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(54) **TWO-COMPONENT PLASTIC CLOSURE AND METHOD FOR PRODUCING SAID CLOSURE AS A ONE-COMPONENT PART**

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(57) **ABSTRACT**

The plastic closure consists of an upper closure part (1) and a lower closure part (2) which in the condition of being used form separate parts (1,2). These two closure parts (1,2) are connected to one another as one piece via a hinge (7) or hinging strip (7), which permit the closure parts (1,2) to be pivoted apart by 180°. In this pivoted apart condition the closure is then injected as one-piece part in one go. The hinge (7) or hinging strip (7) is connected to one or both closure parts (1,2) via break-off locations. It may be torn away from these by hand and thus serves as a first-opening guarantee.

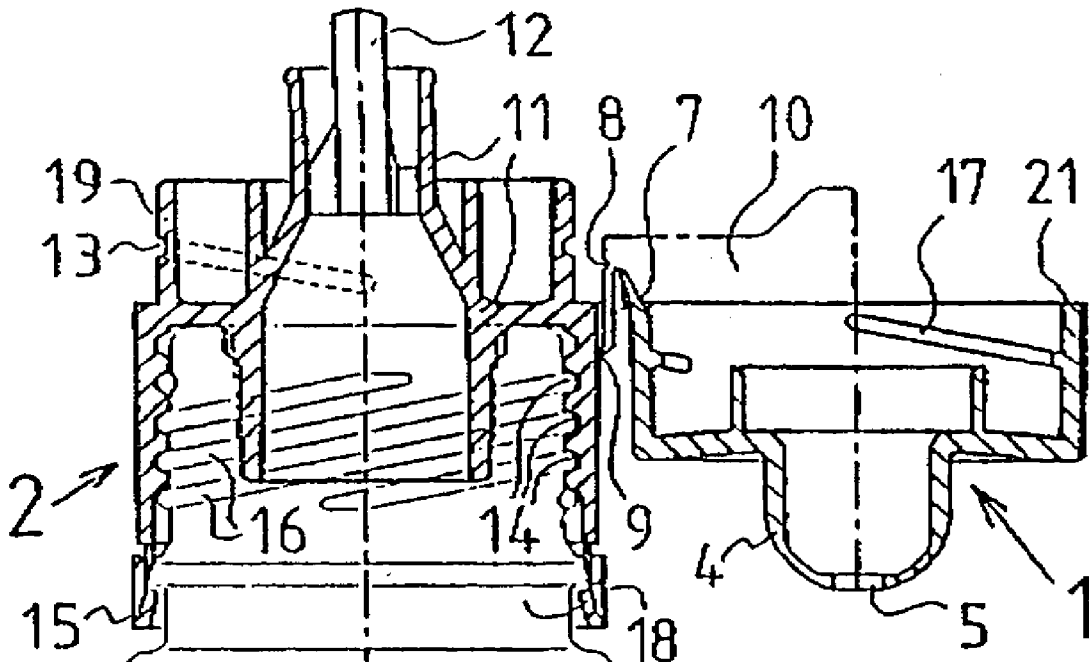
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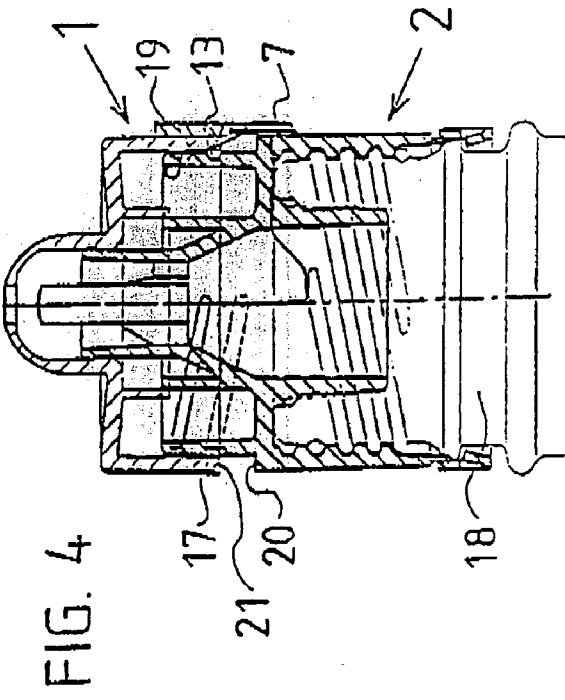
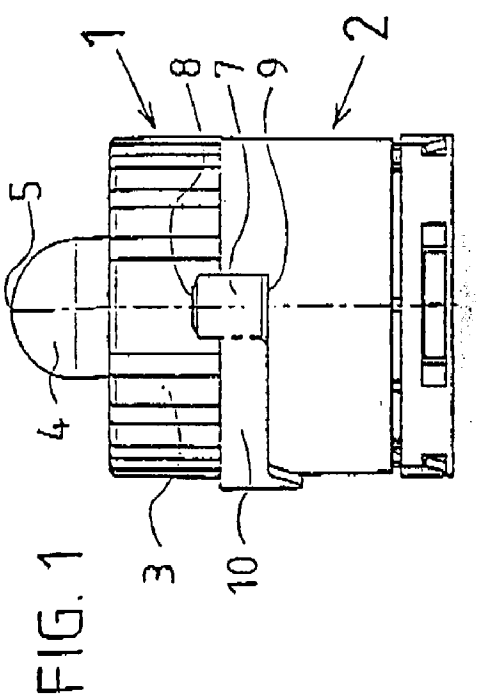
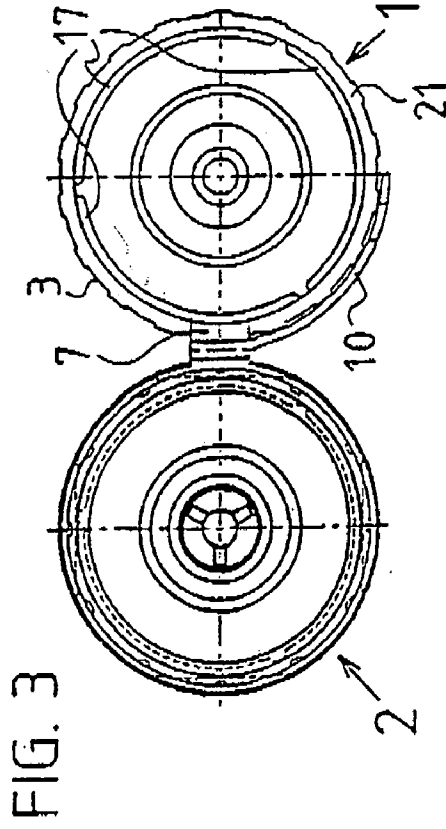
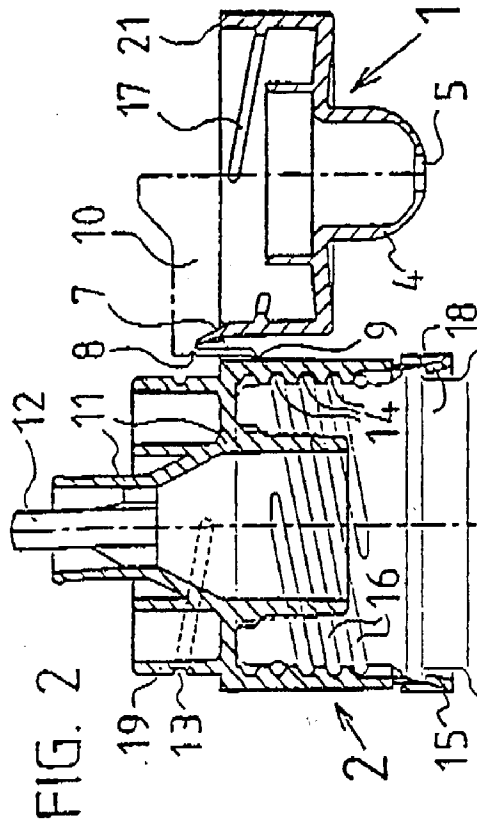
(22) **PCT Filed: Dec. 8, 2000**

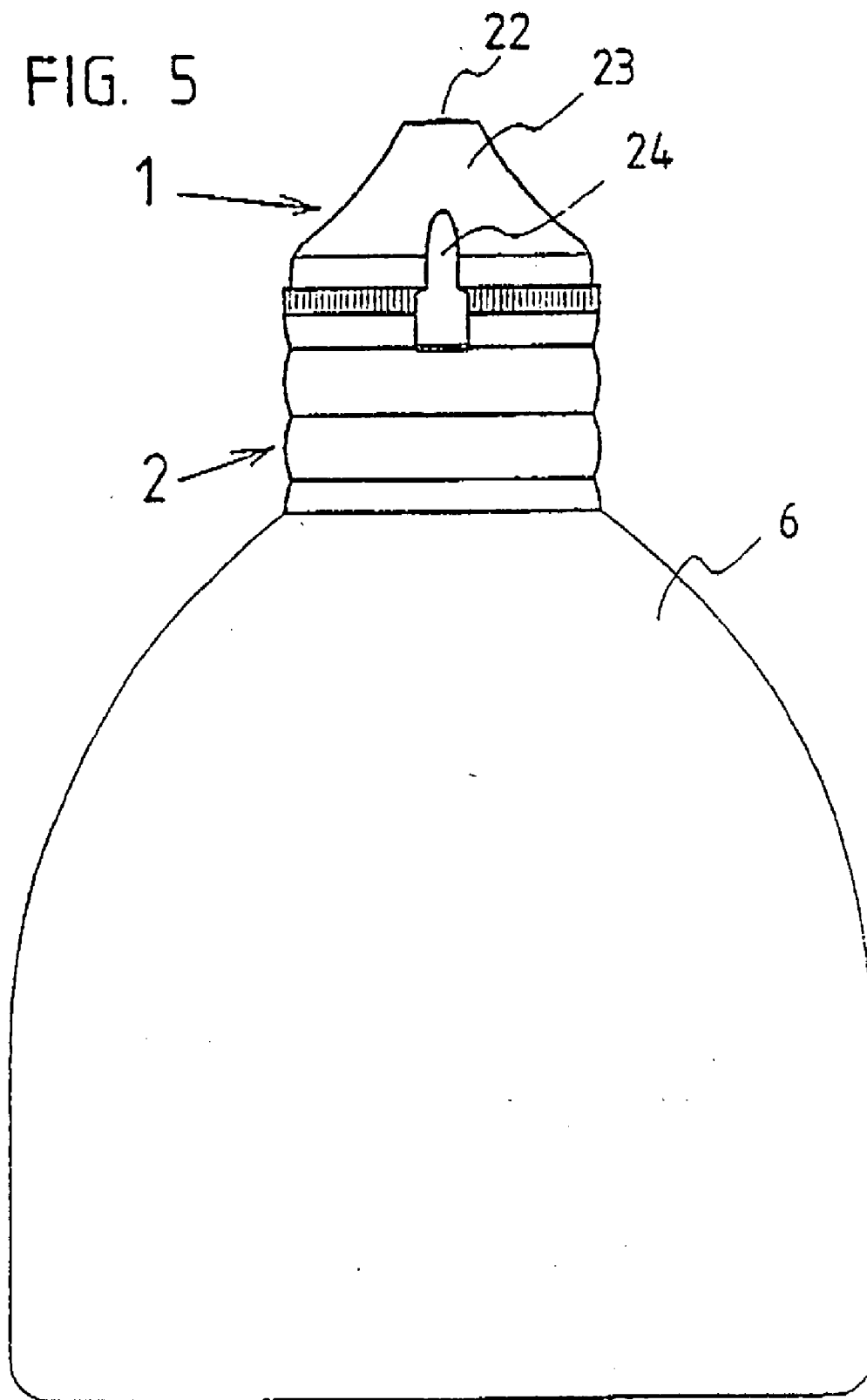
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Dec. 22, 1999 (CH) 2358/99







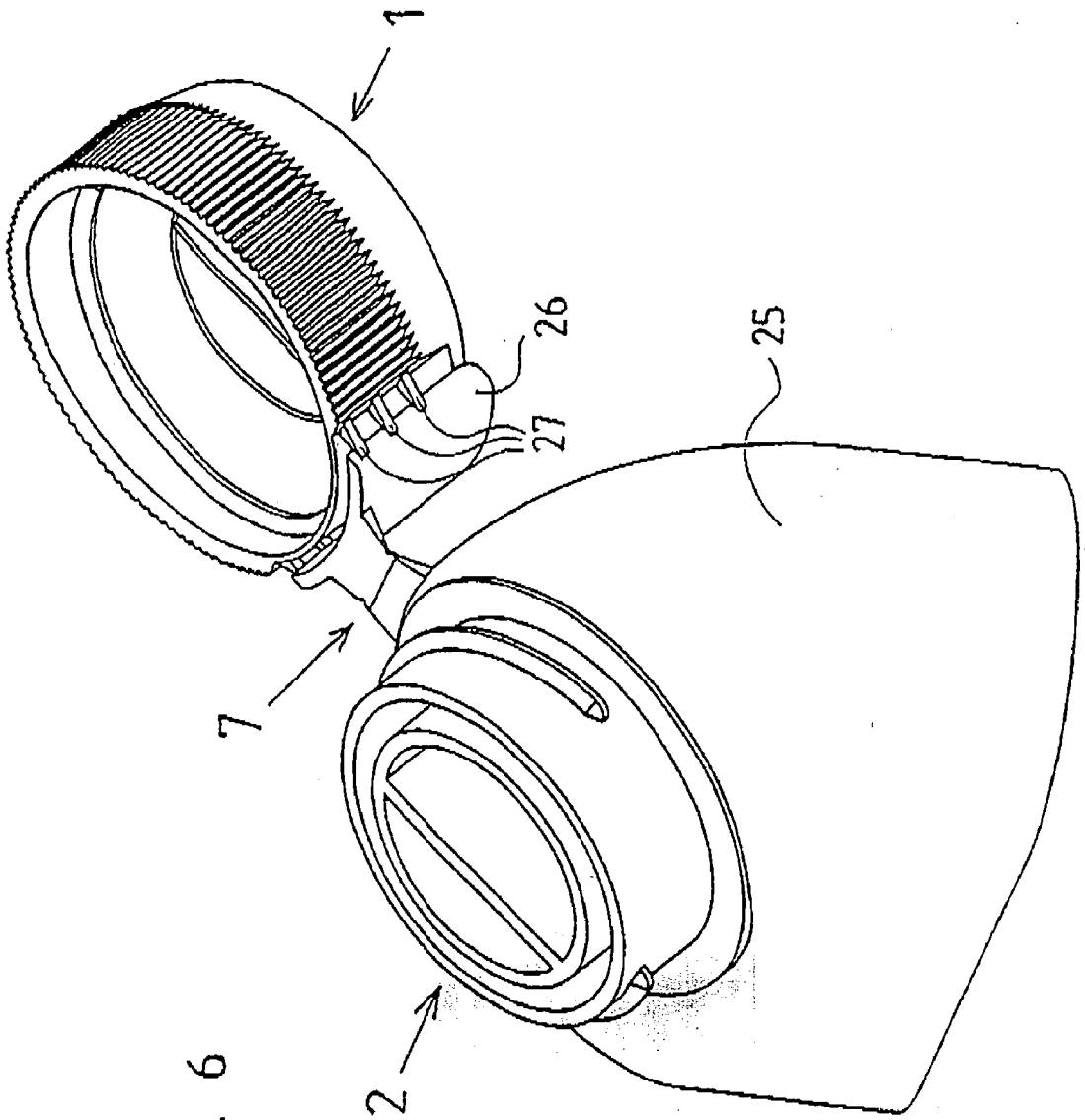


FIG. 6

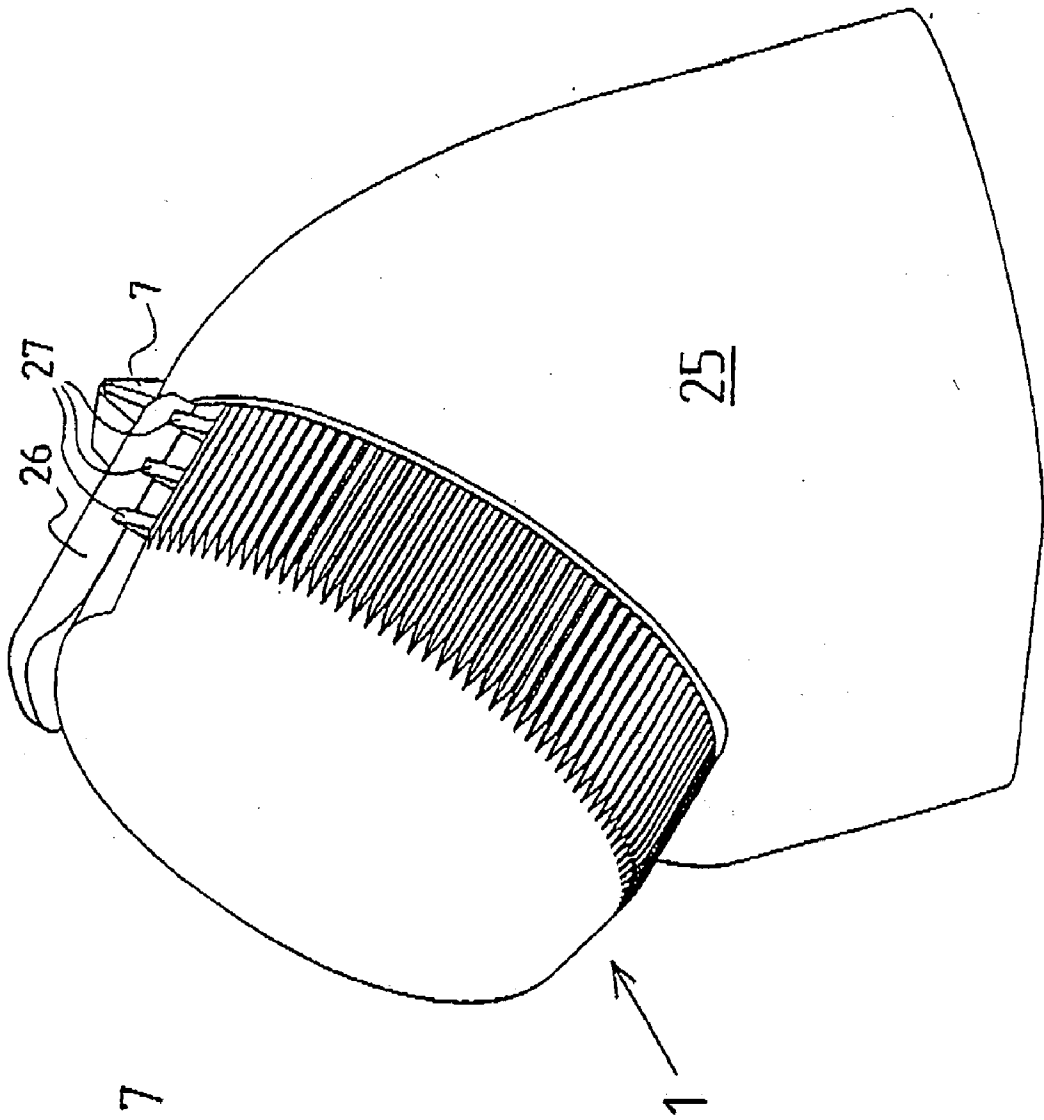


FIG. 7

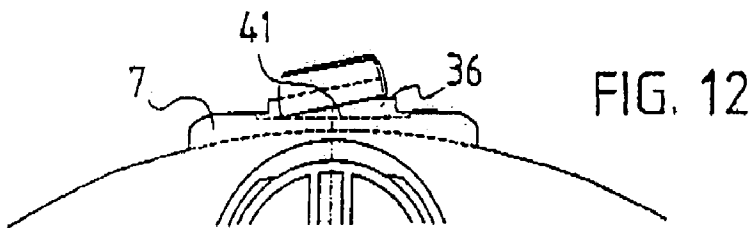
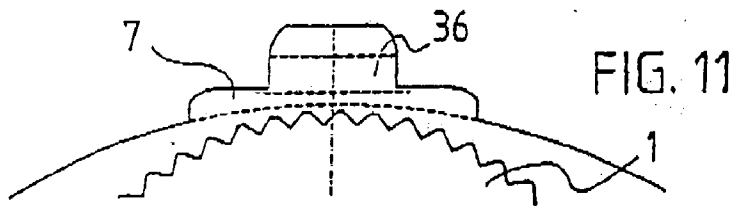
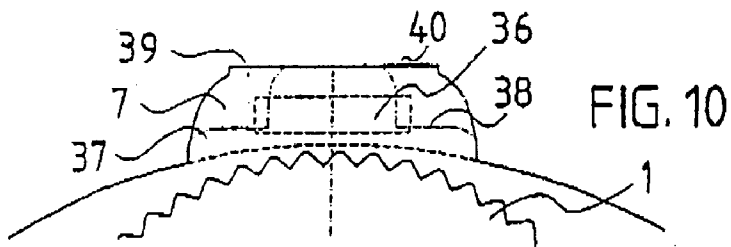
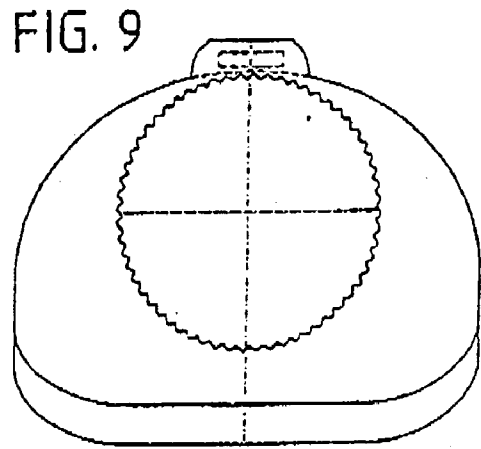
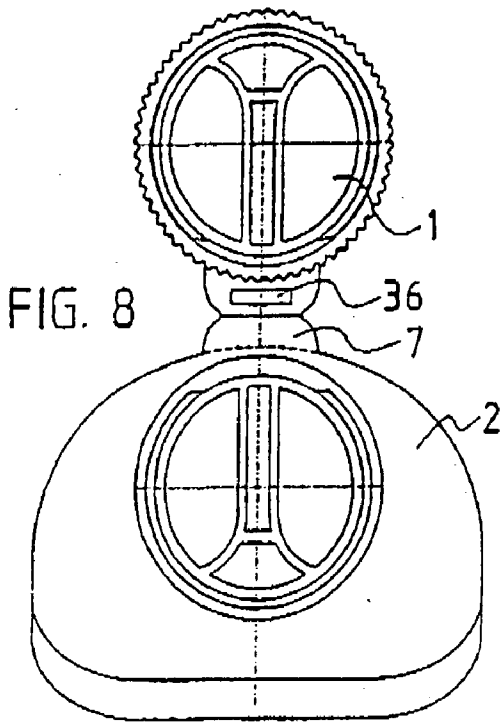


FIG. 13

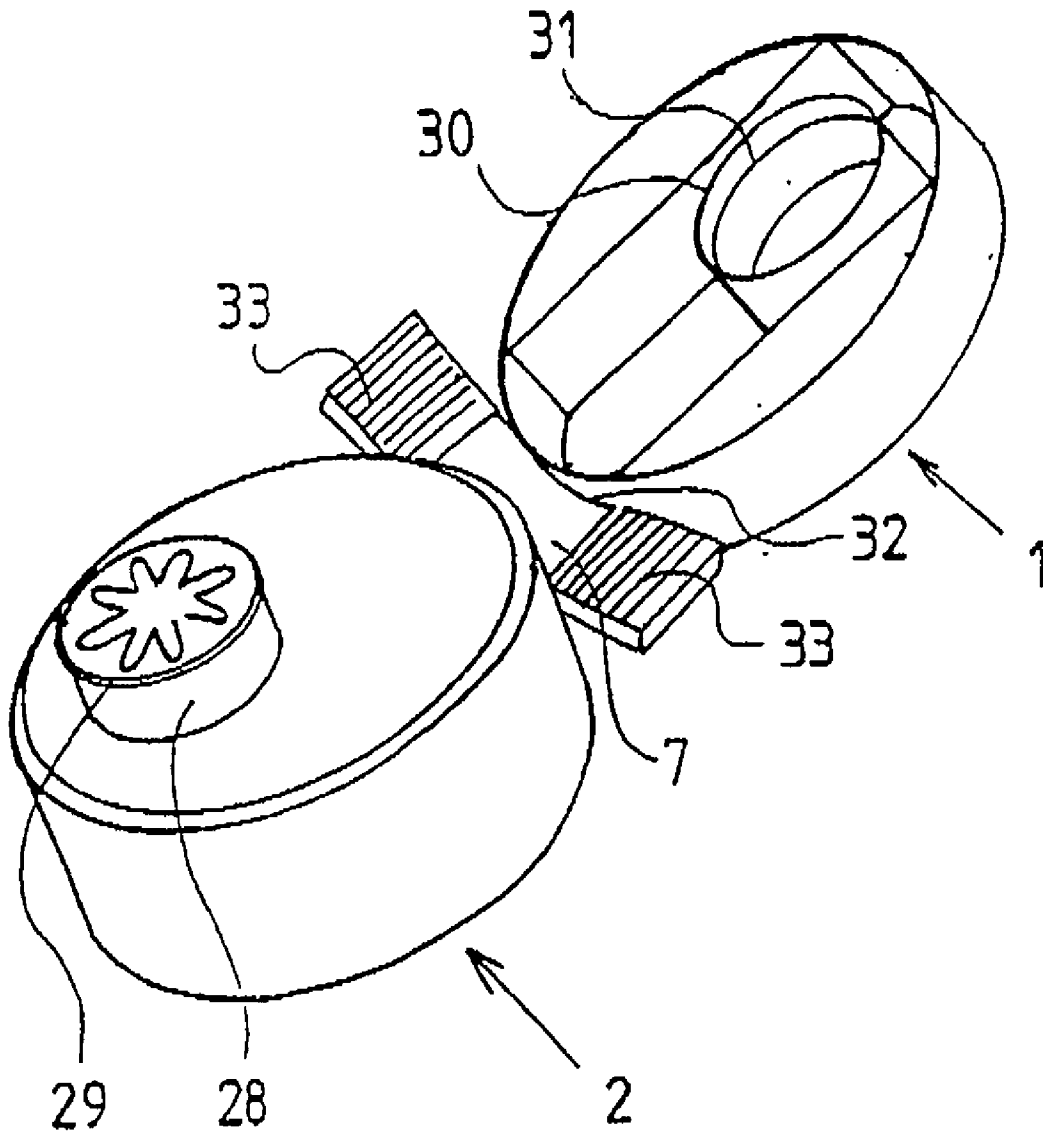


FIG. 14

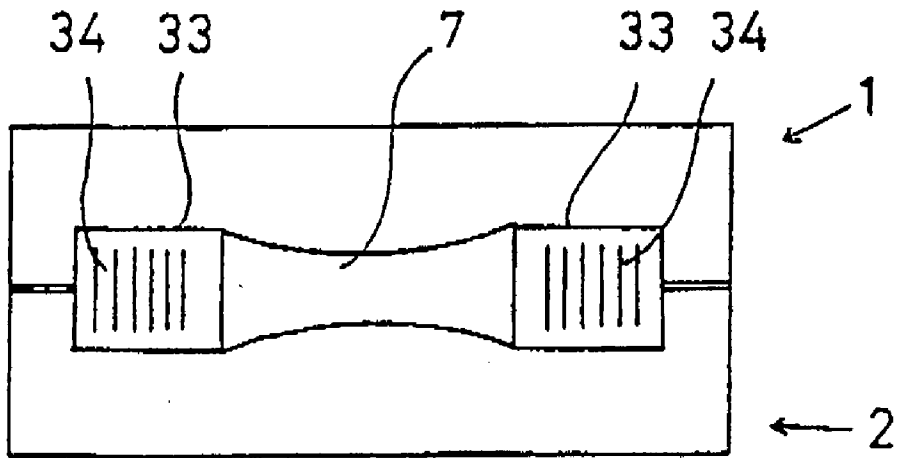
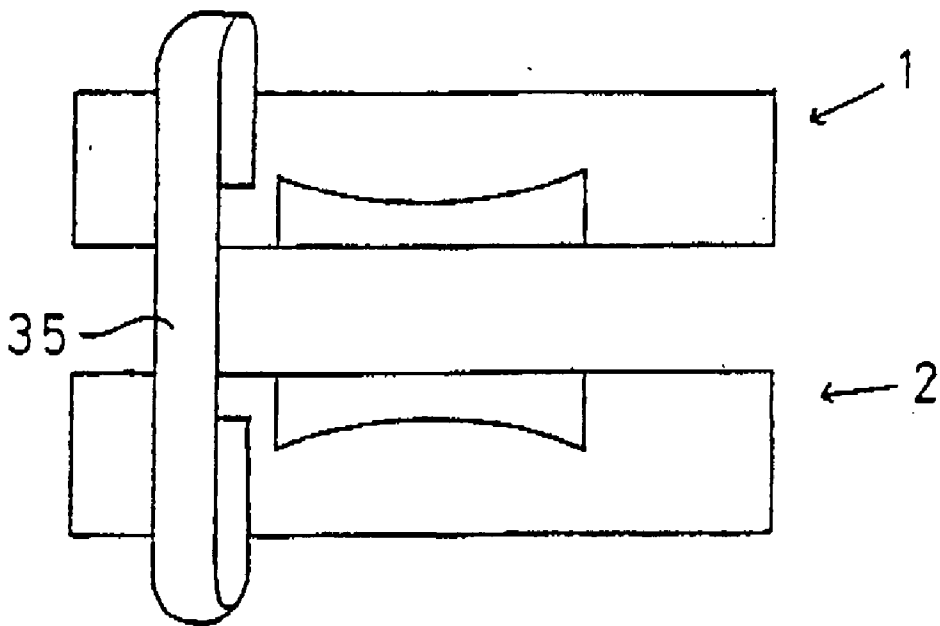


FIG. 15



TWO-COMPONENT PLASTIC CLOSURE AND METHOD FOR PRODUCING SAID CLOSURE AS A ONE-COMPONENT PART

[0001] The invention relates to a two-part plastic closure, as is used for all types of bottles, tubes and similar containers for fluid or viscous contents. Such a closure is designed two-part because a lower closure part forms a fixture, which thus is placed onto the container, for example by way of screwing it onto the body of the bottle or tube, and because the closure further includes an upper closure as a cap which together with the lower closure part forms the closure. The opening and closing of such a closure may be effected in that the upper closure part with respect to the lower closure part may be brought into such a position in which the closure as a whole forms an open flow-through channel which may be closed again by way of a reversed movement of the cap, with which the closure is thus closed again. The closure in another embodiment may however also be opened such that the upper closure part is screwed from the other and it completely separated from this, whereupon the lower closure part acts as a pour-out piece, instead of screwing off the upper closure part, if it is held on the lower closure part by way of snap closures, it may be simply pulled from this. As one variant, in the pulled-off condition it may be secured on a safety strip on the lower closure part or on the bottle. Such two-part closures are indeed conventionally injected in plastic with two separate tools. This is in particular the case with a central pin closures which are opened and closed in that the upper closure part is rotated with respect to the lower part by a certain amount. Likewise this is the case with all purely rotary closures with which the upper closure part is completely screwed off for opening. With such a two-part two-part closure, the design of a guarantee closure causes particular problems, and the solutions for this are complex.

[0002] It is the therefore object of the present invention on the one hand to provide a two-part closure which may be injected in plastic as a single part in one manufacturing operation, and which may selectively provide a first-opening guarantee. Furthermore it is the object of the present invention to provide a method for injecting such a closure as a single-piece part so that the two-part closure may thus be injected in one go.

[0003] On the one hand this object is achieved by a two-part plastic closure with a lower and an upper closure part which in the condition of use form separate parts, which is characterised in that the two closure parts are connected to one another via a hinge or a hinging strip, which permits the closure parts to pivot apart by 180°, in which position the closure may be injected as a one-piece part in one go, as well as in that this hinge or hinging strip either via break-off locations is connected to at least one of the closure parts so that it may be torn away by hand from the closure part concerned, or that the hinge or hinging strip by way of rotating the closure part begins to tear by shearing away and thus may be separated.

[0004] This object is further achieved by a method for manufacturing a two-part plastic closure in the form of a single-piece part which is characterised in that the two closure parts with regard to their position on the closed closure are injected pivoted away from one another by 180° as a one-piece part and connected via a hinge or hinging

strip, wherein the hinge or hinging strip is connected to at least one of the closure elements merely via break-off locations or a tear location.

[0005] In the drawings there are shown advantageous formations of such a two-part plastic closure, and its manufacture and function is hereinafter described and explained in detail by way of these drawings.

[0006] There are shown in:

[0007] **FIG. 1:** a two-part central rotary closure in the closed condition, seen from the rear;

[0008] **FIG. 2:** the central rotary closure according to **FIG. 1** in the ejected condition in a longitudinal section seen from the side, assembled onto a thread of a bottle;

[0009] **FIG. 3:** the central rotary closure according to **FIG. 1** in the ejected condition before its assembly onto a bottle thread, in a view from above;

[0010] **FIG. 4:** the central rotary closure according to **FIGS. 1 and 2** in a longitudinal section seen from the side, assembled onto the thread of a bottle, on popping the upper closure part onto the lower closure part;

[0011] **FIG. 5:** a central rotary closure in the still unopened condition assembled onto a bottle, with an intact first-opening guarantee strip;

[0012] **FIG. 6:** a rotary closure with a bottle formed as one piece on the lower closure part, in the condition directly after the ejection;

[0013] **FIG. 7:** the rotary closure according to **FIG. 6** in the condition after filling the bottle and the closing of the closure;

[0014] **FIG. 8:** a rotary closure with a guarantee strip with an initial-tear location and with a bottle formed as one piece on the lower closure part, in the condition directly after ejection;

[0015] **FIG. 9:** the rotary closure according to **FIG. 8** with a closure cap pivoted closed about the film hinge acting as a guarantee strip;

[0016] **FIG. 10:** the guarantee strip of the rotary closure according to **FIG. 9**, before the retromachining, still without the initial-tear location, in an enlarged representation;

[0017] **FIG. 11:** the guarantee strip of the rotary closure according to **FIGS. 9 and 10** with an initial-tear location realised by way of cut-aways, in an enlarged representation;

[0018] **FIG. 12:** the guarantee strip according to **FIG. 11** during the opening movement of the rotary closure, below which it is separated by shearing off;

[0019] **FIG. 13:** a two-part snap-closure with a film hinge as a first-opening guarantee strip, in the opened condition, after ejecting;

[0020] **FIG. 14:** the closed snap-closure according to **FIG. 13** seen from the rear;

[0021] **FIG. 15:** the snap closure according to **FIG. 13** after removal of the first first-opening guarantee strip and after its opening, that is to say after the lifting away of the upper closure part.

[0022] The closure according to the invention may be realised in various embodiments. Thus one basically differentiates between closures whose upper closure part is completely screwed away from the lower closure part by way of a thread. There are then closures whose closure parts likewise comprise threads, or thread turns present only in sections, with which the upper closure part may be rotated with respect to the lower closure part only over a certain rotational range, in that this upper closure part in both rotational directions comes to abut on suitably provided material continuations. Such closures have a central pin on the lower closure part which as an extended part fits into a corresponding opening in the upper closure part and seals the closure in the closed condition of the closure. For opening one rotates the upper closure part about a certain free rotational range away from the lower closure part so that the extended part is pulled out of the opening and thus the closure is opened for pouring out the fluid. With regard to this one speaks of a central pin closure. There are also used closures with which the upper closure part is held on the lower closure part by way of one or more snap closures so that thus the upper closure part is completely separable from the lower closure as with a rotary closure.

[0023] In FIG. 1 there is firstly shown a central pin closure or more exactly a central pin rotary closure in the closed condition from the rear. One can see the upper closure part 1 and below this the lower closure part 2. The upper closure part 1 which may be screwed towards the lower closure part 2 is surrounded by a knurled gripping edge 3 and upwardly ends into a dome-like pour-out 4 which at the very top comprises a pour-out opening 5. The lower closure part 2 forms the counter piece which is rigidly assembled onto a bottle. The closure shown here comprises a film hinge 7 which connects the two closure parts 1 and 2. This film hinge 7 is connected above and below to the corresponding closure parts 1, 2 via in each case one seam 8, 9 designed as a break-off location. On the one side of the film hinge 7, in the view here to the left, the film hinge 7 is extended in the circumferential direction of the closure and with this extension forms a grip tab 10 which for its part is connected along its upper edge to the upper closure part 1 via fine material bridges.

[0024] In FIG. 2 this central pin rotary closure is shown in the ejected condition in a longitudinal section seen from the side, already assembled onto the bottle thread 16 of a bottle 18. This condition shown here does not correspond to the opened condition on the bottle, but as mentioned the condition directly after the ejection. On the lower closure part 2 one recognises the central pin 12 held by a special design 11. The thread part on the lower closure part 2 here consists merely of a threaded groove 13 which furthermore extends only over one part of the circumference. In the lower region of the lower closure part 2 this comprises an inner thread 14 by way of which it may be screwed onto the outer thread 16 of a bottle 18. The lower edge 15 is designed as a security edge which snaps in so that the lower closure part 2 once screwed onto a bottle thread 16 of a bottle is difficult to be screwed off this again. As is evident here, in the ejected condition of the two-part closure, the upper closure part 1 is still connected by a hinge 7 to the lower closure part 2. One may also see the break-off locations 8, 9 in the form of the two thin seams via which the hinge 7 is connected to the two closure parts 1, 2. The hinge 7 is extended in the circumferential direction via the indicated continuation 10 on the

upper closure part 1 and this continuation forms a grip tab 10 which is connected to the lower edge 21 of the upper closure part 1 only via a few fine material bridges. The upper closure part 1 comprises an inner thread which is formed by one or more beads 17 which however only extend over a part of the circumference. One also sees the dome-shaped pour-out 4 with its pour-out opening 5, which here of course is directed downwards.

[0025] In FIG. 3 this closure is shown after ejection, in a view from above. Here one can already see the knurling of the grip edge 3 of the upper closure part 1 and furthermore the thread beads 17 which here in each case extend over roughly a third of the circumference of the closure part walling. Furthermore a grip tab 10 is also visible in this view, which extends laterally from the hinge 7 along a part of the lower edge 21 of the upper closure part 1. This grip tab 10 is connected to the lower edge 21 of the closure part 1 merely at a few locations quasi in a point-like manner via fine material bridges, so that it may be easily torn away from it.

[0026] After screwing the lower closure part 2 onto a filled bottle 18 the upper closure part is manually pressed onto the lower closure part 1 by pivoting together. This is effected with the force necessary to extend the walling of the upper closure part 1 so far that the beads 17 which form the thread on the upper closure part 1 are able to be popped over the outer diameter of the outer walling 19 of the lower closure part 1, until finally the beads 17 snap into the corresponding thread grooves 13 on the lower closure part 2. This popping-on is shown in FIG. 4 at the moment when the upper closure part 1 must still be pressed a few millimetres further downwards until it finally lies on the shoulder 20 of the lower closure part 2 with its lower edge 21. When the upper closure part has reached this position it is rigidly and immovably held on the lower closure part since via the hinge 7 it is connected to the same, which renders a rotation impossible. The hinge 7 then acts as a first-opening guarantee strip. The bottle thus together with the hinge is marketed. The hinge 7 therefore assumes two functions: firstly on injecting the closure it acts as a material connection between the upper 1 and the lower closure part 2 so that the closure may be injected as a single piece in one go, and secondly the hinge 7 acts as a first-opening guarantee strip. The hinge 7 may specifically be torn away before opening the bottle or closure for the first time. For this one grips the grip tab 10 and tears this in the opposite circumferential direction to which it points. By way of the momentum of the tearing hand the hinge 7 may be torn away from the closure at its seams 8, 9 which indeed are designed as break-off locations. So that the tearing-away becomes even easier, the seams 8, 9 at their ends may have an initial-tear location. After separating away the hinge or the guarantee strip 7, the upper closure part 1 is free and has no material connection to the lower closure part 2 and therefore may be rotated relative to this, by which means the closure may be opened and by rotating back may be closed again, as already described.

[0027] FIG. 5 shows a bottle 6 with a further two-part closure of an upper closure part 1 and a lower closure part 2. With this it is likewise the case of a central pin rotary closure. At the top the pin 22 acting as an extended part slightly projects from the pour-out 23. In the example shown here the hinge is extended in the direction towards the bottle

opening into a grip tab 24. The hinge itself in the same manner as already described with regard to the FIGS. 1 to 4 is connected to the closure parts 1, 2 via seams which are designed as break-off locations. Again the hinge acts as a material bridge for the single-piece injection of the two-part closure in one working operation, for which the two closure parts 1,2 may be pivoted away from one another by 180°. When the closure is assembled, the hinge then acts as a first-opening guarantee strip. It may be torn away for opening, whereupon the two closure parts 1,2 may be completely separated from one another.

[0028] In FIG. 6 there is shown a rotary closure with which the lower closure part 2 merges directly and as one-piece into a plastic bottle 25. The upper closure part 1 is connected to the lower closure part 2 via a film hinge 7. On the upper closure part 1 the film hinge 7 is shaped into a guarantee strip, 26 which fits snugly along the circumferential wall of the upper closure part 1 and which is only connected to the upper closure part 1 via a few break-off locations. However these break-off locations are still sufficient for the material flow in order to inject the upper closure part 1 as one piece and thus in one go together with the lower closure part 2 and the bottle 25 which hangs on this. The filled bottle 25 is closed in that the upper closure part 1, whilst snapping-in the thread parts with a pressing force sufficient for this, is pressed onto the lower closure part 2. For opening the bottle 25 one grips the tab 26 and tears it away by which means the upper closure part 1 is set free. Accordingly the tab 26 also with the film hinge 7 or its pivot may be torn away from the lower closure part 2 in that this pivot is formed sufficiently thin so that it acts as a break-off location. In one variant also the region on the other side of the pivot may to the same extent be connected to the lower closure part 2 or to the bottle 25 via a part which may be torn away at envisaged break-off locations.

[0029] In FIG. 7 this bottle 25 with the rotary closure is shown in a view as is seen when being supplied and ready to be sold. Over a certain part of the circumference of the upper closure part 1 there extends the tab 26 which is merely connected to the upper closure part 1 via material bridges 27, wherein these material bridges act as break-off locations. On the other hand when injecting they serve the material flow into the corresponding tool. Furthermore one may see the film hinge 7 which may be separated along its pivot on tearing away the tab 26. This pivot is formed thinly enough for it to be easily separable. In this case after opening the cap 1 the lower film hinge part remains still, and the torn-away tab 26 with the upper film hinge part may be thrown away.

[0030] In FIG. 8 there is shown a further rotary closure with which the lower closure part 2 merges directly and as one piece into a plastic bottle which is not shown here. The upper closure part 1 is again connected to the lower closure part 2 via a film hinge 7. Instead of a break-off location, here an initial-tear location is realised. For this the film hinge 7 has a thin region 36. Thus the strength of the film hinge 7 is reduced over this whole region 36. FIG. 8 shows this film hinge 6 with a thin region 36 after ejection. So that one achieves a safely functioning initial-tear location, one subsequently machines this film hinge 7 as is described in the following.

[0031] After injecting the rotary closure, this is firstly closed by machine in that the upper closure part 1 is pressed

onto the lower closure part 2 by pivoting about the film hinge 7. The inner and outer screw thread on the two closure parts 1, 2 is dimensioned such that the upper closure part 1 may still just be clicked onto the lower closure part 2 and the two threads thus snap into one another and assume the same position to one another as if the upper closure part 1 had been screwed onto the lower one. The rotary closure which has been dosed in this way is then as in FIG. 9.

[0032] Now a subsequent machining takes place in that specifically on both sides of the film hinge 7 a piece is cut away by machine, and specifically such a large piece that in each case the piece to be cut away overlaps with the thin region 36. FIG. 10 shows the film hinge on the closed closure in an enlarged representation. The thin region 36 is drawn-in dashed, and the lines 37, 38 along which to the left and right of the film hinge 7 a piece 38, 40 is cut are shown dot-dashed. The overlappings are therefore clearly visible.

[0033] FIG. 11 shows the film hinge 7 after the two pieces have been cut away to the left and right. The thin region 36 now to the left and to the right extends up to the edge of the film hinge 7 which still remains. The cutting-away is effected by way of a suitable punching tool by way of a machined punching of the closure which has previously been tensioned in a punching machine.

[0034] The FIG. 12 shows the function of the film hinge 7 weakened by the thin region 36. If specifically the upper closure part 1 is rotated in the anti-clockwise direction then thanks to the size of the outer diameter of the closure cap and the weakness of the film hinge 7, as a result of the thin region 36 provided here and extending up to the edge of the film hinge 7, it is possible for a tearing of this thin region 36 along the line 41 to be effected. The film hinge 7 is therefore separated as a result of the shearing and the closure cap 1 may be screwed away.

[0035] FIG. 13 shows a further embodiment of the two-part closure, here in the form of a closure which may be closed via snap closures. This again consists of a lower closure part 2 which may be screwed onto the outer thread of a container by way of an inner thread on its lower side not visible here. It is connected to the upper closure part 1 via a thin plastic strip 7. The effective closure of the closure is effected in that the pour-out 28 at its upper edge comprises a bead 29 over which one may pop on a circular wall 30 on the upper closure part 1, wherein an edge 31 projects on the inner side of this circular wall 30 so that here there is formed a slightly smaller diameter in a manner such that this edge 31 with a slight material deformation may be popped over the bead 29 and snapped in behind it. The plastic strip 7 which connects the two closure parts 1, 2 to one another is dimensioned and formed on the two closure parts 1, 2 in a manner such that its connection seams 32 are designed as thin locations or the strip as a whole is formed sufficiently thin. In order to simplify the tearing-away of the plastic strip 7, one grips a tab 33 with the thumb and index finger and tears this in the direction of the plastic strip 7 so that this is separated away from the two closure parts 1, 2 along its thin seams. After this the closure is ready for opening. The plastic strip 7 thus firstly serves as a location for the material flow for injecting the two closure parts 1, 2, and afterwards as a first-opening guarantee strip. Once removed, the upper closure part is simply pressed onto the lower one 2 for closing

the closure, so that the snap mechanism is effected and thus the upper closure **1** is sealingly snapped onto the lower closure part **2**.

[0036] In FIG. 14 this closure is yet shown in a view from the rear, with an intact guarantee strip **7**. The two tabs **33** are thus formed on the plastic strip **7**, like ears and have a knurling so that they may be securely gripped,

[0037] FIG. 15 shows the closure with separated closure parts **1** and **2** after removing the guarantee strip. It is clear that such a closure may be optionally formed so that a further longer plastic strip **35** connects the two closure parts **1, 2**, as is indicated here. With this it is ensured that the upper closure part **1** does not get lost when it is removed from the lower one for pouring.

[0038] With regard to the manufacture of such a closure, the particularity is to be seen in that it may be injected in one go as a one-piece part, although it is indeed of two parts, finally in the function of the two completely separated parts **1** and **2**. This injecting as a one-piece part in one operating procedure permits considerable savings, on the one hand with regard to the tooling costs and on the other hand with the injection work. The closure parts which until now have been separately manufactured now no longer have to be put together but may, as a single, connected part, be passed further directly for assembly on bottles which have already been filled. According to the invention the manufacture is effected such that the two closure parts with regard to their position on the closed closure are injected pivoted away from one another by 180° as a one-piece part and connected via a hinge or hinging strip the two closures **1, 2**. At the same time the hinge or hinging strip is used as a material flow location. It then forms a guarantee strip on the finished injected part in that it is connected to the one, the other or both closure parts **1,2** only via break-off locations. In detail the method up to assembly of the closure on the bottle proceeds in that firstly the two closure parts pivoted away from one another by 180° are injected as a one-piece part. The closure parts and the hinge or hinging strip connecting them are ejected. Finally the closure parts are pivoted together by 180°. If the closure parts are held together via snap closures then in this position by way of material deformation they are snapped into envisaged snap closures, and if it is the case of a rotary closure, the inner thread of the upper closure part **1** is pressed over the outer thread of the lower closure part. With this the closures, closed by guarantee is a ready for assembly onto a container.

List of Reference Numerals

- | | | | |
|--------|---------------------------------------|--------|---|
| [0039] | 1 upper closure part | [0049] | 11 design for holding the central pin |
| [0040] | 2 lower closure part | [0050] | 12 central pin |
| [0041] | 3 grip edge | [0051] | 13 thread groove on the lower closure part 2 |
| [0042] | 4 pour-out | [0052] | 14 inner thread on the lower closure part 2 for screwing onto the bottle |
| [0043] | 5 pour-out opening | [0053] | 15 lower edge of the lower closure part 2 |
| [0044] | 6 bottle (FIG. 5) | [0054] | 16 outer thread of the bottle |
| [0045] | 7 film hinge or hinging strip | [0055] | 17 bead thread on the lower closure part 1 |
| [0046] | 8 upper seam of the film hinge | [0056] | 18 bottle (FIGS. 14) |
| [0047] | 9 lower seam of the film hinge | [0057] | 19 walling on the lower closure part 2 |
| [0048] | 10 grip tab | [0058] | 20 shoulder on the lower closure part 2 |
| | | [0059] | 21 lower edge of the upper closure part 1 |
| | | [0060] | 22 pin |
| | | [0061] | 23 pour-out |
| | | [0062] | 24 grip tab |
| | | [0063] | 25 plastic bottle (FIGS. 6 & 7) |
| | | [0064] | 26 guarantee strip around the upper closure part 1 |
| | | [0065] | 27 break-off locations |
| | | [0066] | 28 pour-out |
| | | [0067] | 29 bead on the pour-out 28 |
| | | [0068] | 30 circular wall on the closure part 1 |
| | | [0069] | 31 projecting edge on the inner side of the circular wall 30 |
| | | [0070] | 32 connection seams, plastic strip |
| | | [0071] | 33 tabs on 7 |
| | | [0072] | 34 knurling on the tabs |
| | | [0073] | 35 security strip |
| | | [0074] | 36 thin region |
| | | [0075] | 37, 38 lines along which to the left and right on the film hinge 7 a piece 39, 40 is to be way |
| | | [0076] | 39, 40 piece to be cut away |

1. A two-part plastic closure with an upper closure part (**1**) and with a lower closure part (**2**) which in the condition of use form two separate parts (**1, 2**), characterised in that the two closure parts (**1, 2**) are connected to one another as one piece via a hinge (**7**) or a hinging strip (**7**), which permits the closure parts (**1, 2**) to be pivoted apart by 180°, in which position the closure may be injected in one go as a one-piece part, as well as in that this hinge (**7**) or hinging strip (**7**) either via break-off locations is connected to at least one of the two closure parts (**1, 2**) so that by hand it may be torn away from the closure part (**1, 2**) concerned, or that the hinge (**7**) or hinging strip (**7**) comprises an initial-tear location so that by way of rotating the closure part (**1**) it begins to tear by shearing-off and is thus separable.

2. A two-part plastic closure according to claim 1, characterised in that the hinge (**7**) or hinging strip (**7**) comprises an initial-tear location which consists of a thin region (**36**) within the injected film hinge (**7**), wherein after injection on

both sides pieces (39, 40) are punched away from this film hinge so that the thin region (36) on both sides extends up to the edge of the acting hinge and by way of rotating the closure part (1) begins to tear by shearing-off and is thus separable.

3. A two-part plastic closure according to claim 1 characterised in that the hinge (7) or hinging strip (7) is connected to both closure parts (1, 2) via break-off locations so that it may be torn away from these by hand.

4. A two-part plastic closure according to one of the claims 1 or 3, characterised in that the break-off locations are formed by fine material bridges to the respective closure parts (1, 2).

5. A two-part plastic closure according to one of the claims 1, 3 or 4, characterised in that the break-off location is formed by a seam (8, 9) of a film hinge (7) to the respective closure part (1,2), wherein this seam (8,9) comprises a tear-start location so that it may be separated by hand by tearing the hinge (7) away from, the corresponding closure part (1,2).

6. A two-part plastic closure according to one of the claims 1, 3, 4 or 5, characterised in that the hinge (7) forms a film hinge and in the direction of its pivot at least on its one side there is formed a tab (10, 24, 26, 33) for tearing away the film hinge (7).

7. A two-part plastic closure according to one of the claims 1 or 3, characterised in that the two closure parts (1,2) are connected via a hinging strip (7) which running perpendicular to the pivot is formed on one of the two closure parts (1,2) via one or more fine material bridges, and that this strip (7) at its one end is shaped into a tab (10, 24, 26, 33) in a manner such that the break-off location may be separated by hand by tearing on the tab (10, 24, 26, 33).

8. A two-part plastic closure according to one of the claims 1 or 3, characterised in that the two closure parts (1,2)

are connected via a hinging strip (7) which running perpendicular to the pivot is formed on both two closure parts (1,2) via one or more fine material bridges, and that this strip (7) at its one end or at both ends is shaped into a tab (10, 24, 26, 33) in a manner such that the break-off location may be separated by hand by tearing on the tab (10, 24, 26, 33).

9. A method for manufacturing a two-part plastic closure in the form of a one-piece part, characterised in that the two closure parts (1, 2) with regard to their position on the closed closure are injected pivoted away from one another by 180° as a one-piece part and connected via a hinge (7) or hinging strip (7), wherein the hinge (7) or hinging strip (7) is connected at least to one of the two closure parts (1,2) merely via break-off locations or it comprises an initial-tear location in the form of a thin region (36) punched free.

10. A method according to claim 9, characterised in that

- a) the two closure parts (1, 2) with regard to their position on the closed closure are injected pivoted away from one another by 180° as a one-piece part and connected via a hinge (7) or hinging strip (7);
- b) the closure parts (1,2) and the hinge (7) or hinging strip (7) connecting them are ejected;
- c) the closure parts (1,2) are pivoted together by 180° and in this position by way of material deformation are snapped into provided snap closures or in the-case of a threaded closure the inner thread (17) of the upper closure part (1) is pressed over the thread groove (13) of the lower closure part (2);
- d) for any realisation of a initial-tear location, pieces of the hinge (7) or hinging strip (7) laterally extending up to into the thin region (36) are cut away.

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