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(54) **DISPENSING CLOSURE**

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Description

[0001] The invention relates to a dispensing closure according to the preamble of claim 1.

[0002] US 2.259.992 discloses a container for dispensing a viscous liquid, such as mustard or ketchup. The container has a lower portion that is downwardly tapering which has a central outlet formed therein. The container is adapted to be supported in a removable manner on a support base adapted to stand upon a table and having a recess adapted to receive and accommodate the lower portion of the container. In a possible embodiment the lower portion of the support base has a yieldable resilient diaphragm having a rounded protrusion. Insertion of the container into the support base results in deflecting or stretching the diaphragm as a result of which the inherent resilience of the diaphragm presses the protrusion upwardly into the outlet opening and presses the upwardly diverging portions of the diaphragm against the outside of the tapering lower portion of the container.

[0003] DE 103 27 974 A1 discloses a container having a dispensing part and a support part for receiving the dispensing part and to support the container standing upside down. The support base and the dispensing part form a snap connection near the transition to the container body.

[0004] WO 2016/088478 discloses another container having a dispensing part and a support base for receiving the dispensing part and to support the container standing upside down. The dispensing part and the support base can be coupled by a locking mechanism. The locking mechanism comprises locking fingers on the dispensing part and an undercut in the outer wall of the support part. The locking mechanism can be released by pushing in two actuating buttons formed in the wall of the base part. The buttons force the locking fingers on the dispensing part away from under the undercut whereby the dispensing part can be retracted from the support base.

[0005] Another container is shown in DE 20 2011 107 357 U1 having a dispensing closure, on which the preamble of claim 1 is based. This known dispensing closure has a conical dispensing part with a dispensing opening and a support base. The support part is adapted for receiving the dispensing part and to support the container standing upside down. The base has a stopper to seal the dispensing opening. The dispensing part has a circumferential bead on the conical wall near the container which cooperates with a groove which is formed in the support base. The stopper closes the dispensing opening when the bead and groove are snapped together.

[0006] The present invention has for an object to provide an improved dispensing closure having a dispensing part and a support base.

[0007] This object is achieved by a dispensing closure according to claim 1.

[0008] The snap connection between the stopper and the dispensing passage allows for an easy coupling between the support base and the dispensing part associ-

ated with the container. In many cases the user can achieve the coupling with the use of one hand, such that the base and the container with the dispensing part can be transported or stored.

[0009] The connection between the stopper and the dispensing passage may be established by pressing the container with the dispensing part downwardly into the support base and the stopper, which is associated with the bottom, can snap on the end of the dispensing passage.

[0010] In a possible embodiment of the invention the dispensing part has an external wall that is at least partially flexible and adapted to deform when the dispensing part is pushed from the uncoupled state further into the support base to couple the dispensing part to the support base by the snap connection. In this embodiment the external wall rests in the uncoupled state on the support wall of the base. When the dispensing part is pushed down in the base, the inward pressure by the support wall on the external wall of the dispensing part increases, in particular when the support wall of the base has a tapering shape, whereby the corresponding external wall of the dispensing part yields due to its flexibility. Thus the snap connection members can engage and mutually snap behind each other. The support wall may also deform to allow the snap connection members to engage.

[0011] In an alternative possible embodiment of the invention the bottom comprises a deformable diaphragm such that the stopper can be moved to and from the dispensing passage, when the external wall of the dispensing part rests on the support wall of the support base. This embodiment prevents that the support base and the dispensing part of the container are inadvertently coupled. The support base has to be lifted from the surface it is standing on, e.g. a table, and then the user has to push on the underside of the diaphragm to bring the stopper into engagement with the dispensing passage and activate the snap connection.

[0012] In a possible embodiment the stopper includes a plug insertable in the dispensing passage of the dispensing part, wherein the plug has an outer snap member, and the dispensing passage has an inner snap member, which snap members cooperate to couple the dispensing part and the support base. In a practical embodiment the outer snap member may be a bead, and the inner snap member may be a bead. However, also other snap members are possible. This embodiment allows a dispensing part without having an extending spout. Thereby a relatively flat outer surface is possible which is easily cleaned. The latter is an advantage when for example a creme product is dispensed. Furthermore, this embodiment allows a lower design of the closure.

[0013] In a possible embodiment the dispensing part has a spout which forms the outer end of the dispensing passage, and wherein the stopper includes a cap that engages over an outer end of the spout, the cap having an inner snap member, and the spout having an outer snap member, which snap members cooperate to couple

the dispensing part and the support base. In a practical embodiment the outer snap member may be a bead, and the inner snap member may be a bead. However, also other snap members are possible. This embodiment with a spout provides better ability for the user to see and direct the dispensed jet of substance. Also, the extending spout allows for a better emptying of the container.

[0014] In a possible embodiment the external wall of the dispensing part and the support wall of the support base have a tapering shape. This embodiment allows for an effective centring of the dispensing part in the support base combined with an effective supporting of the dispensing part. The tapering shape may in an advantageous further embodiment be conical, but it may also be for example a non-linear tapering curve shape or a step-wise narrowing shape.

[0015] In a possible embodiment the support base includes an outer skirt and an inner skirt which are mutually connected at an upper side thereof, wherein the inner skirt forms the support wall. Preferably, the inner skirt comprises a tapering support surface for supporting a tapering external wall of the dispensing part.

[0016] In a further embodiment the support base has a bottom that, at its periphery, is connected to the inner skirt. Preferably the stopper is formed on the centre of the bottom.

[0017] In a possible further embodiment the bottom is at least partially on the same level as the lower end of the outer skirt. This results in that the bottom, like the lower end of the outer skirt rests on a support surface such as a table surface. Since the bottom in this embodiment is firmly supported from below, the stopper, which is associated with the bottom, can snap on the end of the dispensing passage. The support base and the dispensing part can thus be connected with the use of one hand only.

[0018] In a possible embodiment the support wall has one or more spacers formed on it. The spacers keep the snap connection from being activated when the container with the dispensing part is loosely placed in the support base.

[0019] In a possible practical embodiment the tapering support wall extends under an angle of 20° - 40° with respect to the centre axis of the closure. This angle provides a sufficiently stable support for the dispensing part and the container, while at the same time a sufficient centring of the dispensing part can be achieved.

[0020] In a possible embodiment the stopper has at least one lug and the dispensing passage has at least one corresponding lug, which lugs in the coupled state of the dispensing closure are next to each other and which lugs are adapted such that when the lugs are brought into engagement by a relative rotation between the support base and the dispensing part they cooperate. The lugs have multiple functions.

[0021] When the dispensing closure is to be mounted on a container in an assembly line, it is preferable that the dispensing part and the support base are coupled

and mounted as a unit. Mounting the closure on the neck of the container means screwing it on the neck of the container. This means that the lugs function as a locking means that prevents mutual rotation between the coupled support base and the dispensing part, such that they can be screwed as a unit on the neck of the container.

[0022] When the dispensing closure is already mounted on the squeeze type container and a rotative force is applied the support base will rotate with respect to the dispensing part and the container and the cooperating lugs slide along each other and bring about an axial displacement between the support base and the dispensing part so as to release the snap connection. The lugs in this embodiment provide that the base and the dispensing part can be disconnected and brought into the uncoupled state by a relative rotation between them about the centre axis.

[0023] The lugs are formed such that they provide enough friction that the support base and the dispensing part are not decoupled during the mounting of the closure on the container neck.

[0024] In a particular embodiment the lugs may be such that only allow mutual rotative movement between the dispensing part and the support base in one rotative direction, and block rotative movement in the other direction. In this way the closure can be screwed on the container as a unit in one direction, and also the support base and dispensing can be decoupled by rotation in the same direction. In the other direction the rotation is blocked by the lugs, whereby the closure can be screwed as a unit from the container, for example to remove a sealing foil on top of the container neck before first use.

[0025] In a possible embodiment a pressure operated self-closing valve is arranged at an inner end of the dispensing passage. Such a valve is as such known and provides that no content of the container is spilled when the squeeze container is not squeezed.

[0026] In a possible embodiment the stopper comprises an abutment member that abuts the self-closing valve in the locked state of the dispensing closure. In the locked state the stopper retains the valve in a closed position, such that no content can be spilled even if the container is squeezed during transport or storage.

[0027] In a possible embodiment the dispensing part is a dispensing cap that is attachable to the container. The dispensing part may for example be attached to the container by a thread connection between a neck portion of the container and a skirt formed on the dispensing cap.

[0028] In an alternative embodiment the dispensing part is an integral part of the container. This can for example be achieved by forming a tube with an integral dispensing part by injection moulding. The tube is initially open at the other end and filled through there after which the open end can be sealed.

[0029] Preferably the dispensing part is an injection moulded part made of a plastics material.

[0030] Preferably the support base is an injection moulded part made of a plastics material.

[0031] The invention also relates to a container provided with any dispensing closure as described in the above, wherein the container is filled with a viscous fluid food product such as for example ketchup, mustard, mayonnaise, honey, etc.

[0032] The invention also relates to a container provided with any dispensing closure as described in the above, wherein the container is filled with a viscous fluid personal care product, such as for example hand cream, shampoo, shower gel, etc.

[0033] The invention will be elucidated in the following description with reference to the drawings, in which:

Fig. 1 shows a squeeze type container provided with a dispensing part which is placed upside down in a base according to the invention,

Fig. 2 shows the squeeze type container of Fig. 1 with the base coupled to the dispensing part,

Fig. 3 shows schematically a container with a first embodiment of a dispensing closure according to the invention,

Fig. 4 shows schematically a container with a second embodiment of a dispensing closure according to the invention,

Fig. 5 shows schematically a container with a third embodiment of a dispensing closure according to the invention,

Fig. 6 shows in more detail a dispensing closure corresponding to the first embodiment of Fig. 3 in a coupled state,

Fig. 7A shows the dispensing closure of Fig. 6 in an uncoupled (standby) state,

Fig. 7B shows only the support base of the closure shown in Fig. 6 and Fig. 7A,

Fig. 8 shows in more detail a dispensing closure corresponding to the second embodiment of Fig. 4 in an uncoupled state,

Fig. 9 shows in more detail an alternative dispensing closure of the dispensing closure of Fig. 8 in an uncoupled state,

Fig. 10 shows schematically a container with an embodiment of a dispensing closure which is not according to the claimed invention, and

Fig. 11 shows a cross section of another embodiment of a closure according to the invention,

Fig. 12 shows a view in perspective of a base of the

closure of Fig. 11,

Fig. 13 shows a view in perspective of a dispensing part of the closure of Fig. 11,

Fig. 14 shows a cross section of yet another embodiment of a closure according to the invention,

Fig. 15 shows a view in perspective of a base of the closure of Fig. 14, and

Fig. 16 shows a view in perspective of a dispensing part of the closure of Fig. 14.

[0034] In Fig. 1 is shown a squeeze type container 1, which may be for example a bottle containing a viscous fluid food product such as for example ketchup, mustard, mayonnaise, honey, etc.

[0035] The container 1 has on one side a dispensing part 2 attached to it. The dispensing part is a closure part 2 that in this case is attached to a neck portion of the squeeze container by means of a threaded connection. In other embodiments the container and the dispensing part may be attached by a snap connection or another connection type. For squeeze type containers in the form of tubes, the dispensing part may be sealed to the container body or may even be integrally formed with the container body.

[0036] The dispensing part 2 has a dispensing passage through which content of the container can be dispensed.

[0037] The container can be placed upside down with its dispensing part received in a base 3 which is illustrated in Fig. 1. The base 3 functions as a sort of docking station for the dispensing part 2 of the container 1.

[0038] The dispensing part 2 is in practise preferably an injection moulded part made of a plastics material. Also the support base 3 is preferably an injection moulded part made of a plastics material.

[0039] In Fig. 2 the container 1 is shown with the dispensing part 2 coupled to the base 3. The container can now be stored in an upside down position such that at consecutive use, the substance is directly at the dispensing passage.

[0040] In Fig. 6 is shown a cross section of a dispensing side of a container 1 with a possible embodiment of a dispensing part 2 and a base 3. The container 1 has neck portion 4 that is formed with an outer thread 5.

[0041] The dispensing part 2 has an external wall 8 that includes a top wall portion 8A and a circumferential skirt 8B that in this embodiment flares outwardly from the top wall portion 8A to a free end edge 9.

[0042] The dispensing part 2 has a first inner skirt 6 that extends from the top wall portion 8A. The first inner skirt 6 is formed with an inner thread 7 that is adapted to cooperate with the outer thread 5 on the container neck 4 to attach the dispensing part 2 to the container 1. The dispensing part 2 also has a second inner skirt 10 that

extends coaxially with the first inner skirt 6 from the top wall portion 8A and that is radially inwards from the first inner skirt. The second inner skirt 10 is adapted to engage the inner surface of the container neck 4 to obtain a sealing attachment between the container 1 and the dispensing part 2.

[0043] Radially inward from the second inner skirt 10 is formed a dispensing passage 11 defined by a tubular wall 12 that extends from the top wall portion 8A. The tubular wall 12 surrounds a dispensing opening 13 in the top wall portion 8A. The dispensing passage 11 is thus open ended on the top wall side.

[0044] Remote from the top wall portion 8A the tubular wall 12 has a valve seat 13 formed on it. A self-closing valve 14 is fixed to the valve seat 13. This type of self-closing valves 14 is well known in the art and is often made of silicon rubber. In some applications, such as for dispensing ketchup or other sauces such a valve is present. In other embodiments such a valve 14 may not be necessary and can be omitted.

[0045] As mentioned the circumferential skirt 8B of the external wall 8 is flaring. In other words the circumferential skirt 8B of the external wall 8 is tapering from the end portion 9 towards the top wall portion 8A.

[0046] The support base 3 has a support wall 15. The support wall 15 is a tapering inner skirt which is shaped to support the wall portion 8B of the dispensing part 2. The support base 3 in this specific embodiment also has a circumferential outer skirt 16 that joins the inner skirt 15 at an upper end 17. The free lower end edge 18 of the outer skirt 16 provides a standing surface with which the support base is placed on a surface, e.g. a table surface. The outer skirt 16 is in the shown embodiment slightly flaring from the upper end 17, whereby the diameter of the standing surface is increased and the base and container are stably positioned on a table surface or the like.

[0047] In a practical embodiment the tapering support wall 15 may extend under an angle of 20° - 40° with respect to the centre axis of the closure.

[0048] The lower end of the support wall 15 joins a bottom wall 19. In the centre of the bottom wall 19 a plug 20 is formed that extends upwardly from the bottom wall 19. The plug 20 is configured and adapted to be inserted in the dispensing passage 11. The plug 20 functions as a stopper for closing the dispensing passage 11.

[0049] The plug 20 has on its outer circumference a outward bead 21. The tubular wall 12 is at or near the dispensing opening 13 provided with an inward bead 22 that is adapted to cooperate with the outward bead 21 to form a snap connection.

[0050] The plug 20 comprises an abutment member 29 at the upper end thereof, which abutment member 29 is spaced apart from the self closing valve 14 in the locked state of the dispensing closure. In the event that the content of the container is pressurized, the self closing valve will deform towards the abutment member and abut it. Thereby the valve will remain closed.

[0051] In the embodiment shown in Fig. 6 the bottom wall 19 is at least partially on the same level as the lower end 18 of the outer skirt 16. The bottom is thus supported near its centre by the surface the support base is standing on, e.g. a table surface.

[0052] In another possible embodiment the bottom wall may also be on a higher level as the lower end 18 of the outer skirt 16, for example when the support base is formed as a rigid plastic part.

[0053] In Fig. 7A is shown the same structure as in Fig. 6 seen in a cross section in a different angle. In this specific view can be seen that the support wall 15 is provided with a raised region 23. In Fig. 7B only the support base 3 is shown from the same angle, in which one of the elevated regions 23 is clearly visible. In fact the support surface is provided with a plurality of evenly over the circumference distributed elevated regions 23, for example three of those regions. The elevated regions 23 form spacers on which the circumferential skirt 8B of the external wall 8 of the dispensing part 2 rests, as can be seen in Fig. 7A on the right, where the skirt 8B rests on the elevated region 23. On the left of Fig. 7A is shown the situation between the elevated regions 23, where the skirt 8B is spaced from the surface from the support wall 15.

[0054] As can be seen in Fig. 7A the plug 20 is in this state not inserted in the dispensing passage 11 to an extent that the beads 21 and 22 can interact. The support base 3 and the dispensing part 2 are thus in this state not coupled and the container is in a "standby" state for use and can be separated from the support base 3.

[0055] When the user wants to couple the support base 3 to the dispensing part 2, he can push the dispensing part 2 further into the support base 3. Thus the top wall portion 8A of the dispensing part 2 moves further towards the bottom wall 19, which is supported from below by the surface the support base 3 is standing on. The skirt 8B elastically deforms to allow said movement. The support wall 15 may also deform to allow said movement, but it is preferred that the skirt 8B deforms. The plug 20 is inserted further into the dispensing passage 11 until the beads 21 and 22 interact and snap behind each other. Then the support base 3 and the dispensing part 2 are in the coupled state, in which the container 1 can be easily transported or stored with the support base 3 attached to it.

[0056] To separate the support base 3 from the dispensing part 2 the user can simply pull the support base 3 away from the dispensing part, such that the beads 21, 22 are pulled beyond each other and the snap connection is released. In other embodiments, which will be described further below, a decoupling mechanism can be provided wherein the rotation of the support base 3 with respect to the dispensing part 2, leads to an axial translation and thereby the release of the snap connection.

[0057] The type of connection that is shown in Figs 6 and 7 is schematically shown in Fig. 3. Another embodiment of the same type of connection is shown schemat-

ically in Fig. 4 and a is shown in more detail in Fig. 8. In this embodiment the same features are indicated by the same reference numerals as in Figs 6 and 7.

[0058] The main difference with the previous embodiment is that the bottom wall 19 comprises a deformable diaphragm 24 such that the plug 20 (the stopper) can be moved to and from the dispensing passage 11 (indicated by arrow 26 in Fig. 4), when the external wall 8 of the dispensing part 2 rests on the support wall 15 of the support base 3. In a possible embodiment the diaphragm 24 can be provided with one or more circular hinges 25 which are concentrically with the plug 20, which hinges 25 provide the flexibility which allows an elastic deformation of the diaphragm 24.

[0059] The support base 3 has to be lifted from the surface it is standing on, e.g. a table, and then the user has to push on the underside of the diaphragm 24 to bring the plug 20 into engagement with the dispensing passage 11 and activate the snap connection between the beads 21, 22. This embodiment prevents that the support base 3 and the dispensing part 2 of the container 1 are inadvertently coupled when the container 1 with the dispensing part 2 is hammered relatively hard onto the support base 3.

[0060] In the embodiment of Fig. 8 is also shown a decoupling mechanism that was briefly mentioned in the above. The decoupling mechanism comprises a wavy upper edge 27 of the plug 20 and an embossment 28, in this case a wave shaped embossment, on the inner side of the tubular wall 12, which in the coupled state of the closure are engaging each other. If the support base 3 is rotated around its centre axis with respect to the dispensing part 2, the wavy edge 27 and the wave shaped embossment 28 will slide along each other and cooperate to bring about an axial force on the plug 20 that moves the plug 20 out of the dispensing passage 11. Hereby the snap connection between the beads 21, 22 can be released and the support base 3 and the dispensing part 2 can be brought in the decoupled state.

[0061] This decoupling mechanism also has another function, i.e. when the dispensing closure 2, 3 is to be mounted on a container in an assembly line, it is preferable that the dispensing part 2 and the support base 3 are coupled and mounted as a unit. Mounting the closure on the neck 4 of the container 1 means in practise screwing it on the neck 4 of the container 1. This means that the lugs formed by the engaging wavy edge 27 and embossments 28, function as a locking means that prevents mutual rotation between the coupled support base 3 and dispensing part 2, such that they can be screwed as a unit on the neck 4 of the container 1. The lugs are formed such that they provide enough friction that the support base 3 and the dispensing part 2 are not decoupled during the mounting of the closure on the container neck 4.

[0062] In Fig. 9 a slightly different embodiment with respect to the embodiment of Fig. 8 is shown. The same features are indicated by the same reference numerals as in Fig. 8. The lugs in this embodiment are formed such

that only allow mutual rotative movement between the dispensing part 2 and the support base 3 in one rotative direction, and block rotative movement in the other direction. In particular the wavy upper edge 27A has waves (lugs) with an asymmetric shape. Each lug has a slanting side 271 and a substantially upright side 272. The embossments 28A have a similar shape as the lugs with a slanting side 281 and an upright side 282. The slanting sides 271 and 281 are facing each other and the upright sides 272 and 282 are facing each other. In this way when the closure is screwed on the container 1 as a unit, e.g. in an assembly line, the slanting sides 271 and 281 engage each other and the friction between the slanting sides 271 and 281 is sufficient to withstand mutual rotation between the support base 3 and the dispensing part 2 of the closure. However, when the closure is fully screwed on the container as needs to be opened by the user, the container and dispensing part will be held by the user and the support base 3 will be rotated with respect to the dispensing part 2. Thereby the slanting sides 271 and 281 will slide along each other and generate an axial force on the diaphragm 24, which eventually releases the snap connection constituted by the beads 21 and 22.

[0063] If the support base 3 is rotated in the other direction, the upright sides 272 and 282 will be brought in engagement with each other. The rotation of the base 3 with respect to the dispensing part 2 is then blocked by the engaging upright sides 272 and 282. Thereby the closure can be screwed as a unit from the container 1, for example to remove a sealing foil on top of the container neck 4 before first use.

[0064] It should be noted that such a decoupling mechanism as shown in Figs 7 and 8 respectively could also be incorporated in the embodiment shown in Figs 6 and 7. In Fig. 5 is disclosed an embodiment, in which the dispensing part 2 does not have a dispensing passage 11 that ends at an opening 13 (cf. Fig. 6) in the top wall portion 8A of the dispensing part 2, but which has a spout 30 that extends outwardly from the top wall portion 8A and which forms the outer end of the dispensing passage 11. In this embodiment the stopper includes a cap 31 that engages over an outer end of the spout 30.

[0065] The cap 31 has an inner bead 32 or another snap member and the spout 30 has an outer bead 33, or another snap member, which cooperate to couple the dispensing part 2 and the support base 3.

[0066] The embodiment of Fig. 5 can for the rest be similar to the embodiment shown in Fig. 3 and the same features are thus indicated by the same reference numerals.

[0067] Although this is not shown, the embodiment of Fig. 5 can also be provided with a decoupling mechanism as is described in relation with Figs 8 and 9.

[0068] In Figs 11 - 13 another possible embodiment of a dispensing closure according to the invention is shown. The closure comprises a dispensing part 2 and a support base 3.

[0069] The dispensing part 2 has an external wall 8 that includes a top wall portion 8A and a circumferential skirt 8B that in this embodiment flares outwardly from the top wall portion 8A to a free end edge 9.

[0070] The dispensing part 2 has a first inner skirt 6 that extends from the top wall portion 8A. The first inner skirt 6 is formed with an inner thread 7 that is adapted to cooperate with an outer thread on a container neck to attach the dispensing part 2 to the container.

[0071] As mentioned the circumferential skirt 8B of the external wall 8 is flaring. In other words the circumferential skirt 8B of the external wall 8 is tapering from the end portion 9 towards the top wall portion 8A.

[0072] The support base 3 has a support wall 15. The support wall 15 is a tapering inner skirt which is shaped to support the wall portion 8B of the dispensing part 2. The support base 3 in this specific embodiment also has a circumferential outer skirt 16 that joins the inner skirt 15 at an upper end 17. The free lower end edge 18 of the outer skirt 16 provides a standing surface with which the support base is placed on a surface, e.g. a table surface. The outer skirt 16 is in the shown embodiment slightly flaring from the upper end 17, whereby the diameter of the standing surface is increased and the base and container are stably positioned on a table surface or the like.

[0073] The dispensing part 2 has a spout 30 that extends outwardly from the top wall portion 8A and which forms the outer end of the dispensing passage 11. In this embodiment the stopper in the base 3 includes a cap 31 that engages over an outer end of the spout 30. The lower end of the support wall 15 joins a bottom wall 19. In the centre of the bottom wall 19 a cap 31 is formed that extends downwardly from the bottom wall 19. The cap 31 is configured and adapted to receive the spout 30 of the dispensing part 2. The cap 31 functions as a stopper for closing the dispensing passage 11.

[0074] The cap 31 has an inner bead 32 or another snap member and the spout 30 has an outer bead 33, or another snap member, which cooperate to couple the dispensing part 2 and the support base 3.

[0075] This closure of Figs 11 - 13 has another decoupling mechanism as heretofore described. The decoupling mechanism has on the outer side of the top wall portion 8A one or more elevations 34. In the particular embodiment the elevations are formed as three ribs 34, evenly distributed over the 360°. In the specific embodiment shown the ribs 34 extend from an outer rim of the top wall portion 8A radially inward towards a central axis that is defined by the central axis of the spout 30. However also other elevations are conceivable within the scope of the invention.

[0076] On the bottom wall 19 of the base 3 are formed one or more ramps 35. In the specific embodiment shown there are formed three ramps 35 evenly distributed over the 360°.

[0077] In use, in the coupled state of the base 3 and the dispensing part 2, the elevations 34 are between the

ramps 35, and the spout 30 is inserted in the cap 31 far enough to activate the snap connection of the beads 32 and 33. If in the coupled state the base 3 is rotated (in the shown specific embodiment counter-clockwise) with respect to the dispensing part 2, in a direction such that the elevations slide up the ramps, an axial force is executed on the spout 30 and the cap 31, whereby the snap connection between the beads 32 and 33 is eventually released.

[0078] If the rotation of the dispensing part 2 with respect to the base 3 is the other way around (in this example clockwise), a stop surface 36 formed at an end of the ramp 35 and a stop surface 37 formed at one side of the elevation (rib) 34 will face each other and engage each other, whereby the further rotation is blocked.

[0079] In Figs 14 - 16 is shown another possible embodiment of a dispensing closure according to the invention is shown. The closure comprises a dispensing part 2 and a support base 3.

[0080] The dispensing part 2 has an external wall 8 that in this embodiment is more or less dome shaped which flares outwardly from the centre of the dome to a free end edge 9.

[0081] The support base 3 has a support wall 15. The support wall 15 is an inner skirt which is shaped to support the radially outer portion of the dome shaped external wall 8 of the dispensing part 2. The support wall has a tapering upper wall portion 151. The support base 3 in this specific embodiment also has support ribs 152 that extend radially between the upper wall portion 151 and a cap 31 that is formed in the centre of the base 3.

[0082] The support base 3 in this specific embodiment also has a circumferential outer skirt 16 that joins the inner skirt 15 at an upper end 17. The free lower end edge 18 of the outer skirt 16 provides a standing surface with which the support base is placed on a surface, e.g. a table surface. The outer skirt 16 is in the shown embodiment slightly flaring from the upper end 17, whereby the diameter of the standing surface is increased and the base and container are stably positioned on a table surface or the like.

[0083] The dispensing part 2 has an inner skirt 6 that extends from an inner side of the external wall 8. The inner skirt 6 is formed with an inner thread 7 that is adapted to cooperate with an outer thread on a container neck to attach the dispensing part 2 to the container.

[0084] The dispensing part 2 has a spout 30 that extends outwardly from the top of the dome shaped external wall 8 and which forms the outer end of the dispensing passage 11. In this embodiment the stopper in the base 3 includes the already mentioned cap 31 that engages over an outer end of the spout 30. The lower end of the support wall 15 joins a bottom wall 19. The cap 31 is configured and adapted to receive the spout 30 of the dispensing part 2. The cap 31 functions as a stopper for closing the dispensing passage 11.

[0085] The cap 31 has an inner bead 32 or another snap member and the spout 30 has an outer bead 33, or

another snap member, which cooperate to couple the dispensing part 2 and the support base 3.

[0086] At the free end edge 9 of the dispensing part 2 there is formed a circumferential rim 38 with a rim surface 39 facing the same side as the spout 30. On the rim surface 39 a series of ramps 391 is formed. The ramps are evenly distributed over the circumference. At the upper end 17 of the base 3 a similar series of ramps 171 is formed.

[0087] This embodiment has yet another decoupling mechanism. In a coupled state of the closure the upper end 17 of the base 3 and the surface 39 of the circumferential rim 38 face each other and the ramps 391 and the ramps 171 alternate around the circumference. When the base 3 and the dispensing part 2 are rotated in one direction the inclined surfaces 392 of the respective ramps 171 and 391 will slide over each other and generate a wedge mechanism. Thereby an axial force is generated which pulls the spout 30 out of the cap 31 and releases the snap connection of the beads 33 and 32. If the base 3 and the dispensing part 2 are rotated in the opposite direction, the ramps 171 and 391, respectively, have end surfaces 173 and 393 respectively which will face each other and form a stop, such that further rotation is blocked.

[0088] In Fig. 10 is illustrated an embodiment of a dispensing closure for a squeeze type container 1, which is not according to the claimed invention. This dispensing closure comprises a dispensing part 2 attached to the container 1, and a support base 3 for receiving the dispensing part 2 and to support the container 1 standing upside down.

[0089] The dispensing part 2 has an external wall 8 and having a dispensing passage 11 for dispensing content from the container 1. The external wall 8 includes a top wall portion 8A and a circumferential skirt 8B that in this embodiment flares outwardly from the top wall portion 8A.

[0090] The support base 3 has a support wall 15 to support the external wall 8 of the dispensing part 2.

[0091] The support base has a stopper 20 integrally formed with it. The stopper 20 is adapted to be arranged at an outer end of the dispensing passage 11 to close the dispensing passage 11 of the dispensing part 2.

[0092] The external wall 8, and in particular the circumferential skirt 8B has an outer circumferential bead 40. The support wall 15 has an inner circumferential bead 41. The inner bead 41 and outer bead 40 cooperate to constitute a snap connection to couple the dispensing part 2 and the support base 3. The beads 40 and 41, respectively are arranged near an upper end portion of the external surface 8 and the support surface, respectively, as can be seen in Fig. 10.

[0093] The dispensing closure has an uncoupled state in which the external wall 8 of the dispensing part 2 rests on the support wall 15 of the support base 3 and in which the dispensing part 2 can be freely removed from the support base 3.

[0094] In the uncoupled state, i.e. a standby-state of the dispensing closure, the snap connection between the support base 3 and the dispensing part 2 is inactive and the external surface 8 rests on the support surface 15, whereby the user can lift the container 1 with the dispensing part 2 simply out of the support base 3.

[0095] By pushing down the dispensing part into the support base the beads 40a and 41 snap beyond each other and the dispensing closure is in a coupled state in which the container can be transported or stored.

[0096] The support base 3 and the dispensing part 2 can be decoupled by just pulling the support base 3 from the dispensing part 2. Another option is to incorporate a decoupling mechanism as is shown in Figs 8 and 9 in the dispensing closure of Fig. 10, such that by rotating the support base 3 with respect to the dispensing portion 2, an axial force is generated that pushes the support base 3 and the dispensing portion 2 apart and forces the beads 40 and 41 beyond each other to an uncoupled state.

[0097] In the detailed examples described in the above the container may contain a sauce or other viscous food substance. It must be understood that the closure according to the invention could also be used for containers filled with a viscous fluid personal care product, such as for example hand cream, shampoo, shower gel, etc.

Claims

1. Dispensing closure for a squeeze type container (1), said dispensing closure comprising:

- a dispensing part (2) attached or attachable to the container (1), said dispensing part (2) having an external wall (8) and having a dispensing passage (11) for dispensing content from the container (1),
- a support base (3) for receiving the dispensing part (2) and to support the container (1) standing upside down, said support base (3) having a support wall (15) to support the external wall (8) of the dispensing part (2) and a bottom connected at a circumference to the support wall, and said support base (3) having a stopper (20; 31) integrally formed with it and located on the bottom, said stopper (20; 31) being adapted to be arranged at an outer end of the dispensing passage (11) to close the dispensing passage (11) of the dispensing part (2),

wherein the dispensing closure has a coupled state in which the support base (3) is coupled to the dispensing part (2) by a snap connection (21, 22; 32, 33), and

wherein the dispensing closure has an uncoupled state in which the snap connection (21, 22; 32, 33) is inactive and in which the dispensing part (2) can

- be freely removed from the support base (3),
characterized in that the dispensing closure has said snap connection between the stopper and the dispensing passage, and **in that** in the uncoupled state of the dispensing closure the external wall (8) of the dispensing part (2) rests on the support wall (15) of the support base (3),
 wherein the external wall (8) is at least partially deformable or the support wall (15) is deformable, so as to allow pushing the dispensing part from the uncoupled state further in the support base to couple the dispensing part to the support base by the snap connection, or
 wherein the bottom comprises a deformable diaphragm so as to allow in the uncoupled state moving the stopper to the dispensing passage to couple the dispensing part to the support base by the snap connection.
2. Dispensing closure according to claim 1, wherein the stopper includes a plug (20) insertable in the dispensing passage (11) of the dispensing part (2), wherein the plug (20) has an outer snap member, e.g. a bead (21), and the dispensing passage (11) has an inner snap member, e.g. a bead (22), which snap members cooperate to couple the dispensing part (2) and the support base (3).
 3. Dispensing closure according to claim 1 or 2, wherein the dispensing part (2) has a spout (30) which forms the outer end of the dispensing passage (11), and wherein the stopper includes a cap (31) that engages over an outer end of the spout (30), the cap (31) having an inner snap member, e.g. a bead (32), and the spout (30) having an outer snap member, e.g. a bead (33), which snap members cooperate to couple the dispensing part (2) and the support base (3).
 4. Dispensing closure according to any one of the preceding claims, wherein the external wall (8) of the dispensing part (2) and the support wall (15) of the support base (3) have a tapering shape, wherein the tapering support wall (15) preferably extends under an angle of 20° - 40° with respect to the centre axis of the closure.
 5. Dispensing closure according to any one of the preceding claims, wherein the support base (3) includes an outer skirt (16) and an inner skirt (15) which are mutually connected at an upper side (17) thereof, wherein the inner skirt forms the support wall (15).
 6. Dispensing closure according to claim 5, wherein the support base (3) has a bottom wall (19) that, at its periphery, is connected to the inner skirt (15), wherein, preferably, the stopper (20; 31) is formed on the centre of the bottom wall (19).
 7. Dispensing closure according to claim 6, wherein the bottom wall (19) is at least partially on the same level as the lower end (18) of the outer skirt (16).
 8. Dispensing closure according to claim 7, wherein the support wall has one or more spacers formed on it.
 9. Dispensing closure according to any one of the preceding claims, wherein the stopper (21; 31) has at least one lug or embossment (27; 27A) and the dispensing passage has at least one corresponding lug or embossment (28; 28A), which lugs/embossments (27, 28; 27A, 28A) in the coupled state of the dispensing closure are next to each other and which lugs/embossments (27, 28; 27A, 28A) are adapted such that when the lugs/embossments (27, 28; 27A, 28A) are brought into engagement by a relative rotation between the support base (3) and the dispensing part (2) they cooperate and bring about an axial displacement between the support base (3) and the dispensing part (2) so as to release the snap connection (21, 22; 32, 33).
 10. Dispensing closure according to any one of the preceding claims, wherein a pressure operated self-closing valve (14) is arranged at an inner end of the dispensing passage (11).
 11. Dispensing closure according to claim 10, wherein the stopper comprises an abutment member that abuts the selfclosing valve in the locked state of the dispensing closure.
 12. Dispensing closure according to any one of the preceding claims, wherein the dispensing part is an injection moulded part made of a plastics material.
 13. Dispensing closure according to any one of the preceding claims, wherein the support base is an injection moulded part made of a plastics material.
 14. Container provided with a dispensing closure according to any one of the preceding claims, wherein the container (1) is filled with a viscous fluid food product such as for example ketchup, mustard, mayonnaise, honey, etc.
 15. Container provided with a dispensing closure according to any one of the claims 1-13, wherein the container (1) is filled with a viscous fluid personal care product, such as for example hand cream, shampoo, shower gel, etc.

Patentansprüche

1. Abgaberverschluss für einen zusammendrückbaren Behälter (1), wobei der Abgaberverschluss Folgen-

des umfasst:

- ein Abgabeteil (2), das an dem Behälter (1) angebracht ist oder angebracht werden kann, wobei das Abgabeteil (2) eine Außenwand (8) aufweist und einen Abgabedurchlass (11) zum Abgeben von Inhalt aus dem Behälter (1),
- eine Trägerbasis (3) zum Aufnehmen des Abgabeteils (2) und zum Tragen des Behälters (1), der auf dem Kopf steht, wobei die Trägerbasis (3) eine Trägerwand (15) aufweist, um die Außenwand (8) des Abgabeteils (2) zu tragen, und einen Boden, der an einem Umfang mit der Trägerwand verbunden ist, und wobei die Trägerbasis (3) einen integral mit ihr ausgebildeten Stopfen (20; 31) aufweist, der an dem Boden angeordnet ist, wobei der Stopfen (20; 31) ausgelegt ist, um an einem äußeren Ende des Abgabedurchlasses (11) zum Verschließen des Abgabedurchlasses (11) des Abgabeteils (2) angeordnet zu sein,

wobei der Abgabverschluss einen gekoppelten Zustand aufweist, in dem die Trägerbasis (3) mit dem Abgabeteil (2) durch eine Einrastverbindung (21, 22; 32, 33) gekoppelt ist, und

wobei der Abgabverschluss einen entkoppelten Zustand aufweist, in dem die Einrastverbindung (21, 22; 32, 33) inaktiv ist und in dem das Abgabeteil (2) frei von der Trägerbasis (3) entfernt werden kann, **dadurch gekennzeichnet, dass** der Abgabverschluss die Einrastverbindung zwischen dem Stopfen und dem Abgabverschluss aufweist, und dadurch, dass im entkoppelten Zustand des Abgabeschlusses die Außenwand (8) des Abgabeteils (2) an der Trägerwand (15) der Trägerbasis (3) ruht, wobei die Außenwand (8) mindestens teilweise verformbar ist oder die Trägerwand (15) verformbar ist, um so zu gestatten, dass das Abgabeteil aus dem entkoppelten Zustand weiter in die Trägerbasis gedrückt wird, um das Abgabeteil mit der Trägerbasis durch die Einrastverbindung zu koppeln, oder wobei der Boden eine verformbare Membran umfasst, um so zu gestatten, dass der Stopfen sich im entkoppelten Zustand zu dem Abgabedurchlass bewegt, um das Abgabeteil mit der Trägerbasis durch die Einrastverbindung zu koppeln.

2. Abgabverschluss nach Anspruch 1, wobei der Stopfen einen Zapfen (20) enthält, der in den Abgabedurchlass (11) des Abgabeteils (2) eingeführt werden kann, wobei der Zapfen (20) ein äußeres Einrastelement, z. B. einen Wulst (21), aufweist und der Abgabedurchlass (11) ein inneres Einrastelement, z. B. einen Wulst (22), aufweist, wobei die Einrastelemente zusammenwirken, um das Abgabeteil (2) und die Trägerbasis (3) zu koppeln.

3. Abgabverschluss nach Anspruch 1 oder 2, wobei das Abgabeteil (2) eine Ausgussöffnung (30) aufweist, die das äußere Ende des Abgabedurchlasses (11) bildet, und wobei der Stopfen eine Kappe (31) enthält, die über ein äußeres Ende der Ausgussöffnung (30) eingreift, wobei die Kappe (31) ein inneres Einrastelement, z. B. einen Wulst (32), aufweist und die Ausgussöffnung (30) ein äußeres Einrastelement, z. B. einen Wulst (33), aufweist, wobei die Einrastelemente zusammenwirken, um das Abgabeteil (2) und die Trägerbasis (3) zu koppeln.

4. Abgabverschluss nach einem der vorhergehenden Ansprüche, wobei die externe Wand (8) des Abgabeteils (2) und die Trägerwand (15) der Trägerbasis (3) eine sich verjüngende Form aufweisen, wobei die sich verjüngende Trägerwand (15) sich vorzugsweise unter einem Winkel von 20° - 40° in Bezug auf die Mittelachse des Verschlusses erstreckt.

5. Abgabverschluss nach einem der vorhergehenden Ansprüche, wobei die Trägerbasis (3) einen äußeren Rand (16) und einen inneren Rand (15) enthält, die an einer Oberseite (17) davon miteinander verbunden sind, wobei der innere Rand die Trägerwand (15) bildet.

6. Abgabverschluss nach Anspruch 5, wobei die Trägerbasis (3) eine Bodenwand (19) aufweist, die an ihrem Umfang mit dem inneren Rand (15) verbunden ist, wobei der Stopfen (20; 31) vorzugsweise in der Mitte der Bodenwand (19) ausgebildet ist.

7. Abgabverschluss nach Anspruch 6, wobei die Bodenwand (19) mindestens teilweise auf demselben Niveau liegt wie das untere Ende (18) des äußeren Rands (16).

8. Abgabverschluss nach Anspruch 7, wobei die Trägerwand einen oder mehrere auf ihr ausgebildete Abstandshalter aufweist.

9. Abgabverschluss nach einem der vorhergehenden Ansprüche, wobei der Stopfen (21; 31) mindestens einen Vorsprung oder eine Erhebung (27; 27A) aufweist und der Abgabedurchlass mindestens einen entsprechenden Vorsprung oder eine entsprechende Erhebung (28; 28A) aufweist, wobei die Vorsprünge/Erhebungen (27, 28; 27A, 28A) im gekoppelten Zustand des Abgabeschlusses nebeneinander sind und die Vorsprünge/Erhebungen (27, 28; 27A, 28A) derart ausgelegt sind, dass die Vorsprünge/Erhebungen (27, 28; 27A, 28A) durch eine relative Drehung zwischen der Trägerbasis (3) und dem Abgabeteil (2) in Eingriff gebracht werden und sie zusammenwirken und eine axiale Verschiebung zwischen der Trägerbasis (3) und dem Abgabeteil (2) hervorrufen, damit die Einrastverbindung (21, 22; 32, 33)

freigegeben wird.

10. Abgabeverchluss nach einem der vorhergehenden Ansprüche, wobei ein druckbetätigtes selbstschließendes Ventil (14) am inneren Ende des Abgabedurchlasses (11) angeordnet ist. 5
11. Abgabeverchluss nach Anspruch 10, wobei der Stopfen ein Auflageelement umfasst, das gegen das selbstschließende Ventil in dem verriegelten Zustand des Abgabeverchlusses stößt. 10
12. Abgabeverchluss nach einem der vorhergehenden Ansprüche, wobei das Abgabeteil ein aus einem Kunststoffmaterial hergestelltes Spritzgussteil ist. 15
13. Abgabeverchluss nach einem der vorhergehenden Ansprüche, wobei die Trägerbasis ein aus einem Kunststoffmaterial hergestelltes Spritzgussteil ist. 20
14. Behälter, der mit einem Abgabeverchluss nach einem der vorhergehenden Ansprüche versehen ist, wobei der Behälter (1) mit einem zähflüssigen Lebensmittelprodukt, wie zum Beispiel Ketchup, Senf, Mayonnaise, Honig usw., befüllt ist. 25
15. Behälter, der mit einem Abgabeverchluss nach einem der Ansprüche 1-13 versehen ist, wobei der Behälter (1) mit einem zähflüssigen Körperpflegeprodukt, wie zum Beispiel Handcreme, Shampoo, Duschgel usw., befüllt ist. 30

Revendications

1. Fermeture de distribution pour un récipient (1) du type à compression, ladite fermeture de distribution comprenant : 35
 - une partie de distribution (2) fixée ou pouvant être fixée au récipient (1), ladite partie de distribution (2) ayant une paroi externe (8) et ayant un passage de distribution (11) pour distribuer du contenu du récipient (1), 40
 - une base de support (3) pour recevoir la partie de distribution (2) et pour supporter le récipient (1) debout à l'envers, ladite base de support (3) ayant une paroi de support (15) pour supporter la paroi externe (8) de la partie de distribution (2) et un fond connecté à une circonférence de la paroi de support, ladite base de support (3) ayant un bouchon (20 ; 31) formé d'une seule pièce avec elle, et localisée sur le fond, ledit bouchon (20 ; 31) étant adapté pour être disposé à une extrémité extérieure du passage de distribution (11) pour fermer le passage de distribution (11) de la partie de distribution (2), 50

dans laquelle la fermeture de distribution a un état couplé dans lequel la base de support (3) est couplée avec la partie de distribution (2) par une connexion par encliquetage (21, 22 ; 32, 33), et dans laquelle la fermeture de distribution a un état découplé dans lequel la connexion par encliquetage (21, 22 ; 32, 33) est inactive et dans laquelle la partie de distribution (2) peut être librement retirée de la base de support (3), **caractérisée en ce que** la fermeture de distribution a ladite connexion par encliquetage entre le bouchon et le passage de distribution, et **en ce que** dans l'état découplé de la fermeture de distribution la paroi externe (8) de la partie de distribution (2) repose sur la paroi de support (15) de la base de support (3), dans laquelle la paroi externe (8) est au moins partiellement déformable ou la paroi de support (15) est déformable, de sorte à permettre de pousser la partie de distribution de l'état découplé plus loin dans la base de support pour coupler la partie de distribution à la base de support par la connexion par encliquetage, ou dans laquelle le fond comprend un diaphragme déformable de sorte à permettre dans l'état découplé de bouger le bouchon vers le passage de distribution pour coupler la partie de distribution à la base de support par la connexion par encliquetage.

2. Fermeture de distribution selon la revendication 1, dans laquelle le bouchon comprend un bouchon (20) insérable dans le passage de distribution (11) de la partie de distribution (2), dans laquelle le bouchon (20) a un élément d'encliquetage extérieur, par ex. un bourrelet (21), et le passage de distribution (11) a un élément d'encliquetage intérieure, par ex. un bourrelet (22), lesquels éléments d'encliquetage coopèrent pour coupler la partie de distribution (2) et la base de support (3). 35
3. Fermeture de distribution selon la revendication 1 ou 2, dans laquelle la partie de distribution (2) a un bec (30) qui forme l'extrémité externe du passage de distribution (11), et dans laquelle le bouchon comprend un capuchon (31) qui s'engage sur une extrémité externe du bec (30), le capuchon (31) ayant un élément d'encliquetage intérieur, par ex. un bourrelet (32), et le bec (30) ayant un élément d'encliquetage extérieur, par ex. un bourrelet (33), lesquels éléments d'encliquetage coopèrent pour coupler la partie de distribution (2) et la base de support (3). 45
4. Fermeture de distribution selon l'une quelconque des revendications précédentes, dans laquelle la paroi externe (8) de la partie de distribution (2) et la paroi de support (15) de la base de support (3) ont une forme effilée, dans laquelle la paroi de support (15) effilée s'étend préférentiellement sous un angle de 20° - 40° par rapport à l'axe central de la ferme- 55

ture.

5. Fermeture de distribution selon l'une quelconque des revendications précédentes, dans laquelle la base de support (3) comprend une jupe extérieure (16) et une jupe intérieure (15) qui sont mutuellement connectées sur un côté supérieur (17) de celle-ci, dans laquelle la jupe intérieure forme la paroi de support (15). 5
6. Fermeture de distribution selon la revendication 5, dans laquelle la base de support (3) a une paroi inférieure (19) qui, à sa périphérie, est connectée à la jupe intérieure (15), dans laquelle, de préférence, le bouchon (20 ; 31) est formé au centre de la paroi inférieure (19). 10
7. Fermeture de distribution selon la revendication 6, dans laquelle la paroi inférieure (19) est au moins partiellement au même niveau que l'extrémité inférieure (18) de la jupe extérieure (16). 20
8. Fermeture de distribution selon la revendication 7, dans laquelle la paroi de support a un ou plusieurs espaces formés sur elle. 25
9. Fermeture de distribution selon l'une quelconque des revendications précédentes, dans laquelle le bouchon (21 ; 31) a au moins un ergot ou un relief (27 ; 27A) et le passage de distribution a au moins un ergot ou un relief (28 ; 28A) correspondant, lesquels ergots / reliefs (27, 28 ; 27A, 28A) dans l'état couplé de la fermeture de distribution sont à côté des uns des autres et lesquels ergots / reliefs (27, 28 ; 27A, 28A) sont adaptés de telle sorte que lorsque les ergots / reliefs (27, 28 ; 27A, 28A) sont mis en prise par une rotation relative entre la base de support (3) et la partie de distribution (2), ils coopèrent et produisent un axe de déplacement entre la base de support (3) et la partie de distribution (2) de manière à libérer la connexion par encliquetage (21, 22 ; 32, 33). 30 35 40
10. Fermeture de distribution selon l'une quelconque des revendications précédentes, dans laquelle une valve (14) à fermeture automatique actionnée par pression est disposée à une extrémité intérieure du passage de distribution (11). 45
11. Fermeture de distribution selon la revendication 10, dans laquelle le bouchon comprend un élément de butée qui vient en butée de la valve à fermeture automatique dans l'état verrouillé de la Fermeture de distribution. 50
12. Fermeture de distribution selon l'une quelconque des revendications précédentes, dans laquelle la partie de distribution est une partie moulée par in- 55

jection en matière plastique.

13. Fermeture de distribution selon l'une quelconque des revendications précédentes, dans laquelle la base de support est une pièce moulée par injection en matière plastique.
14. Récipient pourvu d'une fermeture de distribution selon l'une quelconque des revendications précédentes, dans lequel le récipient (1) est rempli d'un produit alimentaire à fluide visqueux tel que par exemple du ketchup, de la moutarde, de la mayonnaise, du miel, etc.
15. Récipient pourvu d'une fermeture de distribution selon l'une quelconque des revendications 1 à 13, dans lequel le récipient (1) est rempli d'un produit de soin personnel à fluide visqueux, tel que par exemple de la crème pour les mains, du shampoing, du gel douche, etc.

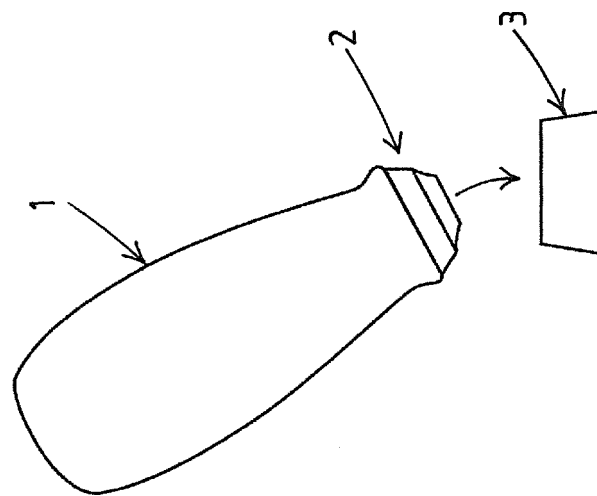


Fig.1

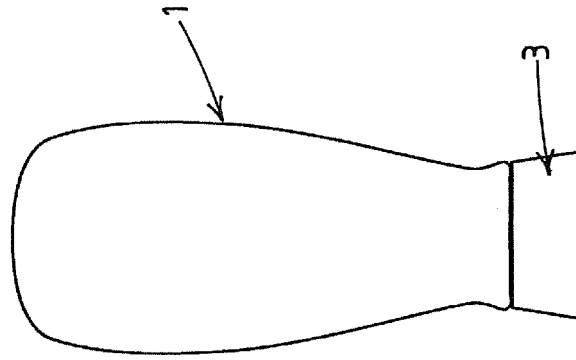


Fig.2

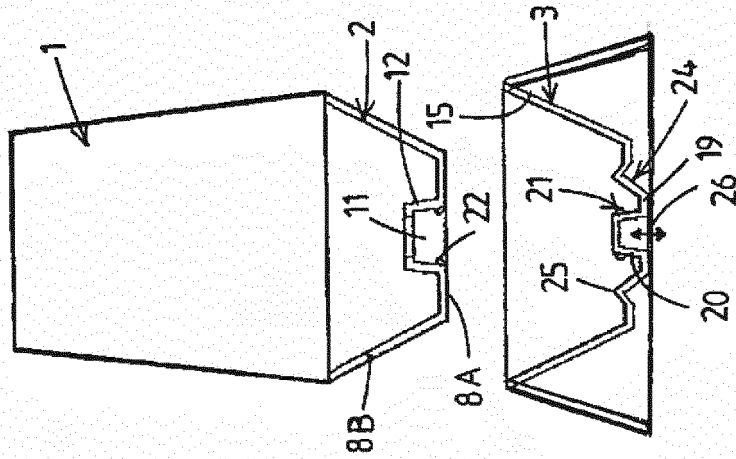


Fig.3

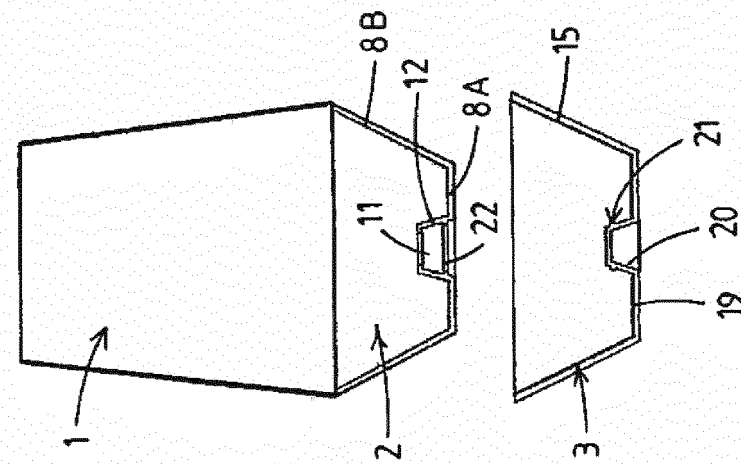


Fig.4

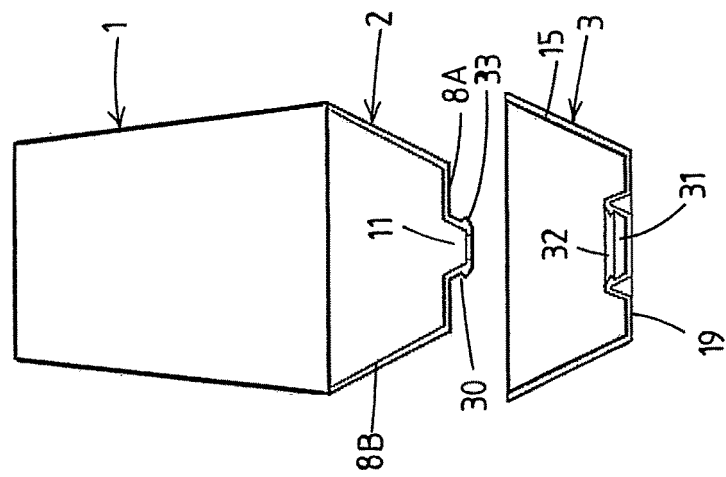


Fig. 5

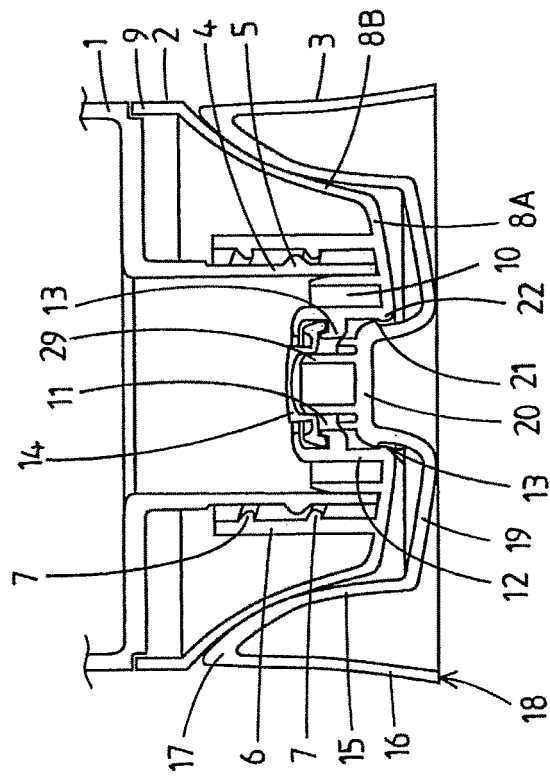


Fig.6

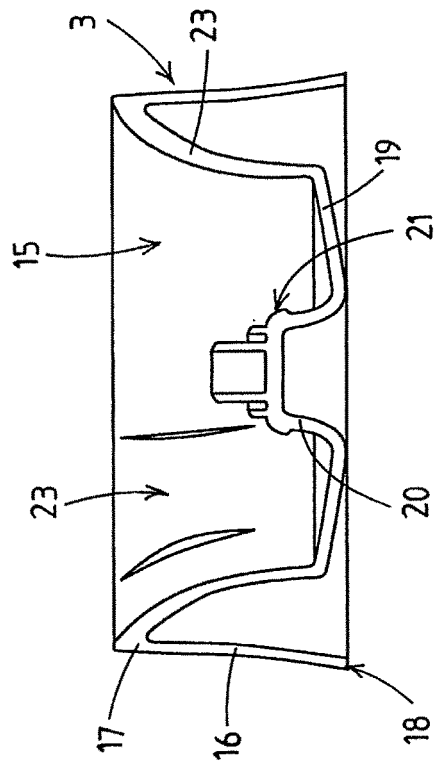


Fig. 7B

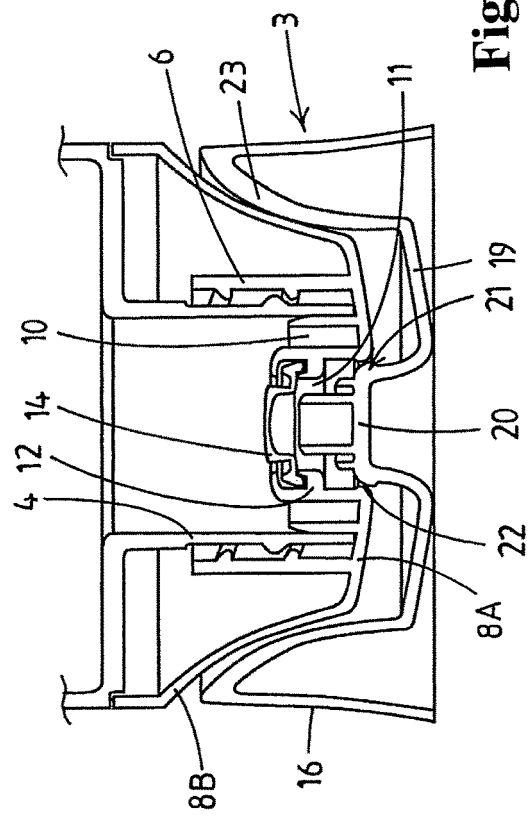
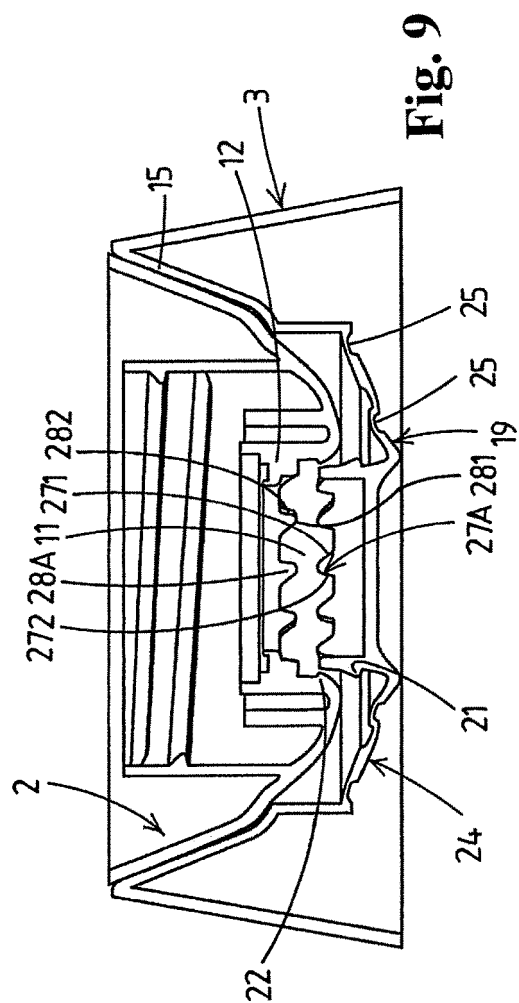
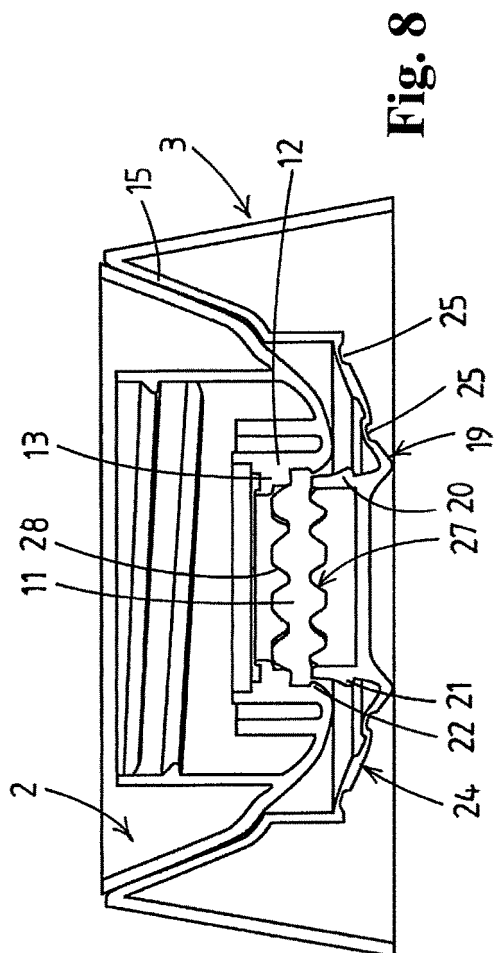


Fig. 7A



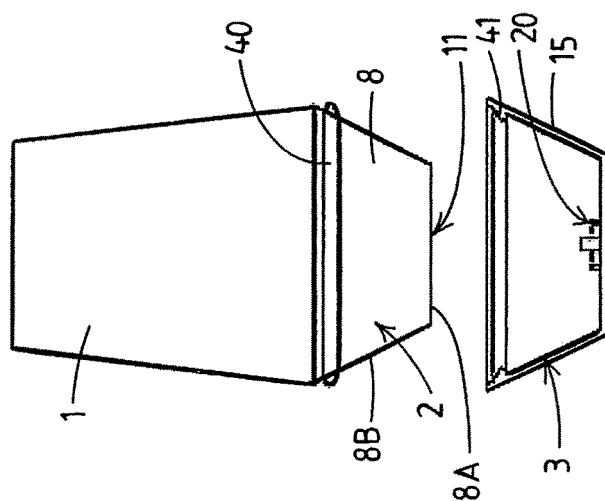


Fig. 10

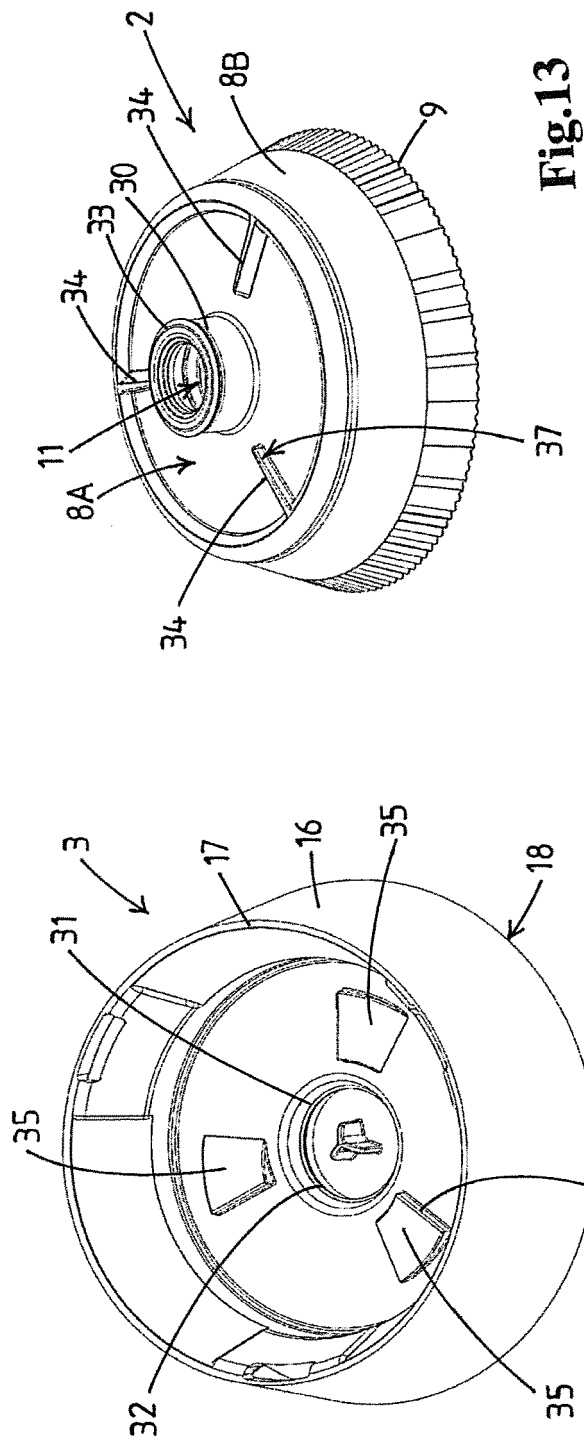


Fig. 13

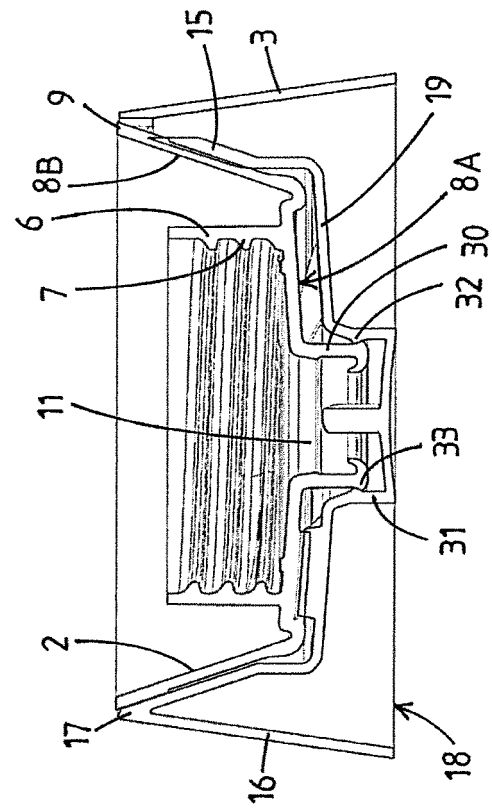


Fig.11

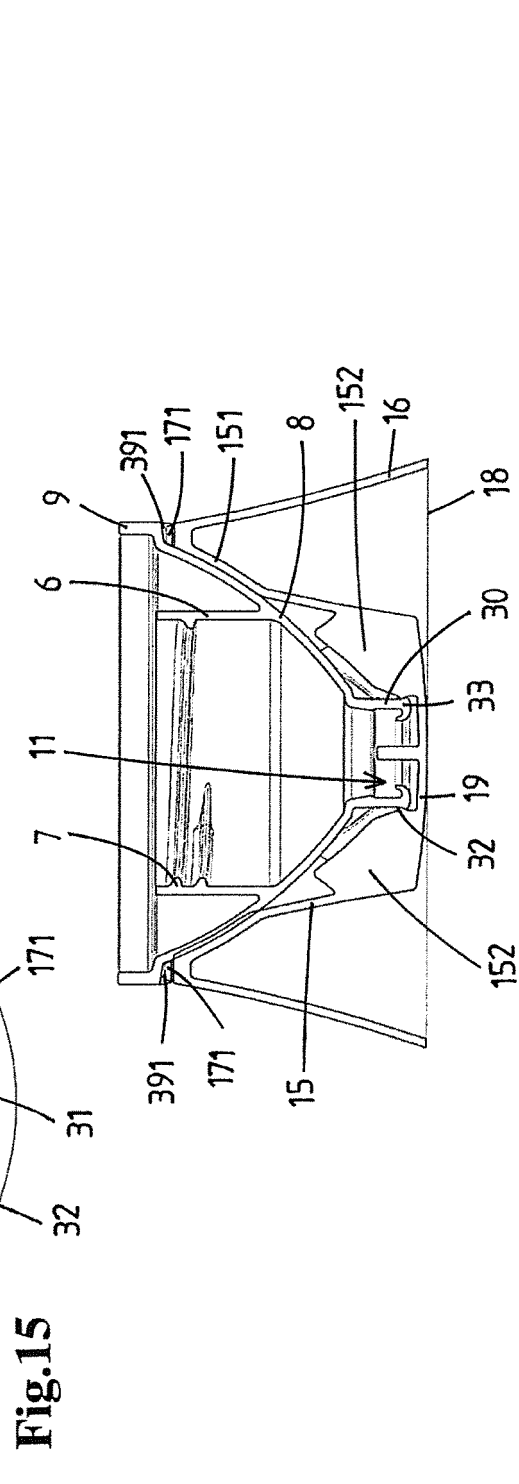
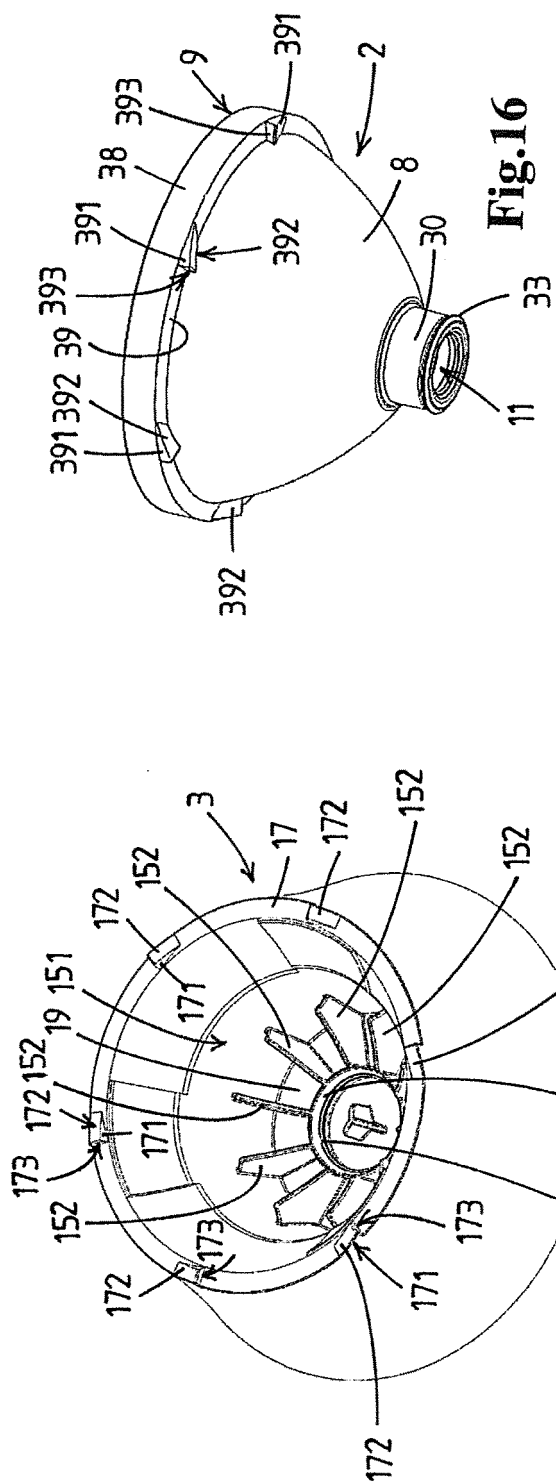


Fig. 16

Fig. 14

REFERENCES CITED IN THE DESCRIPTION

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