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(56) References cited:
EP-A1- 1 783 058 **WO-A1-2005/102849**
WO-A2-2009/024772 **FR-A1- 3 020 349**
US-A- 3 692 231 **US-B1- 6 484 931**

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Description

BACKGROUND

[0001] This invention generally relates to containers for detergent products. Such containers containing detergent products are consumer products present in consumer homes, in particular in rooms such as a kitchen, a laundry room or a bathroom, which tend to generate a humid environment. It is important that the container be configured to adequately protect the detergent product from degradation due to an excessive exposure to such moisture or humidity. EP1783058A1 discloses a carton for washing agents according to the preamble of claim 1, which has flaps mounted on its lip. These fit under the rim of the lid and hold it shut. They can be pressed inwards to release the lid through apertures arranged in pairs around the corners of the lid with a spacing corresponding to the distance between the finger and thumb of an adult. US6484931B1 discloses a sift-resistant re-closeable package which includes a container for storing a product and a lid attached to the container for closing the container. The container includes a first panel having at least one slot disposed therethrough and a cover which extends over the slot for preventing the sifting of the product through the slot. The cover is attached to the first panel. The lid has a downwardly depending flap with an extension attached thereto, wherein the extension engages the slot when the lid is in the closed position.

BRIEF DESCRIPTION OF THE DRAWINGS

[0002]

FIG. 1A-B illustrate a first example consumer product.
 FIG. 2A-C illustrate a second example consumer product.
 FIG. 3A-B illustrate a third example consumer product.
 FIG. 4A-B illustrate a fourth example consumer product.
 FIG. 5 illustrates a fifth example consumer product.
 FIG. 6 illustrates a sixth and seventh example consumer product.
 FIG. 7A-B illustrate an eighth example consumer product.
 FIG. 8 illustrates a first example method.
 FIG. 9 illustrates a second example method.
 FIG. 10 illustrates a third example method.

DETAILED DESCRIPTION

[0003] Detergent products are sensitive to humidity and should as such be contained in specific containers, in particular containers which may be locked and properly closed or locked following use or opening to reduce risks of detergent composition being overly exposed to envi-

ronmental humidity. At the same time, a lock of such a container should be configured to be actuated by an ample variety of adult consumers or users. The lock should thereby reliably prevent accidental opening and provide reliable reclosing or relocking of the container after use, as well as provide for reliable unlocking when desired by an adult consumer. While such objectives may appear contradictory, it is important to get them both resolved. This apparent contradiction is particularly acute when applied to cardboard containers which, while offering desirable recyclability, introduce challenges related to their mechanical characteristics.

[0004] It was found that such objectives could be obtained by providing a cover for a box, the cover comprising not only, on a first hand, a first tactile discontinuity, the first tactile discontinuity facing a first actuator for the lock, the first tactile discontinuity permitting displacing the first actuator from a locking position to an opening position by applying the actuation pressure at the first tactile discontinuity when the cover is in the closed position, but also, on a second hand, a second tactile discontinuity on the cover, the second tactile discontinuity directly facing a corresponding specific portion of sidewalls of the box when the cover is in the closed position. While the first tactile discontinuity permits manipulating the lock, the second tactile discontinuity directly faces the sidewalls of the box when the cover is in the closed position, touching the second tactile discontinuity thereby having no impact on the lock, thereby permitting offering a point from which the container may be gripped without opening the lock. It is indeed sometimes desired to manipulate the container without opening the lock. In particular in cases of generally smooth sidewalls and of a generally smooth cover, whereby the only gripping points would be related to operating lock, it could indeed be problematic to grip the container by such gripping points which could lead to an undesired container opening. This is avoided by providing the second tactile discontinuity according to the current claims and preferably on a flank of the cover. Such second tactile discontinuity may for example be used by machinery to manipulate the container on a factory line without opening the box. Such tactile discontinuity may also be used by a user as a reference gripping point for actually opening the lock by also pressing onto the first tactile discontinuity at the same time. The fact that the second tactile discontinuity directly faces a corresponding sidewall portion of the box indeed permits having a stable gripping point, unlike the structure corresponding to the first tactile discontinuity which corresponds to the first actuator with is movable between different positions. It was indeed found that having at least one finger placed in a stable location (i.e. at the second tactile discontinuity) was facilitating operating the first actuator with a second finger, through a "lever" effect, the second tactile discontinuity acting as a stable base for this lever effect. Directly facing is to be understood, as per the appended claims, in that the cover, in the area of the tactile discontinuity, is separated by the

corresponding sidewall portion of the box only by a thin air clearance layer, the corresponding sidewall portion (or second specific portion of sidewalls in the language of the claims) being actuator-less or flap less in order to provide for the stability desired. In some examples, one or more additional tactile discontinuities are provided in the cover, preferably on a flank of the cover, such one or more additional tactile discontinuities being directly facing a corresponding specific portion of sidewalls when the cover is in the closed position in order to provide for one or more stable additional gripping points. In some examples, at least one of such one or more tactile discontinuities are located on a flank of the cover opposite to another flank on which the second tactile discontinuity is located, such that an even more improved gripping may be provided, for example when such gripping is desired without risk of unlocking the container. In some examples, a cover comprises 4 tactile discontinuities, being 2 on a first flank of the cover, 2 on a flank of the cover opposite to the first flank, each flank comprising 1 tactile discontinuity such as the second tactile discontinuity, i.e. directly facing a corresponding portion of sidewall, and each flank comprising 1 tactile discontinuity such as the first tactile discontinuity, i.e. corresponding to an actuator such as the first actuator.

[0005] The consumer product according to this disclosure aims at taking these different aspects into account.

[0006] The lock according to this disclosure should be configured to reversibly maintain a cover in a closed position. By reversibly, it should be understood that the lock permits to repeatedly lock and unlock the cover, thereby permitting repeated access to the content of the container and permitting locking the container between successive access. This differs from, for example, one-off mechanisms such as tamper proof mechanisms which would, due to their function, not be reversible. In some examples, a lock according to this disclosure is to reversibly maintain a cover in a closed position by being configured to permit at least 10 successive opening and closing operations. In some examples, a lock according to this disclosure is to reversibly maintain a cover in a closed position by being configured to permit at least 50 successive opening and closing operations. In some examples, a lock according to this disclosure is to reversibly maintain a cover in a closed position by being configured to permit at least 100 successive opening and closing operations.

[0007] In this description, a tactile discontinuity which permits actuating an actuator of the lock is called an actuation area. The second tactile discontinuity is not an actuation area according to this description, precisely because it is directly facing the sidewall.

[0008] In some examples, one or more of the tactile discontinuities is one of an aperture and of a tactile element. While an aperture would be a preferred tactile discontinuity due not only to the simplicity of implementation, but also to the direct contact with the actuator or alternatively directly to the sidewall provided by a tactile discontinuity in the form of an aperture, other types of tactile

discontinuities may be considered which may for example detected by a change of texture, the presence of a varnish, the presence of a membrane, of an embossed element, of a debossed element or of a slit. In some examples, each tactile discontinuity is one of an aperture, a slit, a membrane or an embossed area, preferably an aperture, whereby each tactile discontinuity preferably has a circular shape

In some preferred examples, the specific configuration described in this disclosure permits relying on a structure comprising first, second and third actuation areas which will provide a reliable locking and unlocking operation. The use of such separated three actuation areas indeed permits using 3 fingers of a same adult hand to operate a cover of a box held by the other adult hand.

[0009] Detergent products are products which may be relatively heavy, for example when a container for such product is carrying the full weight of such detergent products, in particular when the consumer product is recently acquired and thereby holds a significant quantity of detergent product. While some consumers may lift and transport such a consumer product holding a base of a box containing such detergent product, such lifting and transport may also occur by holding such consumer product by a cover, without holding the base. In such cases, it is possible that the cover, submitted to the force of gravity of the detergent product, gets released and opens the box, the box falling and possibly spreading its content. Such situations should be avoided. Beyond avoiding such unintentional cover unlocking, the structure of the container of a consumer product should preserve or improve opening ergonomics and prevent or reduce a permanent side wall deformation upon excessive or repetitive application of forces applied to the consumer product, for example during transport, in a grocery shopping bag against other objects, when submitted to external pressure, or when dropped. At the same time, containers may be elaborated in order to preserve the environment. The consumer product according to this disclosure aims at taking these different aspects into account.

[0010] A consumer product should in this disclosure be understood as a product which is provided, among others, to end consumers. Such consumer products may for example be available for purchase in supermarkets and end consumers may store such consumer products in their homes. Consumer products may be provided in large quantities and should thereby be designed taking environmental concerns into account. Consumer products should also be designed taking transportation to a retail store into account. Consumer products should also be robust to withstand transportation as part of an e-commerce shipment. Consumer products should also be designed taking on the shelf storage in a retail store into account. Consumer products should also be designed taking transportation from a retail store to a consumer home into account. Consumer products should also be designed taking storage at a private end-consumer home into account. Consumer products should also be de-

signed taking use of the consumer product at a private end consumer home into account. Consumer products should also be designed taking disposal into account.

[0011] The consumer product according to this disclosure comprises a detergent product. Detergent products should be understood in this disclosure as products comprising a surfactant. Detergent products may also comprise a bleach or other ingredients. Example detergent product compositions are described in more detail herein. In some examples, the detergent product comprises unit dose detergent pouches, preferably water soluble unit dose detergent pouches, more preferably flexible water soluble unit dose detergent pouches. Example unit dose detergent pouches are described in more detail herein. One should note that in some cases, the containers according to this disclosure may also be suitable for content other than a detergent product, in particular for content of a perishable nature, such as food or unstable chemical substances for example.

[0012] The consumer product according to this disclosure further comprises a container. A container should be understood in this disclosure as an object housing a content, for example in a cavity of the container. The container facilitates protection, transport, storage, access and disposal of the consumer product.

[0013] In this disclosure, the container comprises a box. A box should be understood as a generally parallelepiped, barrel shaped, cylindrical, round, oval or cubical three dimensional object defining a cavity. The use of parallelepiped boxes may facilitate storage and transportation by permitting piling up boxes in a space efficient manner. In some examples, a box may be a parallelepiped provided with some rounded, tapered trapezium or chamfered edges. The box according to this disclosure comprises the detergent product. It should be understood that the detergent product is contained or stored in the box. The box according to this disclosure comprises a base, sidewalls and an opening. In some examples, the opening is opposite the base. In other examples the opening is on a sidewall. A base according to this disclosure should be understood as a surface on which the box may lie when placed on a supporting surface such as a shelf or a floor. In some examples, the base is flat. In some examples, the base is rectangular. In some examples, the base is oval or round. In some examples, the base has an embossed profile standing in or out in relief. The sidewalls according to this disclosure should be understood as extending from the base, and connecting the base to the opening, to a transition piece or to the cover. It should be understood that the connection of the base to the opening may include one or more transition pieces in addition to a sidewall. It should be understood that the connection of the base to the opening may be through a portion of a sidewall when, for example, the opening is in such sidewall. In some examples, a transition piece may be glued or otherwise attached to the sidewall. In some examples, the sidewalls are perpendicular to the base. In some examples, the base is rectangular and has

four sides, four sidewalls extending perpendicular from the base, each sidewall being rectangular, each side wall being connected by a sidewall side to a side of the base, and by two other sidewall sides to two other of the four sidewalls. In some examples the base is oval or circular and the sidewalls form a generally cylindrical wall extending from the base in a direction normal or perpendicular to the base. In some examples, sidewalls have a shape corresponding to one of a square, a rectangle, a trapeze, a polygon, a section of a sphere, a section of an ovoid, or a section of an ellipsoid. The opening according to this disclosure should be understood as a complete or partial aperture providing access to the detergent product comprised in the box. In some examples, the opening faces the base. In some examples, the opening has a surface of less than the surface of the base. In some examples, the opening has a surface larger than the surface of the base in order to provide an improved access, for example using sidewalls extending from the base at angle of more than 90 degrees from the base. In some examples, the opening is provided after removal of a tamper proof feature, for example comprising a perforated piece to be removed at first use or a tamper evident sticker locking a cover to the box. In some examples a tamper evident sticker is glued on the cover and on the box, whereby the tamper evident sticker should be broken, torn or perforated at first opening to indicate to a consumer that the container has not been tampered with before purchase. This tamper evident sticker may for example be in paper or in plastic. In some examples, the opening is placed on a top panel of the box, the top panel of the box facing, i.e. opposite, the base of the box, the top panel of the box being separated from the base of the box by at least the sidewalls, the top panel of the box being generally coplanar with the base of the box. In some examples, the opening is in a sidewall, the opening having an opening profile or an opening contour which may be comprised in a plane normal to the plane of the base. In some examples, the opening is rectangular. In some examples, the opening is rectangular with rounded edges. In some examples, the opening is round or oval. In some examples, the opening is a permanent opening. In some examples, the opening is a reclosable opening. Examples reclosable opening comprise openings reclosable by a single flap, or reclosable opening reclosable through a spout like structure, for example a spout like structure comprising a main flap which, in a reclosed position, would cover the opening, and side elements which, when the opening is open, link the main flap with sides of the opening.

[0014] The container comprises a cover for the box. The cover according to this disclosure should be understood as an element permitting to repeatedly close or open the opening of the box. In some examples the cover may be connected to the box, for example by a hinge, or may be separated from the box. The cover according to this disclosure comprises a top or cover top and flanks or cover flanks. In some examples, in addition to a top

and flanks, the cover comprises a further panel, the top, flanks and further panel forming a sleeve surrounding the box. It should be understood that the cover is aimed at covering the opening of the box when the cover is in a closed position. In some examples, the top of the cover is rectangular. In some examples the top of the cover is round, hexagonal, octagonal, polygonal or oval, structures such as round or oval being for example approximated by multiplying a number of side panels and cover flaps. In some examples, the cover comprises beveled edges. In some examples, the top of the cover is rectangular with rounded edges. It should be understood that while being named "top", the top of the cover may be positioned in different orientations. The cover comprises flanks. It should be understood that the flanks according to this disclosure are elements connected to the top of the cover and extending from the cover in order to engage one or more sidewalls of the box, each flank having an extension along a corresponding sidewall between the connection to the top of the cover and a distal end of the flank. The flanks participate in placing the top of the cover onto the opening. In some examples, the flanks extend perpendicularly from the top of the cover. In some examples, the flanks surround an entire perimeter of the top of the cover. In some examples, the flanks partially surround an entire perimeter of the top of the cover, a portion of the top of the cover being flankless, for example along a hinge between the cover and the box in a case of a hinged cover. In some examples, the cover forms a sleeve. The top of the cover or another part of the cover may cover the opening, and at least a portion of the flanks or another part of the cover may cover at least a specific portion of a specific sidewall of the sidewalls of the box when the cover is in the closed position, the cover being moveable from the closed position to an open position. Movement of the cover may be restrained by a connection to the box such as a hinge, or may be entirely removable, for example to provide an improved access to the content of the box. The box and cover cooperate to participate in fulfilling the role of the container to store, transport and facilitate access to the content of the container.

[0015] The container according to this disclosure comprises a lock to reversibly maintain the cover in a closed position. Reversibility should be understood in that the lock may repeatedly be opened or closed. A lock should be in this disclosure understood as a mechanism providing appropriate closure and protection of detergent composition from humidity, as well as preventing or reducing the likelihood of an accidental opening. The lock according to this disclosure is to maintain the cover in a closed position. It should be understood that the lock according to this disclosure is expected to function under normal use of the container. It should be understood that the lock may not fulfill its function when for example unusual use is made of the box, or when the box is under unusual conditions. In some examples, the lock comprises an actuator moveable from a locking position to an opening

position by applying an actuation pressure onto the actuator when the cover is in the closed position. An example actuator is a mechanical structure submitted to a movement upon actuation by an outside force or actuation pressure, such movement leading to the opening of the lock when such movement takes place. In some examples, the actuator is resilient and has a default position, such default position corresponding to the cover remaining closed, a resilience being vanquished by an outside force or actuation pressure in order to open the cover. In some examples, the actuator is resilient in that the actuator comprises a flexible element, the flexible element having a default position corresponding to the cover remaining closed, the flexible element being pressed to open the cover, the flexible element springing back to the default position when releasing pressure. It should be understood that a pressure is generated by the application of a force onto a surface. Example actuators have at least two positions being the opening position and the locking position, whereby the opening position corresponds to a position permitting opening of the cover, the locking position preventing opening of the cover to protect the content from humidity or reducing the possibility of an accidental opening of the cover.

[0016] An example actuator is connected to the specific portion being the at least specific portion of a specific sidewall of the sidewalls of the box covered by at least a portion of the cover when the cover is in the closed position, which may be a specific portion covered by at least a portion of the cover when the cover is in the closed position, the actuator abutting for example against a locking tab of the cover when in the locking position, the actuator being for example maintained away from the locking tab when in the opening position, the actuator being for example displaceable by the actuation pressure by an unlocking displacement distance in a direction normal to the specific portion of the sidewalls. The connection to the specific portion may for example be a fold line at an end of a sidewall away from the base. The connection of the actuator to the specific portion of the sidewall is due to the actuator participating in locking or unlocking the specific portion of the sidewall from the portion of the cover covering the specific portion of the sidewall, thereby permitting releasing the cover from the box. The cover may comprise a locking tab. A locking tab should be understood as a mechanical element which interlocks with the actuator. In some examples the locking tab extends away from part of the cover and may be in the form of a bulge, a ridge, an embossment or an additional material layer sticking out of the cover and towards the specific portion of the side wall such that the actuator may abut against the tab when in the locking position to prevent separating the specific portion of the sidewalls from the cover in the area of the actuator. In some examples, the locking tab is comprised in the cover itself, the locking tab being for example formed by an aperture in the cover. Abutment according to this disclosure should be understood as a contact between the actuator or part of the

actuator and the tab, such contact preventing opening of the cover. In some examples the actuator is maintained away from the locking tab when in the opening position, in order to release the locking tab. Such release of the locking tab permits opening the cover. Displacement or movement of the actuator from the locking to the opening position is by application on the actuator (directly or indirectly) of an actuation pressure or force such that the actuator is displaced by a distance sufficient to suppress contact of the actuator with the locking tab, such distance corresponding to the displacement distance, in a direction normal to the specific portion of the side wall. Such force or pressure may also comprise a minor component which may be parallel to the side wall, due to the fact that the hand is a human adult hand which does not necessarily align force completely perfectly. The actuation is however triggered by a component of such force or pressure being normal to the portion of the side wall. Such presence requirement of a component normal to the portion of the sidewall in order to unlock the lock, participates in the role of the lock of avoiding an accidental opening, for example in absence of such normal force component, whereas desired opening would take place by the consumer "pushing" the actuator and apply the unlocking force or pressure permitting opening of the cover.

[0017] In order to provide precision in locating a finger appropriately, the flanks comprise a tactile discontinuity in the form of an actuation area in a specific flank, the actuation area facing the actuator. The fact that such actuation area faces the actuator indeed permits locating either the thumb or one or more of the other fingers on exactly the area on which a lock opening force should be applied. The actuation area should be understood as defining a localised discontinuity on the specific flank, whereby a user or consumer may perceive such discontinuity in order to correctly locate the thumb or one or more other fingers. Such discontinuity may comprise one or more of an actuation aperture, an actuation flap, an actuation slit, an actuation membrane, or tactile elements comprised in or applied to a surface of the flank such as embossments, debossments, surface texturing, buttons or the like. In some examples, the tactile discontinuity or the specific portion comprises a visual indication indicating the location of the tactile discontinuity. In some examples whereby the tactile discontinuity is an aperture, the specific portion comprises a visual indication visible through the aperture, respectively apertures, when the cover is closed. The visual indication may be printed on an external surface of the flanks and may comprise one or more arrows or one or more areas printed in a striking colour or a specific text providing instructions such as "push here to open" for example, or a combination of any of these indications. The tactile discontinuity can be configured to permit displacing an actuator from the locking position to the opening position by applying the actuation pressure at an actuation area when the cover is in the closed position, if it does not directly face a sidewall. In order to appropriately place the thumb or one or more

other fingers, the actuation area can span less than 8 cm² and more than 0.2 cm². It was found that a larger area would lead to lack of precision in finger placement, and that a smaller area would lead to the actuation area being difficult to locate for a user or consumer. In some examples, the actuation area has a circular shape in order to ease positioning. Other shapes may be considered such as, for example, elliptical, oval, square, triangular, square with rounded corners, triangular with rounded corners, other polygonal shapes or other polygonal shapes with rounded corners.

[0018] Figures 1A-B illustrate an example consumer product 100 comprising a detergent product (not shown) and a container. In Figure 1A, the container is open. In Figure 1B, the container is closed and locked. The container comprises a box 101, a cover 102 for the box, and a lock 103 to maintain the cover in a closed position, the box comprising the detergent product, the box comprising a base 104, sidewalls 105 and an opening 106, the cover comprising a top 107 and flanks 108, the cover covering the opening and the cover covering at least a first and a second specific portion of sidewalls of the box when the cover is in the closed position, the lock comprising at least a first actuator 103 moveable from a locking position to an opening position by applying an actuation pressure onto the first actuator when the cover is in the closed position, the first actuator being connected to the first specific portion, the cover comprising a first tactile discontinuity 109, the first tactile discontinuity facing the first actuator, the first tactile discontinuity permitting displacing the first actuator from the locking position to the opening position by applying the actuation pressure at the first tactile discontinuity when the cover is in the closed position, whereby the cover further comprise a second tactile discontinuity 110, the second tactile discontinuity directly facing the second specific portion of sidewalls when the cover is in the closed position. In this example, the cover is a hinged lid. In this example, the opening is on the top of the box, opposite the base of the box. In this example, the first and the second tactile discontinuities are on a same specific flank of the cover, and a centroid of the first tactile discontinuity and a centroid of the second tactile discontinuity are separated by a separation distance along a direction parallel to the top of the cover, the separation distance being of more than 1.5 cm and of less than 10 cm.

Figures 2A-C illustrate an example consumer product 200 comprising a detergent product (not shown) and a container. In Figure 2A, the container is open. In Figure 2C, the container is closed and locked. In Figure 2B, the container is in an intermediate position. The container comprises a box 201, a cover 202 for the box, and a lock 203 to maintain the cover in a closed position, the box comprising the detergent product, the box comprising a base 204, sidewalls 205 and an opening 206, the cover comprising a top 207 and flanks 208, the cover covering the opening and the cover covering at least a first and a second specific portion of sidewalls of the box when the

cover is in the closed position, the lock comprising at least a first actuator 203 moveable from a locking position to an opening position by applying an actuation pressure onto the first actuator when the cover is in the closed position, the first actuator being connected to the first specific portion, the cover comprising a first tactile discontinuity 209, the first tactile discontinuity facing the first actuator, the first tactile discontinuity permitting displacing the first actuator from the locking position to the opening position by applying the actuation pressure at the first tactile discontinuity when the cover is in the closed position, whereby the cover further comprises a second tactile discontinuity 210, the second tactile discontinuity directly facing the second specific portion of sidewalls when the cover is in the closed position. In this example, the cover is a sliding sleeve comprising a transition panel opposite the top of the cover, the transition panel covering the base of the box when the cover is closed, the transition panel being linked to the flanks. In this example, the opening is in one of the side walls, thereby providing improved protection against splashing. Other examples may have the opening on the top. In this specific example, the opening 206 may be opened by pulling a cutout panel 216 away from the side wall to generate the opening 206, such cutout panel acting as an element ensuring that the content of the box has not been tampered with. In some examples the opening may be a permanent opening, or a perforated panel that can be removed permanently prior to first use. In some examples, a sleeve cover may comprise a stopper element preventing entirely removing the sleeve from the box as illustrated in Figure 2B. Such stopper may comprise complementary opposing flaps, such opposing flaps being placed on the sleeve and on the box.

[0019] Providing the opening on a sidewall was found to be particularly helpful for protection of the content. It was indeed found that containers as described hereby tend to be stored in humid environment such as bathrooms or laundry rooms for example, such container being exposed to lying on a wet floor, thereby exposing their base or base walls to humidity, or to splashing, the splashing primarily impacting a top region of the container opposite to the base. Providing the opening in a sidewall thereby avoids providing an opening in such a top region, thereby providing for additional protection from humidity, whereby the top region may result more sturdy. In some examples, the top region of the container is covered, when closed, by a double layer structure protecting the top region when the container is not in use. In addition to this, placing the opening on a sidewall may result in the opening being in a substantially vertical plane, i.e. a plane substantially parallel to the direction of gravity. This can result in potential water splashes running down along the sidewall instead of entering directly into the first opening or instead of structurally weakening a panel of the cover covering the opening, in particular a paper based or cardboard based panel of such cover.

[0020] Figures 3A-B illustrate an example consumer

product 300 comprising a detergent product (not shown) and a container. In Figure 3A, the container is open. In Figure 3B, the container is closed and locked. The container comprises a box 301, a cover 302 for the box, and a lock 303 to maintain the cover in a closed position, the box comprising the detergent product, the box comprising a base 304, sidewalls 305 and an opening 306, the cover comprising a top 307 and flanks 308, the cover covering the opening and the cover covering at least a first and a second specific portion of sidewalls of the box when the cover is in the closed position, the lock comprising at least a first actuator 313 moveable from a locking position to an opening position by applying an actuation pressure onto the first actuator when the cover is in the closed position, the first actuator being connected to the first specific portion, the cover comprising a first tactile discontinuity 309, the first tactile discontinuity facing the first actuator, the first tactile discontinuity permitting displacing the first actuator from the locking position to the opening position by applying the actuation pressure at the first tactile discontinuity when the cover is in the closed position, whereby the cover further comprises a second tactile discontinuity 310, the second tactile discontinuity directly facing the second specific portion of sidewalls when the cover is in the closed position. In this example, the cover is a hood lid. In this example, the opening is on the top of the box, opposite the base of the box. In this example, the consumer product comprises a third tactile discontinuity 311, the third tactile discontinuity facing a second actuator 323 when the cover is in the closed position, the second actuator pertaining to a second lock, the second actuator being moveable from a locking position to an opening position by applying a further actuation pressure onto the second actuator when the cover is in the closed position, the second actuator being connected to a third specific portion of the sidewalls of the box, the third specific portion being covered by the cover when the cover is in the closed position, whereby:

- the first and second specific portions of sidewalls and the first actuator pertain to a same specific sidewall;
- the third specific portion of sidewalls and the second actuator pertain to an opposite sidewall, the opposite side wall being opposite to the specific sidewall;
- the third tactile discontinuity pertains to an opposite flank, the opposite flank being opposite to the specific flank.

[0021] Figures 4A-B illustrate an example consumer product 400 comprising a detergent product (not shown) and a container. In Figure 4A, the container is open. In Figure 4B, the container is closed and locked. The container comprises a box 401, a cover 402 for the box, and a lock 403 to maintain the cover in a closed position, the box comprising the detergent product, the box comprising a base 404, sidewalls 405 and an opening 406, the cover comprising a top 407 and flanks 408, the cover

covering the opening and the cover covering at least a first and a second specific portion of sidewalls of the box when the cover is in the closed position, the lock comprising at least a first actuator 413 moveable from a locking position to an opening position by applying an actuation pressure onto the first actuator when the cover is in the closed position, the first actuator being connected to the first specific portion, the cover comprising a first tactile discontinuity 409, the first tactile discontinuity facing the first actuator, the first tactile discontinuity permitting displacing the first actuator from the locking position to the opening position by applying the actuation pressure at the first tactile discontinuity when the cover is in the closed position, whereby the cover further comprise a second tactile discontinuity 410, the second tactile discontinuity directly facing the second specific portion of sidewalls when the cover is in the closed position.

[0022] In this example consumer product 400, the consumer product comprises a third tactile discontinuity 411, the third tactile discontinuity facing a second actuator 423 when the cover is in the closed position, the second actuator 423 pertaining to a second lock, the second actuator being moveable from a locking position to an opening position by applying a further actuation pressure onto the second actuator when the cover is in the closed position, the second actuator being connected to a third specific portion of the sidewalls of the box, the third specific portion being covered by the cover when the cover is in the closed position, whereby:

- the first and second specific portions of sidewalls and the first actuator pertain to a same specific sidewall;
- the third specific portion of sidewalls and the second actuator pertain to an opposite sidewall, the opposite side wall being opposite to the specific sidewall;
- the third tactile discontinuity pertains to an opposite flank, the opposite flank being opposite to the specific flank.

[0023] In this example consumer product 400, the consumer product comprises a fourth tactile discontinuity 412, the fourth tactile discontinuity facing a third actuator 433 when the cover is in the closed position, whereby the fourth tactile discontinuity pertains to the opposite flank.

[0024] In example 400, three actuators are provided. This configuration, as well as other three actuators configurations, permits relying on a structure comprising first, second and third actuation areas which will provide a reliable locking and unlocking operation. The use of such separated three actuation areas indeed permits using 3 fingers of a same adult hand to operate a cover of a box held by the other adult hand.

[0025] While, in example 400, the fourth tactile discontinuity corresponds to a third actuator, in alternative examples such a fourth tactile discontinuity could directly face a corresponding specific portion of sidewalls when

the cover is in the closed position, thereby acting as a gripping area, for a human hand, or for machinery, similarly as for the second tactile discontinuity.

[0026] While, in example 400, the fourth tactile discontinuity corresponds to a third actuator, in alternative examples such fourth tactile discontinuity could correspond to a single second actuator fulfilling the role of both actuators 423 and 433, as illustrated in Figure 5. Indeed in the example of such Figure 5, the container comprises a first flap facing the first tactile discontinuity when the cover is in the closed position, and the second actuator comprises a single flap facing both the third and fourth tactile discontinuities when the cover is in the closed position.

[0027] In the example 400, the third and the fourth tactile discontinuities are both on the opposite flank, and a centroid of the third tactile discontinuity and a centroid of the fourth tactile discontinuity are separated by a separation distance along a direction parallel to the top of the cover, the separation distance being of more than 1.5 cm and of less than 10 cm. In some examples, the separation distance is of more than 5 cm and of less than 7 cm. This permits reaching such tactile discontinuities simultaneously with different fingers of a same adult hand. The centroid corresponds to an area comprised in a perimeter of the respective tactile discontinuity. Such tactile discontinuity span permits that a user may localise the areas corresponding to the corresponding actuators.

[0028] In some examples, each tactile discontinuity spans less than 8 cm² and more than 0.2 cm², each tactile discontinuity defining a centroid. The centroid corresponds to an area comprised in a perimeter of the tactile discontinuity. Such tactile discontinuity span permits that a user may localise the areas corresponding to the corresponding actuators when such tactile discontinuities are actuation areas, and permits providing grip when directly facing the sidewall of the box.

[0029] In some examples, each centroid of each tactile discontinuity is separated from the top of the cover by less than 5 cm and by more than 0.5 cm. This permits contributing to reaching all the tactile discontinuities with a single adult hand at the same time.

[0030] In some examples, each centroid of tactile discontinuities is separated from a distal end of the specific flank by more than 0.5 cm. In the configuration of examples consumer products 100, 300 and 400, such distal end is the end of the flanks opposite to the top of the cover. Such a threshold distance permits maintaining structural integrity for the flanks of the cover.

[0031] In some examples, the top of the cover spans less than 13 cm and more than 6cm along a direction normal to the specific portion at the centroid, in particular at the centroid of the first tactile discontinuity. This also permits contributing to reaching all the tactile discontinuities with a single adult hand at the same time.

[0032] In some examples, each tactile discontinuity spans less than 8 cm² and more than 0.2 cm², each tactile discontinuity defining a centroid; each centroid is sepa-

rated from the top of the cover by less than 5 cm and by more than 0.5 cm; each centroid is separated from a distal end of the specific flank by more than 0.5 cm; and the top of the cover spans less than 13 cm and more than 6cm along a direction normal to the specific portion at the centroid, in particular at the centroid of the second tactile discontinuity. Complying with such combined conditions was found particularly suited to reaching all the tactile discontinuities with a single adult hand at the same time. In preferred configurations, the centroid of the first tactile discontinuity and the centroid of the third tactile discontinuity, when present, are separated by a separation distance along a direction parallel to the top of the cover, the separation distance being of more than 1.5 cm and of less than 10 cm, more preferably the separation distance being of more than 5 cm and of less than 7 cm, in order to reach such first tactile discontinuity and third tactile discontinuity simultaneously with different fingers of a same adult hand. In some even more preferred configurations, a shortest distance between centroids present on opposite flanks along the flanks and top of the cover is of less than 18cm. In some further preferred configurations, each centroid is separated from the top of the cover by more than 1 cm and by less than 3 cm, permitting transmitting a feedback force through the cover to render a pinching movement leading to lock opening more precise. In some even further preferred configurations, the centroid of the first tactile discontinuity is located in a central region of a flank of the cover along a horizontal direction parallel to the top of the cover, thereby easing the sliding of a cover such as a hood lid by avoiding exerting more force on one side of the cover than on another, which could lead to such a lid getting stuck.

[0033] In the example 400, the first and second specific portions of sidewalls and the first actuator 413 pertain to a same specific sidewall, whereby the third specific portion of sidewalls and the second actuator 423 pertain to an opposite sidewall, the opposite side wall being opposite to the specific sidewall, whereby the fourth tactile discontinuity 412 pertains to the opposite flank, whereby the centroids of the third tactile discontinuity 411 and of the fourth tactile discontinuity 412 are aligned with the centroids of the first tactile discontinuity 409 and, respectively, with the centroid of the second tactile discontinuity 410, along a direction normal to the third specific portion when the cover is in the closed position portion. This permits easing finger placement in order to appropriately grip and unlock the container.

[0034] In other examples, the first and second specific portions of sidewalls and the first actuator pertain to a same specific sidewall, whereby the third specific portion of sidewalls and the second actuator pertain to an opposite sidewall, the opposite side wall being opposite to the specific sidewall, whereby the fourth tactile discontinuity, if present, pertains to the opposite flank, whereby at least one of a centroid of the third tactile discontinuity and of a centroid of the fourth tactile discontinuity is facing a region between the centroid of the first tactile disconti-

nuity and the centroid of the second tactile discontinuity. Again, this permits easing finger placement in order to appropriately grip and unlock the container.

[0035] In example 400, the first and second specific portions of sidewalls and the first actuator 413 pertain to a same specific sidewall, whereby the third specific portion of sidewalls and the second actuator 423 pertain to an opposite sidewall, the opposite side wall being opposite to the specific sidewall, whereby the fourth tactile discontinuity 412 pertains to the opposite flank, whereby a shortest distance between, on one hand, at least one of a centroid of the third tactile discontinuity 411 and of a centroid of the fourth tactile discontinuity 412 and, on the other hand, either the centroid of the first tactile discontinuity 409 or the centroid of the second tactile discontinuity 410, preferably the centroid of the first tactile discontinuity 409, along the flanks and top of the cover, is of less than 18cm.

[0036] In the example 400, the cover is symmetrical, such that the role of tactile discontinuity 409 may be fulfilled by tactile discontinuity 412, and such that the role of tactile discontinuity 410 may be fulfilled by tactile discontinuity 411 by placing the cover in a reversed manner. This eases the use of such a cover.

[0037] Figure 6 illustrates a cover 601 which could be fitted on either box 602 or on box 603. In both configurations, the container comprises a first flap facing the first tactile discontinuity when the cover is in the closed position, a second flap facing the third tactile discontinuity when the cover is in the closed position, and a third flap facing the fourth tactile discontinuity when the cover is in the closed position. When cover 601 is fitted on box 602, the second tactile discontinuity is tactile discontinuity 610. When cover 601 is fitted on box 603, the second tactile discontinuity is tactile discontinuity 611. In such examples, three tactile discontinuities are on a same flank, and a single tactile discontinuity is on the opposite flank. Such examples are particularly suited to using a single adult hand, the thumb being located on the single tactile discontinuity, other 3 fingers of the same hand being located on the three tactile discontinuities on the same flank.

[0038] In an example alternative to the examples illustrated by Figure 6, tactile discontinuities marked as 610 and 611 may correspond to respective actuators, in particular a respective flap, while tactile discontinuity 612 (tactile discontinuity 610 being between 611 and 612 and on a same flank) may not correspond to a respective actuator but be directly facing a respective portion of sidewall and function as a second tactile discontinuity according to this disclosure. In a variation of such example alternative, tactile discontinuities marked as 610 and 611 may correspond to a single respective actuator (similar to the example illustrated in Figure 5) associated to such two tactile discontinuities 610 and 612.

[0039] In another example alternative to the examples illustrated by Figure 6, tactile discontinuity 613 located on a flank opposite to tactile discontinuities 610-612 may

be absent, whereby a same flank comprises all tactile discontinuities, whereby such flank carrying all discontinuities is associated to all actuators (other configurations whereby a same flank comprises all tactile discontinuities, whereby such flank carrying all discontinuities is associated to all actuators may be considered).

[0040] In yet another example alternative to the examples illustrated by Figure 6, both discontinuities 610 and 613 directly face a respective portion of sidewall and permit gripping without unlocking, while each of discontinuities 612 and 611 are associated to respective actuators, such configuration with at least two tactile discontinuities located on opposite flank and directly facing respective portions of sidewalls permitting transportation of the box without unlocking by gripping the cover by such at least two tactile discontinuities located on opposite flanks of the cover. Other configurations comprising at least two tactile discontinuities located on opposite flank and directly facing respective portions of sidewalls permitting transportation of the box without unlocking by gripping the cover by such at least two tactile discontinuities located on opposite flanks of the cover may be provided, having one or more actuators, one or more actuation areas, such actuators and actuation areas being located in different locations.

[0041] A configuration as illustrated in Figure 6 has the advantage of being improving the lock by introducing an additional actuator which may be disengaged by using a thumb of the first adult hand and three or more other fingers of the first adult hand, the three or more other fingers preferably comprising the index finger, the middle finger and the ring finger.

[0042] The present disclosure also aims at resolving an apparent contradiction between, on one hand, the use of materials for the sidewalls which would resist accidental opening, and the use of materials for the sidewalls which are particularly environmentally friendly.

[0043] The container may indeed be made from paper or cardboard material, in particular rigid cardboard material, flexible cardboard material or a mixture thereof. In some example, the material forming the box or the cover has a wall thickness of more than 220 microns and of less than 3mm. In some example, the material forming the box or the cover has a wall thickness of more than 1mm and of less than 2mm. In some example, the material forming the box or the cover is folded on itself, for example to reinforce parts of or the whole of the box or the cover. The container may be made from paper materials, bio based material, bamboo fibres, cellulose fibres, cellulose based or fibre based materials, or a mixture thereof. The container may be made from materials comprising recycled materials, for example recycled cellulose fiber based materials. In some examples, in order to facilitate opening, the cover may be entirely separated from the box when open, and the cover weighs less than 200g, preferably less than 100g, even more preferably less than 80g, and more than 10g, more preferably more than 30g, even more preferably more than 40g, in order

to obtain a sufficiently robust cover structure.

[0044] As illustrated for example in Figures 7A (open container) and 7B (closed and locked container), a container similar to container 400 may comprise a support element structure 701. Indeed, in some examples where the cover is in the form of a lid, the cover according to some examples comprises a support element structure such as structure 701, the support element structure entering the opening of the box when the cover is in the closed position, at least part of the specific portion of the sidewalls being located between the flanks and the support element structure when the cover is in the closed position, a clearance distance separating the sidewalls from the support element structure in a direction normal to the specific portion of the sidewalls when the cover is in the closed position and when no actuation pressure is applied, the clearance distance being reduced to zero by flexing of the specific portion of the sidewalls when the actuation pressure is applied above a pressure threshold when the cover is in the closed position. Both the support element structure and the flanks are structurally part of the cover, the support element structure and the flanks permitting sandwiching the specific portion of the sidewall, thereby preventing sinking in of the specific portion of the sidewall and undesired disengagement of the actuator from the locking tab. It is important to take note of the fact that in case of an actuation pressure being applied while lifting the box through the cover, the pressure applied will catch the sandwiched specific portion of the sidewall against the support element structure, thereby compensating a force of gravity which would otherwise disconnect the cover from the box, such compensation of the gravity force being through a resisting static friction force between the specific portion of the sidewall and the support element structure. In some examples, the use of the support element structure permits using for making the box a relatively flexible material, whereby such flexible material would flex in the absence of the support element structure to the point that the box would fall off if lifted by its cover. Permitting using a relatively flexible material also permits using a lesser quantity of such material due to the presence of the support element structure which compensates for such flexibility. The presence of such support element structure thereby prevents or reduces the risk of accidental opening even if the actuation pressure is applied onto the actuator of the lock, for example as the box is lifted while applying pressure on the actuator of the lock.

[0045] The support element structure enters the opening when the cover is in the closed position, fitting within the box when the cover is in the closed position. Such entering the opening should be understood in that the support element structure comprises a support element structure portion which enters the opening when the cover is moved from the open to the closed position, and whereby such support element structure portion exits the opening when the cover is moved from the closed to the open position. At least part of the specific portion of the

sidewalls is located between the flanks and the support element structure when the cover is in the closed position. This structure permits capturing the specific portion of the sidewall between the flanks and the support element structure, the specific portion of the sidewall getting inserted between the flanks and the support element structure when the cover moves from the open to the closed position, the specific portion of the side wall being released from between the flanks and the support element structure when the cover moves from the closed to the open position. A clearance distance separates the sidewalls from the support element structure in a direction normal to the specific portion of the sidewalls when the cover is in the closed position, such direction corresponding for example to a direction of a linear ridge of the support element, and when no actuation pressure is applied. Such clearance distance would exist on a first side, and be repeated additionally on a second side of the support element structure. Such clearance distance permits insertion of the support element structure through the opening as the cover gets closed, such that the support element structure does not collide with the specific portion of the sidewall when the cover gets closed. The clearance is reduced to zero by flexing of the specific portion of the sidewalls when the actuation pressure is applied above a pressure threshold when the cover is in the closed position. When such pressure threshold is reached, the sidewall lays against the support element structure through the clearance distance being reduced to zero, the sidewall thereby being prevented from being exceedingly distorted and being prevented from sinking in to the point of the actuator releasing the locking tab. The clearance distance according to such examples relates in some examples to a tolerance distance between the cover and the box which both permits placing the cover onto the box without undue difficulty, while avoiding that the cover be loose when in the closed position. While the clearance distance according to this disclosure is considered in a region of the lock, the tolerance distance between the cover and the box may be considered along an entire perimeter of the opening of the box. In some examples, the tolerance is of at least 0.1 mm and of less than 5 mm. In some examples the tolerance is of at least 0.5mm and of less than 3 mm. Such tolerance would for example be measured when the cover is in the closed position and between an internal surface of the flanks and an external surface of the sidewalls, understanding that such tolerance may take a different value in a region of the lock.

[0046] In some examples, the clearance distance is of at least 1mm and of less than 1cm when the cover is in the closed position and no actuation pressure is applied. Such a range permits both easing the closing of the cover and preventing sinking of the specific portion of the sidewall leading to undesired unlocking. In some examples, the clearance distance is of at least 1.5mm and of less than 0.5cm when the cover is in the closed position and no actuation pressure is applied. In some examples, the

clearance distance is of at least 2mm and of less than 0.4cm when the cover is in the closed position and no actuation pressure is applied.

[0047] In some examples such as illustrated in Figures 7A-B, the consumer product may comprise an alignment mark 702. Introducing such an alignment mark will permit guiding a user such that a correct alignment mark placement corresponds to a correct locking operation. It can indeed be the case that a lock or lock mechanism for a container according to this description may be invisible to a user, such that a user may be unsure of whether locking may actually have taken place. The providing of the alignment mark as per this description will indicate that the locking is effective, even if the lock itself is invisible or hidden from sight.

[0048] In some examples, at least one of the flanks and sidewalls comprises an alignment mark coinciding with the cover being in the closed position. In the example of Figures 7A-B, both the flanks and sidewall comprise an alignment mark. In this case the alignment mark corresponds to a mark on the cover and to a mark on the box, both marks coinciding to form a single mark when the cover is closed, such coincidence confirming closure of the container and thereby adequate protection of the content.

[0049] The alignment mark should be understood as a graphical or tactile feature, or a feature both graphical and tactile, coinciding with the cover being in the closed position. Such coincidence may take place between different elements or marks or may take place between an alignment mark and a feature of the container such as, for example, a distal end of a flank. In some examples, the alignment mark comprises a feature such as a segment, a pattern, a line or a curve which, when the cover is closed, coincides with a corresponding feature, whereby such corresponding feature may be another alignment mark, or a structural feature such as a border, extremity, aperture or slit of the container. In some examples, the alignment mark comprises one or more of an icon or symbol representing for example a padlock, a lock or a fingerprint. As illustrated in Figures 7A-B, the detergent product may take the form of unit dose detergent pouches, preferably in the form of flexible water soluble unit dose detergent pouches, and preferably whereby the alignment mark comprises a representation of a unit dose detergent pouch.

[0050] In some examples, the cover comprises a corrugated cardboard layer, the corrugated cardboard layer comprising flutes, the flutes preferably running parallel to the direction normal to the specific portion and parallel to a top of the cover, and whereby a tactile discontinuity is an aperture which preferably intersect at least some of the flutes. Such a structure permits reinforcing the top of the cover. The intersecting of flutes by an aperture also permits ventilating the flank or flanks in which the aperture is provided, thereby reinforcing flank integrity in humid environments.

[0051] In some examples the detergent product com-

prises a detergent composition. The detergent composition may be a laundry detergent composition, an automatic dishwashing composition, a hard surface cleaning composition, or a combination thereof. The detergent composition may comprise a solid, a liquid or a mixture thereof. The term liquid includes a gel, a solution, a dispersion, a paste, or a mixture thereof. The solid may be a powder. By powder we herein mean that the detergent composition may comprise solid particulates or may be a single homogenous solid. In some examples, the powder detergent composition comprises particles. This means that the powder detergent composition comprises individual solid particles as opposed to the solid being a single homogenous solid. The particles may be free-flowing or may be compacted. A laundry detergent composition can be used in a fabric hand wash operation or may be used in an automatic machine fabric wash operation, for example in an automatic machine fabric wash operation. Example laundry detergent compositions comprise a non-soap surfactant, wherein the non-soap surfactant comprises an anionic non-soap surfactant and a non-ionic surfactant. In some examples, the laundry detergent composition comprises between 10% and 60%, or between 20% and 55% by weight of the laundry detergent composition of the non-soap surfactant. Example weight ratio of non-soap anionic surfactant to non-ionic surfactant are from 1:1 to 20:1, from 1.5:1 to 17.5:1, from 2:1 to 15:1, or from 2.5:1 to 13:1. Example non-soap anionic surfactants comprises linear alkylbenzene sulphonate, alkyl sulphate or a mixture thereof. Example weight ratio of linear alkylbenzene sulphonate to alkyl sulphate are from 1:2 to 9:1, from 1:1 to 7:1, from 1:1 to 5:1, or from 1:1 to 4:1. Example linear alkylbenzene sulphonates are C₁₀-C₁₆ alkyl benzene sulfonic acids, or C₁₁-C₁₄ alkyl benzene sulfonic acids. By 'linear', we herein mean the alkyl group is linear. Example alkyl sulphate anionic surfactant may comprise alkoxyated alkyl sulphate or non-alkoxyated alkyl sulphate or a mixture thereof. Example alkoxyated alkyl sulphate anionic surfactant comprise an ethoxyated alkyl sulphate anionic surfactant. Example alkyl sulphate anionic surfactant may comprise an ethoxyated alkyl sulphate anionic surfactant with a mol average degree of ethoxylation from 1 to 5, from 1 to 3, or from 2 to 3. Example alkyl sulphate anionic surfactant may comprise a non-ethoxyated alkyl sulphate and an ethoxyated alkyl sulphate wherein the mol average degree of ethoxylation of the alkyl sulphate anionic surfactant is from 1 to 5, from 1 to 3, or from 2 to 3. Example alkyl fraction of the alkyl sulphate anionic surfactant are derived from fatty alcohols, oxo-synthesized alcohols, Guerbet alcohols, or mixtures thereof. In some examples, the laundry detergent composition comprises between 10% and 50%, between 15% and 45%, between 20% and 40%, or between 30% and 40% by weight of the laundry detergent composition of the non-soap anionic surfactant. In some examples, the non-ionic surfactant is selected from alcohol alkoxyate, an oxo-synthesised alcohol alkoxyate, Guerbet alcohol alkoxy-

lates, alkyl phenol alcohol alkoxyates, or a mixture thereof. In some examples, the laundry detergent composition comprises between 0.01% and 10%, between 0.01% and 8%, between 0.1% and 6%, or between 0.15% and 5% by weight of the liquid laundry detergent composition of a non-ionic surfactant. In some examples, the laundry detergent composition comprises between 1.5% and 20%, between 2% and 15%, between 3% and 10%, or between 4% and 8% by weight of the laundry detergent composition of soap, in some examples a fatty acid salt, in some examples an amine neutralized fatty acid salt, wherein in some examples the amine is an alkanolamine for example selected from monoethanolamine, diethanolamine, triethanolamine or a mixture thereof, in some examples monoethanolamine. In some examples, the laundry detergent composition is a liquid laundry detergent composition. In some examples the liquid laundry detergent composition comprises less than 15%, or less than 12% by weight of the liquid laundry detergent composition of water. In some examples, the laundry detergent composition is a liquid laundry detergent composition comprising a non-aqueous solvent selected from 1,2-propanediol, dipropylene glycol, tripropyleneglycol, glycerol, sorbitol, polyethylene glycol or a mixture thereof. In some examples, the liquid laundry detergent composition comprises between 10% and 40%, or between 15% and 30% by weight of the liquid laundry detergent composition of the non-aqueous solvent. In some examples, the laundry detergent composition comprises a perfume. In some examples, the laundry detergent composition comprises an adjunct ingredient selected from the group comprising builders including enzymes, citrate, bleach, bleach catalyst, dye, hueing dye, brightener, cleaning polymers including alkoxyated polyamines and polyethyleneimines, soil release polymer, surfactant, solvent, dye transfer inhibitors, chelant, encapsulated perfume, polycarboxylates, structurant, pH trimming agents, and mixtures thereof. In some examples, the laundry detergent composition has a pH between 6 and 10, between 6.5 and 8.9, or between 7 and 8, wherein the pH of the laundry detergent composition is measured as a 10% product concentration in demineralized water at 20°C. When liquid, the laundry detergent composition may be Newtonian or non-Newtonian. In some examples, the liquid laundry detergent composition is non-Newtonian. Without wishing to be bound by theory, a non-Newtonian liquid has properties that differ from those of a Newtonian liquid, more specifically, the viscosity of non-Newtonian liquids is dependent on shear rate, while a Newtonian liquid has a constant viscosity independent of the applied shear rate. The decreased viscosity upon shear application for non-Newtonian liquids is thought to further facilitate liquid detergent dissolution. The liquid laundry detergent composition described herein can have any suitable viscosity depending on factors such as formulated ingredients and purpose of the composition.

[0052] In some examples, the consumer product comprises at least one water-soluble unit dose article and the

container. The consumer product can be sold 'as is', in other words the consumer product is the item that the consumer picks up from the shelf. Alternatively, the consumer product could be housed as one unit of a multi-component product. For example, more than one consumer product could be housed within an outer package and the multiple packaged consumer products sold together in a single purchase. The consumer product may comprise aesthetic elements, for example shrink sleeves or labels attached to the container. Alternatively, the container may be coloured or printed with aesthetic elements or informative print such as usage instructions.

[0053] In some examples a water-soluble unit dose article comprises at least one water-soluble film orientated to create at least one-unit dose internal compartment, wherein the at least one-unit dose internal compartment comprises a detergent composition. The water-soluble film and the detergent composition are described in more detail below. In some examples the consumer product comprises at least one water-soluble unit dose article, in some cases at least two water-soluble unit dose articles, in some cases at least 10 water-soluble unit dose articles, in some cases at least 20 water-soluble unit dose articles, in some cases at least 30 water-soluble unit dose articles, in some cases at least 40 water-soluble unit dose articles, in some cases at least 45 water-soluble unit dose articles. A water-soluble unit dose article is in some examples in the form of a pouch. A water-soluble unit dose article comprises in some examples a unitary dose of a composition as a volume sufficient to provide a benefit in an end application. The water-soluble unit dose article comprises in some examples one water-soluble film shaped such that the unit-dose article comprises at least one internal compartment surrounded by the water-soluble film. The at least one compartment comprises a cleaning composition. The water-soluble film is sealed such that the cleaning composition does not leak out of the compartment during storage. However, upon addition of the water-soluble unit dose article to water, the water-soluble film dissolves and releases the contents of the internal compartment into the wash liquor. The unit dose article may comprise more than one compartment, at least two compartments, or at least three compartments, or at least four compartments, or even at least five compartments. The compartments may be arranged in superposed orientation, i.e. one positioned on top of the other. Alternatively, the compartments may be positioned in a side-by-side orientation, i.e. one orientated next to the other. The compartments may be orientated in a 'tyre and rim' arrangement, i.e. a first compartment is positioned next to a second compartment, but the first compartment at least partially surrounds the second compartment, but does not completely enclose the second compartment. Alternatively, one compartment may be completely enclosed within another compartment. In some examples the unit dose article comprises at least two compartments, one of the compartments being smaller than the other compartment. In some examples the unit dose article com-

prises at least three compartments, two of the compartments may be smaller than the third compartment, and in some examples the two smaller compartments being superposed on the larger compartment. In some examples the unit dose article comprises at least four compartments, three of the compartments may be smaller than the fourth compartment, and in some examples the three smaller compartments being superposed on the larger compartment. The superposed compartments are in some examples orientated side-by-side. In some examples each individual unit dose article may have a weight of between 10g and 40g, or even between 15g and 35g. The water soluble film may be soluble or dispersible in water. Prior to being formed into a unit dose article, the water-soluble film has in some examples a thickness of from 20 to 150 micron, in other examples 35 to 125 micron, in further examples 50 to 110 micron, in yet further examples about 76 micron. Example water soluble film materials comprise polymeric materials. The film material can, for example, be obtained by casting, blow-moulding, extrusion or blown extrusion of the polymeric material. In some examples, the water-soluble film comprises polyvinyl alcohol polymer or copolymer, for example a blend of polyvinylalcohol polymers and/or polyvinylalcohol copolymers, for example selected from sulphonated and carboxylated anionic polyvinylalcohol copolymers especially carboxylated anionic polyvinylalcohol copolymers, for example a blend of a polyvinylalcohol homopolymer and a carboxylated anionic polyvinylalcohol copolymer. In some examples water soluble films are those supplied by Monosol under the trade references M8630, M8900, M8779, M8310. In some examples the film may be opaque, transparent or translucent. The film may comprise a printed area. The area of print may be achieved using techniques such as flexographic printing or inkjet printing. The film may comprise an aversive agent, for example a bittering agent. Suitable bittering agents include, but are not limited to, naringin, sucrose octaacetate, quinine hydrochloride, denatonium benzoate, or mixtures thereof. Example levels of aversive agent include, but are not limited to, 1 to 5000ppm, 100 to 2500ppm, or 250 to 2000ppm. The water-soluble film or water-soluble unit dose article or both may be coated with a lubricating agent. In some examples, the lubricating agent is selected from talc, zinc oxide, silicas, siloxanes, zeolites, silicic acid, alumina, sodium sulphate, potassium sulphate, calcium carbonate, magnesium carbonate, sodium citrate, sodium tripolyphosphate, potassium citrate, potassium tripolyphosphate, calcium stearate, zinc stearate, magnesium stearate, starch, modified starches, clay, kaolin, gypsum, cyclodextrins or mixtures thereof.

[0054] In some examples the container comprises a first part, wherein the first part comprises a first compartment in which the at least one water-soluble unit dose article is contained. In some examples the first compartment comprises at least two water-soluble unit dose articles. The first compartment may comprise between 1

and 80 water-soluble unit dose articles, between 1 and 60 water-soluble unit dose articles, between 1 and 40 water-soluble unit dose articles, or between 1 and 20 water-soluble unit dose articles. The volume of the first compartment may be between 500ml and 5000ml, in some examples between 800ml and 4000ml.

[0055] In some examples, the detergent product is in the form of unit dose detergent pouches, preferably in the form of flexible water soluble unit dose detergent pouches, whereby the one or more, preferably all, tactile discontinuities are configured to prevent a unit dose detergent pouch from passing through the one or more, preferably all, tactile discontinuities, particularly when such one or more tactile discontinuities are apertures or slits. In some examples, the pouches have a minimum cross section, such minimum cross section being in some cases surrounded by an external flange area, such minimum cross section intersecting an internal volume of the detergent article comprising the detergent, such minimum cross section being of less than the area covered by the tactile discontinuity or aperture concerned. For example, if the aperture is of 1cm², pouches having a minimum cross section of 1.5cm² will not spill through the aperture.

[0056] In some examples, one or more flank of the flanks comprising a tactile discontinuity covers at least 10%, preferable at least 20%, more preferably at least 30% of one or more respective sidewall of the sidewalls when the cover is in the closed position. In such examples, if the respective tactile discontinuity is an aperture, such aperture will to some degree permit evacuating air comprised in the cover while closing the cover as the cover slides onto the box. In some examples, the cover defines a cover internal volume delimited by the top of the cover and the flanks. In some examples the cover internal volume is comprised between 200 and 2000 cm³, preferably between 750 cm³ and 1500 cm³. In some examples, one or more flank of the flanks comprising a respective tactile discontinuity covers at least 40% of one or more respective sidewall of the sidewalls when the cover is in the closed position. In some examples, one or more flank of the flanks comprising a respective tactile discontinuity covers at least 50% of one or more respective sidewall of the sidewalls when the cover is in the closed position. Providing a higher flank coverage increases robustness and permits holding the content of the container in the cover case of an accidental upside down opening. Such configurations may be advantageously combined in some examples with an aperture configured to prevent a unit dose detergent pouch from passing through the aperture.

[0057] In some examples, the tactile discontinuity covers less than 6 cm² and more than 1 cm². Such dimensioning was also found particularly effective at applying a high precision force or pressure.

[0058] In some examples, the flanks comprise two short flanks and two long flanks, whereby the tactile discontinuities are on a long flank. This configuration permits

increasing rigidity of the top of the cover, while maintaining a desired container inner volume. The cover may indeed comprise two opposite long flanks parallel to each other and two opposite short flanks parallel to each other, the long flanks being perpendicular to the short flanks, the long flanks being preferably reinforced, in order to take into account the fact that a user or consumer may be more likely to apply pressure on long flanks, and that long flanks are more likely to be submitted to deformation given that their middle point along the first direction is farther away from corners of the same long flank than the middle point of a short flank from the respective short flank corners.

[0059] Figure 8 illustrates an example method to operate a locked consumer product, the consumer product being according to any of the examples hereby described, the method comprising:

- block 81 of unlocking the container by grabbing the cover with a first adult hand between a thumb of the first adult hand and one or more other fingers of the first adult hand, the one or more other fingers preferably comprising at least one of the index finger, ring finger and middle finger, whereby the grabbing takes place across the top of the cover, whereby fingertips of the thumb and of the one or more other fingers are simultaneously placed on the first and on the second tactile discontinuity; and

- block 82 of opening the container by lifting, sliding or rotating the pinched cover away from the box to expose the opening.

[0060] A method as described in Figure 8 permits a stable gripping of the container when also using the second tactile discontinuity, such stable gripping easing the actuation of the actuators using one or more other tactile discontinuities, the tactile discontinuities facilitating appropriate finger placement. Such stable gripping is further reinforced in situations whereby the first and second tactile discontinuities are located on opposite flanks of the cover.

[0061] In some other examples comprising at least one additional lock and actuator, block 81 may comprise unlocking the container by grabbing the cover with a first adult hand between a thumb of the first adult hand and two or more other fingers of the first adult hand, the two or more other fingers preferably comprising at least one of the index finger, ring finger and middle finger, whereby the grabbing takes place across the top of the cover, whereby fingertips of the thumb and of the two or more other fingers are simultaneously placed on the first, second and a third tactile discontinuity.

[0062] As illustrated in another example method in Figure 9, a method may comprise blocks 81 and 82, as well as a block 93 of locking the container, the lock emitting a clicking sound upon locking, in order to provide audible feedback confirming closure.

[0063] Figure 10 illustrates an example method to ma-

nipulate a locked consumer product using a machine, the consumer product being according to any of the examples hereby described, the machine comprising a gripping device, the method comprising in block 1000 gripping the consumer product by inserting the gripping device in the second tactile discontinuity, whereby the gripping device has a profile matching a profile of the second tactile discontinuity. This permits manipulating the consumer product, for example on a production line, without risking opening the consumer product. Such gripping using the second tactile discontinuity can participate in precisely aligning the consumer product on a production line. In some examples, the method comprises manipulating the locked consumer product without the machine entering in contact with a tactile discontinuity facing an actuator, or preferably manipulating the locked consumer product without the machine entering in contact with any tactile discontinuity facing an actuator, while the gripping device is inserted in the second tactile discontinuity, in order to avoid undesired opening of the box during such manipulating.

[0064] The dimensions and values disclosed herein are not to be understood as being strictly limited to the exact numerical values recited. Instead, unless otherwise specified, each such dimension is intended to mean both the recited value and a functionally equivalent range surrounding that value. For example, a dimension disclosed as "40 mm" is intended to mean "about 40 mm".

Claims

1. A consumer product (100, 200, 300, 400) comprising a detergent product and a container, the container comprising a box (101, 201, 301, 401, 602, 603), a cover (102, 202, 302, 402, 601) for the box, and a lock to maintain the cover in a closed position, the box comprising the detergent product, the box comprising a base (104, 204, 304, 404), sidewalls (105, 205, 305, 405) and an opening (106, 206, 306, 406), the cover comprising a top (107, 207, 307, 407) and flanks (108, 208, 308, 408), the cover covering the opening and the cover covering at least a first and a second specific portion of sidewalls of the box when the cover is in the closed position, the lock comprising at least a first actuator (103, 203, 313, 413) moveable from a locking position to an opening position by applying an actuation pressure onto the first actuator when the cover is in the closed position, the first actuator being connected to the first specific portion, the cover comprising a first tactile discontinuity (109, 209, 309, 409), the first tactile discontinuity facing the first actuator, the first tactile discontinuity permitting displacing the first actuator from the locking position to the opening position by applying the actuation pressure at the first tactile discontinuity when the cover is in the closed position, whereby the cover further comprise a second tactile discontinuity (110,

210, 310, 410), wherein the second tactile discontinuity is directly facing the second specific portion of sidewalls when the cover is in the closed position, **characterized in that** the cover, in the area of the second tactile discontinuity, is separated by the second sidewall portion of the box only by a thin air clearance layer, the second sidewall portion being actuator-less or flap less.

2. The consumer product according to claim 1, whereby the opening is either opposite the base (104, 204, 304, 404) or in one of the sidewalls (105, 205, 305, 405), preferably opposite the base.

3. The consumer product according to any of the above claims, whereby the first (109, 209, 309, 409) and the second (110, 210, 310, 410) tactile discontinuities are on a same specific flank of the cover.

4. The consumer product according to any of the above claims, whereby:

- each tactile discontinuity spans less than 8 cm² and more than 0.2 cm², each tactile discontinuity defining a centroid;

- each centroid is separated from the top of the cover by less than 5 cm and by more than 0.5 cm;

- each centroid is separated from a distal end of the specific flank by more than 0.5 cm; and

- the top of the cover spans less than 13 cm and more than 6cm along a direction normal to the first specific portion at the centroid defined by the first tactile discontinuity.

5. The consumer product according to the above claim, whereby the first (109, 209, 309, 409) and the second (110, 210, 310, 410) tactile discontinuities are on a same specific flank of the cover, and whereby the centroid of the first tactile discontinuity and the centroid of the second tactile discontinuity are separated by a separation distance along a direction parallel to the top of the cover, the separation distance being of more than 1.5 cm and of less than 10 cm.

6. The consumer product according to any of the above claims, whereby the consumer product comprises a third tactile discontinuity (311, 411), the third tactile discontinuity facing either the first actuator or a second actuator (323, 423) when the cover is in the closed position, the second actuator, if present, pertaining to a second lock, the second actuator, if present, being moveable from a locking position to an opening position by applying a further actuation pressure onto the second actuator when the cover is in the closed position, the second actuator, if present, being connected to a third specific portion of the sidewalls of the box, the third specific portion being covered by the cover when the cover is in the

closed position.

7. The consumer product according to the above claim, whereby the third tactile discontinuity faces and whereby the second actuator is present, whereby:

- the first and second specific portions of sidewalls and the first actuator (103, 203, 313, 413) pertain to a same specific sidewall;
- the third specific portion of sidewalls and the second actuator (323, 423) pertain to an opposite sidewall, the opposite side wall being opposite to the specific sidewall;
- the third tactile discontinuity (311, 411) pertains to an opposite flank, the opposite flank being opposite to the specific flank.

8. The consumer product according to the above claim, whereby the consumer product comprises a fourth tactile discontinuity (412), the fourth tactile discontinuity preferably facing either the first actuator, the second actuator, a third actuator (433) or directly facing a respective portion of sidewall when the cover is in the closed position, whereby the fourth tactile discontinuity preferably pertains to the opposite flank facing either the second actuator, a third actuator, or directly facing the respective portion of sidewall, preferably facing a third actuator, when the cover is in the closed position, the third actuator, if present, being connected to a fourth specific portion of the sidewalls of the box.

9. The consumer product according to the above claim, whereby the third and the fourth tactile discontinuities are both on the opposite flank, and whereby the centroid of the third tactile discontinuity and the centroid of the fourth tactile discontinuity are separated by a separation distance along a direction parallel to the top of the cover, the separation distance being of more than 1.5 cm and of less than 10 cm.

10. The consumer product according to any of claims 8 or 9, whereby the first and second specific portions of sidewalls and the first actuator (103, 203, 313, 413) pertain to a same specific sidewall,

whereby the third specific portion of sidewalls and the second actuator (323, 423) pertain to an opposite sidewall, the opposite side wall being opposite to the specific sidewall, whereby the fourth tactile discontinuity (412), if present, pertains to the opposite flank, whereby at least one of a centroid of the third tactile discontinuity (311, 411) and of a centroid of the fourth tactile discontinuity, if present, is aligned either with the centroid of the first tactile discontinuity (109, 209, 309, 409) or with the centroid of the second tactile discontinuity (110, 210, 310, 410), preferably is aligned with the centroid of the first tactile discontinuity, along a direction normal to the third specific portion when the cover is in the closed position portion.

tinuity (110, 210, 310, 410), preferably is aligned with the centroid of the first tactile discontinuity, along a direction normal to the third specific portion when the cover is in the closed position portion.

11. The consumer product according to any of claims 8 or 9, whereby the first and second specific portions of sidewalls and the first actuator pertain to a same specific sidewall, whereby the third specific portion of sidewalls and the second actuator pertain to an opposite sidewall, the opposite side wall being opposite to the specific sidewall, whereby the fourth tactile discontinuity, if present, pertains to the opposite flank, whereby at least one of a centroid of the third tactile discontinuity and of a centroid of the fourth tactile discontinuity is facing a region between the centroid of the first tactile discontinuity and the centroid of the second tactile discontinuity.

12. The consumer product according to any of the claims 8-11, whereby the first and second specific portions of sidewalls and the first actuator pertain to a same specific sidewall, whereby the third specific portion of sidewalls and the second actuator pertain to an opposite sidewall, the opposite side wall being opposite to the specific sidewall, whereby the fourth tactile discontinuity, if present, pertains to the opposite flank, whereby a shortest distance between, on one hand, at least one of a centroid of the third tactile discontinuity and of a centroid of the fourth tactile discontinuity (412), if present, and, on the other hand, either the centroid of the first tactile discontinuity or the centroid of the second tactile discontinuity, preferably the centroid of the first tactile discontinuity, along the flanks and top of the cover, is of less than 18cm.

13. The consumer product according to any of claims 4 to 12, whereby each centroid is separated from the top of the cover by more than 1 cm and by less than 3 cm.

14. The consumer product according to any of claims 8 to 13, whereby the container comprises

a first flap facing the first tactile discontinuity (109, 209, 309, 409) when the cover is in the closed position, and whereby the second actuator (323, 423) comprises a single flap facing both the third and fourth tactile discontinuities (311, 411, 412) when the cover is in the closed position.

15. The consumer product according to any of claims 8 to 13, whereby the container comprises a first flap facing the first tactile discontinuity when the cover is in the closed position, a second flap facing the third

tactile discontinuity when the cover is in the closed position, and a third flap facing the fourth tactile discontinuity when the cover is in the closed position.

16. The consumer product according to any of the above claims, whereby the centroid of the first tactile discontinuity (109, 209, 309, 409) is located in a central region of a flank of the cover along a horizontal direction parallel to the top of the cover. 5
17. The consumer product according to any of the above claims, whereby the detergent product is in the form of unit dose detergent pouches, preferably in the form of flexible water soluble unit dose detergent pouches, whereby the one or more, preferably all, tactile discontinuities are configured to prevent a unit dose detergent pouch from passing through the one or more, preferably all, tactile discontinuities. 10
18. The consumer product according to any of the above claims, whereby one or more of the specific portions comprise a visual indication visible through the corresponding tactile discontinuity or tactile discontinuities, when the cover is closed. 15
19. The consumer product according to any of the above claims, whereby each tactile discontinuity is one of an aperture, a slit, a membrane or an embossed area, preferably an aperture, and whereby each tactile discontinuity preferably has a circular shape. 20
20. The consumer product according to any of the above claims, whereby the cover is a lid or a sleeve. 25
21. The consumer product according to any of the above claims, whereby one or more additional tactile discontinuities are provided in the cover, preferably on a flank of the cover, such one or more additional tactile discontinuities being directly facing a corresponding specific portion of sidewalls when the cover is in the closed, at least one of the one or more tactile discontinuities being located on a flank of the cover opposite to another flank on which the second tactile discontinuity is located. 30
22. A method to operate a locked consumer product, the consumer product being according to any of the above claims, the method comprising: 35
- unlocking (81) the container by grabbing the cover with a first adult hand between a thumb of the first adult hand and one or more other fingers of the first adult hand, the one or more other fingers preferably comprising at least one of the index finger, ring finger and middle finger, whereby the grabbing takes place across the top of the cover, whereby fingertips of the thumb and of the one or more other fingers are simul-

taneously placed on the first and on the second tactile discontinuity; and
 - opening (82) the container by lifting, sliding or rotating the pinched cover away from the box to expose the opening. 40

23. The method to operate a locked consumer product according to claim 22, the method comprising locking (93) the container, the lock emitting a clicking sound upon locking. 45
24. A method to manipulate a locked consumer product using a machine, the consumer product being according to any of the above consumer product claims, the machine comprising a gripping device, the method comprising gripping (1000) the consumer product by inserting the gripping device in the second tactile discontinuity, whereby the gripping device has a profile matching a profile of the second tactile discontinuity. 50

Patentansprüche

1. Endprodukt (100, 200, 300, 400), umfassend ein Waschmittelprodukt und einen Behälter, der Behälter umfassend eine Dose (101, 201, 301, 401, 602, 603), eine Abdeckung (102, 202, 302, 402, 601) für die Dose und eine Verriegelung, um die Abdeckung in einer geschlossenen Position zu halten, die Dose umfassend das Waschmittelprodukt, die Dose umfassend eine Basis (104, 204, 304, 404), Seitenwände (105, 205, 305, 405) und eine Öffnung (106, 206, 306, 406), die Abdeckung umfassend ein Oberteil (107, 207, 307, 407) und Flanken (108, 208, 308, 408), wobei die Abdeckung die Öffnung abdeckt und die Abdeckung wenigstens einen ersten und einen zweiten spezifischen Abschnitt von Seitenwänden der Dose abdeckt, wenn sich die Abdeckung in der geschlossenen Position befindet, die Verriegelung umfassend wenigstens ein erstes Betätigungselement (103, 203, 313, 413), das von einer Verriegelungsposition in eine Öffnungsposition durch Ausüben eines Betätigungsdrucks auf das erste Betätigungselement bewegbar ist, wenn sich die Abdeckung in der geschlossenen Position befindet, wobei das erste Betätigungselement mit dem ersten spezifischen Abschnitt verbunden ist, die Abdeckung umfassend eine erste fühlbare Unstetigkeit (109, 209, 309, 409), wobei die erste fühlbare Unstetigkeit dem ersten Betätigungselement zugewandt ist, die erste fühlbare Unstetigkeit ein Verschieben des ersten Betätigungselements von der Verriegelungsposition in die Öffnungsposition durch Ausüben des Betätigungsdrucks an der ersten fühlbaren Unstetigkeit ermöglicht, wenn sich die Abdeckung in der geschlossenen Position befindet, wobei die Abdeckung ferner eine zweite fühlbare Unstetigkeit (110, 50

210, 310, 410) umfasst, wobei

die zweite fühlbare Unstetigkeit dem zweiten spezifischen Abschnitt von Seitenwänden direkt zugewandt ist, wenn sich die Abdeckung in der geschlossenen Position befindet,

dadurch gekennzeichnet, dass die Abdeckung, in der Region der zweiten fühlbaren Unstetigkeit, nur durch eine dünne Luftspielschicht durch den zweiten Seitenwandabschnitt der Dose getrennt ist, wobei der zweite Seitenwandabschnitt ohne Betätigungselement oder Klappe besteht.

2. Endprodukt nach Anspruch 1, wobei sich die Öffnung entweder entgegengesetzt der Basis (104, 204, 304, 404) oder in einer der Seitenwände (105, 205, 305, 405), vorzugsweise entgegengesetzt der Basis, befindet.

3. Endprodukt nach einem der vorstehenden Ansprüche, wobei sich die erste (109, 209, 309, 409) und die zweite (110, 210, 310, 410) fühlbare Unstetigkeit an einer gleichen spezifischen Flanke der Abdeckung befinden.

4. Endprodukt nach einem der vorstehenden Ansprüche, wobei:

- jede fühlbare Unstetigkeit weniger als 8 cm² und mehr als 0,2 cm² überspannt, wobei jede fühlbare Unstetigkeit einen Schwerpunkt definiert;

- jeder Schwerpunkt um weniger als 5 cm und um mehr als 0,5 cm von dem Oberteil der Abdeckung getrennt ist;

- jeder Schwerpunkt um mehr als 0,5 cm von einem distalen Ende der spezifischen Flanke getrennt ist; und

- das Oberteil der Abdeckung weniger als 13 cm und mehr als 6 cm entlang einer Richtung senkrecht zu dem spezifischen Abschnitt an dem Schwerpunkt überspannt, der durch die erste fühlbare Unstetigkeit definiert ist.

5. Endprodukt nach dem vorstehenden Anspruch, wobei sich die erste (109, 209, 309, 409) und die zweite (110, 210, 310, 410) fühlbare Unstetigkeit an einer gleichen spezifischen Flanke der Abdeckung befinden und wobei der Schwerpunkt der ersten fühlbaren Unstetigkeit und der Schwerpunkt der zweiten fühlbaren Unstetigkeit durch einen Trennungsabstand entlang einer Richtung parallel zu dem Oberteil der Abdeckung getrennt sind, wobei der Trennungsabstand aus mehr als 1,5 cm und aus weniger als 10 cm besteht.

6. Endprodukt nach einem der vorstehenden Ansprü-

che, wobei das Endprodukt eine dritte fühlbare Unstetigkeit (311, 411) umfasst, wobei die dritte fühlbare Unstetigkeit entweder dem ersten Betätigungselement oder einem zweiten Betätigungselement (323, 423) zugewandt ist, wenn sich die Abdeckung in der geschlossenen Position befindet, wobei das zweite Betätigungselement, falls vorhanden, zu einer zweiten Verriegelung gehört, wobei das zweite Betätigungselement, falls vorhanden, durch Ausüben eines weiteren Betätigungsdrucks auf das zweite Betätigungselement von einer Verriegelungsposition in eine Öffnungsposition bewegbar ist, wenn sich die Abdeckung in der geschlossenen Position befindet, wobei das zweite Betätigungselement, falls vorhanden, mit einem dritten spezifischen Abschnitt der Seitenwände der Dose verbunden ist, wobei der dritte spezifische Abschnitt durch die Abdeckung abgedeckt ist, wenn sich die Abdeckung in der geschlossenen Position befindet.

7. Endprodukt nach dem vorstehenden Anspruch, wobei die dritte fühlbare Unstetigkeit zugewandt ist und wobei das zweite Betätigungselement vorhanden ist, wobei:

- der erste und der dritte spezifische Abschnitt von Seitenwänden und das erste Betätigungselement (103, 203, 313, 413) zu einer gleichen spezifischen Seitenwand gehören;

- der zweite spezifische Abschnitt von Seitenwänden und das zweite Betätigungselement (323, 423) zu einer entgegengesetzten Seitenwand gehören, wobei die entgegengesetzte Seitenwand der spezifischen Seitenwand entgegengesetzt ist;

- die dritte fühlbare Unstetigkeit (311, 411) zu einer entgegengesetzten Flanke gehört, wobei die entgegengesetzte Flanke der spezifischen Flanke entgegengesetzt ist.

8. Endprodukt nach dem vorstehenden Anspruch, wobei das Endprodukt eine vierte fühlbare Unstetigkeit (412) umfasst, wobei die vierte fühlbare Unstetigkeit vorzugsweise entweder dem ersten Betätigungselement, dem zweiten Betätigungselement, einem dritten Betätigungselement (433) oder einem jeweiligen Abschnitt von Seitenwand direkt zugewandt ist, wenn sich der Deckel in der geschlossenen Position befindet, wobei die vierte fühlbare Unstetigkeit vorzugsweise zu der entgegengesetzten Flanke gehört, die entweder dem zweiten Betätigungselement, einem dritten Betätigungselement zugewandt ist oder dem jeweiligen Abschnitt von Seitenwand direkt zugewandt ist, vorzugsweise einem dritten Betätigungselement zugewandt ist, wenn sich der Deckel in der geschlossenen Position befindet, wobei das dritte Betätigungselement, falls vorhanden, mit einem vierten spezifischen Abschnitt der Seitenwände

der Dose verbunden ist.

9. Endprodukt nach dem vorstehenden Anspruch, wobei sich die dritte und die vierte fühlbare Unstetigkeit beide auf der entgegengesetzten Flanke befinden und wobei der Schwerpunkt der dritten fühlbaren Unstetigkeit und der Schwerpunkt der vierten fühlbaren Unstetigkeit durch einen Trennungsabstand entlang einer Richtung parallel zu dem Oberteil der Abdeckung getrennt sind, wobei der Trennungsabstand aus mehr als 1,5 cm und weniger als 10 cm besteht.
10. Endprodukt nach einem der Ansprüche 8 oder 9, wobei der erste und der zweite spezifische Abschnitt von Seitenwänden und das erste Betätigungselement (103, 203, 313, 413) zu einer gleichen spezifischen Seitenwand gehören,
- wobei der dritte spezifische Abschnitt von Seitenwänden und das zweite Betätigungselement (323, 423) zu einer entgegengesetzten Seitenwand gehören, wobei die entgegengesetzte Seitenwand der spezifischen Seitenwand entgegengesetzt ist, wobei die vierte fühlbare Unstetigkeit (412), falls vorhanden, zu der entgegengesetzten Flanke gehört, wobei wenigstens einer eines Schwerpunkts der dritten fühlbaren Unstetigkeit (311, 411) und eines Schwerpunkts der vierten fühlbaren Unstetigkeit, falls vorhanden, entweder mit dem Schwerpunkt der ersten fühlbaren Unstetigkeit (109, 209, 309, 409) oder mit dem Schwerpunkt der zweiten fühlbaren Unstetigkeit (110, 210, 310, 410) ausgerichtet ist, vorzugsweise mit dem Schwerpunkt der ersten fühlbaren Unstetigkeit ausgerichtet ist, entlang einer Richtung senkrecht zu dem dritten spezifischen Abschnitt, wenn sich die Abdeckung in der geschlossenen Position befindet.
11. Endprodukt nach einem der Ansprüche 8 oder 9, wobei der erste und der zweite spezifische Abschnitt von Seitenwänden und das erste Betätigungselement zu einer gleichen spezifischen Seitenwand gehören, wobei der dritte spezifische Abschnitt von Seitenwänden und das zweite Betätigungselement zu einer entgegengesetzten Seitenwand gehören, wobei die entgegengesetzte Seitenwand der spezifischen Seitenwand entgegengesetzt ist, wobei die vierte fühlbare Unstetigkeit, falls vorhanden, zu der entgegengesetzten Flanke gehört, wobei wenigstens einer eines Schwerpunkts der dritten fühlbaren Unstetigkeit und eines Schwerpunkts der vierten fühlbaren Unstetigkeit einem Bereich zwischen dem Schwerpunkt der ersten fühlbaren Unstetigkeit und dem Schwerpunkt der zweiten fühlbaren Unstetig-

keit zugewandt ist.

12. Endprodukt nach einem der Ansprüche 8 bis 11, wobei der erste und der zweite spezifische Abschnitt von Seitenwänden und das erste Betätigungselement zu einer gleichen spezifischen Seitenwand gehören, wobei der dritte spezifische Abschnitt von Seitenwänden und das zweite Betätigungselement zu einer entgegengesetzten Seitenwand gehören, wobei die entgegengesetzte Seitenwand der spezifischen Seitenwand entgegengesetzt ist, wobei die vierte fühlbare Unstetigkeit, falls vorhanden, zu der entgegengesetzten Flanke gehört, wobei ein kürzester Abstand zwischen, einerseits, wenigstens einem eines Schwerpunkts der dritten fühlbaren Unstetigkeit und eines Schwerpunkts der vierten fühlbaren Unstetigkeit (412), falls vorhanden, und, andererseits, entweder dem Schwerpunkt der ersten fühlbaren Unstetigkeit oder dem Schwerpunkt der zweiten fühlbaren Unstetigkeit, vorzugsweise dem Schwerpunkt der ersten fühlbaren Unstetigkeit, entlang der Flanken und des Oberteils der Abdeckung aus weniger als 18 cm besteht.
13. Endprodukt nach einem der Ansprüche 4 bis 12, wobei jeder Schwerpunkt um mehr als 1 cm und um weniger als 3 cm von dem Oberteil der Abdeckung getrennt ist.
14. Endprodukt nach einem der Ansprüche 8 bis 13, wobei der Behälter eine erste Klappe umfasst, die der ersten fühlbaren Unstetigkeit (109, 209, 309, 409) zugewandt ist,
- wenn sich die Abdeckung in der geschlossenen Position befindet, und wobei das zweite Betätigungselement (323, 423) eine einzelne Klappe umfasst, die sowohl der dritten als auch der vierten fühlbaren Unstetigkeit (311, 411, 412) zugewandt ist, wenn sich die Abdeckung in der geschlossenen Position befindet.
15. Endprodukt nach einem der Ansprüche 8 bis 13, wobei der Behälter eine erste Klappe, die der ersten fühlbaren Unstetigkeit zugewandt ist, wenn sich der Deckel in der geschlossenen Position befindet, eine zweite Klappe, die der dritten fühlbaren Unstetigkeit zugewandt ist, wenn sich der Deckel in der geschlossenen Position befindet, und eine dritte Klappe umfasst, die der vierten fühlbaren Unstetigkeit zugewandt ist, wenn sich der Deckel in der geschlossenen Position befindet.

16. Endprodukt nach einem der vorstehenden Ansprüche, wobei der Schwerpunkt der ersten fühlbaren Unstetigkeit (109, 209, 309, 409) in einem Zentralbereich einer Flanke der Abdeckung entlang einer horizontalen Richtung parallel zu dem Oberteil der Abdeckung angeordnet ist. 5
17. Endprodukt nach einem der vorstehenden Ansprüche, wobei das Waschmittelprodukt in der Form von Einheitsgebrauchsmengenwaschmittelbeuteln, vorzugsweise in der Form von flexiblen wasserlöslichen Einheitsgebrauchsmengenwaschmittelbeuteln, besteht, wobei die eine oder die mehreren, vorzugsweise alle, fühlbaren Unstetigkeiten konfiguriert sind, um zu verhindern, dass ein Einheitsgebrauchsmengenwaschmittelbeutel durch die eine oder die mehreren, vorzugsweise alle, fühlbaren Unstetigkeiten hindurchgeht. 10 15
18. Endprodukt nach einem der vorstehenden Ansprüche, wobei ein oder mehrere der spezifischen Abschnitte eine visuelle Angabe umfassen, die über die entsprechende fühlbare Unstetigkeit oder fühlbaren Unstetigkeiten sichtbar ist, wenn die Abdeckung geschlossen ist. 20 25
19. Endprodukt nach einem der vorstehenden Ansprüche, wobei jede fühlbare Unstetigkeit eines von einer Apertur, einem Spalt, einer Membran oder einer geprägten Region, vorzugsweise eine Apertur, ist und wobei jede fühlbare Unstetigkeit vorzugsweise eine kreisförmige Form aufweist. 30
20. Endprodukt nach einem der vorstehenden Ansprüche, wobei die Abdeckung ein Deckel oder eine Hülse ist. 35
21. Endprodukt nach einem der vorstehenden Ansprüche, wobei eine oder mehrere zusätzliche fühlbare Unstetigkeiten in der Abdeckung bereitgestellt sind, vorzugsweise an einer Flanke der Abdeckung, wobei solch eine oder mehrere zusätzliche fühlbare Unstetigkeiten einem entsprechenden spezifischen Abschnitt von Seitenwänden direkt zugewandt sind, wenn die Abdeckung geschlossen ist, und wenigstens eine der einen oder der mehreren fühlbaren Unstetigkeiten an einer Flanke der Abdeckung angeordnet ist, die einer anderen Flanke entgegengesetzt ist, an der die zweite fühlbare Unstetigkeit angeordnet ist. 40 45 50
22. Verfahren, um ein verriegeltes Endprodukt zu bedienen, wobei das Endprodukt nach einem der vorstehenden Ansprüche besteht, das Verfahren umfassend: 55
- Entriegeln (81) des Behälters durch Greifen der Abdeckung mit einer ersten Hand eines Erwachsenen zwischen einem Daumen der ersten Hand eines Erwachsenen und einem oder mehreren anderen Fingern der ersten Hand eines Erwachsenen, der eine oder die mehreren anderen Finger vorzugsweise umfassend wenigstens einen des Zeigefingers, des Ringfingers und des Mittelfingers, wobei das Greifen quer über das Oberteil des Deckels erfolgt, wobei Fingerspitzen des Daumens und des einen oder der mehreren anderen Finger an der ersten und an der zweiten fühlbaren Unstetigkeit gleichzeitig platziert werden; und
 - Öffnen (82) des Behälters durch Anheben, Schieben oder Drehen der zusammengedrückten Abdeckung von der Dose weg, um die Öffnung freizulegen.
23. Verfahren, um ein verriegeltes Endprodukt nach Anspruch 22 zu bedienen, das Verfahren umfassend ein Verriegeln (93) des Behälters, wobei die Verriegelung bei dem Verriegeln ein Klickgeräusch abgibt.
24. Verfahren, um ein verriegeltes Endprodukt unter Verwendung einer Maschine zu manipulieren, wobei das Endprodukt nach einem der vorstehenden Endproduktansprüche besteht, die Maschine umfassend eine Greifvorrichtung, das Verfahren umfassend das Greifen (1000) des Endprodukts durch Einführen der Greifvorrichtung in die zweite fühlbare Unstetigkeit, wobei die Greifvorrichtung ein Profil aufweist, das mit einem Profil der zweiten fühlbaren Unstetigkeit übereinstimmt.

Revendications

1. Produit de consommation (100, 200, 300, 400) comprenant un produit détergent et un contenant, le contenant comprenant une
- boîte (101, 201, 301, 401, 602, 603), une protection (102, 202, 302, 402, 601) pour la boîte, et une serrure pour maintenir la protection dans une position fermée, la boîte comprenant le produit détergent, la boîte comprenant une base (104, 204, 304, 404), des parois latérales (105, 205, 305, 405) et une ouverture (106, 206, 306, 406), la protection comprenant un dessus (107, 207, 307, 407) et des
- flancs (108, 208, 308, 408), la protection couvrant l'ouverture et la protection couvrant au moins une première et une deuxième partie spécifique de parois latérales de la boîte lorsque la protection est dans la position fermée, la serrure comprenant au moins un premier actionneur (103, 203, 313, 413) mobile d'une position de verrouillage à une position d'ouverture en appliquant une pression d'actionnement sur le pre-

mier actionneur lorsque la protection est dans la position fermée, le premier actionneur étant relié à la première partie spécifique, la protection comprenant une première discontinuité tactile (109, 209, 309, 409), la première discontinuité tactile faisant face vers le premier actionneur, la première discontinuité tactile permettant de déplacer le premier actionneur de la position de verrouillage à la position d'ouverture en appliquant la pression d'actionnement à la première discontinuité tactile lorsque la protection est dans la position fermée, selon lequel la protection comprend en outre une deuxième discontinuité tactile (110, 210, 310, 410), dans lequel

la deuxième discontinuité tactile fait directement face vers la deuxième partie spécifique de parois latérales lorsque la protection est dans la position fermée, **caractérisé en ce que** la protection, dans la zone de la deuxième discontinuité tactile, n'est séparée de la deuxième partie de paroi latérale de la boîte que par une mince couche d'espace d'air, la deuxième partie de paroi latérale étant dépourvue d'actionneur ou dépourvue de rabat.

2. Produit de consommation selon la revendication 1, selon lequel l'ouverture est soit à l'opposé de la base (104, 204, 304, 404), soit dans l'une des parois latérales (105, 205, 305, 405), de préférence à l'opposé de la base.
3. Produit de consommation selon l'une quelconque des revendications précédentes, selon lequel les première (109, 209, 309, 409) et deuxième (110, 210, 310, 410) discontinuités tactiles sont sur un même flanc spécifique de la protection.
4. Produit de consommation selon l'une quelconque des revendications précédentes, selon lequel :
 - chaque discontinuité tactile s'étend sur moins de 8 cm² et plus de 0,2 cm², chaque discontinuité tactile définissant un centroïde ;
 - chaque centroïde est séparé du dessus de la protection de moins de 5 cm et de plus de 0,5 cm ;
 - chaque centroïde est séparé d'une extrémité distale du flanc spécifique de plus de 0,5 cm ; et
 - le dessus de la protection s'étend sur moins de 13 cm et plus de 6 cm le long d'une direction normale à la première partie spécifique au niveau du centroïde défini par la première discontinuité tactile.
5. Produit de consommation selon la revendication pré-

cedente, selon lequel les première (109, 209, 309, 409) et deuxième (110, 210, 310, 410) discontinuités tactiles sont sur un même flanc spécifique de la protection, et selon lequel le centroïde de la première discontinuité tactile et le centroïde de la deuxième discontinuité tactile sont séparés d'une distance de séparation le long d'une direction parallèle au dessus de la protection, la distance de séparation étant de plus de 1,5 cm et de moins de 10 cm.

6. Produit de consommation selon l'une quelconque des revendications précédentes, selon lequel le produit de consommation comprend une troisième discontinuité tactile (311, 411), la troisième discontinuité tactile faisant face soit vers le premier actionneur soit vers un deuxième actionneur (323, 423) lorsque la protection est dans la position fermée, le deuxième actionneur, s'il est présent, se rapportant à une deuxième serrure, le deuxième actionneur, s'il est présent, étant mobile d'une position de verrouillage à une position d'ouverture en appliquant une pression d'actionnement supplémentaire sur le deuxième actionneur lorsque la protection est dans la position fermée, le deuxième actionneur, s'il est présent, étant relié à une troisième partie spécifique des parois latérales de la boîte, la troisième partie spécifique étant couverte par la protection lorsque la protection est dans la position fermée.
7. Produit de consommation selon la revendication précédente, selon lequel la troisième discontinuité tactile fait face et selon lequel le deuxième actionneur est présent, selon lequel :
 - les première et deuxième parties spécifiques de parois latérales et le premier actionneur (103, 203, 313, 413) se rapportent à une même paroi latérale spécifique ;
 - la troisième partie spécifique de parois latérales et le deuxième actionneur (323, 423) se rapportent à une paroi latérale opposée, la paroi latérale opposée étant à l'opposé de la paroi latérale spécifique ;
 - la troisième discontinuité tactile (311, 411) se rapporte à un flanc opposé, le flanc opposé étant à l'opposé du flanc spécifique.
8. Produit de consommation selon la revendication précédente, selon lequel le produit de consommation comprend une quatrième discontinuité tactile (412), la quatrième discontinuité tactile faisant de préférence face soit vers le premier actionneur, le deuxième actionneur, un troisième actionneur (433) soit faisant directement face vers une partie respective de paroi latérale lorsque la protection est dans la position fermée, selon lequel la quatrième discontinuité tactile se rapporte de préférence au flanc opposé faisant face soit vers le deuxième actionneur, un troisième

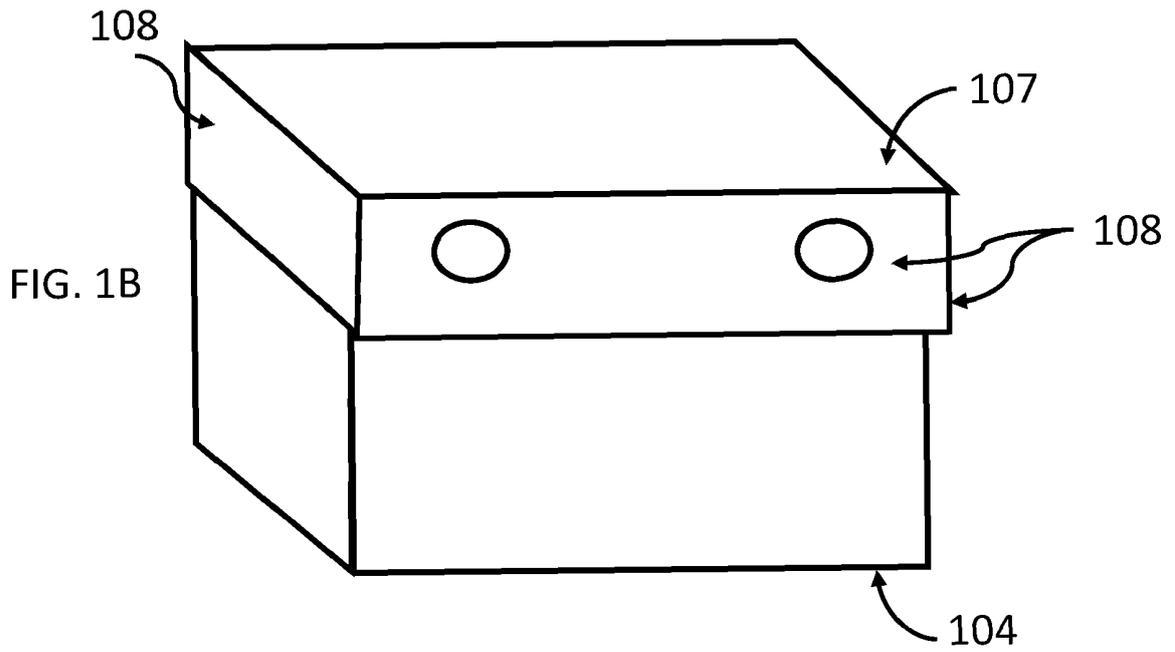
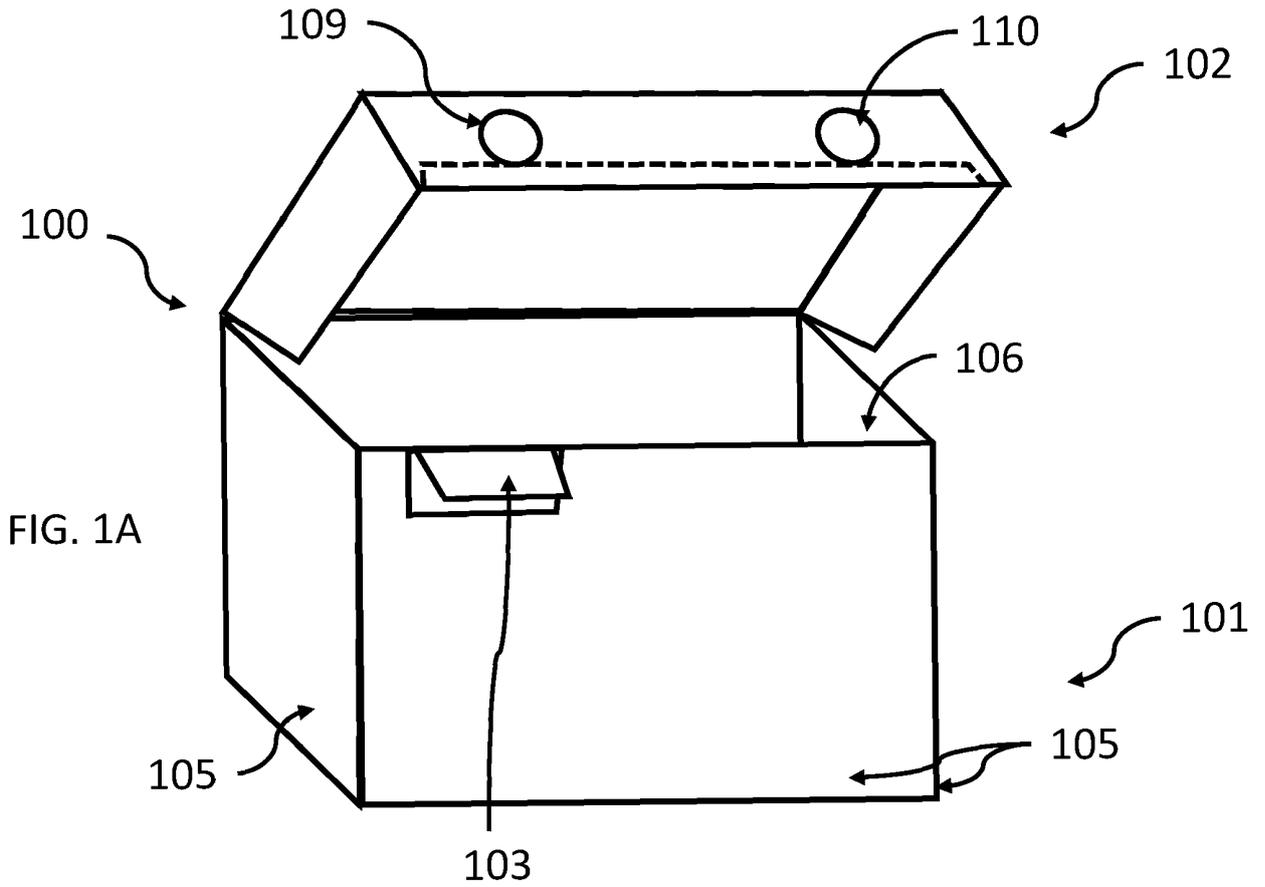
- actionneur, soit faisant directement face vers la partie respective de paroi latérale, de préférence faisant face vers un troisième actionneur, lorsque la protection est dans la position fermée, le troisième actionneur, s'il est présent, étant relié à une quatrième partie spécifique des parois latérales de la boîte.
9. Produit de consommation selon la revendication précédente, selon lequel les troisième et quatrième discontinuités tactiles sont l'une et l'autre sur le flanc opposé, et selon lequel le centroïde de la troisième discontinuité tactile et le centroïde de la quatrième discontinuité tactile sont séparés d'une distance de séparation le long d'une direction parallèle au dessus de la protection, la distance de séparation étant supérieure à 1,5 cm et inférieure à 10 cm.
10. Produit de consommation selon l'une quelconque des revendications 8 ou 9, selon lequel les première et deuxième parties spécifiques de parois latérales et le premier actionneur (103, 203, 313, 413) se rapportent à une même paroi latérale spécifique,
- selon lequel la troisième partie spécifique de parois latérales et le deuxième actionneur (323, 423) se rapportent à une paroi latérale opposée, la paroi latérale opposée étant à l'opposé de la paroi latérale spécifique, selon lequel la quatrième discontinuité tactile (412), si elle est présente, se rapporte au flanc opposé, selon lequel au moins l'un parmi un centroïde de la troisième discontinuité tactile (311, 411) et un centroïde de la quatrième discontinuité tactile, s'il est présent, est aligné soit sur le centroïde de la première discontinuité tactile (109, 209, 309, 409), soit sur le centroïde de la deuxième discontinuité tactile (110, 210, 310, 410), est de préférence aligné sur le centroïde de la première discontinuité tactile, le long d'une direction normale à la troisième partie spécifique lorsque la protection est dans la partie de position fermée.
11. Produit de consommation selon l'une quelconque des revendications 8 ou 9, selon lequel les première et deuxième parties spécifiques de parois latérales et le premier actionneur se rapportent à une même paroi latérale spécifique, selon lequel la troisième partie spécifique de parois latérales et le deuxième actionneur se rapportent à une paroi latérale opposée, la paroi latérale opposée étant opposée à la paroi latérale spécifique, selon lequel la quatrième discontinuité tactile, si elle est présente, se rapporte au flanc opposé, selon lequel au moins l'un parmi un centroïde de la troisième discontinuité tactile et un centroïde de la quatrième discontinuité tactile fait face vers une région entre le centroïde de la première
- discontinuité tactile et le centroïde de la deuxième discontinuité tactile.
12. Produit de consommation selon l'une quelconque des revendications 8 à 11, selon lequel les première et deuxième parties spécifiques de parois latérales et le premier actionneur se rapportent à une même paroi latérale spécifique, selon lequel la troisième partie spécifique de parois latérales et le deuxième actionneur se rapportent à une paroi latérale opposée, la paroi latérale opposée étant opposée à la paroi latérale spécifique, selon lequel la quatrième discontinuité tactile, si elle est présente, se rapporte au flanc opposé, selon lequel une plus petite distance entre, d'une part, au moins l'un parmi un centroïde de la troisième discontinuité tactile et un centroïde de la quatrième discontinuité tactile (412), s'il est présent, et, d'autre part, soit le centroïde de la première discontinuité tactile, soit le centroïde de la deuxième discontinuité tactile, de préférence le centroïde de la première discontinuité tactile, le long des flancs et du dessus de la protection, est inférieur à 18 cm.
13. Produit de consommation selon l'une quelconque des revendications 4 à 12, selon lequel chaque centroïde est séparé du dessus de la protection de plus de 1 cm et de moins de 3 cm.
14. Produit de consommation selon l'une quelconque des revendications 8 à 13, selon lequel le contenant comprend un premier rabat faisant face vers la première discontinuité tactile (109, 209, 309, 409)
- lorsque la protection est dans la position fermée, et selon lequel le deuxième actionneur (323, 423) comprend un seul rabat faisant face vers l'une et l'autre des troisième et quatrième discontinuités tactiles (311, 411, 412) lorsque la protection est dans la position fermée.
15. Produit de consommation selon l'une quelconque des revendications 8 à 13, selon lequel le contenant comprend un premier rabat faisant face vers la première discontinuité tactile lorsque la protection est dans la position fermée, un deuxième rabat faisant face vers la troisième discontinuité tactile lorsque la protection est dans la position fermée, et un troisième rabat faisant face vers la quatrième discontinuité tactile lorsque la protection est dans la position fermée.
16. Produit de consommation selon l'une quelconque des revendications précédentes, selon lequel le centroïde de la première discontinuité tactile (109, 209, 309, 409) est situé dans une région centrale d'un

flanc de la protection le long d'une direction horizontale parallèle au dessus de la protection.

17. Produit de consommation selon l'une quelconque des revendications précédentes, selon lequel le produit détergent est sous la forme de sachets de détergent de dose unitaire, de préférence sous la forme de sachets de détergent de dose unitaire souples hydrosolubles, selon lequel l'une ou plusieurs, de préférence toutes, discontinuités tactiles sont conçues pour empêcher un sachet de détergent de dose unitaire de passer à travers l'une ou plusieurs, de préférence toutes, discontinuités tactiles. 5 10
18. Produit de consommation selon l'une quelconque des revendications précédentes, selon lequel une ou plusieurs des parties spécifiques comprennent une indication visuelle visible à travers la discontinuité tactile ou les discontinuités tactiles correspondantes, lorsque la protection est fermée. 15 20
19. Produit de consommation selon l'une quelconque des revendications précédentes, selon lequel chaque discontinuité tactile est l'une parmi une ouverture, une fente, une membrane ou une zone gaufrée, de préférence une ouverture, et selon lequel chaque discontinuité tactile a de préférence une forme circulaire. 25
20. Produit de consommation selon l'une quelconque des revendications précédentes, selon lequel la protection est un couvercle ou une chemise. 30
21. Produit de consommation selon l'une quelconque des revendications précédentes, selon lequel une ou plusieurs discontinuités tactiles supplémentaires sont prévues dans la protection, de préférence sur un flanc de la protection, cette une ou plusieurs discontinuités tactiles supplémentaires faisant directement face vers une partie spécifique correspondante de parois latérales lorsque la protection est dans la position fermée, au moins l'une parmi l'une ou plusieurs discontinuités tactiles étant situées sur un flanc de la protection opposé à un autre flanc sur lequel est située la deuxième discontinuité tactile. 35 40 45
22. Procédé permettant d'utiliser un produit de consommation verrouillé, le produit de consommation étant selon l'une quelconque des revendications précédentes, le procédé comprenant : 50
- le déverrouillage (81) du contenant en saisissant la protection avec une première main d'adulte entre le pouce de la première main d'adulte et un ou plusieurs autres doigts de la première main d'adulte, l'un ou plusieurs autres doigts comprenant de préférence au moins l'un parmi l'index, l'annulaire et le majeur, selon le-

quel la saisie s'effectue sur le dessus de la protection, selon lequel les bouts des doigts du pouce et de l'un ou plusieurs autres doigts étant placés simultanément sur la première et sur la deuxième discontinuité tactile ; et
- l'ouverture (82) du conteneur en soulevant, en faisant glisser ou en faisant tourner la protection pincée à l'écart de la boîte pour exposer l'ouverture.

23. Procédé permettant d'utiliser un produit de consommation verrouillé selon la revendication 22, le procédé comprenant le verrouillage (93) du contenant, la serrure émettant un son de déclic lors du verrouillage.
24. Procédé permettant de manipuler un produit de consommation verrouillé à l'aide d'une machine, le produit de consommation étant selon l'une quelconque des revendications précédentes de produit de consommation, la machine comprenant un dispositif de préhension, le procédé comprenant la préhension (1000) du produit de consommation en insérant le dispositif de préhension dans la deuxième discontinuité tactile, selon lequel le dispositif de préhension a un profil s'adaptant à un profil de la deuxième discontinuité tactile.



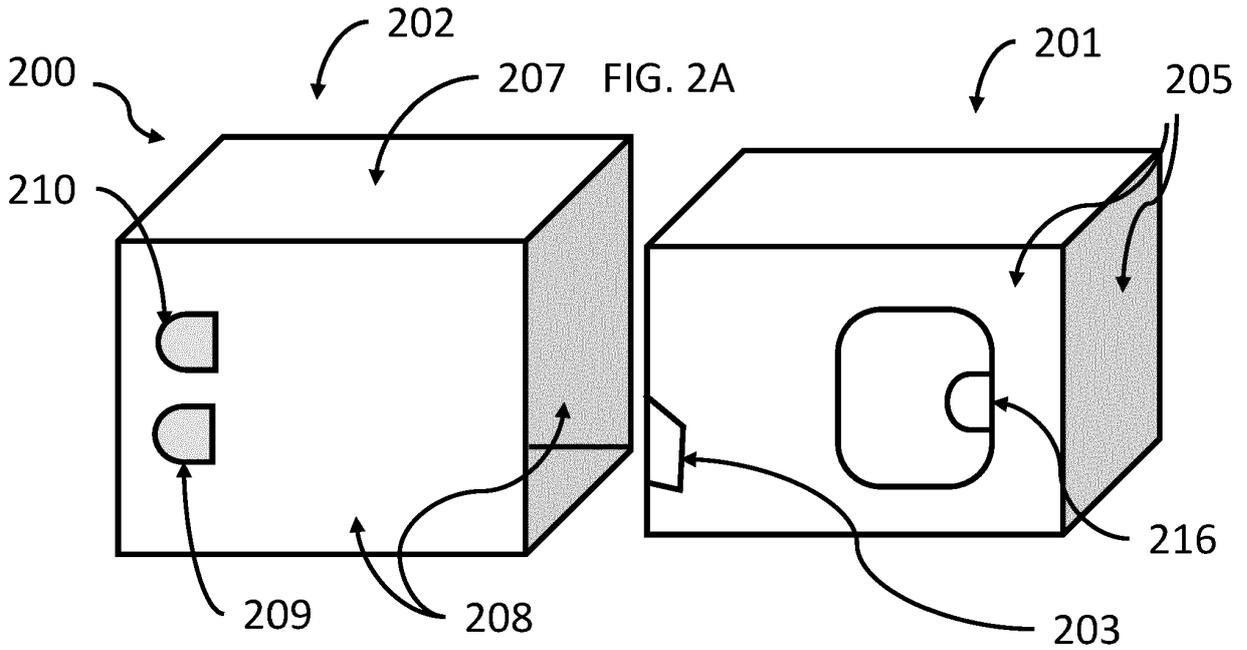


FIG. 2B

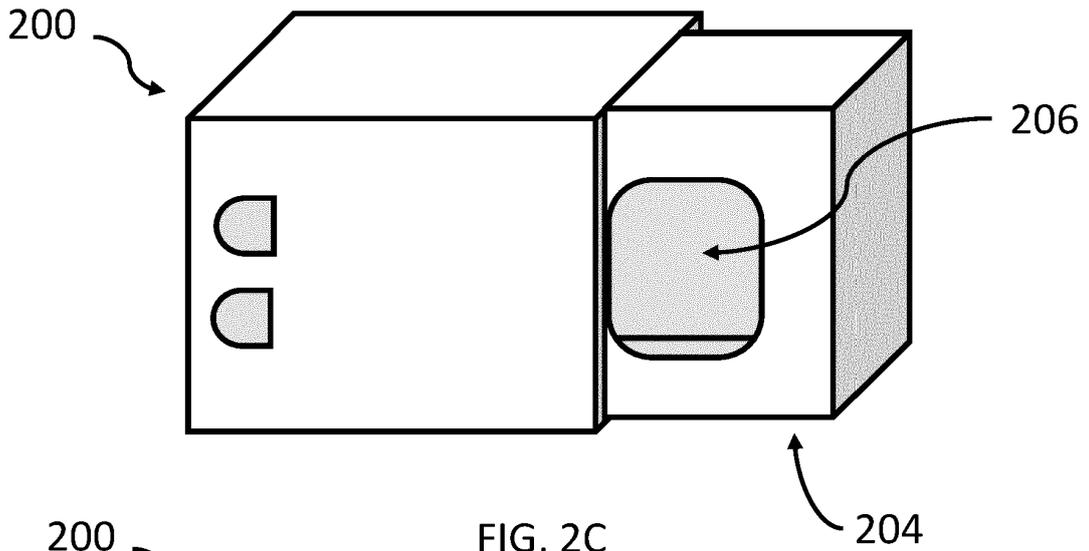
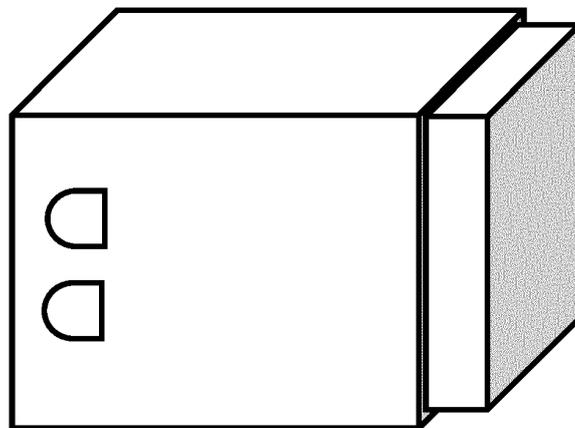


FIG. 2C



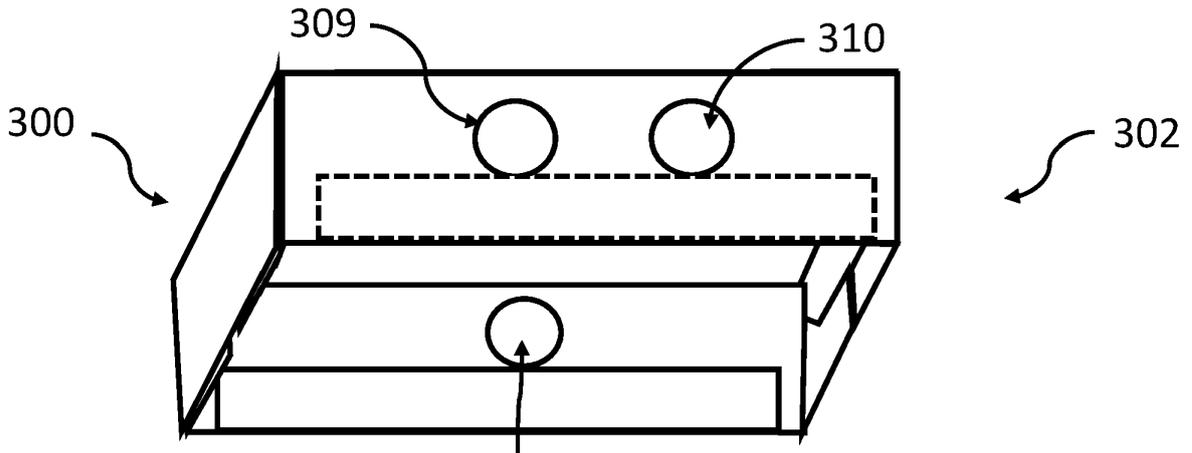


FIG. 3A

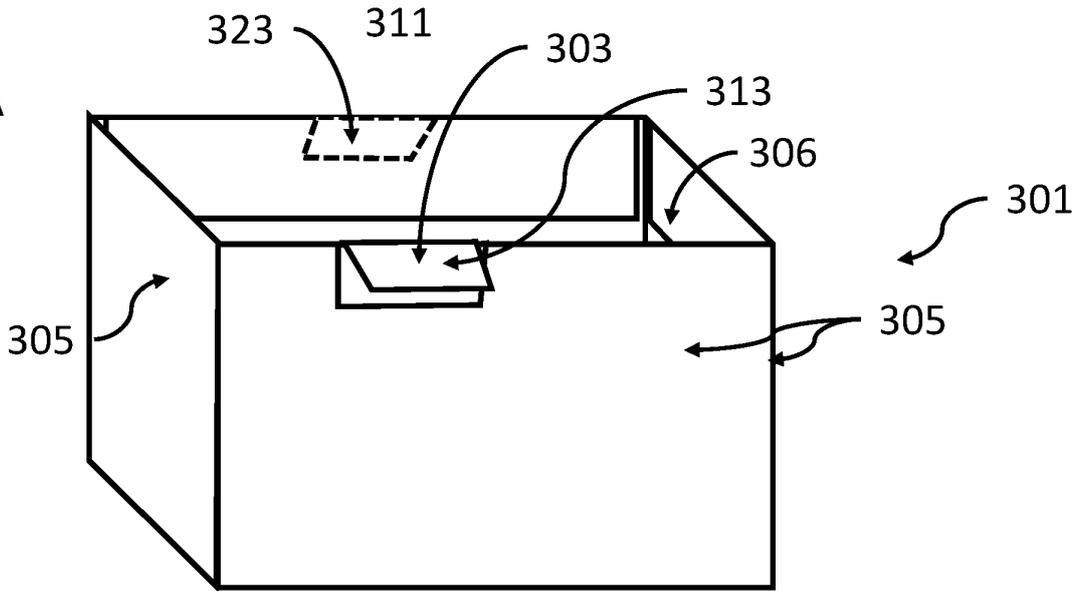
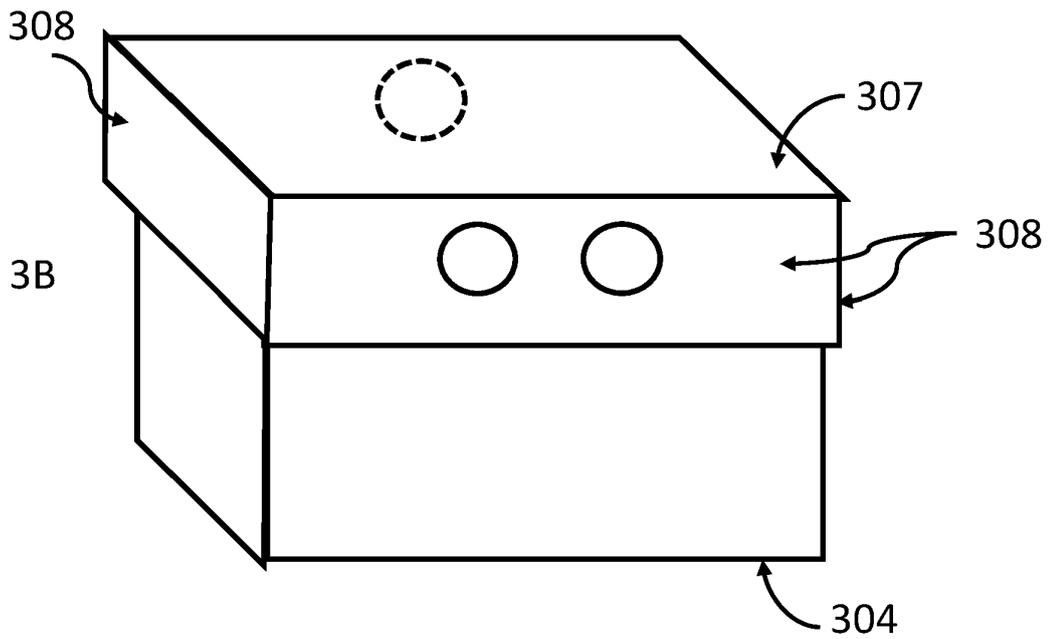
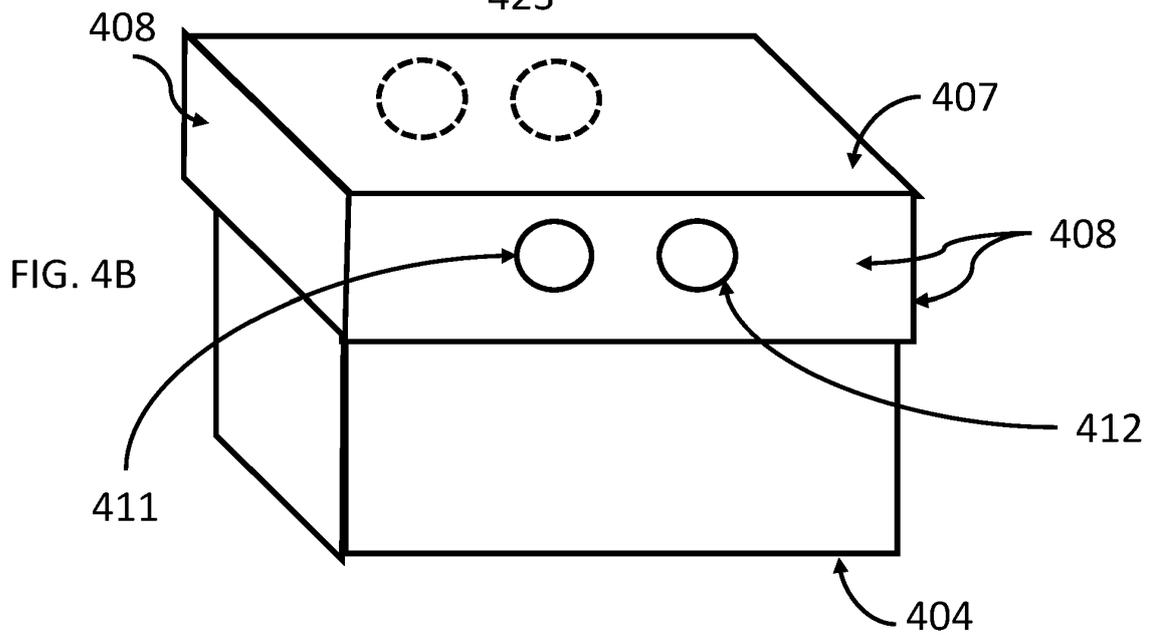
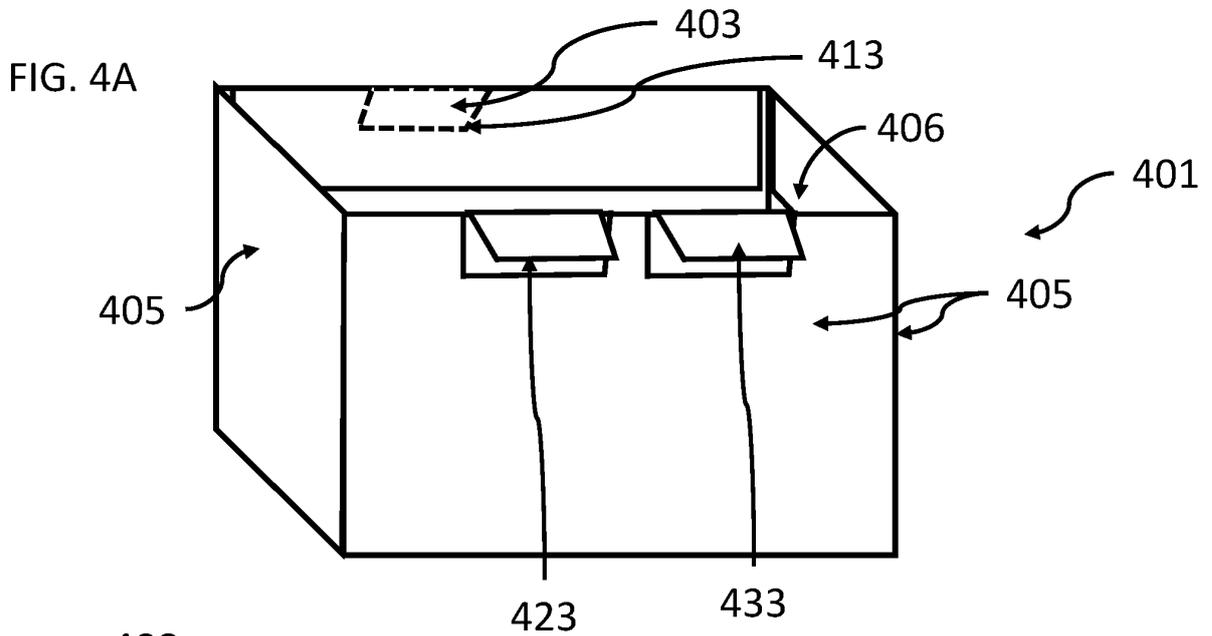
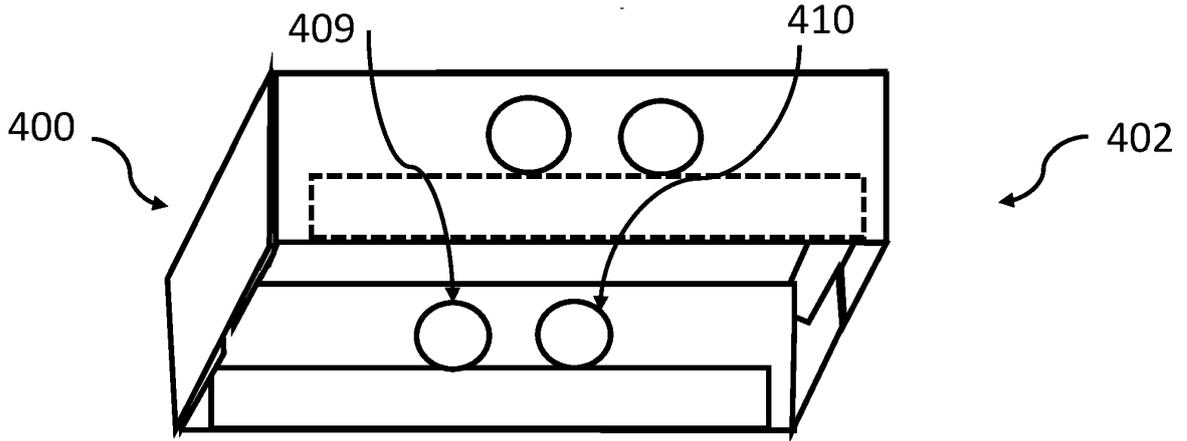


FIG. 3B





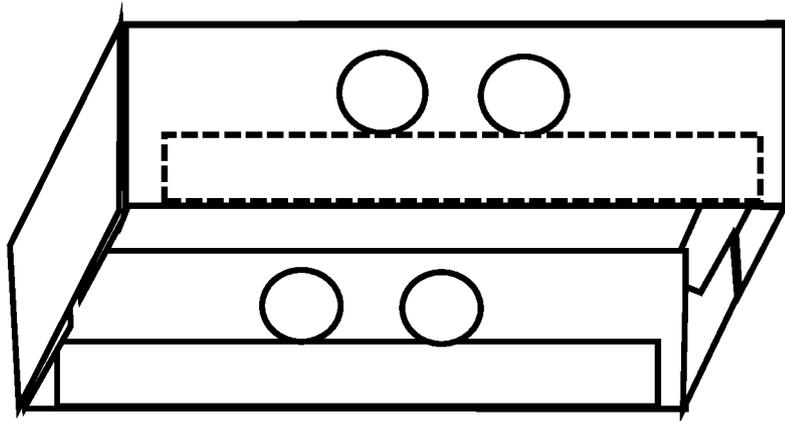
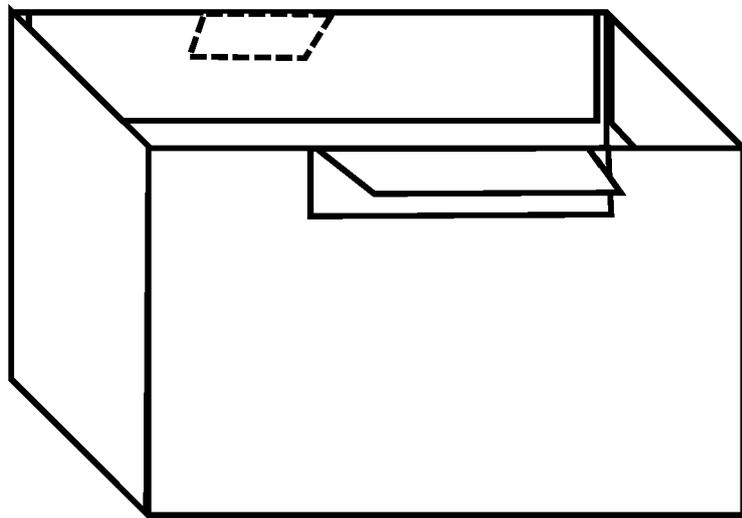


FIG. 5



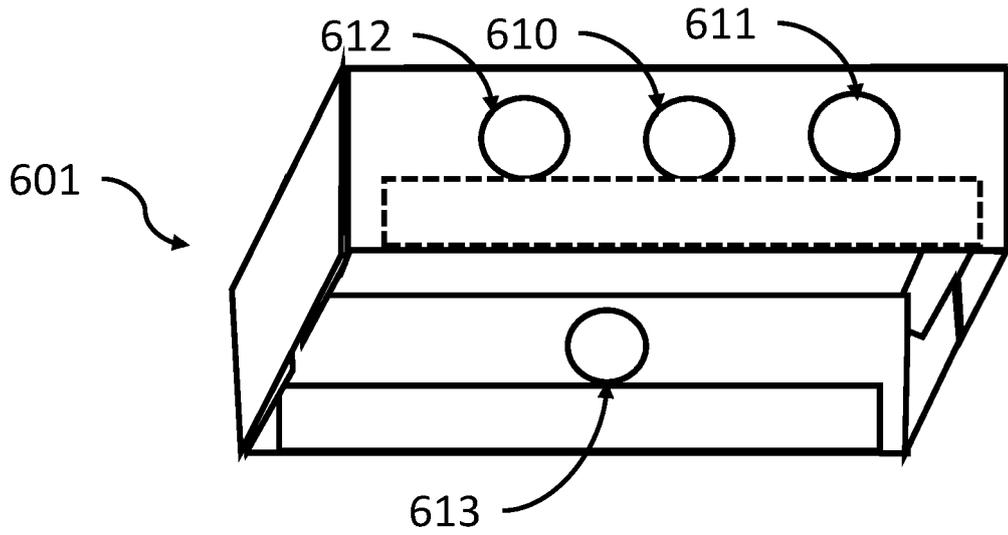
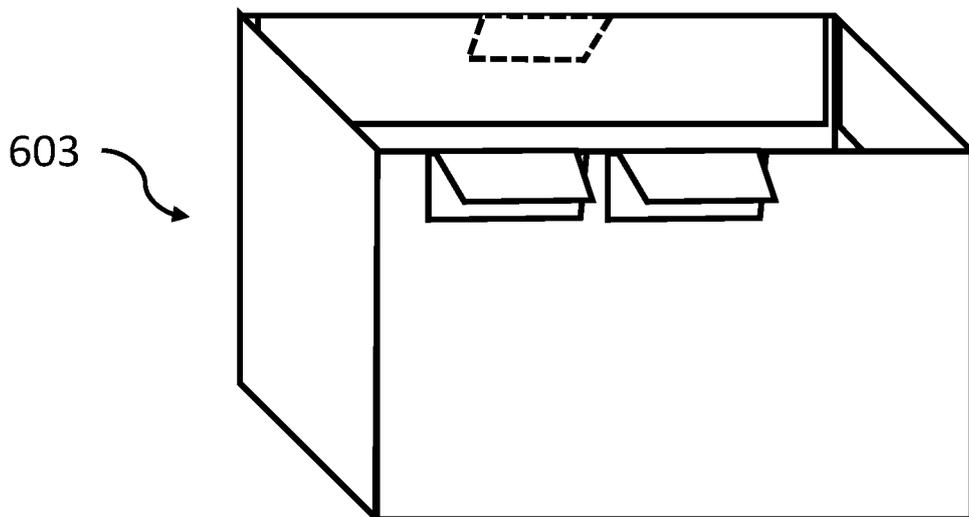
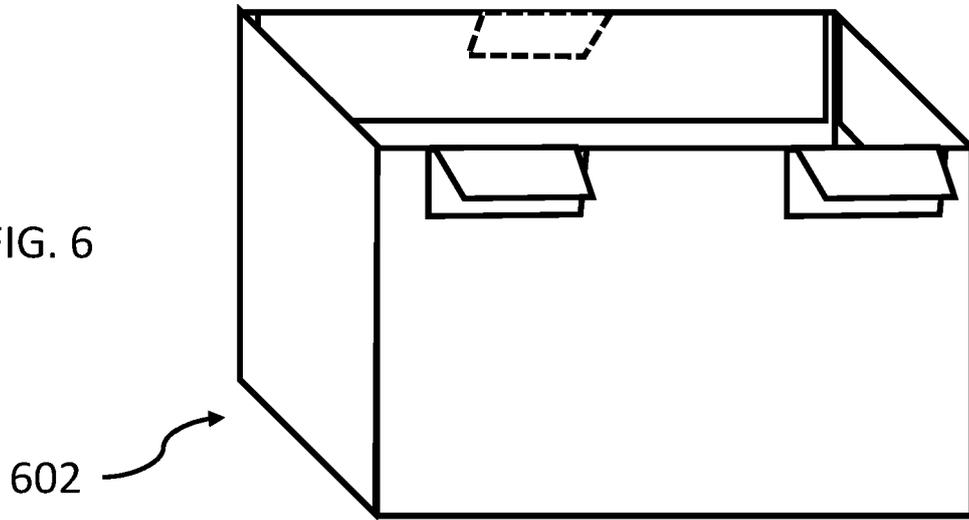


FIG. 6



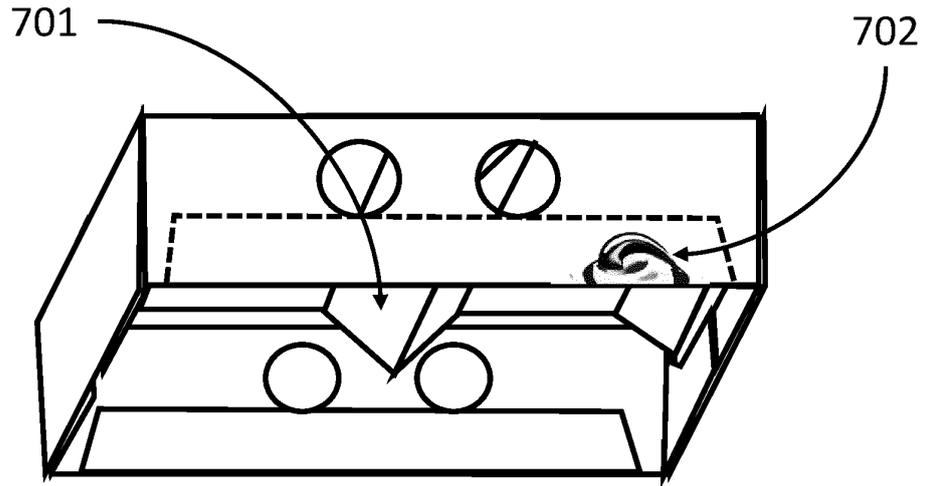


FIG. 7A

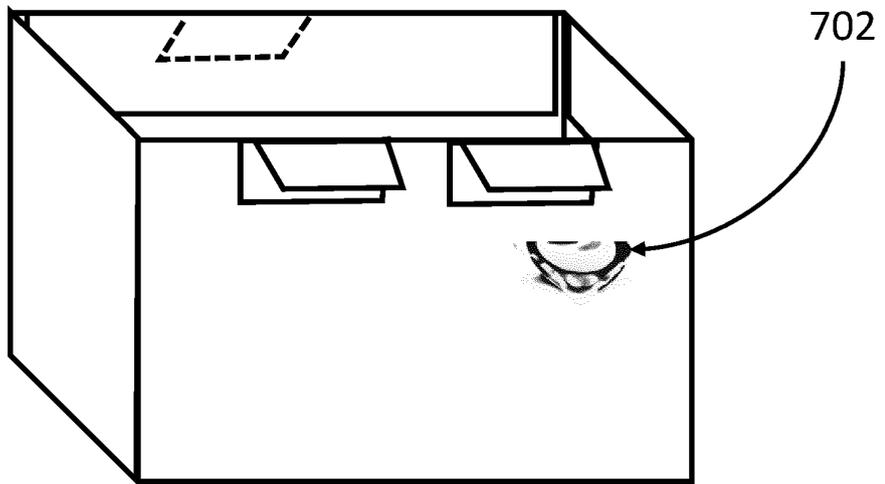
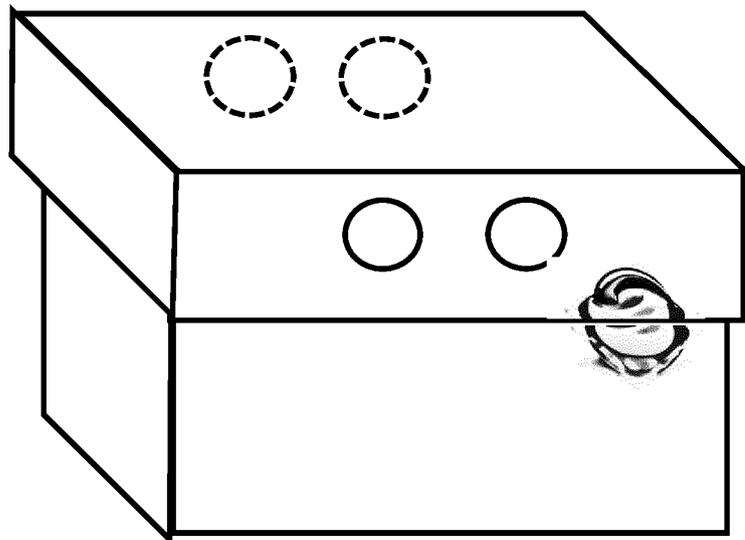
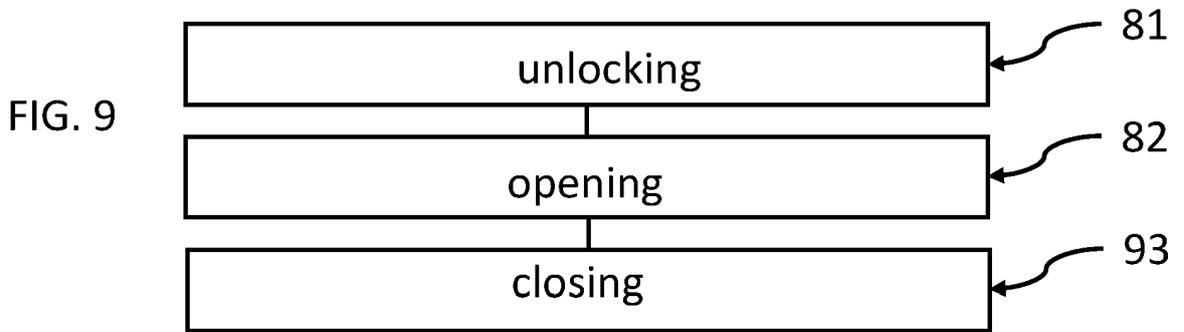
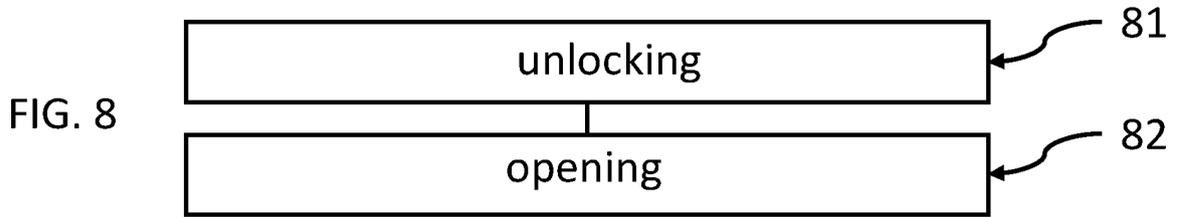


FIG. 7B





REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- EP 1783058 A1 [0001]
- US 6484931 B1 [0001]