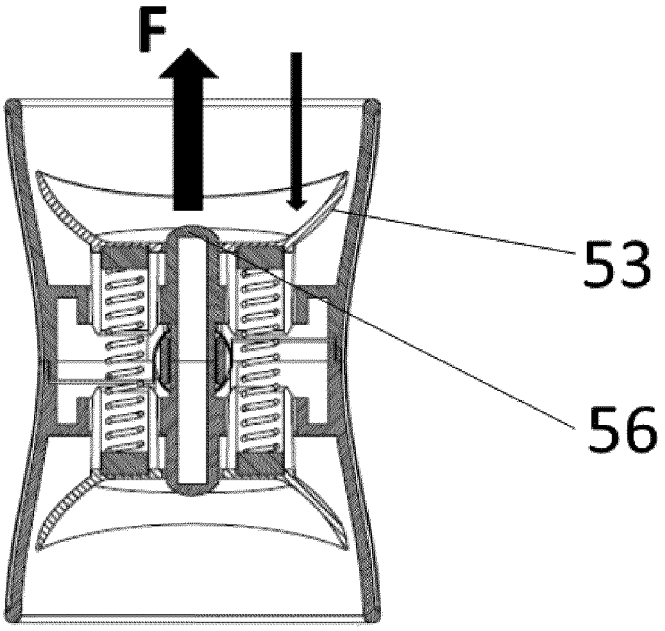


Fig. 11

Europäisches Patentamt
European Patent Office
Office européen des brevets

EUROPEAN SEARCH REPORT

Application Number
EP 20 38 2074

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X,D	WO 2018/169823 A1 (BHANDARI BISHAL [US]) 20 September 2018 (2018-09-20) * page 5, paragraph 2 - page 7, paragraph 3; figures 1-6 *	1-4,6, 8-14	INV. A45D34/00
X	WO 2009/044099 A1 (TOLY PRODUCTS UK LTD [GB]; BREESE REGINALD [GB]; ADAMS PAUL [GB]) 9 April 2009 (2009-04-09) * page 8, line 3 - page 9, line 25; figures 1-6 *	1,2,4,5, 7	
X	WO 2004/037435 A2 (COTY SA [FR]; MATHIEZ JEAN-LOUIS [FR]) 6 May 2004 (2004-05-06) * page 5, line 3 - page 6, line 25; figures 1, 2a, 2b, 2c *	1	

TECHNICAL FIELDS SEARCHED (IPC)
A45D

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	19 June 2020	Fidalgo Marron, B

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

EPO FORM 1503 03.82 (P04C01)

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 20 38 2074

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

19-06-2020

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2018169823 A1	20-09-2018	CN 110382370 A	25-10-2019
		US 2020114381 A1	16-04-2020
		WO 2018169823 A1	20-09-2018
WO 2009044099 A1	09-04-2009	AT 515958 T	15-07-2011
		EP 2197313 A1	23-06-2010
		GB 2453330 A	08-04-2009
		US 2010218782 A1	02-09-2010
		WO 2009044099 A1	09-04-2009
WO 2004037435 A2	06-05-2004	AT 337100 T	15-09-2006
		AU 2003298232 A1	13-05-2004
		DE 60307872 T2	29-03-2007
		EP 1554055 A2	20-07-2005
		ES 2271692 T3	16-04-2007
		FR 2846259 A1	30-04-2004
		US 2004089741 A1	13-05-2004
		US 2005247731 A1	10-11-2005
		US 2007034648 A1	15-02-2007
		WO 2004037435 A2	06-05-2004

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

REFERENCES CITED IN THE DESCRIPTION

This list of references cited by the applicant is for the reader's convenience only. It does not form part of the European patent document. Even though great care has been taken in compiling the references, errors or omissions cannot be excluded and the EPO disclaims all liability in this regard.

Patent documents cited in the description

- WO 2018169823A1 PCT **[0002]**
- WO 2018169823 A1 **[0002]**
- WO 2012018999A1 PCT **[0003]**
- WO 2012018999 A1 **[0003]**
- WO 2017091419A1 PCT **[0004]**
- WO 2017091419 A1 **[0004]**