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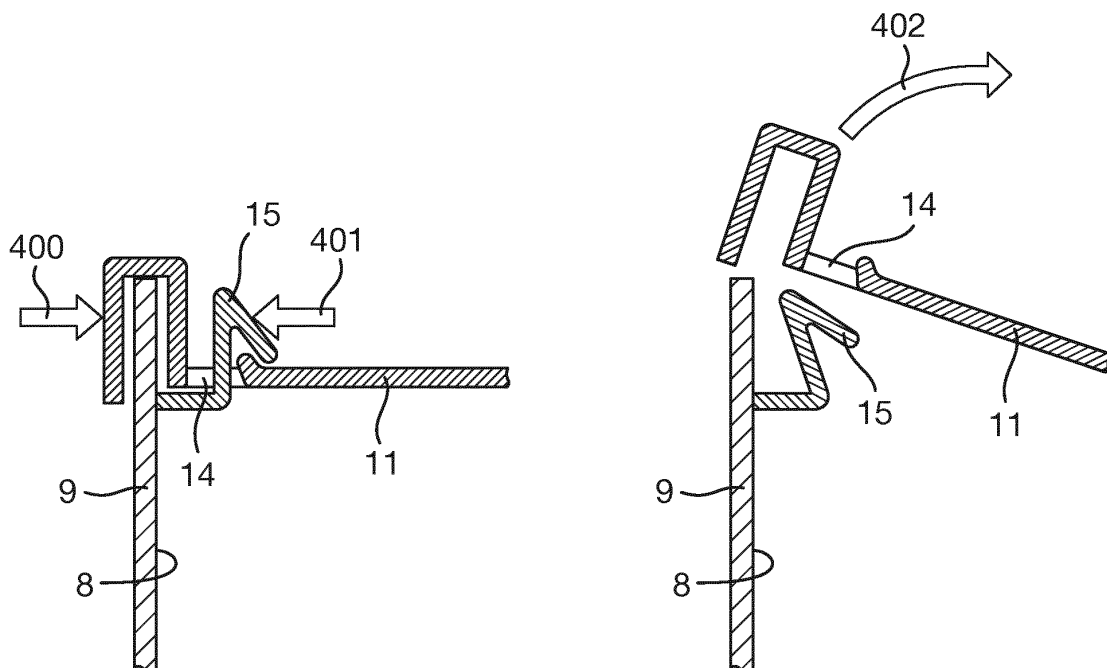
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(54) **A METHOD OF DOSING A DETERGENT PRODUCT**

(57) A process of dosing a detergent composition from a container.

Fig. 2



Description

FIELD OF THE INVENTION

[0001] The present invention relates to a process of dosing a detergent composition.

BACKGROUND OF THE INVENTION

[0002] Wash processes, such as laundry wash processes, involve the step of dosing the detergent from a container into the washing machine or wash liquor.

[0003] Detergents are often sold to consumers in containers with lids. Closure of the lids aims to minimise water ingress into the containers which can affect the physical stability of the internal detergent. Such ingress is particularly problematic in high humidity environments such as those found in the vicinity of the wash operation (such as laundry or dish washing). Closure of lids also aims to reduce spillage or removal of the detergent from the container when it is not intended or otherwise desirable, for example, if the container were to fall or become upside down or fall on its side. Therefore, such containers are manufactured with locking means to ensure the lid remains closed when not in use.

[0004] Therefore, the dosing operation involves firstly disengaging the locking means and opening the lid of the container.

[0005] However, the operation of disengaging the locking means can be difficult for consumers and for example result in the container simply being pushed away from the consumer rather than the lock disengaging and/or the consumer finds the whole operation awkward or uncomfortable to the fingers and hand. For example, in an attempt to overcome the locking means from disengaging during transport or storage due to neighboring packages interconnecting with each other, especially observed with packages having the locking means on the front side of the packaging, manufacturers have relocated the latch component of the lock to the top of the container wall, with a corresponding lid component remaining in the lid.

[0006] The process of dosing when using such locking means however can be difficult for consumers to disengage as they required the latch component to be pushed away from the user whilst simultaneously lifting the lid. This might result in the container simply being pushed away from the consumer rather than the lock disengaging and/or the consumer found the whole operation awkward or uncomfortable to the fingers and hand.

[0007] Alternatively, the dosing process may require pulling the lid component over a latch component, which has the risk of plastically deforming the lid component due to accidental excessive pressure being used and so the lid component not being able to re-engage again.

[0008] Therefore, there remains a need in the art for a process of dosing a detergent which is comfortable and intuitive for the consumer. Preferably, the process does not result in damage to the container.

[0009] It was surprisingly found that the process according to the present invention overcame this problem. Without wishing to be bound by theory, the process requires the user to operate a 'pinching motion' to open the container and access the detergent. Such a motion is more comfortable and intuitive for the human hand and also allows for the consumer to simultaneously lift the lid. Also, it reduces the risk of accidental plastic deformation of the lid component.

SUMMARY OF THE INVENTION

[0010] The present invention is to a method of dosing a detergent composition comprising the steps of;

a. Obtaining a consumer product comprising a container and a detergent composition, wherein the container comprises;

- i. a lid and at least one wall, wherein the at least one wall comprises an inner surface and an outer surface and at least one locking means, wherein to open the lid the locking means needs to be manually disengaged by the user using a pinching motion, wherein the locking means comprises a latch component and a lid component and the pinching motion moves the latch component from a first position to a second position, wherein the second position is closer to the outer surface than the first position;
- ii. an internal compartment which is accessed by disengaging the locking means and opening the lid;

wherein the detergent is housed in the internal compartment;

- b. manually disengaging the locking means using a pinching motion;
- c. opening the lid to gain access to the internal compartment;
- d. removing a portion or all of the detergent composition;
- e. adding the detergent composition from step d to an automated washing apparatus, a manual washing operation or a mixture thereof;
- f. closing the lid and applying sufficient force to the lid to ensure the locking means reengages.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011]

FIG. 1 discloses a consumer product which can be used with the process of the present invention.

FIG. 2 discloses a schematic showing the pinching motion disengaging the locking means.

FIG. 3 discloses a water-soluble unit dose article according to the present invention.

DETAILED DESCRIPTION OF THE INVENTION

Method

[0012] The present invention is to a method of dosing a detergent composition. The detergent composition is described in more detail below. Dosing a detergent composition herein means the process of taking a detergent composition from a first location, preferably a storage location, and adding it to water to create a wash liquor. Alternatively, it may be added to an automatic washing machine such as an automatic laundry washing machine or automatic dishwashing machine.

The method comprises the steps of;

a. Obtaining a consumer product comprising a container and a detergent.

[0013] 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.

[0014] 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.

[0015] Those skilled in the art will be aware of suitable containers. The container is described in more detail below, however, the container must comprise;

- i. a lid and at least one wall, wherein the at least one wall comprises an inner surface and an outer surface and at least one locking means, wherein to open the lid the locking means needs to be manually disengaged by the user using a pinching motion, wherein the locking means comprises a latch component and a lid component and the pinching motion moves the latch component from a first position to a second position, wherein the second position is closer to the outer surface than the first position;
- ii. an internal compartment which is accessed by disengaging the locking means and opening the lid;

and the detergent is housed in the internal compartment.

b. disengaging the locking means by hand using a pinching motion.

[0016] Those skilled in the art will be aware of what is meant by a 'pinching motion'. Preferably this is achieved using a thumb and finger to perform the pinching motion to disengage the locking means. The 'thumb and finger'

pinching motion is where a finger is brought towards the thumb as if the two were to touch. This motion of finger and thumb allows the finger and thumb to achieve a firm grip on an object and efficiently exert force upon it, e.g. force upon a locking means to disengage it. Preferably this is achieving using a finger and the thumb of the same hand. Alternatively, a finger from one hand and thumb from the other hand may be used.

[0017] However, achieving a pinching motion is not limited to a finger/thumb motion. The user could use two fingers, preferably a finger on a first hand and a finger on a second hand.

[0018] Those skilled in the art will know how to disengage a suitable locking means.

[0019] Those skilled in the art will know when the locking means is disengaged. Suitable locking means are described in more detail below. However, an exemplary locking means comprises an element on the container and an element on the lid. When the element on the container and the element on the lid are engaged, then the lid is locked in place. However, disengaging the lid element from the container element, unlocks the lid and allows it to be opened.

[0020] Preferably, the container comprises a wall and the locking means comprises a first part on the lid and a second part on the container wall.

c. opening the lid to gain access to the internal compartment.

[0021] Those skilled in the art will be aware of how to open the lid. Preferably, the user simply users their hand to lift the lid away from the container to gain access to the contents. Alternatively, following disengagement of the locking means, the lid may automatically move to an open position, e.g. via a spring. Preferably, the lid is attached to the container via a hinge and in step c the lid is pivoted via the hinge away from the rest of the container. The pivoting motion maybe achieved manually by the user. Alternatively, the pivoting motion maybe achieved by an automatic means, such as a spring. Alternatively the lid may open via a combination of the user manually moving the lid and an automatic means such as a spring.

d. removing a portion or all of the detergent composition.

[0022] Those skilled in the art will be aware of suitable means to remove a portion or all of the detergent composition. The detergent composition may be removed by hand, using a scoop or a mixture thereof. Those skilled in the art will be aware of an appropriate portion of the detergent composition to remove. An appropriate portion could for example be a portion necessary to complete a single wash operation.

e. adding the detergent composition from step d to an automated washing apparatus, a manual washing operation or a mixture thereof.

[0023] The detergent composition in step e is added by hand, using a scoop or a mixture thereof. Those skilled in the art will be aware of suitable means to add the detergent composition. Those skilled in the art will be aware of suitable manual washing operations and suitable automated washing apparatuses. An automatic washing apparatus may be an automatic laundry washing machine or an automatic dishwashing machine. Those skilled in the art will be aware of where to put the detergent in such automatic washing machines. Those skilled in the art will know how to operate automatic washing machines.

[0024] Those skilled in the art will be aware of suitable wash conditions for example temperatures, times etc to complete the relevant wash operation.

[0025] The detergent composition is described in more detail below.

f. closing the lid and applying sufficient force to the lid to ensure the locking means reengages.

[0026] Those skilled in the art will be aware of how to close the lid. Preferably, closure of the lid will be a reverse operation of the opening of the lid. Preferably, the user simply use his/her hand to push the lid towards the container and into a closed position. Those skilled in the art will be aware of when the locking means reengage. Preferably, re-engagement of the locking means is accompanied by an audible indicator, more preferably a clicking noise. The audible indicator ensures the user is aware the locking means have re-engaged and serves as a reminder to re-engage the locking means.

[0027] Preferably, the time taken between steps e and f is less than 3 minutes, preferably less than 2 minutes, more preferably less than 1 minute, most preferably less than 30 seconds.

[0028] Preferably, in step e, the detergent is added to an automatic washing machine and the wash operation performed by the automatic washing machine is initiated after step f or after step e, preferably after step f.

[0029] Preferably, after step f the container is stored at a height of greater than 100cm from the floor, preferably at a height of greater than 150cm from the floor. This height is preferred as it is generally further away from sources of humidity such as washing machine or drier.

Detergent product

[0030] The detergent composition can be any suitable detergent composition. The detergent composition may be selected from laundry detergent composition, dish washing detergent composition, hard surface cleaning detergent composition or a mixture thereof, preferably a laundry detergent composition. The detergent composition

may be in any suitable form. The detergent composition may be a solid, a liquid or a mixture thereof.

[0031] Those skilled in the art will know how to formulate and make a suitable detergent composition using known knowledge and techniques. The detergent composition may comprise common detergent ingredients including surfactants, polymers, bleach, enzymes, perfumes, dyes, structing agents, fillers, water or a mixture thereof.

[0032] Preferably the detergent is in the form of a water-soluble unit dose article wherein the water-soluble unit dose article comprises a water-soluble film and a liquid detergent, a solid detergent or a mixture thereof.

[0033] A water-soluble unit dose article is generally in the form of a pouch. It comprises a unitary dose of a composition as a volume sufficient to provide a benefit in an end application.

[0034] The water-soluble unit dose article comprises at least 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.

[0035] The film is described in more detail below.

[0036] The unit dose article may comprise more than one compartment, even at least two compartments, or even at least three compartments, or even 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 even 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.

[0037] Wherein the unit dose article comprises at least two compartments, one of the compartments may be smaller than the other compartment. Wherein the unit dose article comprises at least three compartments, two of the compartments may be smaller than the third compartment, and preferably the smaller compartments are superposed on the larger compartment. The superposed compartments preferably are orientated side-by-side.

[0038] The cleaning composition may be a laundry detergent composition, an automatic dishwashing composition, a hard surface cleaning composition or a combination thereof. The cleaning 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.

[0039] The unit dose article has a height, a width and a length. The maximum of any of these dimensions is meant to mean the greatest distance between two points on opposite sides of the unit dose article. In other words, the unit dose article may not have straight sides and so may have variable lengths, widths and heights depending on where the measurement is taken. Therefore, the maximum should be measured at any two points that are the furthest apart from each other.

[0040] The maximum length may be between 2cm and 5 cm, or even between 2cm and 4cm, or even between 2cm and 3cm. The maximum length may be greater than 2cm and less than 6cm

[0041] The maximum width may be between 2cm and 5cm. The maximum width may be greater than 3cm and less than 6cm.

[0042] The maximum height may be between 2cm and 5cm. The maximum height may be greater than 2cm and less than 4cm.

[0043] These lengths may be in the presence or absence of the flange.

[0044] Preferably, the length: height ratio is from 3:1 to 1:1; or the width: height ratio is from 3:1 to 1:1, or even 2.5:1 to 1:1; or the ratio of length to height is from 3:1 to 1:1 and the ratio of width to height is from 3:1 to 1:1, or even 2.5:1 to 1:1, or a combination thereof. These ratios may be in the presence or absence of a flange.

[0045] Each individual unit dose article may have a weight of between 10g and 40g, or even between 15g and 35g.

[0046] The film of the present invention is soluble or dispersible in water. Prior to being formed into a unit dose article, the water-soluble film preferably has a thickness of from 20 to 150 micron, preferably 35 to 125 micron, even more preferably 50 to 110 micron, most preferably about 76 micron.

[0047] Preferred film materials are preferably polymeric materials. The film material can, for example, be obtained by casting, blow-moulding, extrusion or blown extrusion of the polymeric material, as known in the art.

[0048] Preferably, the water-soluble film comprises polyvinyl alcohol polymer or copolymer, preferably a blend of polyvinylalcohol polymers and/or polyvinylalcohol copolymers, preferably selected from sulphonated and carboxylated anionic polyvinylalcohol copolymers especially carboxylated anionic polyvinylalcohol copolymers, most preferably a blend of a polyvinylalcohol homopolymer and a carboxylated anionic polyvinylalcohol copolymer.

[0049] Preferred films are those supplied by Monosol under the trade references M8630, M8900, M8779, M8310.

[0050] The film may be opaque, transparent or translucent. The film may comprise a printed area.

[0051] The area of print may be achieved using standard techniques, such as flexographic printing or inkjet printing.

[0052] 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. Any suitable level of aversive agent may be used in the film. Suitable levels include, but are not limited to, 1 to 5000ppm, or even 100 to 2500ppm, or even 250 to 2000ppm.

10 Container

[0053] Those skilled in the art will be aware of suitable containers. The container needs to be capable of containing the detergent composition. The container may have any suitable size dependent upon the number of water-soluble unit dose articles contained within the container.

[0054] The container may be of any suitable shape. The container may have an overall straight shape, e.g. with straight sides, or may have a curved shape or may comprise both straight and curved elements. The container may comprise flat surfaces as well as surfaces comprising embossments or other structural element, e.g. designed to improve gripping or structural integrity.

[0055] Preferably the container has a rectangular shape when viewed from the top of the bottom. When viewed from the bottom, the rectangular shape has a length to width ratio between 1.5:1 and 2.5:1.

[0056] The container may have a measured length of between 100mm and 300mm, preferably between 140mm and 260mm. The container may have a measured width between 60mm and 140mm, preferably between 65mm and 115mm.

[0057] The container may have any suitable shape. Those skilled in the art will be aware of suitable shapes. The container may have a cubic shape, a cylindrical shape, a rectangular shape or a mixture thereof. Whilst the container may have an overall linear shape, for example rectangular, it may comprise curved walls. For example, when viewed from above the container may have rectangular shape, however, when viewed from the front it may comprise convex curved walls curving from the top of the container to the bottom of the container.

[0058] The container may be made from any suitable material. The container may be made of natural materials, synthetic materials or a mixture thereof, preferably synthetic materials, more preferably plastic.

[0059] The container may be made from plastic materials, metallic materials, paper materials, or a mixture thereof. The container may be made from materials comprising recycled materials.

[0060] The container may be made from a plastic material, preferably a polyolefin material. The container may be made from polypropylene, polystyrene, polyethylene, high-density polyethylene, polyethylene terephthalate, polyvinyl chloride, Acrylonitrile Butadiene Styrene, Polycarbonates, Polyamides or a mixture thereof. Preferably, the container may be made from polypropylene, polysty-

rene, high-density polyethylene, polyethylene terephthalate, or a mixture thereof

[0061] The plastic material may have a tensile modulus ranging from 1250MPa to 3000MPa, preferably between 1300MPa and 2300MPa. Those skilled in the art will know how to measure tensile modulus using techniques commonly known in the art.

[0062] The container may be made from metallic materials wherein the metallic material is preferably selected from aluminium, steel or a mixture thereof.

[0063] The container may be made from paper materials wherein the paper material is preferably selected from carboard, laminates, cellulose pulp materials or a mixture thereof.

[0064] The material used to make the container may comprise other ingredients, such as colorants, preservatives, plasticisers, UV stabilizers, Oxygen, perfume, recycled materials and moisture barriers or a mixture thereof. The container may comprise areas of external or internal printing.

[0065] The container may be made using any suitable process.

[0066] Suitable processes include but are not limited to thermoforming, injection molding, injection stretch blow molding, extrusion blowmolding, or a mixture thereof preferably thermoforming or injection molding or a mixture thereof.

[0067] Suitable processes include, but or not limited to, tube forming from a flat laminate with a welding step, extruded tube forming, folding or a mixture thereof.

[0068] The container may be opaque translucent, or a mixture thereof. Preferably, the container is opaque.

[0069] The container comprises a base. When at rest the base is located on the underside of the container as it rests on a surface. The base may be substantial flat, that is to say not comprising areas that are substantially raised versus other areas. Alternatively, the base may comprise a raised area. This has the benefit of creating a reservoir within the container which can catch any leaked detergent composition from ruptured unit dose articles. This has the advantage of minimizing unwanted contact between unruptured unit dose articles and the leaked composition.

[0070] The container comprises an opening positioned opposite to the base. At least one wall extends vertically from said base to said opening. By vertically in this context we herein mean approximately vertical. In other words, the wall does not to extend from the base at an angle of exactly 90° rather there can be variation either side of exactly 90°. Those skilled in the art will understand what relevant variation there can be. The wall may extend from the base at an angle between 75° and 105°, preferably between 80° and 100°, more preferably between 85° and 95° relative to the base. Preferably the container comprises at least 2 walls, preferably at least 3 walls, most preferably at least 4 walls extending between said base and said opening. Preferably the container comprises 4 walls so that the container has an overall square

or rectangular shape.

[0071] The at least one wall terminates in an upper edge of said at least one wall. The upper edge should be understood to be top of the at least wall. The upper edge is preferably horizontal such that it is parallel to the base. However, the upper edge does not have to be completely horizontal, for example it can have elevated areas or run with a substantially diagonal direction.

[0072] The width of the upper surface may correspond to the thickness of the at least one wall. However, the upper surface may be thinner or thicker than the at least one wall. The upper surface may comprise different thickness within the same container. The thickness of the upper surface of one wall may differ to the thickness of the upper surface of another wall on the same container.

[0073] The thickness of the upper surface may be between 1mm and 8mm, preferably between 2mm and 6mm.

[0074] Indeed, the at least one wall may comprise at least two sections. The two sections may differ in height, thickness or both. The width of the upper edge may correspond to the thickness of one section of the at least one wall.

[0075] The at least two sections are joined together, via mechanical connection, via adhesive or a combination thereof. Mechanical connections may comprise simple hooks on one or both of the sections. Preferably, the at least two sections are joined together via use of both mechanical connections and adhesive. By adhesive we mean hot melt adhesive, reactive hot melt adhesive, thermosetting adhesive, pressure sensitive adhesive, contact glue adhesive. Preferably, the adhesive is a hot melt pressure sensitive adhesive. Preferably, the hot melt pressure sensitive adhesive is suitable to tackify and bond to a range of materials including one or more materials mentioned above. Preferably, the at least one wall comprises a lower section and an upper section. The lower section rises up from the base. The upper section is then joined to the lower section preferably via adhesive and comprises the upper edge. Alternatively, the at least two sections may be arranged vertically such that both sections raise up adjacent to one another from the base.

[0076] The at least one wall may be made from rigid material, a flexible material or a mixture thereof. The base may be made from a rigid material, a flexible material or a mixture thereof. The at least one wall may comprise an upper section and a lower section wherein the upper section is made of rigid material and the lower section is made from flexible material, and preferably wherein the base is made from flexible material.

[0077] The at least one wall comprises an inner surface and an outer surface. The outer surface is in contact with the exterior environment to the container, whereas the inner wall is in contact with the interior environment of the container.

[0078] The base and the at least one wall define an internal compartment. The inner surface of the at least one wall is in contact with the environment of the internal

compartment.

[0079] The internal compartment is accessible from the opening. The container may comprise more than one internal compartment. The container may comprise at least one compartment, or at least two compartments or at least three compartments.

[0080] The container also comprises a lid. The lid is able to move from an open to closed position via a hinge. When in the closed position, the lid covers the opening. By 'cover the opening' we herein mean preferably, at least 90%, more preferably at least 95%, even more preferably at least 98% of the area of the opening is covered by the lid. It should be understood that due to manufacturing tolerances etc, there may still be a gap between the upper edge and the lid when closed, but the intention is that any gap present is not large enough to allow access to the opening by the user or allow the at least one water-soluble unit dose article to be removed purposively or accidentally from the internal compartment.

[0081] At least part of the opening may comprise a permanent cover, and the lid covers the remaining area of the opening.

[0082] If the lid is assumed to be at an angle of 0° when closed, then the lid can open to a maximum angle relative to that when closed of between greater than 0° and 270°, preferably between 60° and 180°, more preferably between 90° and 150°.

[0083] The container comprises at least one locking means. Preferably, the container comprises at least two locking means. Preferably, the at least two locking means are spaced apart by a distance of from 50mm to 180mm. The at least two locking means might be present on the same wall or on different walls, preferably on the same wall. Preferably the container comprises two locking means, as such fitting the number of consumer hands and enabling the consumer to open the container in a coordinated motion.

[0084] The locking means comprises a lid component and a latch component. In other words, a component of the locking means is located on or within the lid and a separate component of the locking means is located on the inner surface of the at least one wall or on the upper edge. The interaction of the lid component and the latch component results in the locking means being engaged and the lid being secured in a locked position.

[0085] The pinching motion moves the latch component from a first position to a second position, wherein the second position is closer to the outer surface than the first position. This change of position allows for the latch component to disengage from the lid component.

[0086] The lid component is preferably simply a recess or hole in the lid able to accommodate the hook member. The recess or hole can be of any suitable shape, providing it can receive the hook member and allows for engagement of the hook member to lock the lid in place and disengagement of the hook member via an appropriate action to disengage it.

[0087] The latch component comprises a support

member and a hook member. The support member extends from the upper edge of the at least one wall or the inner surface of the at least one wall. The hook member is attached to the support member. The support member and hook member may be two separate pieces joined together. Alternatively, the support member and hook member can be formed from one integral part.

[0088] Preferably, the support member and the hooking member are arranged such that the latch component is in the shape of an inverted U. Preferably, the U shape is attached to the inner wall or the upper edge via a horizontal connecting member, or substantially horizontal connecting member extending from the inner wall or the upper edge to the support member. By substantially horizontal we herein mean the connecting member is not perfectly horizontal but may be at a slight angle. Those skilled in the art will understand what relevant variation there can be. The connecting member may extend from the inner wall at an angle between 75° and 105°, preferably between 80° and 100°, more preferably between 85° and 95° relative to the inner wall. Despite the angle the connecting member will still achieve the same benefit as a perfectly horizontal connecting member.

[0089] When the lid is in a closed position, the hook member engages the lid component such that application of force to the hook member is needed to disengage the latch component from the lid component. Preferably, a counterforce is needed by the user to disengage the latch component from the lid component. Such counterforce is preferably as a result of the finger/thumb pinch motion in which the finger or thumb is placed on the hook member and the other digit is placed on the outer surface of the wall or side of the lid. The user then pinches the thumb and finger together disengaging the latch component from the lid component using the side of the lid or outer surface of the wall as the surface for effecting the counterforce.

[0090] The hook member extends from the support member towards the interior of the container such that to disengage the latch component from the lid component requires application of force to the hook member. The application of force to the hook member is in the direction towards the inner wall. In other words, application of force pushes the hook member towards the support member which extends from the inner wall.

[0091] Preferably, the support member extends from the inner surface of the at least one wall and the latch component is positioned such that it does not extend higher than the upper edge of the at least one wall. In other words, the wall member does not protrude above the height of the at least one wall.

[0092] Preferably, upon engagement of the latch component with the lid component, the support member and hook member are arranged such that the hook member resists rotational movement, whilst still allowing the latch component as a whole to move in response to the force exerted by the engagement of the latch component with the lid component. In other words, during engagement,

the latch component may be displaced, but returns to its original position upon engagement of the lid component with the latch component. During this displacement, preferably, the hook member itself is not displaced versus the support member.

[0093] Alternatively, upon engagement of the latch component with the lid component, the support member and hook member are arranged such that the support member resists any movement, whilst still allowing the hook member to move in response to the force exerted by the engagement of the latch component with the lid component. In other words, during engagement, the hook member may be displaced, but returns to its original position upon engagement of the lid component with the latch component.

[0094] Preferably, the hook member engages the lid component in two axes. This will be demonstrated in the examples.

[0095] Preferably, the unlocking of the hook member from the lid component does not deform the lid or the at least one wall. By deformation we herein mean permanent or temporary deformation of the shape of the wall or lid is not necessary in order to unlock the hook member from the lid component. Some minor temporary deformation of the shape of the wall or lid may be experienced due to the force of the user opening the locking means, but such minor deformation is not necessary to the operation of the locking means.

[0096] Preferably, the outer surface of the at least one wall is devoid of any locking means. By this we mean that preferably no component of a locking means is present on the outer surface of the at least one wall. In this instance, the locking means can mean the locking means as described above or any other locking means.

[0097] Preferably, the container has a footprint defined as the largest horizontal cross-sectional area through the container and the at least one locking means does not extend beyond the footprint of the container. In other words, the at least one locking means preferably does not extend any further into the external environment than the outer surface of the at least one wall.

[0098] Preferably, the lid comprises a recess surrounded by an outer ridge. Preferably, the lid component is comprised within the outer ridge. The outer ridge may comprise an inner side, an outer side and a top and wherein the lid component is comprised within the inner side, the top, or a mixture thereof. Preferably, the lid component is a hole through the lid.

[0099] Preferably, the lid has a footprint defined as the largest horizontal cross-sectional area of the lid when in a closed position and the container has a footprint defined as the horizontal cross-sectional area through the container and wherein the footprint of the lid is greater than the footprint of the container. In other words, the area of the lid is preferably greater than that of the area of the opening of the lid and the upper edge. This means that when the lid is in the closed position it preferably completely covers the opening of the container and extends

over the upper edge of the at least one wall. Preferably, a lip extends from the outer surface of the at least one wall such that the footprint of the lip is the same as, or greater than the footprint of the lid. If the lip extends to a point greater than the footprint of the lid, then the lip may have an 'L' or 'J' shape. The lip may be interrupted in the area aligned with the locking means. In other words, the lip may be discontinuous and comprise a gap corresponding to the location of the locking means being present on the upper edge or inner wall of the at least one wall. Without wishing to be bound by theory, this gap may also serve as the counterforce point for the finger/thumb pinch motion. The lid may comprise an element to act as a counterforce surface for the finger or thumb of the consumer.

[0100] The lid is able to move from an open to a closed position and vice versa via a hinge. Preferably, the lid is attached to the container via at least one hinge. More preferably, the container comprises a first wall and a second wall, wherein the hinge is connected to the second wall, and wherein the first wall is positioned opposite the second wall, and wherein the first wall comprises the at least one locking means, preferably at least two locking means.

[0101] The hinge can be any suitable hinge. Those skilled in the art will be aware of suitable hinges. The hinge may be a living hinge or an assembled hinge, or a mixture thereof. A living hinge is understood to be an integrated component made of the same material as the lid and the container. It is essentially a thin flexible area of material allowing movement between the lid and container.

[0102] Preferably the hinge is a living hinge. The living hinge may be a bi-stable hinge or a butterfly hinge or a mixture thereof.

[0103] The container may comprise a biasing system that biases the lid towards the open position. The biasing system may comprise an elastic member. More preferably, a projection located on the closure system, preferably on the lid, elastically deforms the elastic member when the lid is in the closed position.

[0104] The lid may comprise debossed or embossed regions to indicate to the consumer the location of the locking means when the lid is closed and/or direction in which force needs to be applied to release the locking means.

Method of assembly

[0105] The consumer product may be assembled using any suitable technique. Those skilled in the art will be aware of suitable techniques. The consumer product may be assembled using an automated system, a manual system or a mixture thereof.

[0106] The consumer product may be assembled by forming the container, then adding the water-soluble unit dose articles and then closing the lid. Filling of the container may be done via a suitable automated process or

manually.

[0107] The consumer product may be assembled by forming the base and lower wall sections. The water-soluble unit dose articles are then added. Upper wall sections comprising the lid and manufactured separately are then added to the upper wall sections and base containing the water-soluble unit dose articles. Filling of the container may be done via a suitable automated process or manually.

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."

EXAMPLES

[0108] FIG. 1 discloses the consumer product (1) wherein the at least one wall (6) of the container (2) comprises two sections, the upper section (22) and the lower section (21). The two sections are joined together preferably via combination of mechanical connection (hooks) and adhesive. The container (2) also comprises two locking means (13) spaced apart by a distance of from 50mm to 150mm. The latch component (15) is positioned so that it does not extend higher than the upper edge (7) of the at least one wall (6). The lid (11) comprises a recess (23) surrounded by an outer ridge (24), and wherein the lid component (14) is comprised within the outer ridge (24). The outer ridge (24) comprises an inner side (25), an outer side (27) and a top (26) and the lid component (14) is comprised within the inner side (25) and the top (26). The lid component (14) is a hole through the lid.

[0109] FIG. 1 discloses a container (2) comprising a lip (25). The lid (11) has a footprint defined as the horizontal cross-sectional area of the lid (11) when in a closed position and the container (2) has a footprint defined as the horizontal cross-sectional area through the container (2) and the footprint of the lid (11) is greater than the footprint of the container (2) and a lip (25) extends from the outer surface (9) of the at least one wall (6) such that the footprint of the lip (25) is the same as, or greater than the footprint of the lid (11). Those skilled in the art will understand what is meant by 'footprint of the lid and container'.

[0110] FIG. 2 is a schematic showing the pinching motion (400, 401). When in the closed position application of force (400, 401) displaces the latch component (15) disengaging the locking means and allowing the lid (11) to be rotated away (402).

[0111] FIG. 3 discloses a water-soluble unit dose article according to the present invention. The water-soluble unit dose article (3) comprises a first water-soluble film (301) and a second water-soluble film (302) which are sealed together at a seal region (303). A detergent composition, preferably a laundry detergent composition (304) is comprised within the water-soluble soluble unit

dose article (3).

[0112] FIG. 4 discloses a latch component (15) according to the present invention. Dimension 151 is between 5mm and 15mm, preferably between 7mm and 11mm. Dimension 152 is between 1mm and 3mm, preferably between 1.5mm and 2.5mm. Dimension 153 is between 20mm and 40mm, preferably between 25mm and 35mm. Dimension 154 is between 15mm and 30mm, preferably between 20mm and 27mm. Dimension 155 is between 2mm and 6mm, preferably between 3mm and 5mm. Dimension 156 is between 10mm and 20mm, preferably between 14mm and 18mm.

15 Claims

1. A method of dosing a detergent composition comprising the steps of;

a. Obtaining a consumer product (1) comprising a container (2) and a detergent composition, wherein the container (2) comprises;

i. a lid (11) and at least one wall (6), wherein the at least one wall (6) comprises an inner surface (8) and an outer surface (9) and at least one locking means (13), wherein to open the lid (11) the locking means (13) needs to be manually disengaged by the user using a pinching motion (400, 401), wherein the locking means (13) comprises a latch component (15) and a lid component (14) and the pinching motion (400, 401) moves the latch component (15) from a first position to a second position, wherein the second position is closer to the outer surface (9) than the first position;

ii. an internal compartment (10) which is accessed by disengaging the locking means (13) and opening the lid (11);

wherein the detergent is housed in the internal compartment (10);

b. manually disengaging the locking means (13) using a pinching motion (400, 401);

c. opening the lid (11) to gain access to the internal compartment (10);

d. removing a portion or all of the detergent composition;

e. adding the detergent composition from step d to an automated washing apparatus, a manual washing operation or a mixture thereof;

f. closing the lid (11) and applying sufficient force to the lid (11) to ensure the locking means (13) reengages.

2. The method according to claim 1, wherein the user uses a thumb and a finger to perform the pinching

motion (400, 401) to disengage the locking means (13).

3. The method according to any preceding claims wherein the container (2) comprises a wall (6) and the locking means comprises a first part on the lid (14) and a second part on the container wall (15). 5
4. The method according to any preceding claims, wherein the detergent composition in step e is added by hand, using a scoop or a mixture thereof. 10
5. The method according to any preceding claims wherein the detergent is a solid, a liquid or a mixture thereof, preferably wherein the detergent is in the form of a water-soluble unit dose article wherein the water-soluble unit dose article comprises a water-soluble film and a liquid detergent, a solid detergent or a mixture thereof. 15
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6. The method according to any preceding claims wherein the lid (11) is attached to the container (2) via a hinge (12) and in step c the lid (11) is pivoted via the hinge (12) away from the rest of the container (2) . 25
7. The method according to any preceding claims wherein in step f the re-engagement of the locking means (13) is accompanied by an audible indicator, preferably a clicking noise. 30
8. The method according to any preceding claims wherein the time taken between steps e and f is less than 3 minutes, preferably less than 2 minutes, more preferably less than 1 minute, most preferably less than 30 seconds. 35
9. The method according to any preceding claims wherein in step e, the detergent is added to an automatic washing machine and the wash operation performed by the automatic washing machine is initiated after step f or after step e, preferably after step f. 40
10. The method according to any preceding claims wherein after step f the container (2) is stored at a height of greater than 100cm from the floor, preferably at a height of greater than 150cm from the floor. 45
11. The method according to any preceding claims wherein the container (2) comprises at least two locking means (13). 50
12. The method according to any preceding claims wherein the latch component (15) is attached to the inner surface (8) of the at least one wall (6). 55

Fig. 1

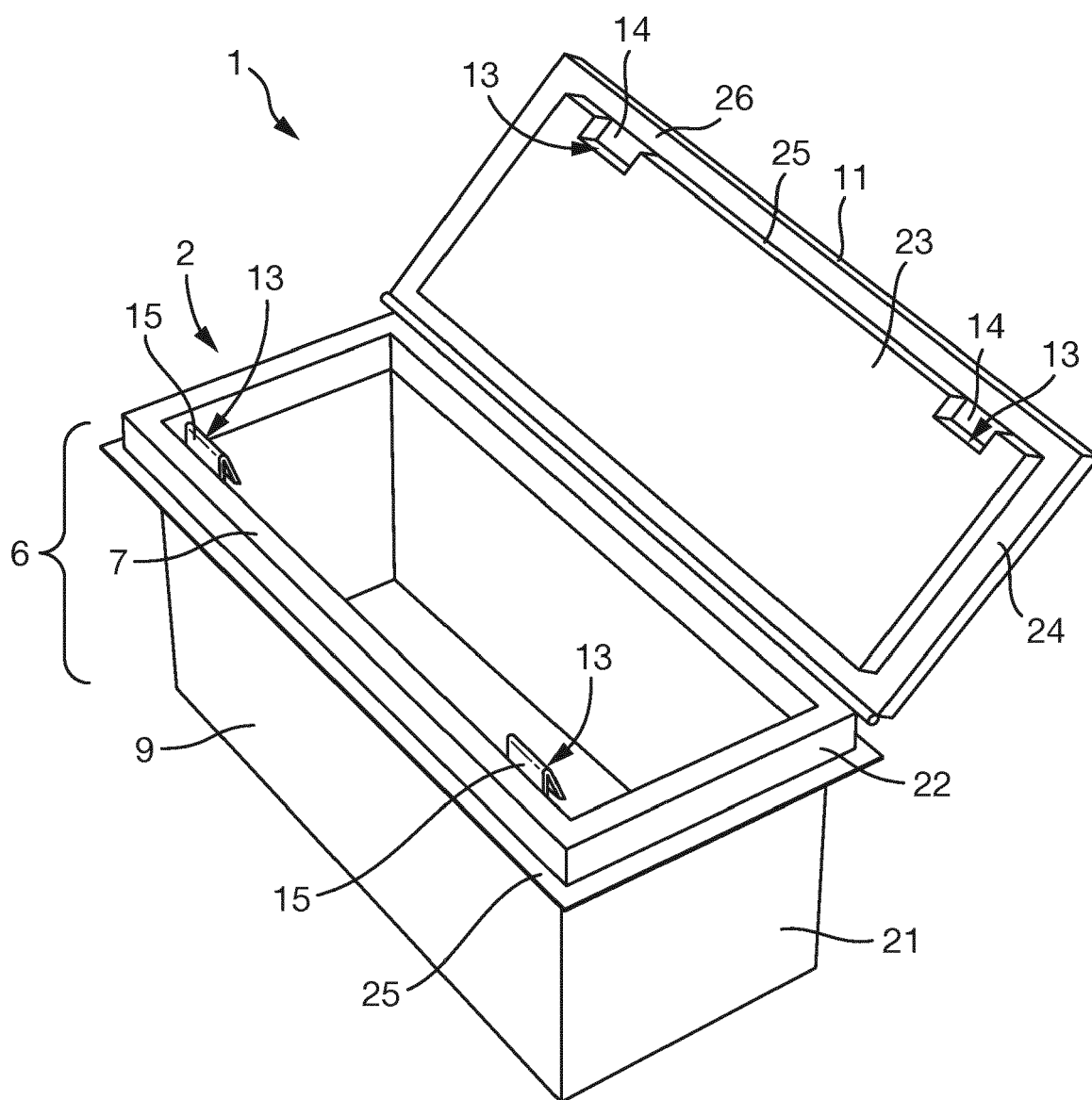


Fig. 2

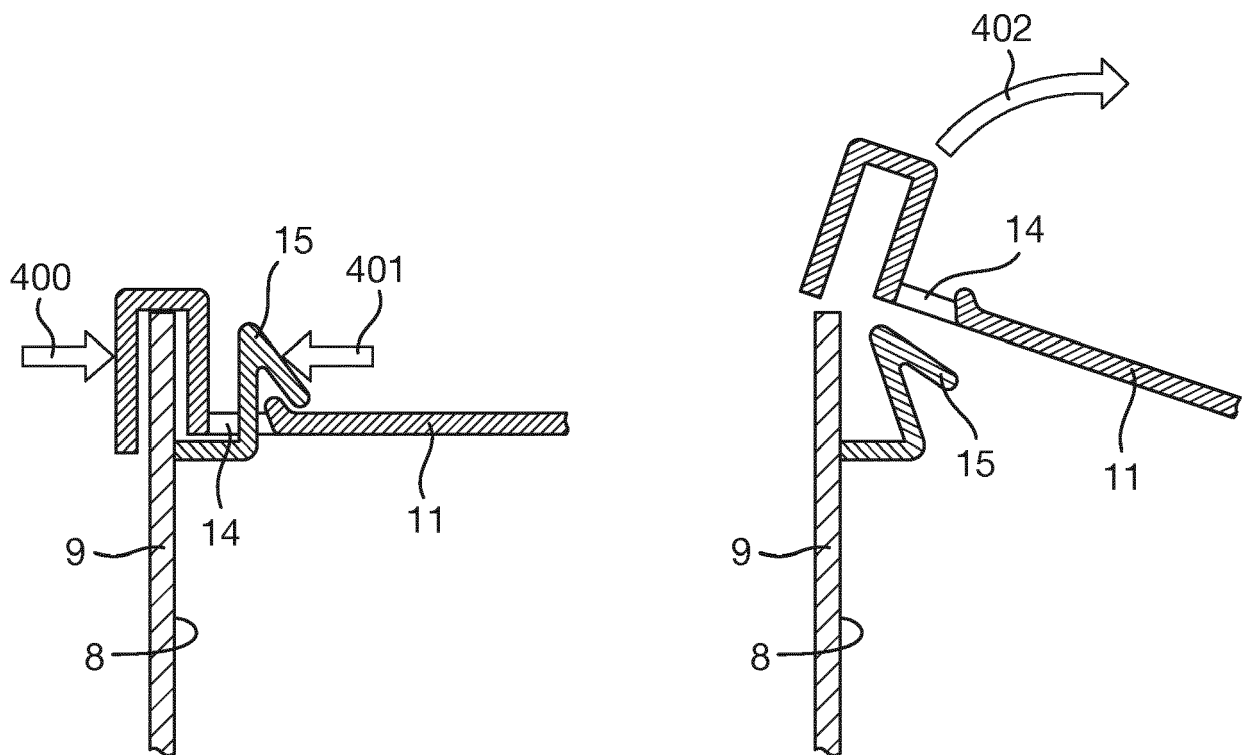


Fig. 3

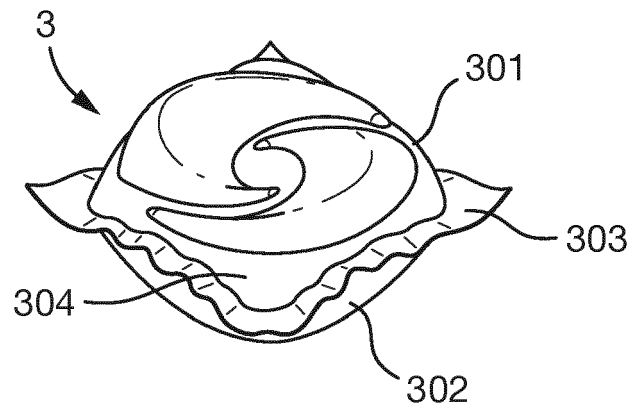
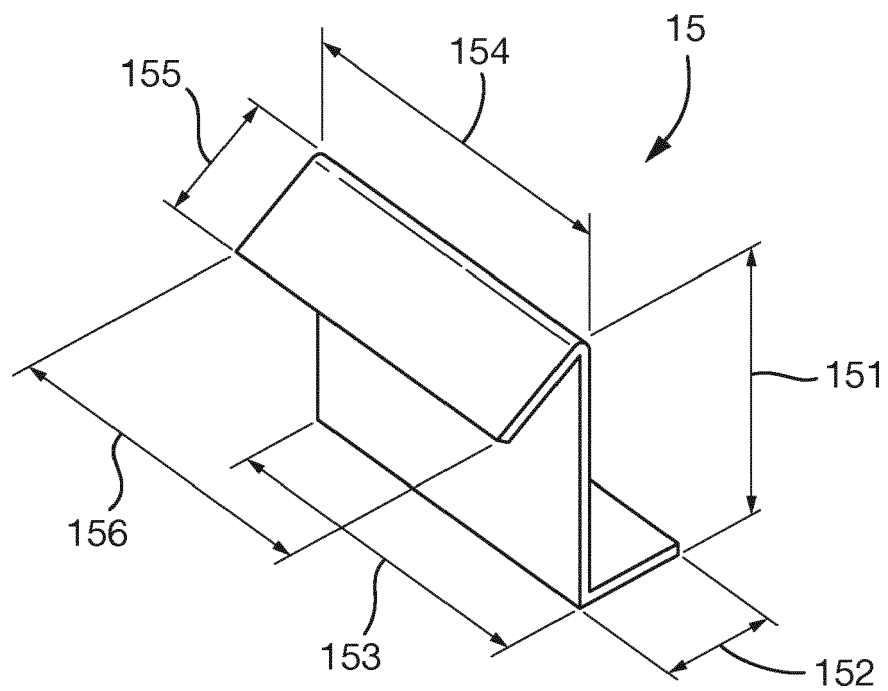


Fig. 4





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Application Number
EP 18 20 0509

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