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(54) Bottle closure with warranty seal

(57) Closure (1) with a warranty seal (21) for containers for liquids, particularly bottles for valued beverages, with an orifice (2) located at the extremity of a neck (3) comprising a pouring unit associated with the neck (3) of the container, a tubular member (8) for anchoring the pourer (5) to the neck (3) of the container, a stopper (14) to open and close the said pourer (7), having an end wall (15) and a tubular skirt (16), the said stopper (14) being removably engaged with the pourer (5), an outer tubular cap (17) with a closed end (18) secured to the stopper (14) in such a way as to cover the stopper and terminate in a free edge (17d, 217d) facing towards the container, as well as a breakable seal (21) formed by an annular strip (22) surrounding the said tubular member (8) located in the axial zone (8c) beneath the free edge (17d) of the said cap and provided with at least one weakened line (28) for it to be broken by at least one rod-shaped member (24, 25) integral with the said annular strip (22) which extends axially from a perimetral area (26, 27) thereof towards the closed end (18) of the said cap (17), first means (29, 30) to engage the said at least one rod-shaped member (24, 25) with at least one axial length of the said tubular cap (17) and second means (31, 32) to engage the said strip (22) with at least one axial length of the said tubular member (8) anchored in the neck of the container, the said first and the said second means preventing relative angular movements between the parts.

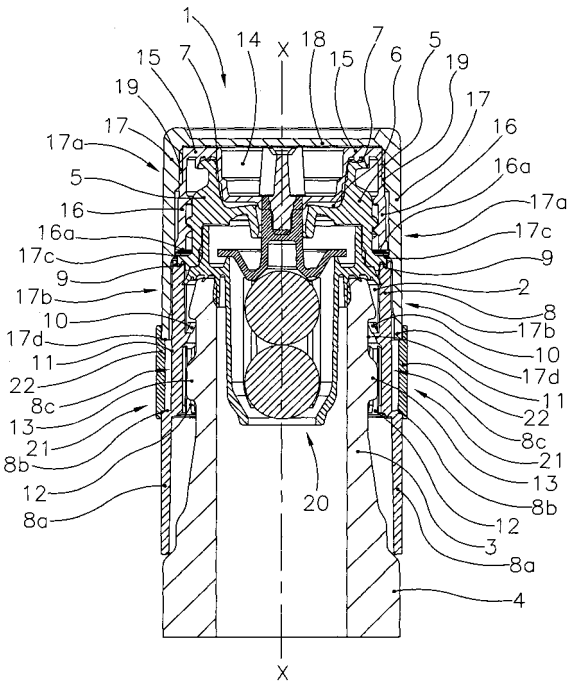

FIG. 1

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Description

[0001] This invention relates to a closure with a warranty seal for containers for liquids, especially bottles for valued beverages, with an orifice located at the end of a neck which extends axially from the body of the container along a longitudinal axis (X-X), the said closure comprising:

- a pouring unit associated with the neck of the container, the said pouring unit being provided with a pouring body forming a chamber with a pouring orifice,
- a tubular member for anchoring the pouring body to the neck of the container,
- a stopper to open and close the said pouring orifice, having a bottom wall transverse to the said longitudinal axis (X-X) and a tubular skirt connected to the edge of the said bottom wall, the said stopper being removably engaged with the pouring body,
- an outer tubular cap, with a closed end, secured to the stopper in such a way as to cover the stopper with the said closed end and with an axial portion thereof terminating in a free edge facing the body of the container,
- the said axial portion of the tubular cap being secured to the stopper through means which prevent relative axial and radial movements between the cap and the stopper,
- a breakable seal connecting the said cap to the tubular member anchoring the pouring unit to the neck of the container.

[0002] A closure having a seal of the type specified above is described and illustrated for example in EP-A-1 027 263.

[0003] Although offering effective protection against tampering, the abovementioned closure in the known art nevertheless has a number of disadvantages of a structural nature which complicate its assembly and therefore make it also relatively costly. According to such a known closure the warranty effect is achieved by rendering the first opening of the closure visible by pulling a strip fitted with a corresponding grasped tongue, the strip being provided in the second axial portion of the cap which covers the stopper through predetermined fracture lines which form its boundary. The known seal also comprises the provision of a ring of sheet material mounted over the strip, covering the predetermined fracture lines, anchored to the capsule beneath through axial annular seams produced by rolling which therefore make assembly relatively complex.

[0004] The object of this invention is to provide a closure of the type with a warranty seal in the form of a tearable annular strip in which the structural parts of the seal are simple to construct by pressing plastics materials and can be assembled with the other parts of the closure through mutual axial insertion which can be carried out in an automated way without having to resort to accessory rolling and seam-making operations.

[0005] A further object is that of providing a closure in which the seal provides a high level warranty and at the same time also permits rapid removal at the time of first opening.

[0006] These and other objects which will be more apparent from the description below are achieved by the closure according to claim 1 below.

[0007] The invention will now be more particularly described with reference to a number of embodiments illustrated by way of indication and without restriction in the appended drawings in which:

- Figure 1 shows a vertical transverse cross-section of the closure according to a first embodiment of the invention, mounted on the neck of a bottle, in the closed condition with the seal intact,
- Figure 2 shows a side view of the closure in Figure 1 in a first position,
- Figure 3 shows a side view of the same closure in Figure 1 in a position which is rotated through 90° with respect to the position in Figure 2,
- Figure 4 shows a perspective view of the closure in the condition in Figure 1,
- Figure 5 shows a vertical transverse cross-sectional view of the closure according to the invention mounted on the neck of a bottle in the closed position after first opening has occurred and the warranty seal has been removed,
- Figure 6 shows a side view of the closure in Figure 5 in a first position,
- Figure 7 shows a side view of the same closure in Figure 5 in a position rotated through 90° with respect to the position in Figure 6,
- Figure 8 shows a perspective view of the closure in the condition in Figure 5,
- Figure 9 shows a perspective view of the warranty seal according to a first embodiment of the invention,
- Figure 10 shows a plan view of the warranty seal in Figure 9,
- Figure 11 shows a cross-section of the warranty seal along the line XI-XI in Figure 10,
- Figure 12 shows a cross-section of the warranty seal along the line XII-XII in Figure 10,
- Figure 13 shows a closure according to the invention

in side view with the seal constructed in a modified form and intact,

- Figure 14 shows the closure in Figure 13 in a position which is rotated through 90° with respect to that in the preceding figure,
- Figure 15 shows the closure in Figure 13 in side view with the warranty seal removed,
- Figure 16 shows the closure in Figure 15 with the warranty seal removed and in a position which is rotated through 90° with respect to that in the preceding figure,
- Figure 17 shows a perspective view of the warranty seal according to the amended embodiment,
- Figure 18 shows a plan view of the seal in Figure 17,
- Figure 19 shows a cross-sectional view of the warranty seal along the line XIX-XIX in Figure 18,
- Figure 20 shows a cross-sectional view of the warranty seal along the line XX-XX in Figure 18,
- Figure 21 shows a further modified embodiment of the closure with the seal according to the invention.

[0008] With reference to the abovementioned figures the closure according to the invention is indicated as a whole by 1. This is placed on orifice 2 of neck 3 which extends along a longitudinal axis X-X from body 4 of a bottle.

[0009] In the embodiment thereof illustrated in Figures 1 to 20, closure 1 comprises a pouring unit comprising a pouring body 5 forming a chamber 6 with a pouring orifice 7, and a tubular member 8 which is integral with pouring body 5 through an axial connection 9 made for example by ultrasound welding or adhesive bonding.

[0010] Tubular member 8 is firmly secured to the outer wall of neck 3 through lip 10 which engages in annular groove 11 in the neck and through a plurality of axial grooves and ribs 12 and 13 provided in the inner wall of the tubular member and the outer wall of neck 3.

[0011] Tubular member 8 is therefore anchored to neck 3 of the bottle without the possibility of axial and angular movements. Tubular member 8 extends axially towards body 4 of the bottle through a tubular extension 8a, of greater diameter, with the formation of an annular step 8b.

[0012] Closure 1 also comprises a stopper 14 to close and open pouring orifice 7. Stopper 14 comprises a bottom wall 15 and a tubular skirt 16 connected to the circular edge of wall 15. Tubular skirt 16 engages the opposite wall of pouring body 5 through a conventional threaded connection in such a way that stopper 14 can be removed and fitted in order to open and close the bottle.

[0013] Closure 1 also comprises a tubular cap, indicated as a whole by 17, seated on stopper 14 coaxially with the X-X axis.

[0014] More specifically, cap 17 is provided with a closed end 18 transverse to the X-X axis which overlaps transverse wall 15 of the stopper and a first portion 17a which overlaps skirt 16 of the stopper, as well as a second portion 17b which coaxially overlaps tubular member 8 leaving an axial portion 8c which terminates opposite step 8b uncovered.

[0015] Through its first axial portion 17a cap 17 is anchored to underlying stopper 14 by conventional means indicated as a whole by 19, which prevent relative angular movements. This is also connected to the bottom edge 16a of the stopper skirt through engaging one of its annular ribs 17c.

[0016] In the example illustrated in Figures 1 and 5, closure 1 includes a valve unit which prevents refilling indicated as a whole by 20 and not described in detail because it is conventional and irrelevant for the purposes of understanding this invention.

[0017] In accordance with the invention closure 1 is provided with a breakable warranty seal indicated as a whole by 21.

[0018] This seal comprises a strip 22 which is positioned around portion 8c of tubular member 8, substantially within the axial zone lying beneath the free edge 17d of second portion 17b of the cap and annular step 8b. In its inner wall 22a strip 22 is provided with annular steps 23 and 23a which engage with edge 17d and step 8b respectively securing a stable position for strip 22 in relation to axial movements. In addition to this annular steps 23 and 23a perform a securing protective function in relation to cap 17.

[0019] Strip 22 is also stiffened through axial ribs 22b made in its inner wall 22a and projecting radially therefrom towards the X-X axis.

[0020] In accordance with the first embodiment illustrated in Figures 1 to 12 in the appended drawings, rod-shaped members 24 and 25, which in the example illustrated are diametrically opposite and preferably extend in an arcuate circumferential manner with a centre of curvature substantially coinciding with that of strip 22, cap 17 and tubular member 8, are associated with strip 22. Each member 24 and 25 comprises corresponding first portions 24a and 25a which extend axially in the direction of end wall 18 of cap 17 and corresponding respective second portions 24b and 25b which extend axially in the direction of body 4 of the bottle. Members 24 and 25 are integral with corresponding perimetral areas 26 and 27 of strip 22, each of which in the example illustrated are attached to the remaining perimetral parts of strip 22 through axial lines of weakness 28 through which strip 22 can be broken out, as will be more particularly apparent from the remainder of the description.

[0021] Although in the example illustrated portions 24b and 25b are axially aligned with corresponding portions 24a and 25a, as an alternative these portions may also

be constructed to be not in alignment with each other but extending from different perimetral areas of strip 22.

[0022] Furthermore, for the purposes of the function of the warranty seal according to the invention, a single member 24 or 25 may be provided as an alternative to the pair of opposing members 24 and 25.

[0023] Finally, but not necessarily, members 24 and 25 should be diametrically opposite; in fact for the purposes of the invention these may also project and be angularly displaced with respect to each other by any angle, for example 90° or 120°.

[0024] According to the invention portions 24a and 25a of rod-shaped members 24 and 25 find housing within corresponding axial grooves 29 and 30 provided in tubular cap 17. These grooves 29, 30 open towards the exterior of the closure and have a transverse cross-section whose dimensions match those of corresponding first portions 24a and 25a which are designed to engage therewith.

[0025] In the embodiment illustrated, grooves 29 and 30 extend axially between edge 17d of the cap and end wall 18. At wall 18 these are open to allow a user to grasp the free end of at least one rod-shaped member. As an alternative these may be closed but extended by a length beyond the free end of each rod-shaped member so as again to permit the extremity of at least one of portions 24a and 25a to be grasped.

[0026] Portions 24b and 25b of these rod-shaped members 24 and 25 are instead housed in corresponding recesses 31 and 32 provided axially in tubular extension 8a which in the example illustrated open towards the outside of the closure.

[0027] As an alternative, not illustrated in the drawings because it is in any event easily understandable by a person skilled in the art, recesses 31 and 32 may be provided in section 8a of tubular member 8 so as to open towards the interior of that tubular member and be closed to the exterior.

[0028] In both structural alternatives the perimeter of each recess 31, 32 is open alongside annular step 8b and has dimensions and a shape such as to match the cross-section and perimeter of the corresponding relative second portion 24b, 25b of the rod-shaped members.

[0029] When the seal is mounted on closure 1 and intact, strip 22 is positioned between edge 17d of cap 17 and step 8b of tubular member 8, the latter being anchored to the neck of the bottle. The seal is then immobilised with regard to axial movements. In addition to this, as the corresponding first portions of rod-shaped members 24 and 25 - 24a, 25a - and second portions 24b, 25b are engaged in grooves 29, 30 and recesses 31, 32, angular movements are also prevented.

[0030] At the time of first opening, the user acting on the accessible extremity of one of first portions 24a or 25a of rod-shaped members 24 or 25 causes them to be removed from corresponding groove 29 or 30, and continuing to pull away from cap 17 causes one of the lines of weakness 28 of strip 22 to break, with consequent destruction of the annular continuity of the same which becomes permanently detached from its initial position.

[0031] As strip 22 and rod-shaped members 24, 25 cannot be correctly repositioned because they have been manifestly broken or damaged, the lack of seal provides a clear indication that the closure has already been opened for a first time and this condition is visible even when the stopper is replaced on the closure.

[0032] Because the outer wall of axial portion 8c of tubular member 8 remains exposed, this can also be used to display writing, colours or messages indicating that the closure has already been opened.

[0033] In addition to this, the visible surfaces of the rod-shaped members may be used for advertising messages and these members may also be made either wholly or in part in colours which differ from those of the remaining parts of the closure, helping to impart a pleasing appearance to the closure.

[0034] A different embodiment of the closure according to the invention will now be described with reference to Figures 13 to 20. The structural members corresponding to those in the embodiments in Figures 1 to 12 will be indicated using the same reference numbers, but the others will be increased by 100.

[0035] It will be seen that the seal, indicated as a whole by 121, is provided with a strip 122 with which are associated rod-shaped members 124 and 125 which in the example illustrated are diametrically opposite to each other and extend axially in the direction of end wall 18 of cap 17 and are housed within corresponding axial grooves 129 and 130 wholly equivalent to grooves 29 and 30.

[0036] Members 124 and 125, equivalent to portions 24a and 25a of the embodiment in Figures 1 to 12, are integral with corresponding perimetral areas 126 and 127 of strip 122, each of which is attached to the remaining perimetral parts of strip 122 through axial lines of weakness 128 which make it possible to break out strip 122 when a pulling force is exerted on at least one of rod-shaped members 124 or 125 in an outward direction from cap 17.

[0037] In accordance with this modified embodiment of the seal, the internal wall 122a of strip 122 is provided with axial ribs 122b which extend radially towards the X-X axis and are designed to engage in corresponding grooves 122c made in axial portion 8c of tubular member 8.

[0038] In addition to this, strip 122 is provided with annular steps 123 and 123a which engage and abut against edge 17d and step 8b respectively, establishing a stable position for the strip in relation to axial movements.

[0039] As a result of the existence of ribs 122b which project radially from inner wall 122a of strip 122, step 123a is not strictly necessary for axially engaging strip 122 with step 8b in that the same abutment function may be performed directly through the lower extremities of ribs 122b.

[0040] In particular the transverse cross-section of the

said ribs and grooves is substantially of the dovetail type, with one complementing the other, as illustrated by way of example in the drawings, in such a way as to ensure that they engage in relation to both angular and radial relative movements.

[0041] The functioning of the closure and seal according to the embodiment described above with reference to Figures 13 to 20 is exactly the same as that described in relation to the embodiments in Figures 1 to 12.

[0042] A further embodiment of the closure according to the invention will now be described with reference to Figure 21. Structural members corresponding to those in the embodiments illustrated in Figures 1 to 20 have been indicated using the same reference numbers while the others have been increased by 200.

[0043] It will be noted that tubular member 208 connecting pouring body 205 to the neck 3 of container 4 is provided with an annular step 208a which axially engages annular step 205a of the pouring body, forming the connection.

[0044] This tubular member 108 is also axially connected to skirt 16 of the stopper through a circumferential line of weakness 216.

[0045] Warranty seal 221, in the embodiment illustrated in Figure 21, comprises a strip 222 with which are associated rod-shaped members corresponding to those indicated by 24 and 25 in the embodiment in Figures 1 - 12 and which in the example illustrated are diametrically opposite each other. Only one of these members can be seen in Figure 21 and this is indicated by 224, flanked by lines of weakness 228 for breaking out the strip.

[0046] This extends axially in the direction of end wall 218 of cap 217, being housed in groove 229 which is wholly equivalent to groove 29.

[0047] Strip 222 is provided with annular steps 223 and 223a which engage and abut against edge 217d of cap 217 and step 208b of tubular member 208 respectively, causing strip 222 to be stably positioned in relation to axial movements.

[0048] The inner wall 222a of strip 222 is provided with axial ribs 222b which project radially towards the X-X axis and are designed to engage in corresponding grooves 222c made in axial portion 208c of tubular member 208.

[0049] The functioning of the closure and seal according to the embodiment described above with reference to Figure 21 is wholly identical to that already described in relation to the embodiment in Figures 1 to 12.

[0050] Any dimensions and materials may be appropriate according to requirements without thereby going beyond the scope of the invention as described above and claimed below.

Claims

1. Closure (1) with a warranty seal (21, 121), for containers for liquids, particularly bottles for valued beverages, with an orifice (2) located at the end of a neck (3) which extends axially from the body (4) of the container along a longitudinal axis (X-X), the said closure comprising:

- a pouring unit associated with the neck (3) of the container, the said pouring unit being provided with a pouring body (5, 205) forming a chamber (6) with a pouring orifice (7),
- a tubular member (8, 208) for anchoring the pouring body (5, 205) to the neck (3) of the container,
- a stopper (14) for opening and closing the pouring orifice (7) having an end wall (15) transverse to the said longitudinal axis (X-X) and a tubular skirt (16) connected to the edge of the said end wall, the said stopper (14) being removably engaged in the pouring body (5, 205),
- an outer tubular cap (17, 217), with a closed end (18, 218), secured to the stopper (14) in such a way as to cover the stopper with the said closed end (18, 218) and with an axial portion thereof (17a) terminating in a free edge (17d, 217d) facing the body (4) of the container,
- the said axial portion (17a) of the tubular cap being secured to the stopper by means (19, 17c, 16a) which prevent relative axial and radial movements between the cap and stopper,
- a breakable seal (21, 121, 221) connecting the said cap (17, 217) with the tubular member (8, 208) anchoring the pouring unit to the neck of the container,

characterised in that the said breakable seal (21, 121, 221) comprises an annular strip (22, 122, 222) surrounding the said tubular member (8, 208) located in the axial area (8c, 208c) beneath the free edge (17d, 217d) of the said cap and provided with at least one line of weakness (28, 128, 228) for breakage thereof, at least one rod-shaped member (24, 25, 124, 125, 224) integral with the said annular strip (22, 122, 222), which extends axially from a perimetral area (26, 27, 126, 127) thereof towards the closed end (18, 218) of the said cap (17, 217), first means (29, 30, 129, 130, 229) to engage the said at least one rod-shaped member (24, 25, 124, 125, 224) with at least one axial length of the said tubular cap (17) and second means (31, 32, 122b, 122c, 222c) to engage the said strip (22, 122, 222) with at least one axial length of the said tubular member (8, 208) anchored to the neck of the container, the said first and the said second means preventing relative angular movements between the parts.

2. Closure with a warranty seal according to claim 1, **characterised in that** the said perimetral area (26, 27, 126, 127) of the strip (22, 122, 222) from which the said rod-shaped member (24, 25, 124, 125, 224) extends axially forms one body with the said mem-

ber.

3. Closure with warranty seal according to claims 1 and 2, **characterised in that** the said weakened line (28, 128, 228) for breaking out the strip (22, 122, 222) extends axially between the said perimetral area (26, 27, 126, 127) of the strip and the remaining perimetral part of the strip.

4. Closure with a warranty seal according to claims 1 to 3, **characterised in that** the said breakable warranty seal (21, 121, 221) comprises a pair of the said rod-shaped members (24, 25, 124, 125, 224) integral with the said strip (22, 122, 222) and extending axially therefrom away from corresponding perimetral areas.

5. Closure with a warranty seal according to claim 4, **characterised in that** the perimetral areas (26, 27, 126, 127) from which the pair of rod-shaped members extends are diametrically opposite.

6. Closure with a warranty seal according to claims 1 to 5, **characterised in that** the said first means for engaging the said strip (22, 122, 222) of the warranty seal with at least one axial length of the said tubular cap (17, 217) comprises axial grooves (29, 30, 129, 130, 229) provided in the tubular cap (17, 217) within which the corresponding rod-shaped members (24, 25, 124, 125, 224) are housed, the said grooves being open to the outside of the cap and being provided with a transverse cross-section whose dimensions mate with those which the said rod-shaped members have in their transverse cross-section.

7. Closure with a warranty seal according to claim 6, **characterised in that** the said axial grooves (29, 30, 129, 130, 229) extend over the entire length of the cap (17, 217) and have open extremities at the closed end (18, 218) and free edge (17d, 217d) of the cap.

8. Closure with a warranty seal according to claims 1 to 5, **characterised in that** the said second means for engaging the said strip (22) of the warranty seal with at least one axial length (8a) of the said tubular member (8) comprises at least one recess (31, 32) provided in the wall of the said tubular member (8a), at least one second portion (24b, 25b) of a rod-shaped member integral with the strip (22) which extends axially from a perimetral area of the said strip (22) towards the body (4) of the container, the said second portion being housed within the said recess, the perimeter and transverse cross-section of the said recess (31, 32) having dimensions such as to mate with those of the corresponding second portion (24b, 25b) of a rod-shaped member.

9. Closure with a warranty seal according to claim 8, **characterised in that** the said recess (31, 32) is axially open at its extremity facing the strip (22) of the seal and closed at the opposite extremity.

10. Closure with a warranty seal according to claims 1 to 5, **characterised in that** the said second means for engaging the said strip (122, 222) of the warranty seal with at least one axial length (8c, 208c) of the said tubular member (8, 208) comprise a plurality of radially projecting ribs (122b, 222b) and grooves (122c, 222c) made in the inner wall (122a, 222a) of the strip (122, 222) and the outer wall of the axial length (8c, 208c) of the said tubular member (8, 208) respectively and alternately, the said ribs and the said grooves engaging with each other.

11. Closure with a warranty seal according to claim 10, **characterised in that** the said ribs (122b) and the said grooves (122c) have a substantially dovetail transverse cross-section, each complementing the other.

12. Closure with a warranty seal according to claims 1 to 11, **characterised in that** it also comprises immobilising means to axially immobilise the said strip (22, 122, 222) of the warranty seal in relation to the said cap (17, 217) and the axial length (8a, 208a) of the tubular member (8, 208) connecting the pouring body with the neck (3) of the container.

13. Closure with a warranty seal according to claim 12, **characterised in that** the said means for axially immobilising the strip (22, 122, 222) comprise steps (223, 23a, 123, 123a, 223, 223a) provided in the opposite edges of the said strip forming axial abutments with the edge (17d, 217d) of the cap (17, 217) and the step (8b, 208b) of the axial length (8a, 208a) of the said tubular member (8, 208) respectively.

14. Closure with a warranty seal according to claims 1 to 13, **characterised in that** each of the said rod-shaped members (24, 25, 124, 125, 224) extends substantially circumferentially with a centre of curvature substantially coinciding with that of the perimeter walls of the said cap (17, 217) and the said tubular member (8, 208).

15. Closure with a warranty seal according to claims 1 to 14, **characterised in that** the said strip (22, 122, 222) and the said rod-shaped members (24, 25, 124, 125, 224) comprising the warranty seal (21, 121, 221) are constructed of plastics material and are of a colour which differs from that of the other parts of the closure.

16. Closure with a warranty seal according to claims 1 to 15, **characterised in that** the visible surface of

at least part of the said rod-shaped members (24, 25, 124, 125, 224) and the said strip (22, 122, 222) is provided with messages intended for the user.

17. Closure according to claims 1 to 16, **characterised in that** the said tubular member (8) for anchoring the pouring body (5) to the neck (3) of the container is made integral with the said pouring body (5) through welding and/or adhesive bonding.

18. Closure according to claims 1 to 16, **characterised in that** the said tubular member (208) for anchoring the pouring body (205) to the neck (3) of the container (4) engages with the latter through axial interlocking between the annular steps (208a, 205a) and is also connected to the said tubular skirt (16) of the stopper through a circumferential line (216) of weakness.

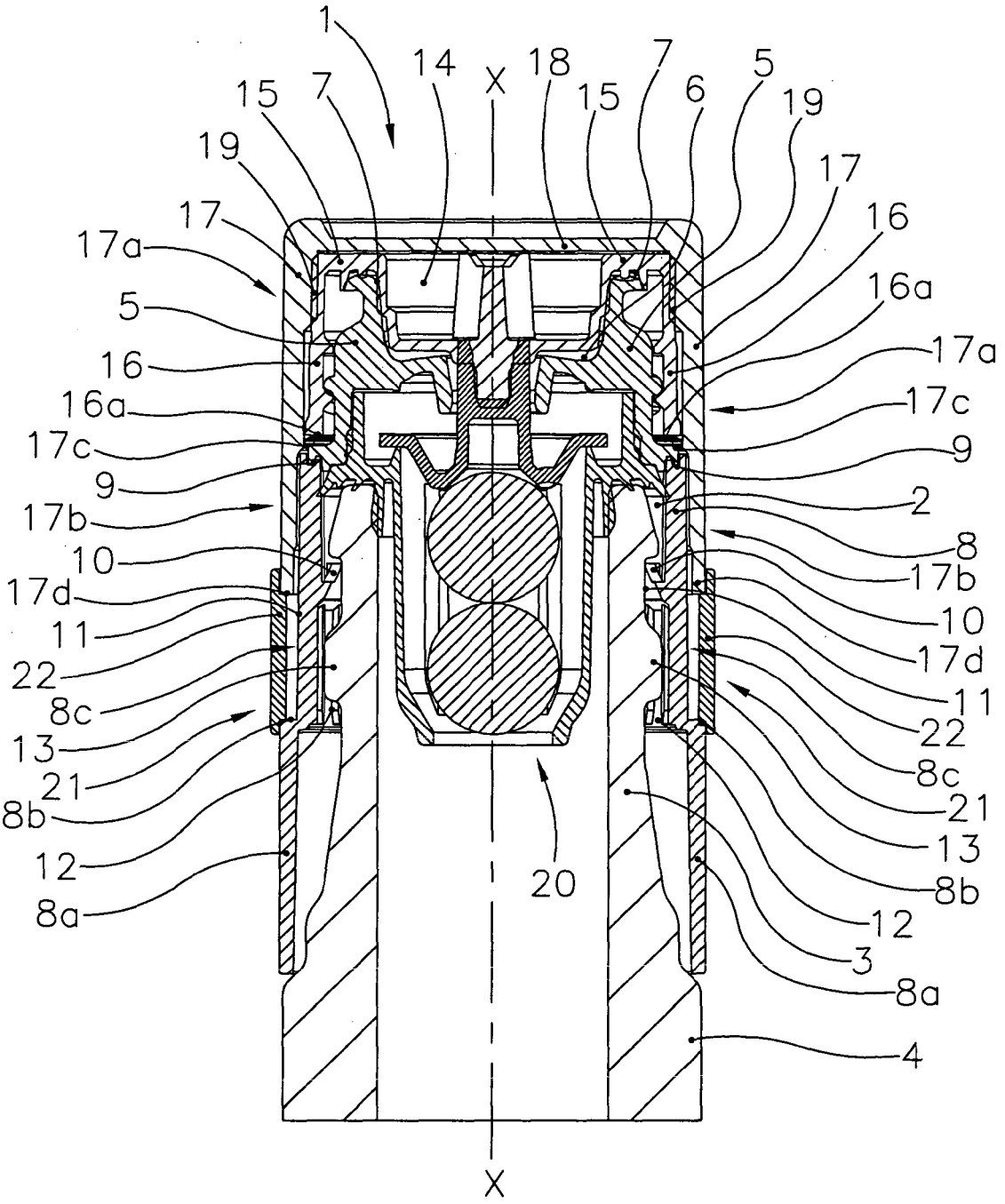
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FIG. 1

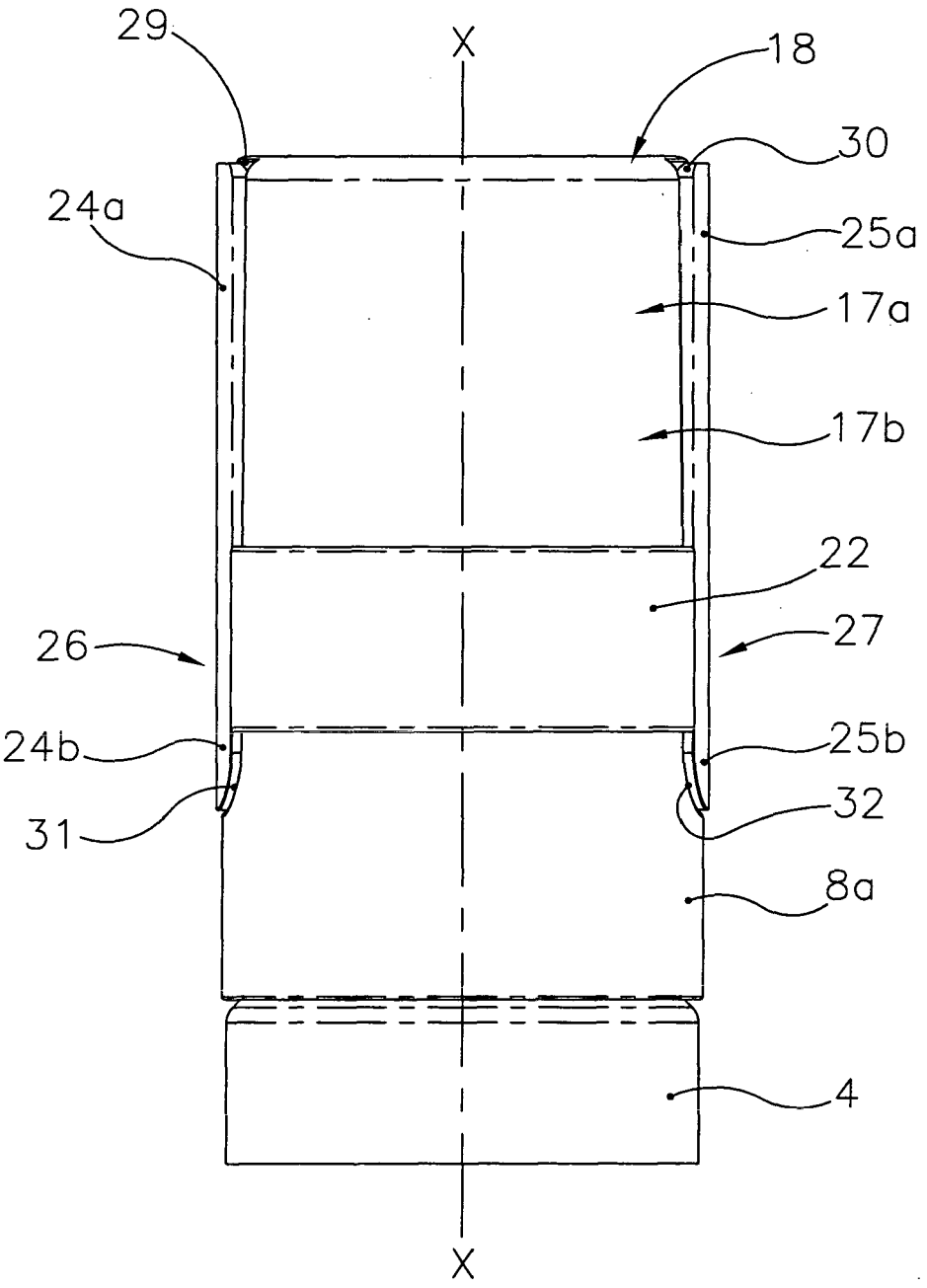

FIG.2

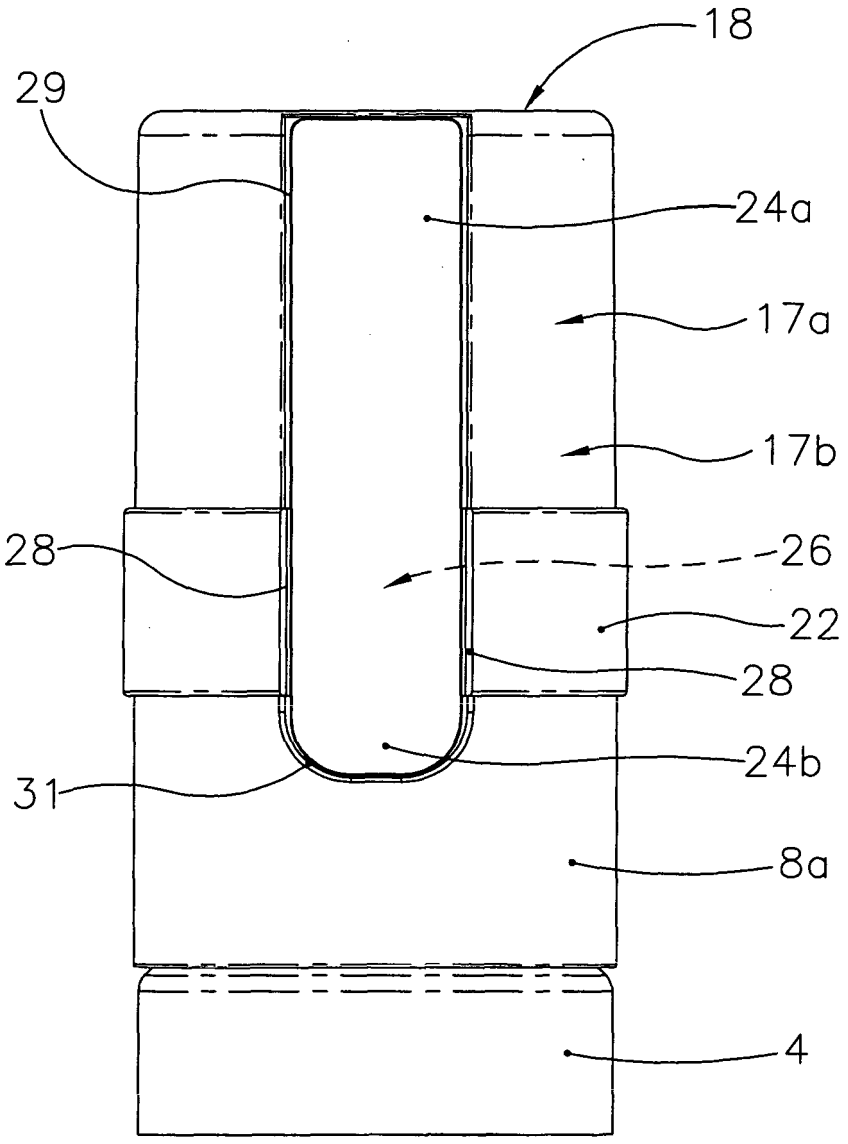

FIG.3

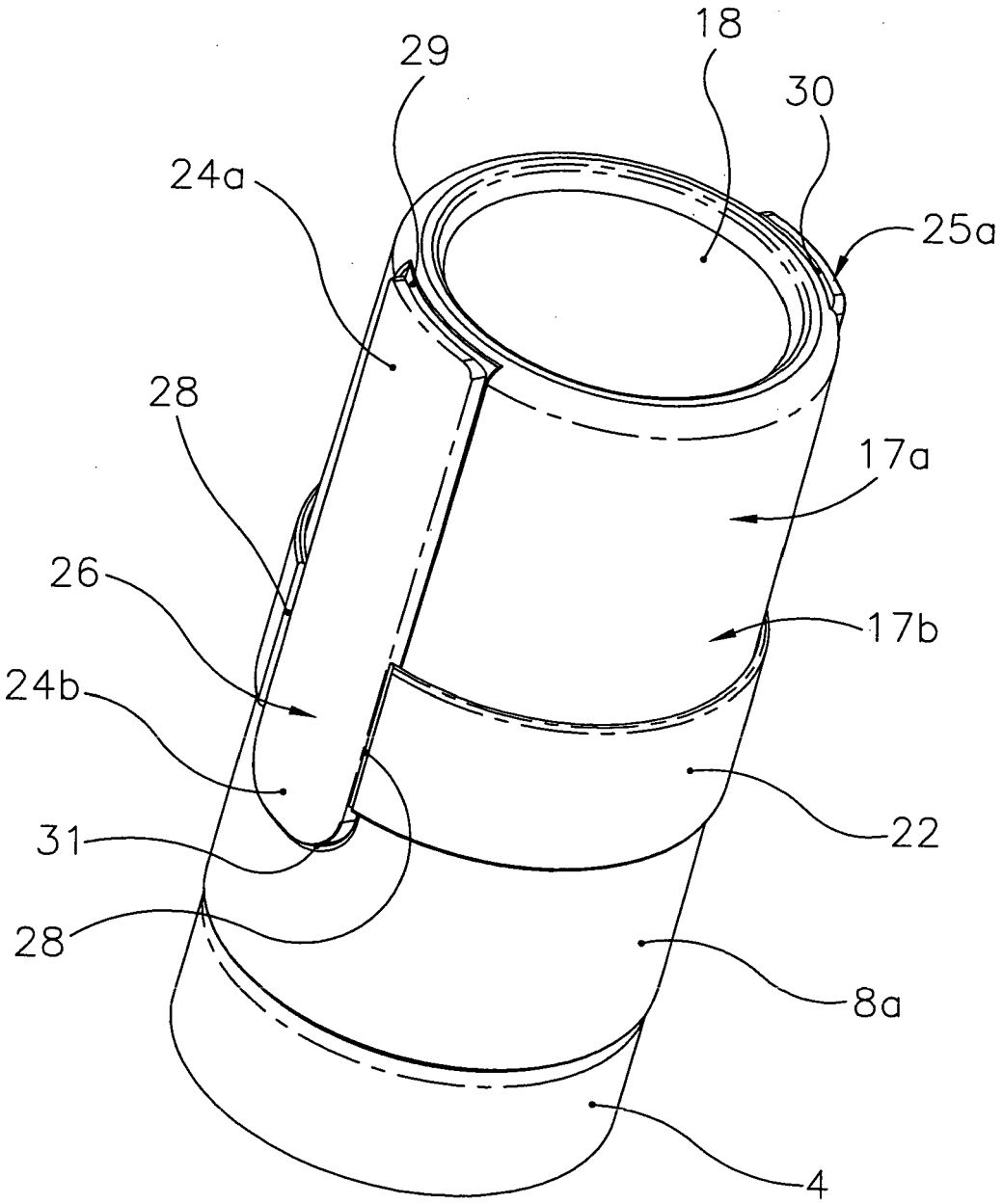

FIG.4

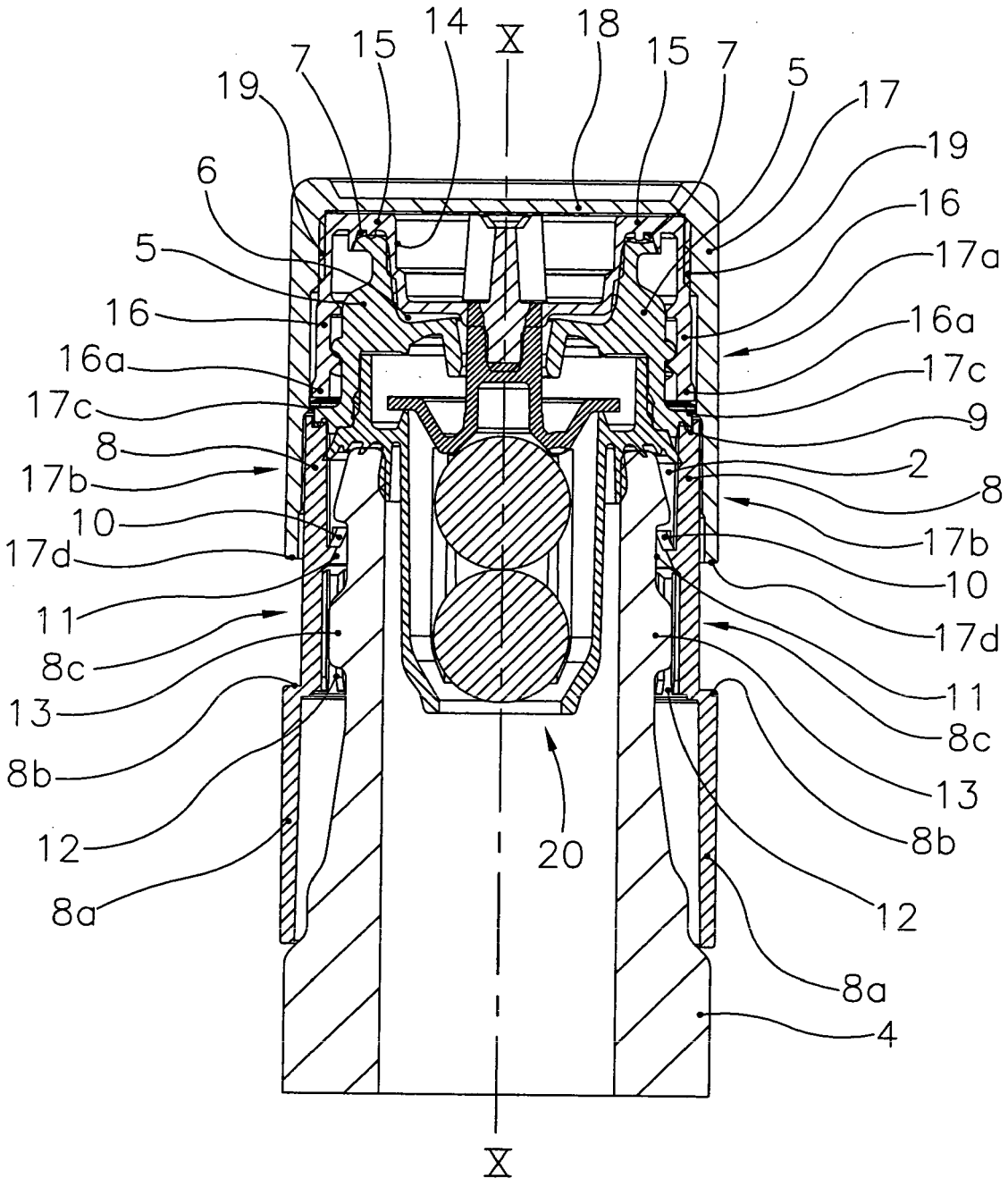
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FIG.5

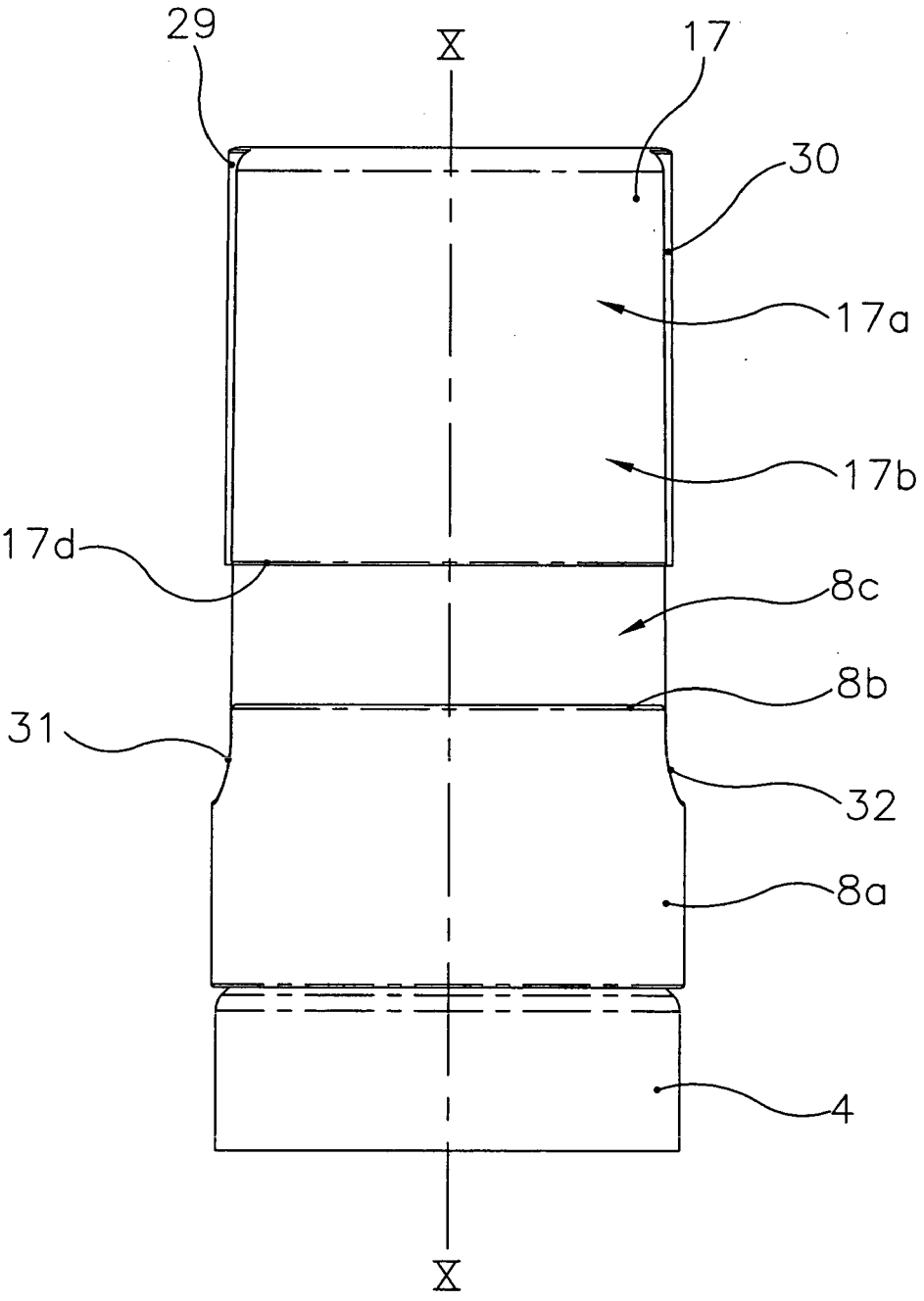

FIG.6

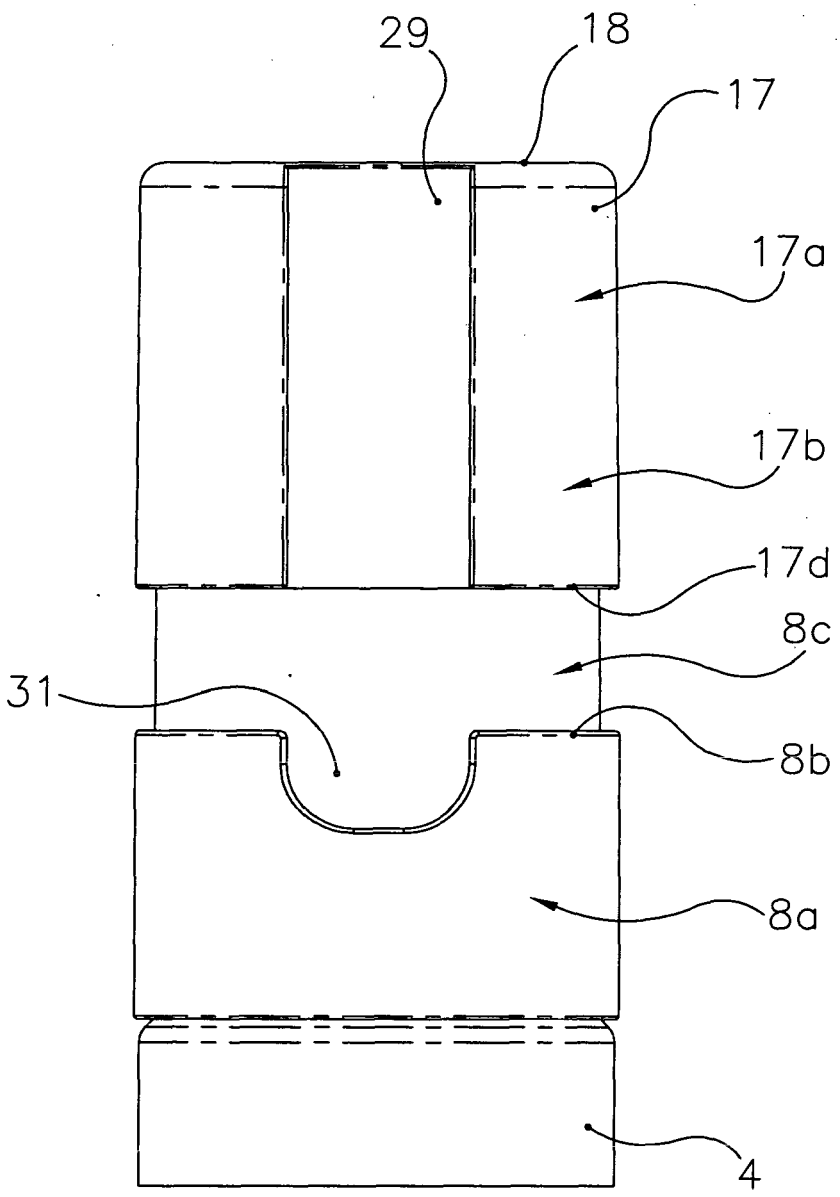

FIG.7

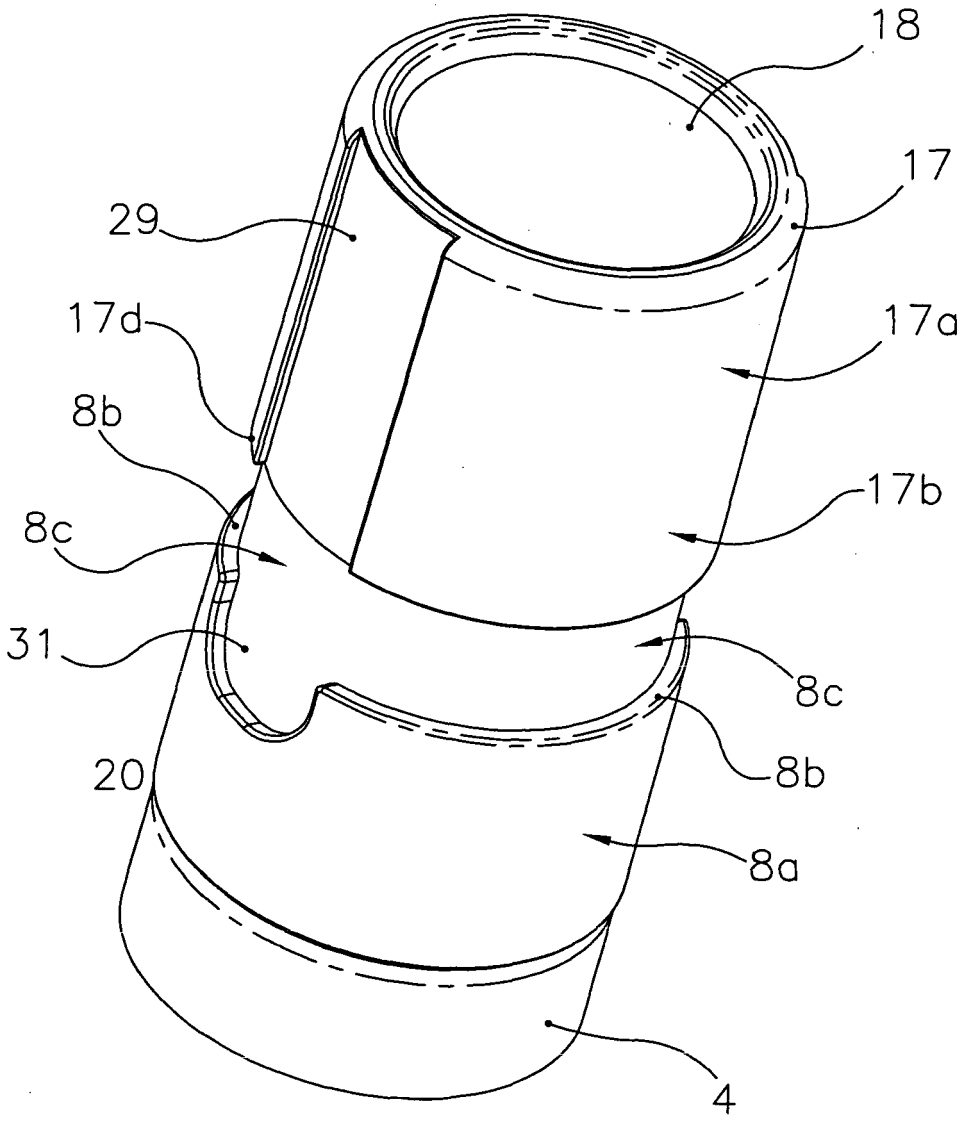

FIG.8

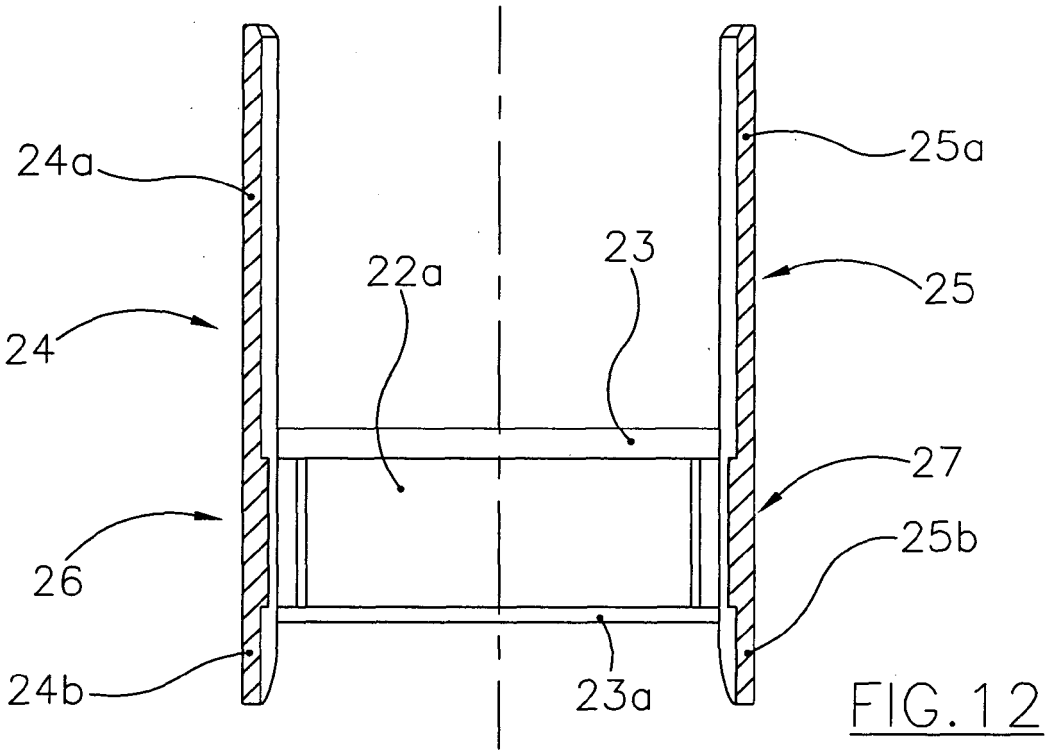
24a
25a
22a
23
25
24
27
26
25b
24b
23a

FIG.12

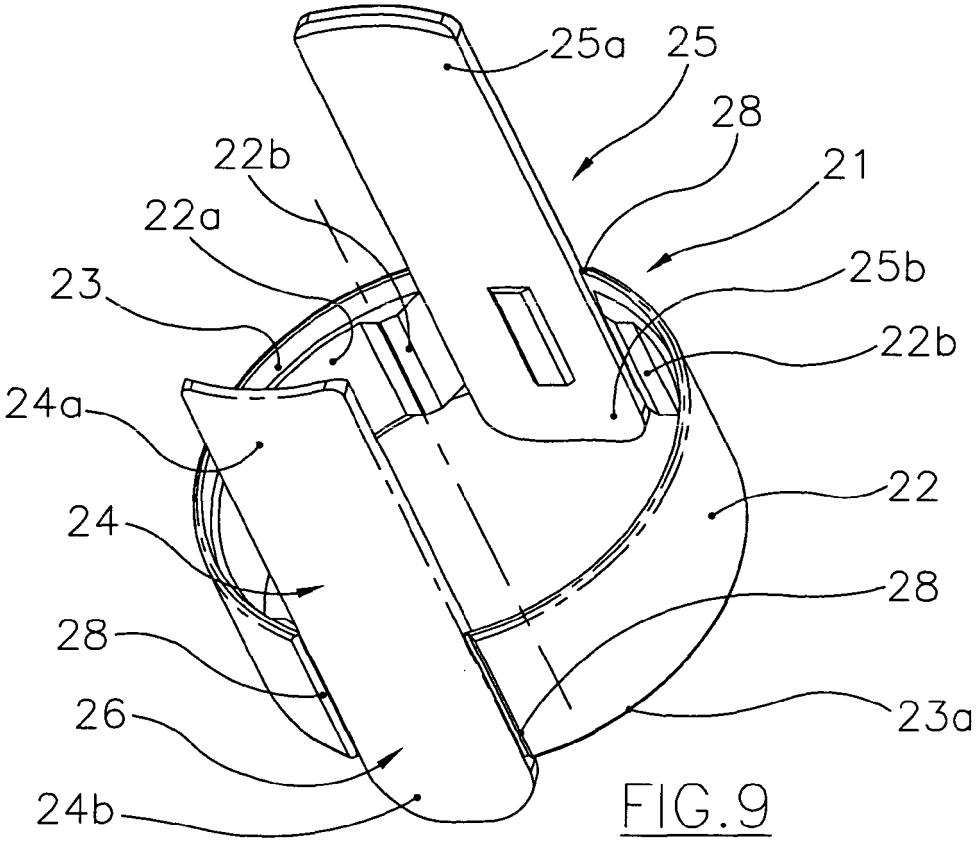
25a
25
28
22b
21
22a
25b
23
22b
24a
22
24
28
28
23a
26
24b

FIG.9

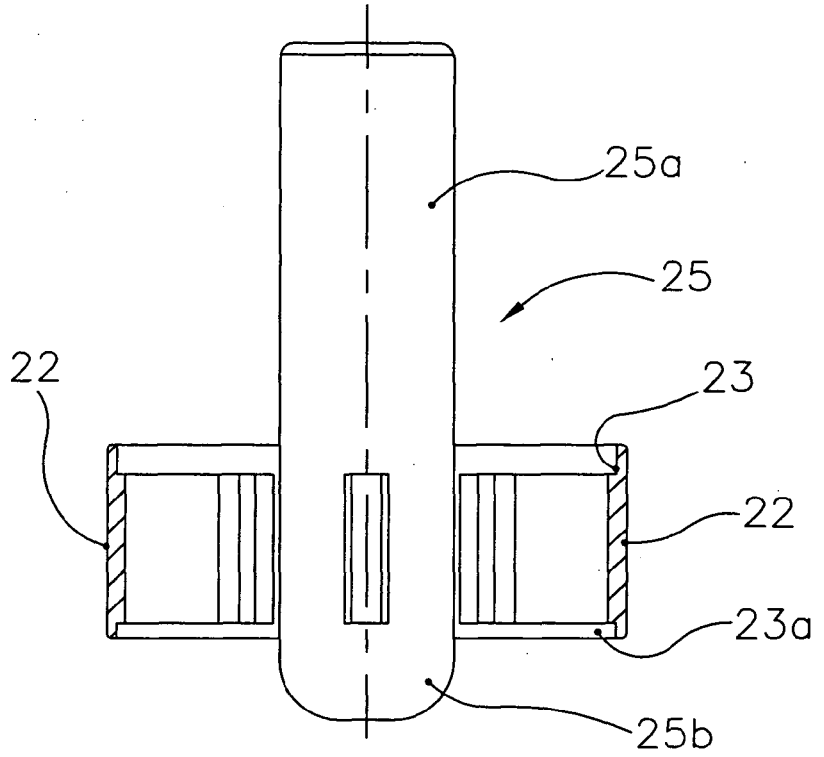
25a
25
22
23
22
23a
25b

FIG. 11

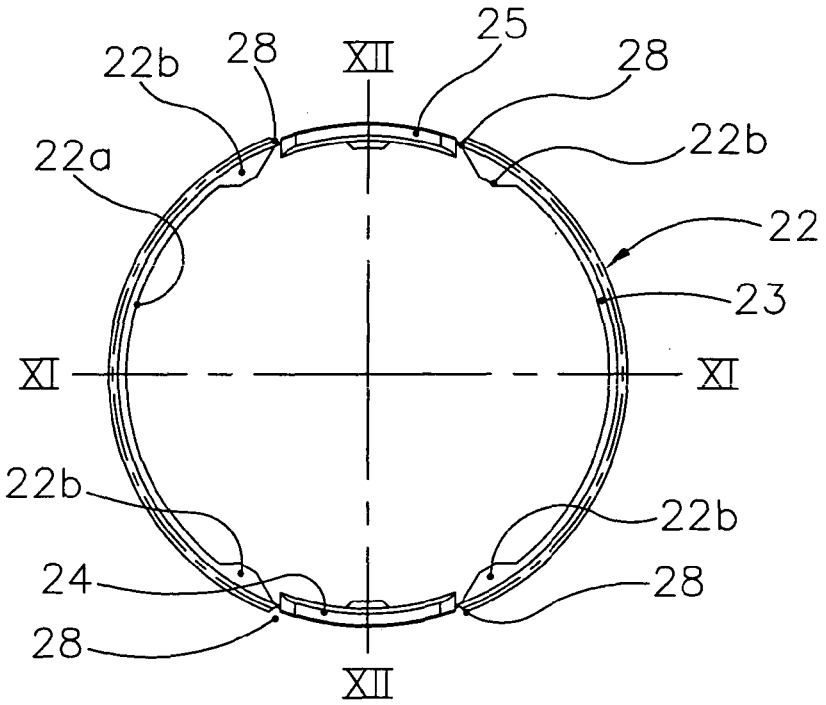
22b
28
XII
25
28
22b
22a
22
23
XI
XI
22b
22b
24
28
28
XII

FIG. 10

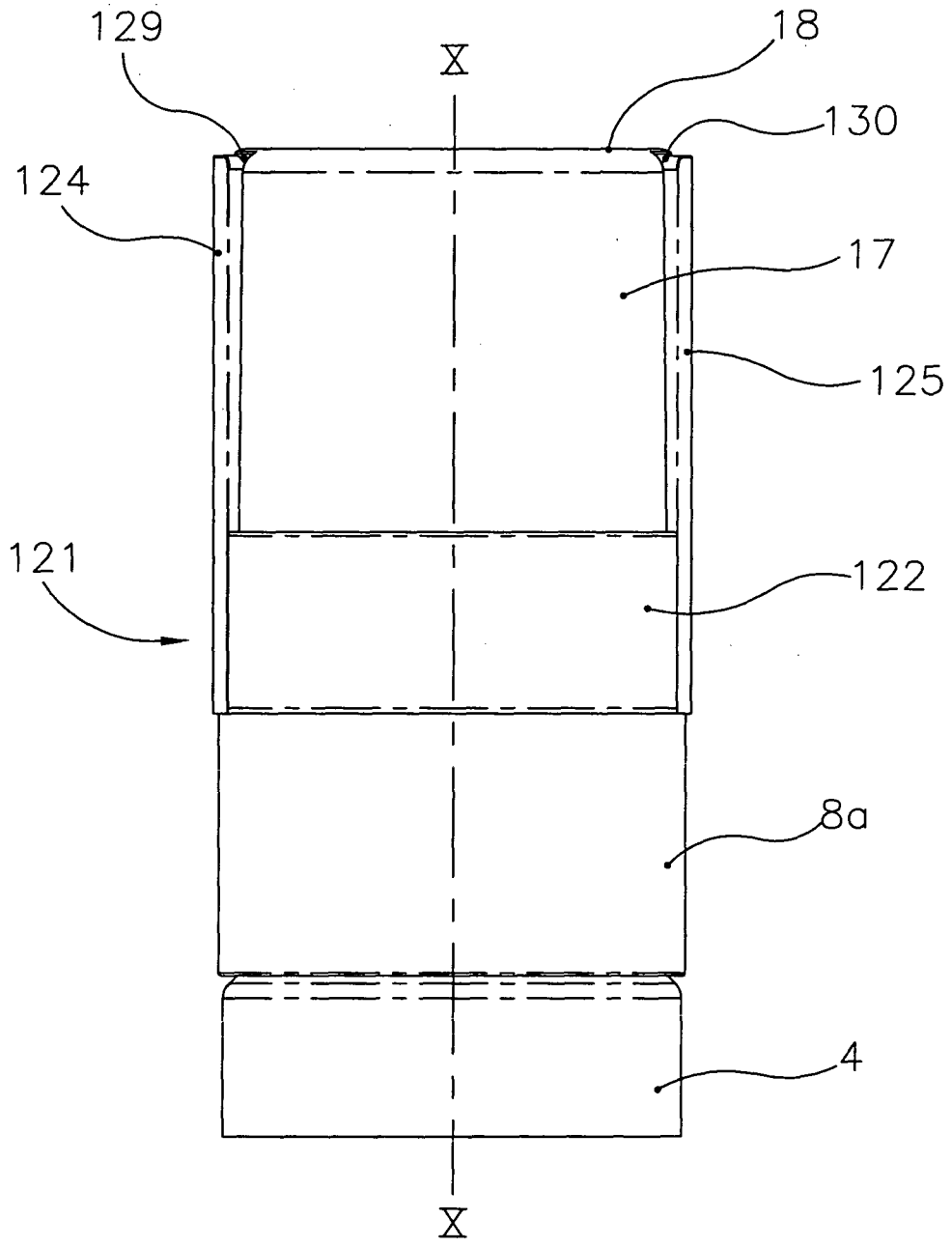

FIG.13

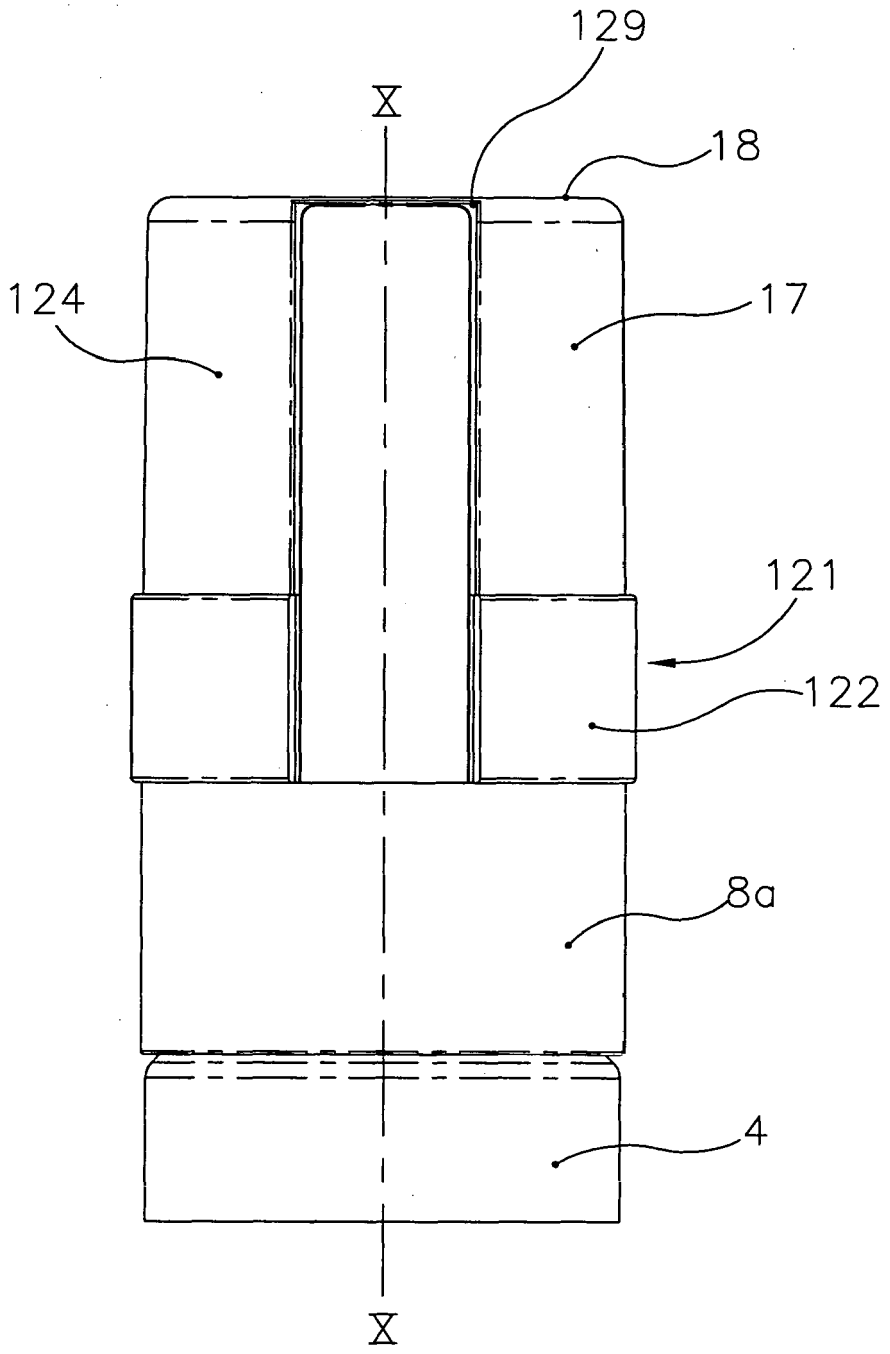

FIG.14

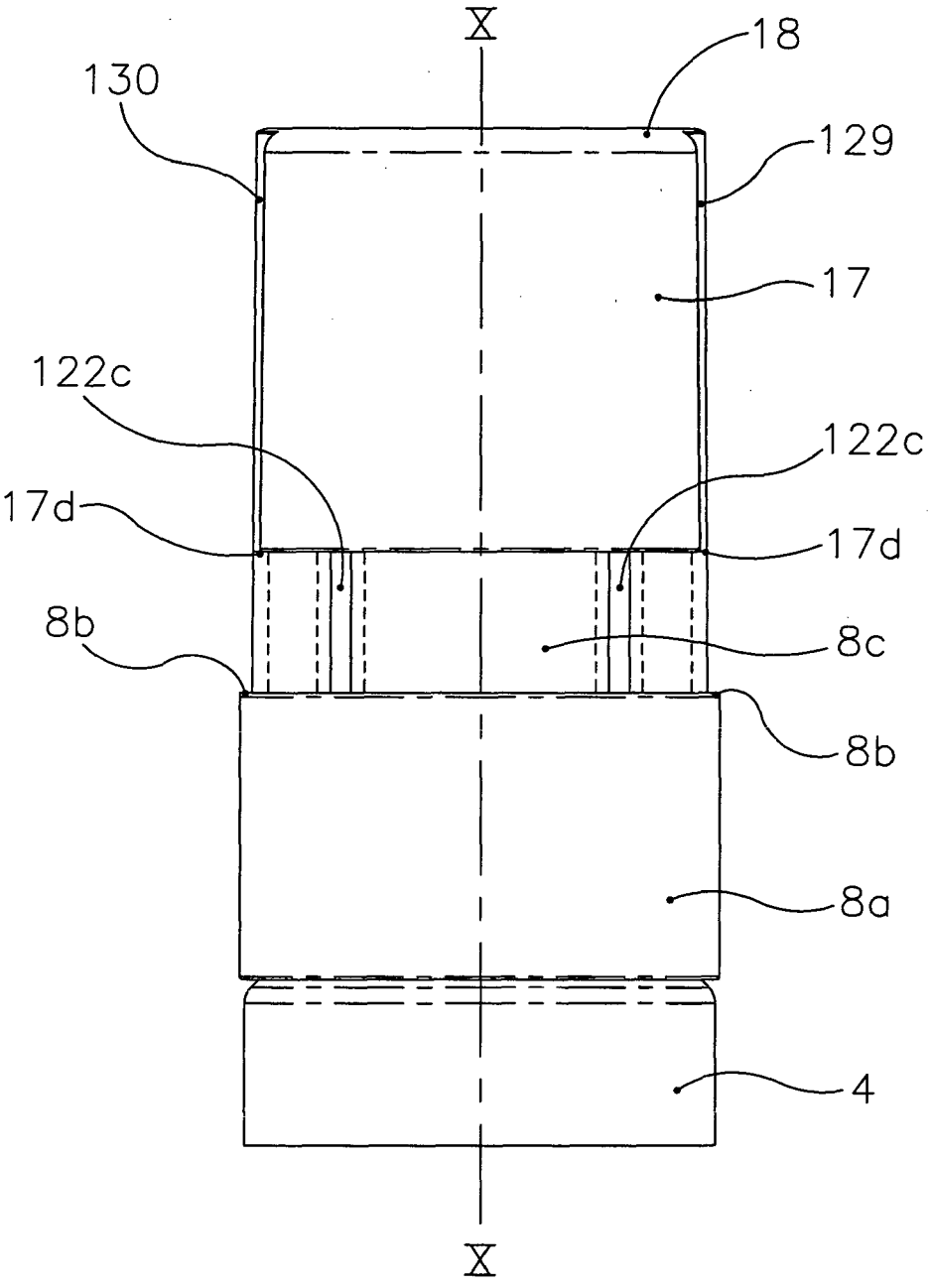

FIG.15

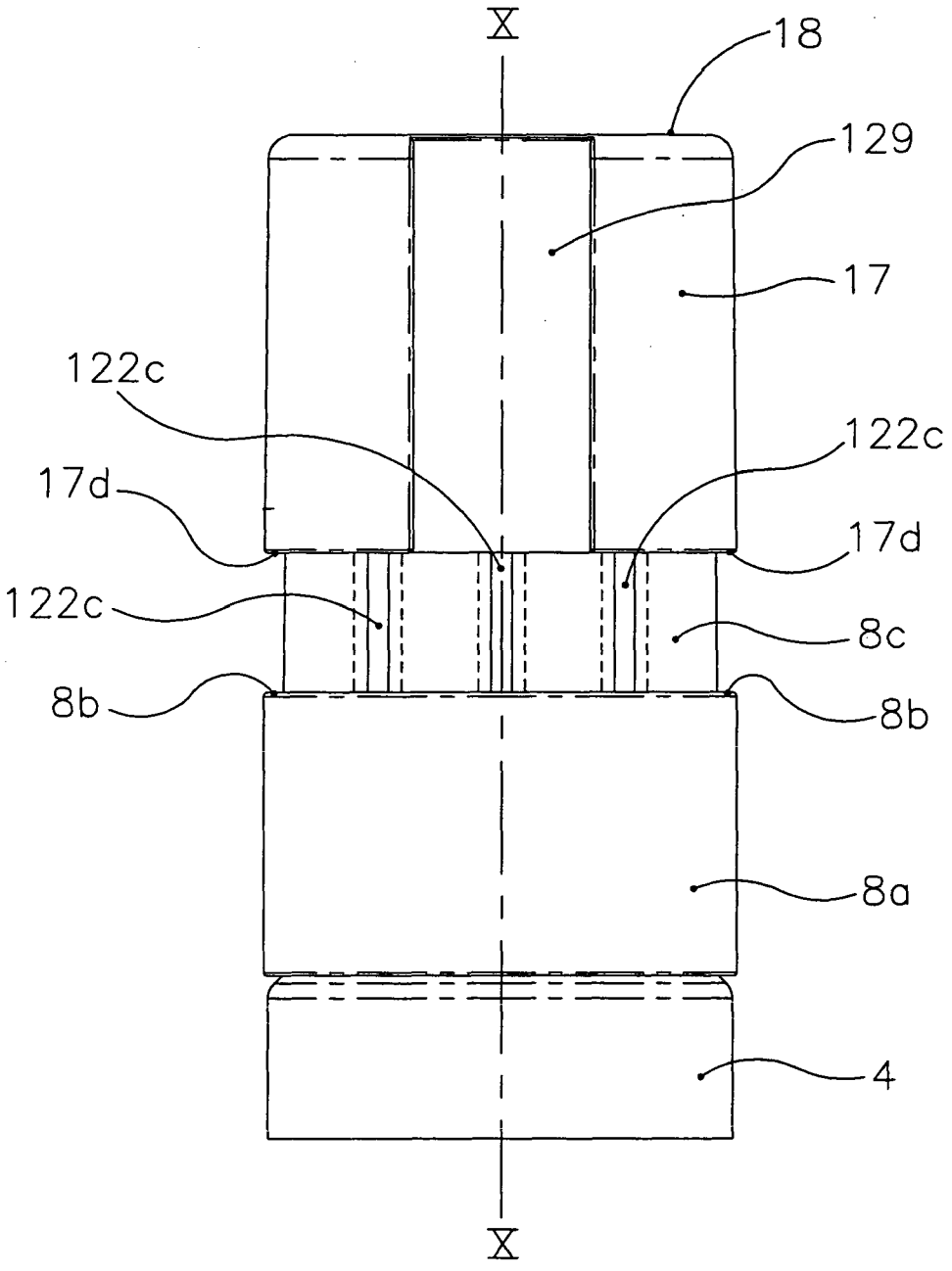

FIG.16

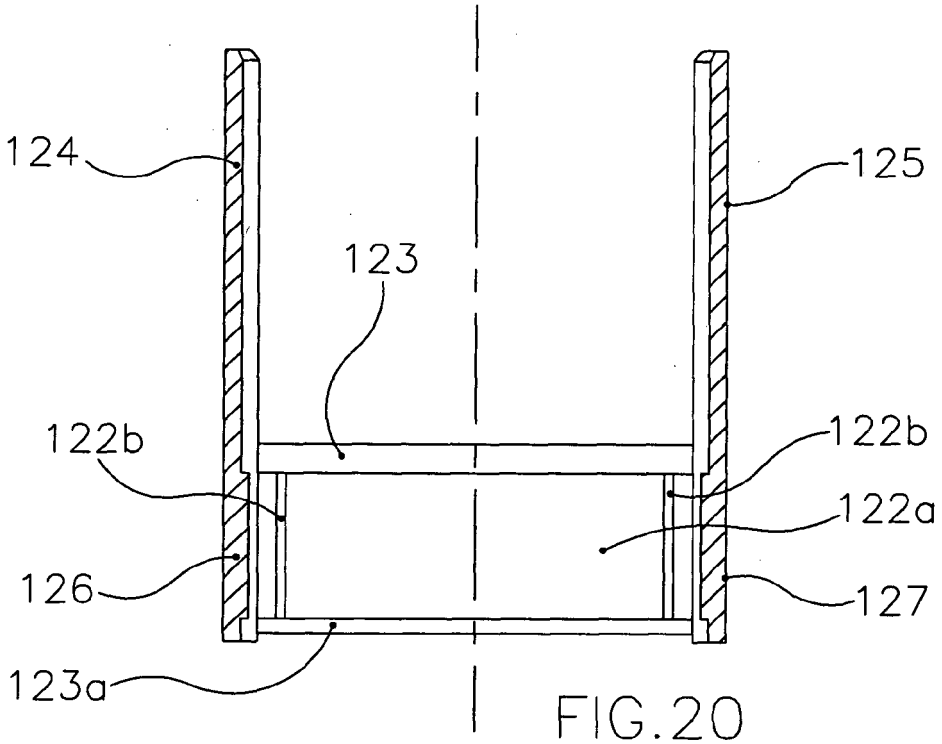
124
125
123
122b
122b
122a
126
127
123a

FIG.20

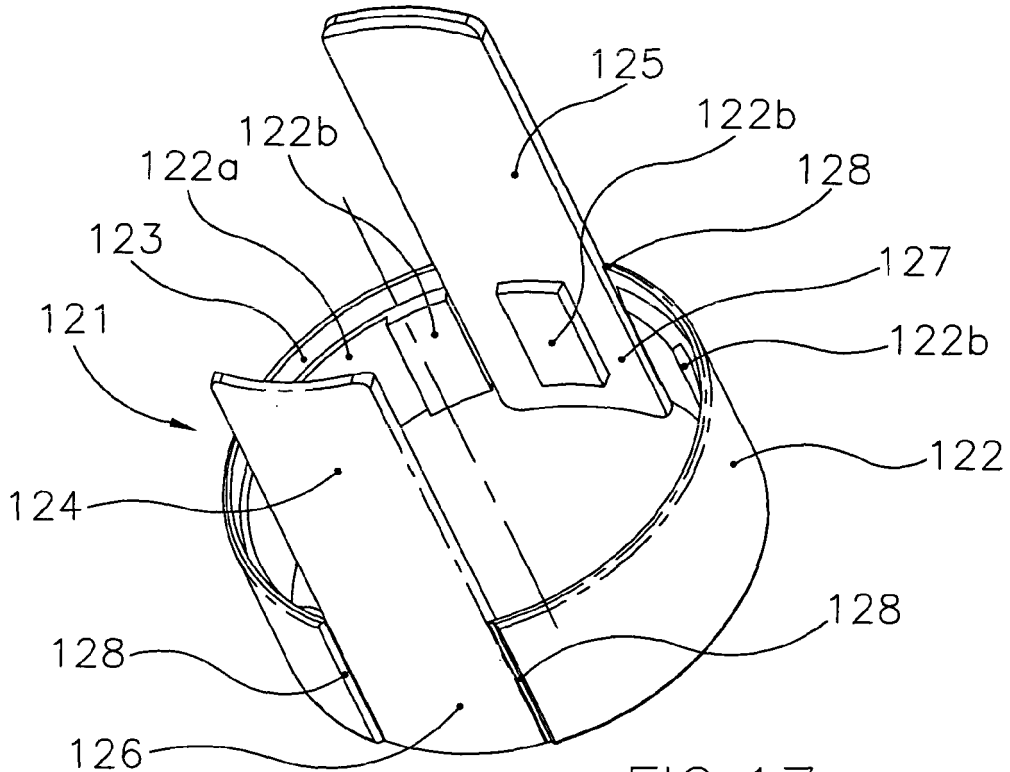
125
122b
122b
122a
128
123
127
121
122b
122
124
128
128
126

FIG.17

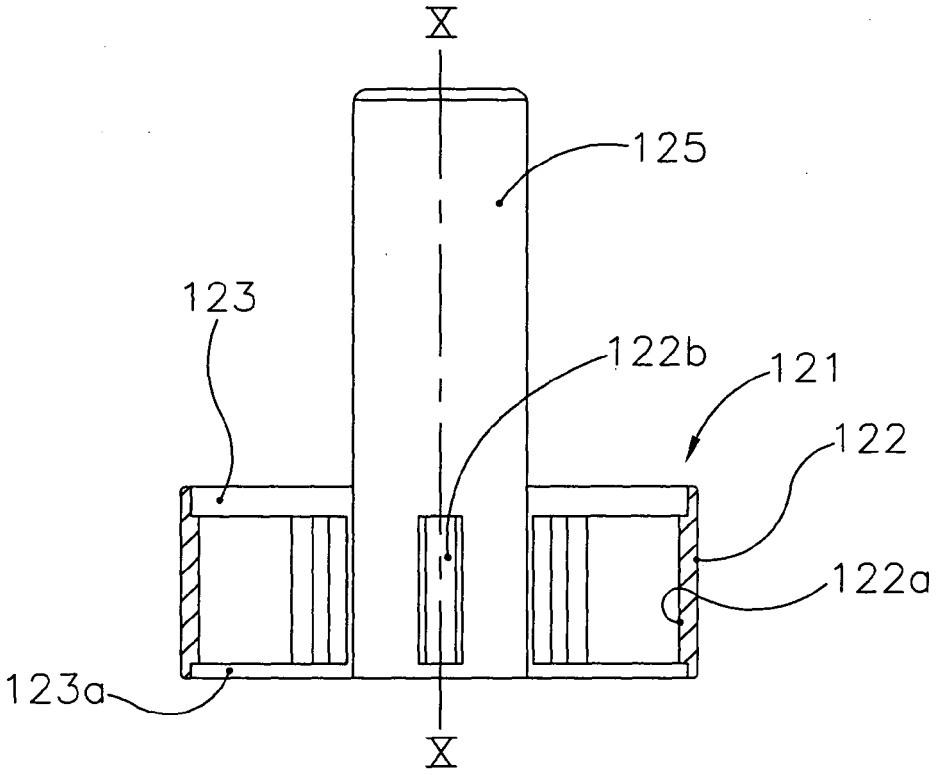
X
125
123
122b
121
122
122a
123a
X

FIG.19

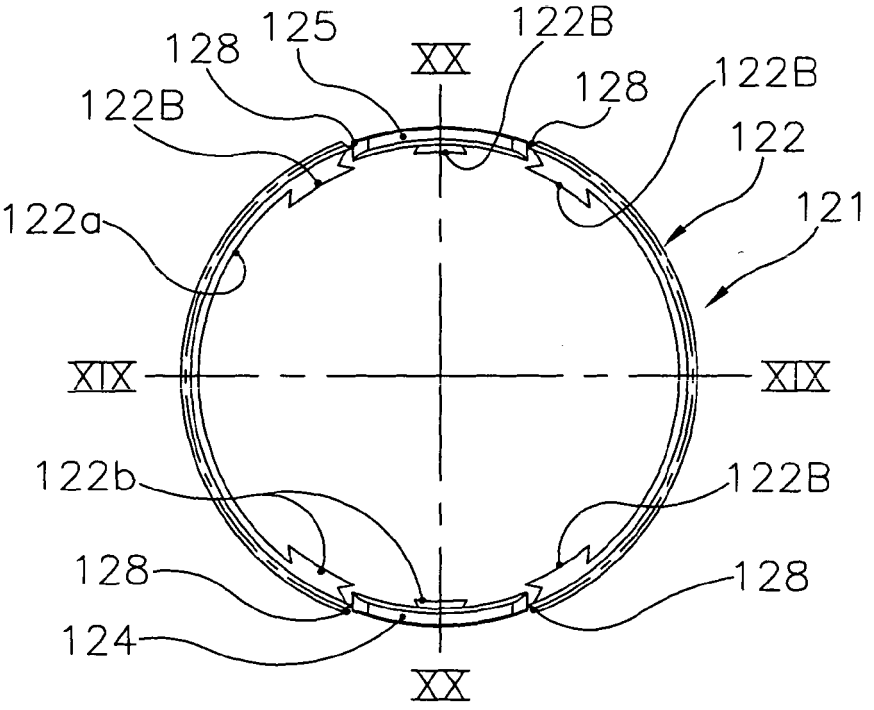
128
125
XX
122B
122B
128
122B
122
122a
121
XIX
XIX
122b
122B
128
128
124
XX

FIG.18

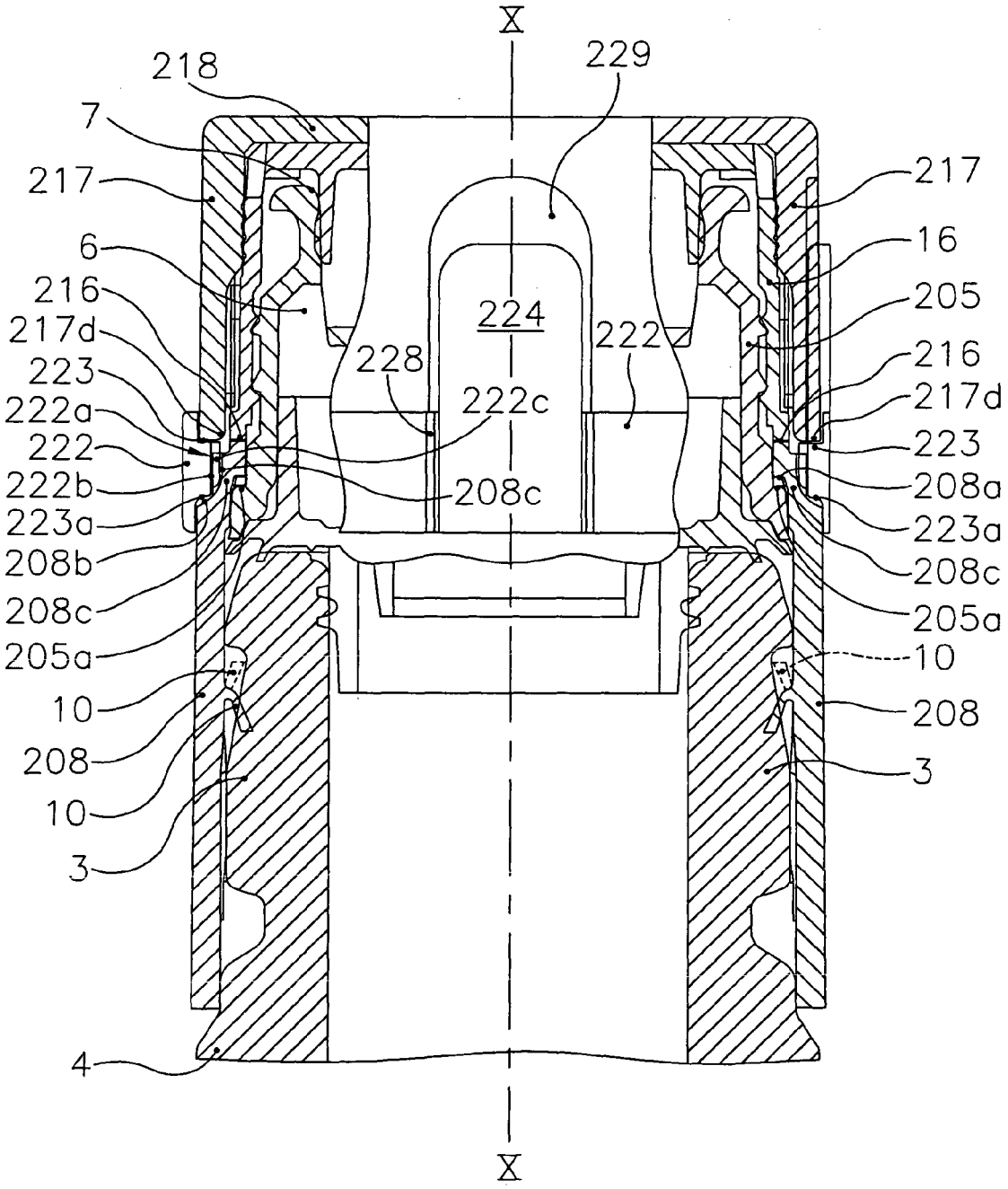
X
218
229
7
217
6
216
217d
223
222a
222
222b
223a
208b
208c
205a
10
208
10
3
4
217
16
205
216
217d
223
208a
223a
208c
205a
10
208
3
224
222
228
222c
208c
X

FIG.21

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EUROPEAN SEARCH REPORT

Application Number
EP 05 42 5259

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
A	EP 0 502 379 A (GUALA S.P.A) 9 September 1992 (1992-09-09) * column 4, line 10 - line 32; figure 1 * -----	1-18	B65D49/04 B65D41/62 B65D55/08
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B65D

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	28 September 2005	SERRANO GALARRAGA, J

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