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(54) Resilient squeeze dispenser for viscous products

Elastischer Spender für viskose Produkte

Distributeur élastique pour des produits visqueux

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WO-A-86/01489 **FR-A- 2 081 244**
US-A- 3 767 078 **US-A- 4 842 165**

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Description

The present invention relates to a dispenser of viscous products, such as toothpaste products, cosmetic creams, food juices, and the like, in which a container is squeezed to deliver the product out and then released.

More particularly, the invention relates to a dispenser of viscous products which comprises an outer container, extending along a longitudinal axis which would generally lie vertical, with at least one elastically deformable side wall, a closed bottom, and a top provided with an opening defined by a rim, a flexible bag placed inside said outer container, said bag having a mouth and being intended for containing the viscous product, a plate-like element positioned across the opening in the container top and being connected to the rim of the latter, said plate-like element being provided with an axial passageway, parallel to the longitudinal axis of the outer container, having a collar projected inwardly of said outer container, said bag having its mouth sealed around said collar, a head provided in its inner side with a viscous product delivery conduit which has one end provided with a delivery orifice and an opposite end provided with an inlet orifice in communication with the axial passageway through said plate-like element, said head including connecting means for being connected to the rim of the opening in the top of said outer container, a first one-way valve means placed in said viscous product delivery conduit and opening in the direction toward said delivery orifice, and a second one-way valve means opening in the direction toward the inner side of the outer container. A dispenser having the features as defined in the preamble of claim 1 is disclosed in WO-A-86/01489.

Dispensers of the type mentioned above, are also shown and described, for example, in US-A-4,469,250; 4,909,416; and 4,842,165.

According to the disclosure of US-A-4,469,250 and 4,909,416, the flexible bag intended for containing a viscous product to be dispensed out is only firmly secured at the location of the open mouth of the container with elastically deformable walls by means of a holding element disposed across the mouth and being fixed to the container.

This arrangement has a drawback in that, not even after repeatedly squeezing and releasing the elastic walls of the outer container, does it allow the bag to be emptied completely and, therefore, the full amount of product charged into the bag to be used.

According to the prior art disclosed by US-A-4,842,165, the bag of viscous product is instead secured directly on the outer container, both at the location of its mouth and of a peripheral region halfway the height of the container.

With such a construction, the bag emptying is facilitated and full amount of viscous product contained therein can be used.

However, the bag connection to the middle region of the inner wall of the outer container, as well as at the location of its mouth, involves manufacturing technolo-

gies which are quite complicated, adversely affect the dispenser manufacturing cost, and disallows any filling of the bag with the product to be dispensed, and subsequent handling thereof, while separate from the container.

In addition, the continuous seal of the bag to the middle region of the outer container requires that the valve means for admitting air to the container inside, as should occur at the end of each compressive action on the container, be positioned in the container bottom or, at least in an area underlying the seal region in order to be active onto the free portion of the flexible bag.

This position requirement for the air-admitting valve means restricts the feasibility of the outer container in one piece, and further increases the dispenser cost.

It is the object of this invention to obviate the drawbacks of the above-mentioned prior art dispensers, and ensure complete emptying of the flexible bag without involving peripheral attachment of the bag to the middle region of the outer container.

A further object is to avoid the need to have the air-admitting valve means located on the walls of the outer container, and this for the benefit of the dispenser manufacturing economy and of the bag filling procedure, which can be now carried out even without the presence of the outer container.

These objects are achieved by a dispenser according to the appended claims.

The invention will be now described in greater detail with reference to two preferred embodiments thereof, given by way of illustration and not of limitation and shown in the accompanying drawings, wherein:

Figure 1 shows in longitudinal section a first embodiment of this dispenser;

Figure 2 is a longitudinal section view of the embodiment shown in Figure 1, but taken in a perpendicular plane to that of Figure 1;

Figure 3 is a sectional view taken along the line III-III in Figure 2;

Figure 4 is a sectional view taken along the line IV-IV in Figure 1;

Figure 5 is a fragmentary sectional view, drawn to an enlarged scale and taken along the line V-V in Figure 4;

Figure 6 is a longitudinal section view similar to that in Figure 1, but showing the dispenser head removed from the outer container;

Figure 7 shows a second embodiment of this dispenser with the head in the open condition for pulling out the bag; and

Figure 8 is a perspective view of an opener having elastically divergent legs;

Figure 9 is a perspective view of an opener to according a modified embodiment.

Figure 10 is a perspective view showing the assembling step of an opener according to Figure 9 into the outer container.

With reference to the above-listed drawing figures, shown at 1 is an outer container made of plastics material, e.g. of the polyolefinic type.

It is substantially elliptical in plan view and has a closed bottom 2, serving as a rest base, and a top 3 formed with an opening 4 defined by the edge 5.

The container 1 extends along a longitudinal axis X-X, generally arranged to lie upright, and has at least one of its walls, 6 and 7, with a greater radius of curvature made deformable elastically under a pressure force from outside, e.g. finger pressure from the fingers of one user's hand.

Provided across the opening 4 is a plate-like element 8, also made of a plastics material, which is connected with its peripheral edge 9 to the edge 5 defining the opening 4.

This plate-like element 8 is formed with a passageway 10, coaxial with the axis X-X, around which a collar 11 is provided.

Said collar 11 is made in one piece with the element 8 and extends inwardly of the container 1.

Connected to the outer surface of the collar 11, as by welding, is the mouth 12 of a flexible bag 13 intended to contain a product, such a toothpaste, to be dispensed. The bag 13 is generally formed from a laminated film whose inner layer comprises a heat-sealable material which is compatible with that of the collar 11.

The circumference of the bag 13, in the fully extended condition when filled with the viscous product to be dispensed is such that an interspace 14 is formed between the bag and the wall of the outer container 1.

Also connected to the plate-like element 8 is a support 15 which, in the embodiments shown, is in the form of an annular element coaxial with the collar 11 and secured on the interior of the latter. From the support 15 there extend, inwardly of the bag 13, opposite leg pairs 16, 17 and 16a, 17a, which are elastically divergent and have ends 18, 19 and 18a, 19a arranged to push, as a retractor on the bag 13 toward the outer container 1, thereby keeping the bag under a tension force, directed from the inside out, even as the bag, due to the product dispensing action, gradually empties itself and its bottom portion is folded up toward the mouth 12, as shown by the dash line in Figure 2.

The spreading tension from the legs 16, 17 and 16a, 17a is applied to the bag 13 in a peripheral region located substantially halfway of the container 1 length along a substantially perpendicular direction to the axis X-X.

The ends 18, 19 and 18a, 19a of the legs 16, 17 and 16a, 17a, which may be conveniently formed from a polyolefinic or polyamidic plastics material, are shaped as arcuate segments having a radius of curvature which corresponds to that of the respective confronting walls of the container 1, and extend in height over a predetermined distance parallel to the axis X-X.

Between the leg pairs 16, 17, 16a, 17a and their respective ends 18, 19, 18a and 19a, there are formed slots 20 sized to allow the elastic movement of the legs on the container 1 being squeezed and released, while

preventing, however, the bag 13 from getting in between and forming pockets of non-dispensable product.

Located on this same plate-like element 8, as particularly shown in Figures 4 and 5, is a one-way valve means for admitting external air to the container 1 interior following the suction effect created by the elastic recovery of the container 1 walls at the end of a product dispensing action.

This valve means comprises a hollow seat 21 defined by a frusto-conical side wall 22 and a top wall 23, with the taper pointing away from the container 1 and the cavity open into the inner side of the container. The frusto-conical side wall 22 is provided with a plurality of openings 24.

Located inside the seat 21 is a bell-shaped element 25, made of an elastomeric material and being, therefore, elastically flexible, which is connected to the top wall 23 by a peduncle 26. This bell-shaped element 25 will cling elastically against the openings 24 and hold them normally closed, especially when a pressure is exerted on the walls 6 and 7 of the container 1.

On said walls being released at the end of a dispensing operation, external air is allowed to enter through the openings 24 in consequence of the elastic deformation undergone by the bell-shaped element 25 inwardly of the seat 21, and each the interspace 14 between the flexible bag 13 and the outer container 1.

Due to the absence of intervening obstructions, the air can also flow beneath the bag 13 past the position of the ends 18, 19 and 18a, 19a of the opener legs and gradually cause the bag to overturn until emptied completely.

With specific reference to Figure 6, it may be noted that the dispenser of this invention includes a head, generally indicated by numeral reference 27. This head has, on its inner side, a delivery conduit 28 provided with a delivery orifice 29 at its end 30, and an inlet orifice 31 at its opposite end 32. The inlet orifice 31 is into communication with that axial passageway 10 of the plate-like element 8 by means of a front connection of the edge of the end 32 with an annular groove 33 formed on the element 8 around the axial passageway 10. The profiles of the cross-section of the groove 33 and of the edge of the end 32 mate with each other interlocked relationship.

A plurality of holes 8a is provided in the bottom of annular groove 33.

Said holes 8a, which can be seen in Figure 2, go across the thickness of the plate-like element 8 and open into the interspace 14.

At the location of the inlet orifice 31, the delivery conduit 28 is provided with a one-way valve means which opens in the direction toward the delivery orifice 29. This valve means comprises a cap 34 made from polypropylene, for example, which can be displaced angularly (see Figure 2) about a point 35 of attachment to a ring 36 which bears sealingly on an annulus 36a against which said cap 34 abuts in the sealing position.

The hinge-like point 35 of attachment is sized to hold, in its rest condition, the cap 34 in the closed position.

The head 27 is further provided with connecting means for connection to the open top 3 of the container 1. This means comprises a ring-like rib 37 formed around the edge 38 of the head and a counter-rib 39 formed on the edge 5 of the aperture 4 of the container 1.

Lastly, the head 27 includes a thread-down cap 40 with a tamper-proof band 41, for closing the delivery orifice 29.

With reference now to the embodiment shown in Figure 7, the rib 37 for connection of the head 27 to the container 1 is shown formed on a ring-like band 42 which is connected axially to the head 27 by a self-hinge flexible bridge 43 and interlockingly matched profiles 44 and 45 formed along the confronting edges of the head 27 and the band 42, respectively, in regions extending laterally of the bridge 43.

In the same embodiment as shown in Figure 7, the plate-like element 8 is provided with a grip ring 46, concentric with the axial passageway 10, which is substantially co-planar with the plate-like element 8, in the rest position, and is connected to the latter by a self-hinge flexible bridge 47.

The grip ring 46 can be raised by angular displacement about the bridge 47, as shown in Figure 7, and used to pull out of the container 1 the structural assembly formed by the plate-like element 8 and the flexible bag 13 when the latter has been emptied completely, and replace it with another assembly with a full bag 13.

The embodiment just described enables repeated use of the container 1 and its head 27 by replacing emptied bags 13 with full bags in a refill-like fashion.

It will be appreciated from the foregoing description that, with this invention, the flexible bag 13 requires no direct connection to the interior walls of the outer container 1, either at the mouth or any intermediate peripheral region thereof.

The bag 13, being held under constant tension by the ends 18, 19 and 18a, 19a of the opener legs placed inside it, enables exhaustive delivery of the product contained therein. In addition, by virtue of its connection to the collar 11 of the plate-like element in a detachable fashion from the container 1 together with the internal opener leg pairs 16, 17 and 16a, 17a, the bag 13 can be filled, where required, separately from the container 1, thereby to provide a separate refill item and affording all the advantages mentioned hereinabove.

With reference to Figure 9, which discloses a different embodiment of the opener of Figure 8, the leg pair 16 and 17 is replaced by a pair of smaller legs 160 and 170 which are connected to each other by a flexible strip-like annular element 171, at their farthest position from the support 150. Said annular element 171 is flat and substantially thick as the legs 160 and 171. Its outline, when inserted in the bag 13 and not pressed, is such to mate the outline of the inner side of the container 1 whereas its axial extension or width is symmetrically

decreasing from the location of the legs 160 and 170 to the opposite locations 172 and 173.

The axial width at said opposite locations 172 and 173 is such to allow the annular element 171 to pass through the opening 4 of the container by means of a tilting movement during the assembling steps of the dispenser, as shown in Figure 10.

The operation of a dispenser according to the invention can be appreciated from the foregoing description: after removing the protective cap 40 and while holding the outer container 1 in one hand, by application of a pressure force to the resilient walls 6 and 7 one will cause the bag 13 and the elastic opener leg pair 16 and 17 or 160 and 170 to become compressed.

As a result, a selected amount of the viscous product can be urged out past the one-way valve 34 which opens toward the delivery orifice 29.

On relieving the walls 6 and 7 of the container 1 of the compressive force, and as such walls spring back to their normal positions, the opener leg pair 16 and 17 or 160 and 170 will develop a lateral thrust force inside the bag 13 and again stretch it to its maximum diameter as allowed by the transverse dimensions of the bag 13 before it contacts the inside surfaces of the walls 6 and 7 of the container 1.

Concurrently therewith, as the cap 34 is closed against the abutment ring 36, the bell-shaped element 25 will deform elastically toward the hollow seat 21 and allow the air present in the cavity 27a of the head 27, which is not sealed off around its outer edge, to flow from the outside into the container 1 and the lower areas of the bag 13 through the interspace 14.

The dispenser of this invention is assembled by first connecting the support 15 for the opener legs to the plate-like element 8, specifically by attaching it to the inner wall of the collar 11.

At this stage, using a holding tool, not shown, passed through the axial passageway 10, in the case of the embodiment of Figure 8, the elastic legs 16, 17 and 16a, 17a are engaged with the tool and held gathered together in a converging condition. Specially useful to this aim is the recess 48 provided in the interconnection region of the ends 18, 19 and 18a, 19a to the respective legs 16, 17 and 16a, 17a.

The assembly including the plate-like element 8 and the opener legs 16, 17 and 16a, 17a held gathered by the tool is brought toward the bag 13, and the legs, while still held in the tool, are inserted through the mouth 12 until the latter locates around the outer surface of the collar 11.

The mouth 12 of the bag is now welded to the collar 11 using conventional welding equipment.

On completion of the welding step, the assembly is inserted into the container 1 and the plate-like element 8 is air-tight fixed with its edge 9 to the edge 5 of the container 1.

This seal may be enhanced by a wall section 9a fitting as a stopper inside the mouth 4 of the container 1.

At that point, the opener legs 16, 17 and 16a, 17a are released from the holding tool and the tool is taken out axially through the passageway 10, thereby the opener legs will spring to their bag 13 stretching positions.

This is followed by the filling step of fitting the head 27.

During the filling step, the holes 8a, provided in the bottom of the groove 33, allow the exit of the air from the interspace 14, whereas when the head 27 is fitted on the container 1, they become air-tight closed by the end 32 of the delivery conduit 28 which is inserted into the groove 33.

Claims

1. A dispenser of viscous products which comprises an outer container (1), extending along a longitudinal axis (X-X) which would generally lie vertical, with at least one elastically deformable side wall (6,7), a closed bottom (2), and a top (3) provided with an opening (4) defined by a rim (5), a flexible bag (13) placed inside said outer container (1), said bag (13) having a mouth (12) and being intended for containing the viscous product, a plate-like element (8) positioned across the opening (4) in the container (1) top and being connected to the rim (5) of the latter, said plate-like element (8) being provided with an axial passageway (10), parallel to the longitudinal axis (X-X) of the outer container (1), having a collar (11) projected inwardly of said outer container, said bag (13) having its mouth (12) sealed around said collar (11), a head (27) provided in its inner side with a viscous product delivery conduit (28) which has one end (30) provided with a delivery orifice (29) and an opposite end (32) provided with an inlet orifice (31) in a communication with the axial passageway (10) through said plate-like element (8), said head (27) including connecting means (37) for being connected to the rim (5) of the opening (4) in the top of said outer container (1), a first one-way valve means (34) placed in said viscous product delivery conduit (28) and opening in the direction toward said delivery orifice (29), and a second one-way valve means (25) opening in the direction toward the inner side of the outer container (1), characterized in that it includes opening apart means comprising at least one pair of elastically divergent legs (16,17,16a,17a,160,170) projecting from a support (15,150) connected to said plate-like element (8), said legs extending inside said bag (13) and applying a pressure force to the bag (13) directed toward the outer container (1).
2. A dispenser according to Claim 1, characterized in that said legs have a free respective end (18,19,18a,19a) which engages with the bag (13) at a location substantially halfway along the longitudinal extent of the bag (13) within the outer container (1).
3. A dispenser according to Claim 1, characterized in that said legs (160,170) are connected to each other by a flexible strip-like annular element (171) at their farthest position from said support (150).
4. A dispenser according to claim 3, characterized in that said flexible strip-like annular element (171) has an outline which mates the outline of the inner side of said outer container (1).
5. A dispenser according to Claim 4 characterized in that said flexible strip-like annular element (171) is provided with an axial width decreasing from the leg location to the opposite locations (172,173) far away from the legs (160,170).
6. A dispenser according to Claim 1, characterized in that said plate-like element (8) is provided with connecting means (9) for connecting said viscous product delivery conduit (28) to the end (32) thereof carrying the inlet orifice (31).
7. A dispenser according to Claim 6, characterized in that said connecting means comprises an annular groove (33) formed around said axial passageway (10), the cross-section profile of such groove, sealingly fitting the profile of the end (30) carrying the inlet orifice (29) of said delivery conduit (28).
8. A dispenser according to Claim 1, characterized in that said second one-way valve means (25) is placed on said plate-like element (8) to one side of said axial passageway (10).
9. A dispenser according to Claim 8, characterized in that said second one-way valve means comprises a hollow seat (21) defined by a frusto-conical side wall (22) and a top wall (23) being both formed on said plate-like element (8), with the taper pointing toward said head (27) and the cavity toward said outer container (1), a plurality of openings (24) formed in said frusto-conical side wall, an elastically flexible, bell-shaped element (25) fitting inside said hollow seat (21), being connected to said top wall (23) and caused to adhere elastically to said frusto-conical wall (22) close against said plurality of openings (24).
10. A dispenser according to Claim 1, characterized in that said connecting means of attaching said head (27) to the open top of said outer container (1) is carried on an annular band (42) connected axially to the head (27) by a self-hinge flexible bridge (43) and interlockingly mating profiles (44,45) around the confronting edges of the head (27) and the band (42) in regions extending laterally of the bridge (43).
11. A dispenser according to Claim 10, characterized in that said plate-like element (8) is provided with a ring

grip (46) substantially co-planar with said plate-like element (8) while in the rest condition, and adapted to be raised off it by pivotal movement about a flexible connecting bridge (47), said ring grip (46) allowing the plate-like element (8) and the bag (13) attached thereto to be taking manually out of said outer container (1).

Patentansprüche

1. Spender für viskose Erzeugnisse, der einen äußeren Behälter (1), der sich entlang einer Längsachse (X-X) erstreckt, die im allgemeinen vertikal verläuft, mit wenigstens einer elastisch verformbaren Seitenwand (6,7), einem geschlossenen Boden (2) sowie einer Oberseite (3), die mit einer durch einen Rand (5) begrenzten Öffnung (4) versehen ist, einen flexiblen Beutel (13), der im Inneren des äußeren Behälters (1) angeordnet ist, wobei der Beutel (13) eine Öffnung (12) aufweist und zur Aufnahme des viskosen Erzeugnisses dient, ein plattenartiges Element (8), das über die Öffnung (4) in der Oberseite des Behälters (1) hinweg angeordnet ist und mit dem Rand (5) des letzteren verbunden ist, wobei das plattenartige Element (8) mit einem axialen Durchlaß (10) parallel zur Längsachse (X-X) des äußeren Behälters (1) versehen ist, der einen Bund (11) aufweist, der von dem äußeren Behälter nach innen vorsteht, wobei die Öffnung (12) des Beutels (13) um den Bund (11) herum abgedichtet ist, einen Kopf (27), der an seiner Innenseite mit einer Abgabelleitung (28) für das viskose Erzeugnis versehen ist, die ein mit einer Abgabeöffnung (29) versehenes Ende (30), sowie ein gegenüberliegendes Ende (32) aufweist, das mit einer Einlaßöffnung (31) versehen ist, die durch das plattenartige Element (8) hindurch mit dem axialen Durchlaß (10) in Verbindung steht, wobei der Kopf (27) eine Anbringungseinrichtung (37) zur Anbringung an dem Rand (5) der Öffnung (4) in der Oberseite des äußeren Behälters (1) enthält, eine erste Rückschlagventileinrichtung (34), die in der Abgabelleitung (28) für das viskose Erzeugnis angeordnet ist und sich in Richtung auf die Abgabeöffnung (29) zu öffnet, sowie eine zweite Rückschlagventileinrichtung (25) umfaßt, die sich in Richtung auf die Innenseite des äußeren Behälters (1) zu öffnet.
dadurch gekennzeichnet, daß er eine sich öffnende Einrichtung enthält, die wenigstens ein Paar elastisch auseinandergehender Schenkel (16,17,16a,17a,160,170) umfaßt, die von einer Halterung (15,150) vorstehen, die mit dem plattenartigen Element (8) verbunden ist, wobei sich die Schenkel im Innern des Beutels (13) erstrecken und eine Druckkraft auf den Beutel (13) ausüben, die auf den äußeren Behälter (1) zu gerichtet ist.

2. Spender nach Anspruch 1, **dadurch gekennzeichnet**, daß die Schenkel jeweils ein freies Ende

(18,19,18a,19a) aufweisen, das mit dem Beutel (13) an einer Position im wesentlichen in der Mitte der Längsausdehnung des Beutels (13) in dem äußeren Behälter (1) in Kontakt ist.

3. Spender nach Anspruch 1, **dadurch gekennzeichnet**, daß die Schenkel (160,170) an ihrer von der Halterung (150) am weitesten entfernten Position durch ein flexibles streifenartiges, ringförmiges Element (171) miteinander verbunden sind.

4. Spender nach Anspruch 3, **dadurch gekennzeichnet**, daß das flexible streifenartige, ringförmige Element (171) einen Umriß aufweist, der an den Umriß der Innenseite des äußeren Behälters (1) paßt.

5. Spender nach Anspruch 4, **dadurch gekennzeichnet**, daß das flexible streifenartige, ringförmige Element (171) eine axiale Breite aufweist, die sich von der Position des Schenkels zu den einander gegenüberliegenden Positionen (172,173) hin, die von den Schenkeln (160,170) entfernt sind, verringert.

6. Spender nach Anspruch 1, **dadurch gekennzeichnet**, daß das plattenartige Element (8) mit einer Verbindungseinrichtung (9) versehen ist, die die Abgabelleitung (28) für das viskose Erzeugnis mit dem Ende (32) derselben verbindet, das die Einlaßöffnung (31) trägt.

7. Spender nach Anspruch 6, **dadurch gekennzeichnet**, daß die Verbindungseinrichtung eine ringförmige Nut (33) umfaßt, die um den axialen Durchlaß (10) herum ausgebildet ist, wobei das Querschnittsprofil dieser Nut dichtend an das Profil des Endes (30) paßt, das die Einlaßöffnung (29) der Abgabelleitung (28) trägt.

8. Spender nach Anspruch 1, **dadurch gekennzeichnet**, daß die zweite Rückschlagventileinrichtung (25) an dem plattenartigen Element (8) an einer Seite des axialen Durchlasses (10) angeordnet ist.

9. Spender nach Anspruch 8, **dadurch gekennzeichnet**, daß die zweite Rückschlagventileinrichtung einen hohlen Sitz (21) umfaßt, der durch eine kegelschalenförmige Seitenwand (22) und eine obere Wand (23) begrenzt wird, die beide an dem plattenartigen Element (8) ausgebildet sind, wobei der Konus auf den Kopf (27) zu gerichtet ist und der Hohlraum auf den äußeren Behälter (1) zu, wobei eine Vielzahl Öffnungen (24) in der kegelschalenförmigen Seitenwand ausgebildet sind, ein elastisch flexibles, glockenförmiges Element (25) in das Innere des hohlen Sitzes (21) paßt, das mit der oberen Wand (23) verbunden ist und elastisch an der kegelschalenförmigen Seitenwand (22) nahe an der Vielzahl von Öffnungen (24) anliegt.

10. Spender nach Anspruch 1, **dadurch gekennzeichnet**, daß die Verbindungseinrichtung zur Anbringung des Kopfes (27) an der offenen Oberseite des äußeren Behälters (1) von einem ringförmigen Band (42), das über einen flexiblen Gelenksteg (43) und eingreifend ineinanderpassende Profile (44,45) um die einander gegenüberliegenden Ränder des Kopfes (27) und des Bandes (42) in Bereichen, die sich quer zu dem Steg (43) erstrecken, axial mit dem Kopf (27) verbunden ist, getragen wird.

11. Spender nach Anspruch 10, **dadurch gekennzeichnet**, daß das plattenartige Element (8) mit einem Klemmring (46) versehen ist, der im Ruhezustand im wesentlichen koplanar mit dem plattenartigen Element (8) ist, und durch Schwenkbewegung um einen flexiblen Verbindungssteg (47) herum abgehoben wird, wobei der Klemmring (46) die manuelle Entnahme des plattenartigen Elementes (8) und des daran angebrachten Beutels (13) aus dem äußeren Behälter (1) ermöglicht.

Revendications

1. Distributeur pour produits visqueux, comprenant un récipient extérieur (1), s'étendant le long d'un axe longitudinal (X-X) généralement disposé verticalement, comprenant au moins une paroi latérale élastiquement déformable (6, 7), un fond fermé (2) et un dessus (3) pourvu d'une ouverture (4) définie par un bord (5), une poche flexible (13) placée à l'intérieur dudit récipient extérieur (1), ladite poche (13) ayant une bouche (12) et étant destinée à contenir le produit visqueux, un élément en forme de plateau (8), positionné dans l'ouverture (4) ménagée dans le dessus du récipient (1) et relié au bord (5) de celui-ci, ledit élément en forme de plateau (8) étant pourvu d'un passage axial (10) parallèle à l'axe longitudinal (X-X) du récipient extérieur (1), comprenant une collerette (11) saillant vers l'intérieur dudit récipient extérieur, la bouche (12) de ladite poche (13) étant scellée autour de ladite collerette (11), une tête (27) intérieurement pourvue d'un conduit (28) de distribution de produit visqueux, ayant une extrémité (30) pourvue d'un orifice de distribution (29) et une extrémité opposée (32) pourvue d'un orifice d'admission (31), communiquant avec le passage axial (10) par l'intermédiaire dudit élément en forme de plateau (8), ladite tête (27) incluant des moyens de liaison (37) destinés à être reliés au bord (5) de l'ouverture (4) ménagée dans le dessus dudit récipient extérieur (1), un premier moyen de clapet de non-retour (34) placé dans ledit conduit (28) de distribution de produit visqueux, s'ouvrant en direction dudit orifice de distribution (29), et un deuxième moyen de clapet de non-retour (25), s'ouvrant en direction de l'intérieur du récipient extérieur (1), caractérisé en ce qu'il comprend des moyens écarteurs comprenant au moins une paire de pattes élastiques divergentes

(16, 17; 16a, 17a; 160, 170) saillant depuis un support (15, 150) relié audit élément en forme de plateau (8), lesdites pattes s'étendant vers l'intérieur de ladite poche (13) et exerçant une force de pression sur la poche (13), qui est dirigée vers le récipient extérieur (1).

2. Distributeur selon la revendication 1, caractérisé en ce que lesdites pattes comportent une extrémité respective libre (18, 19; 18a, 19a) qui entre en engagement avec la poche (13) à un niveau situé essentiellement à mi-chemin de l'étendue longitudinale de la poche (13) à l'intérieur du récipient extérieur (1).

3. Distributeur selon la revendication 1, caractérisé en ce que lesdites pattes (160, 170) sont reliées les unes aux autres par l'intermédiaire d'un élément annulaire flexible (171) en forme de bande, au niveau de leur extrémité distale par rapport au support (150).

4. Distributeur selon la revendication 3, caractérisé en ce que ledit élément annulaire flexible (171) en forme de bande présente un profil qui épouse le profil de la face intérieure dudit récipient extérieur (1).

5. Distributeur selon la revendication 4, caractérisé en ce que ledit élément annulaire flexible (171) en forme de bande présente une largeur axiale qui décroît, du point de rattachement des pattes vers les points opposés (172, 173), éloignés des pattes (160, 170).

6. Distributeur selon la revendication 1, caractérisé en ce que ledit élément (8) en forme de plateau est pourvu de moyens connecteurs (9) permettant le raccordement dudit conduit (28) de distribution de produit visqueux, par l'extrémité (32) de celui-ci, qui porte l'orifice d'admission (31).

7. Distributeur selon la revendication 6, caractérisé en ce que lesdits moyens connecteurs comprennent une gorge annulaire (33) conformée autour dudit passage axial (10), le profil transversal de cette gorge s'ajustant de façon étanche sur le profil de l'extrémité (30) portant l'orifice d'admission (29) dudit conduit de distribution (28).

8. Distributeur selon la revendication 1, caractérisé en ce que ledit deuxième moyen de clapet de non-retour (25) est placé sur ledit élément (8) en forme de plateau, d'un côté dudit passage axial (10).

9. Distributeur selon la revendication 8, caractérisé en ce que ledit deuxième moyen de clapet de non-retour comporte un siège creux (21) défini par une paroi latérale tronconique (22) et une paroi supérieure (23), ces parois étant toutes deux formées

dans ledit élément (8) en forme de plateau, le cône étant dirigé vers ladite tête (27), et la cavité étant dirigée vers ledit récipient extérieur (1), une série d'ouvertures (24) étant ménagée dans ladite paroi latérale tronconique, et comprenant un élément élastique flexible (25) en forme de cloche, s'ajustant dans ledit siège creux (21), étant relié à ladite paroi supérieure (23) et amené à adhérer élastiquement à ladite paroi tronconique (22), se plaquant sur ladite série d'ouvertures (24).

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10. Distributeur selon la revendication 1, caractérisé en ce que lesdits moyens connecteurs destinés à rattacher ladite tête (27) au dessus ouvert dudit récipient extérieur (1) sont supportés par une bande annulaire (42) axialement reliée à la tête (27) par l'intermédiaire d'un pont flexible (43) faisant charnière, et comportent des profils conjugués (44, 45) s'enclenchant l'un dans l'autre, sur le pourtour des bords opposés de la tête (27) et de la bande (42), dans des zones s'étendant latéralement par rapport au pont (43).

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11. Distributeur selon la revendication 10, caractérisé en ce que ledit élément (8) en forme de plateau est pourvu d'un anneau-poignée (46), essentiellement coplanaire audit élément (8) en forme de plateau lorsqu'il est en position de repos, conçu pour être soulevé par rapport à celui-ci en un mouvement de basculement autour d'un pont de liaison flexible (47), ledit anneau-poignée (46) permettant audit élément (8) en forme de plateau et à la poche (13) attachée à ce dernier d'être manuellement retirés dudit récipient extérieur (1).

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