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(54) **CLOSURE DEVICE FOR A WIPE DISPENSER**

(57) A closure device (2) for a wipe dispenser has a main body (4) and a cap (6) arranged movably thereon, wherein the main body (4) has a fastening section (10) for fastening the main body (4) on the wipe dispenser, an opening section (24), which can be completely covered by the cap (6), and a bottom (30) having a cutout (32) for passing through wipes from the wipe dispenser. The fastening section (10) has at least one first engagement means (14) for connection to the wipe dispenser.

A hinge section (8), in which the cap (6) is held movably on the main body (4), is arranged between the main body (4) and the cap (6). At least one stop body (50) extends radially outwards on the hinge section (8) from the cap (6) or from the main body (4) and is designed to enter into mechanical stop contact with the wipe dispenser or with the main body (4) when the cap (6) is opened and thereby to limit a possible opening angle (α) of the cap (6).

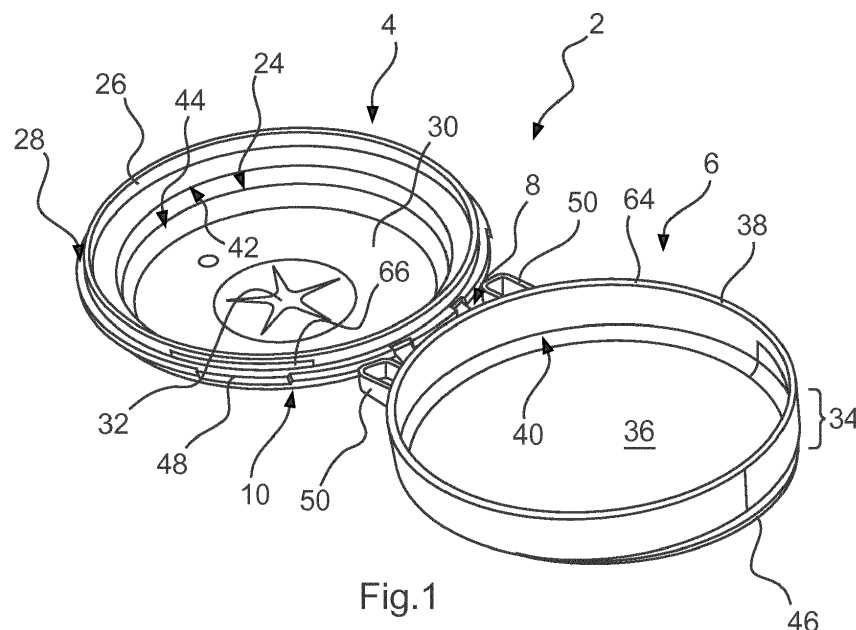


Fig.1

Description

TECHNICAL FIELD

[0001] The invention relates to a closure device for a wipe dispenser, in particular for wipes which have been impregnated or are to be impregnated.

BACKGROUND OF THE INVENTION

[0002] Wipe dispensers for making available impregnated wipes, especially for surface disinfection, are known. Bucket-type containers, in which wipes are impregnated with a disinfecting liquid and are removed through a cap, are widely available. To avoid contamination of the wipes in the container, there is a known practice of pulling the wipes out individually through a small cutout in the cap.

[0003] To close the cutout or container cap, it is necessary to use a closure device. In the case of known closure devices, it can be observed that they are occasionally not closed after the removal of a wipe and, as a result, there is the risk of contamination or of wipes drying out.

[0004] There are known multi-part closure systems which lead to automatic closure in a relatively complex way using spring elements. Owing to the complex design, these should be reused and thoroughly cleaned to prevent contamination of wipe dispensers.

SUMMARY OF THE INVENTION

[0005] It is the object of the invention to propose an alternative closure device for a wipe dispenser which is mechanically simple and nevertheless allows improved handling and hygiene.

[0006] A closure device for a wipe dispenser which has a main body and a cap arranged movably thereon is proposed. The main body has a fastening section for fastening the main body on the wipe dispenser, an opening section, which can be completely covered by the cap, and a bottom having a cutout for passing through wipes from the wipe dispenser. The fastening section has at least one engagement means for connection to the wipe dispenser. A hinge section, in which the cap is held movably on the main body, is arranged between the main body and the cap. At least one stop body extends radially outwards on the hinge section from the cap or from the main body and is designed to enter into mechanical stop contact with the wipe dispenser or with the main body when the cap is opened and thereby to limit a possible opening angle of the cap.

[0007] Consequently, the closure device has two essential components, which are movable relative to one another and allow opening and closing when required. The main body is used to fasten the closure device on a wipe dispenser opening provided for this purpose. It has an opening section, which the cap can cover or open,

thus enabling wipes to be removed from the wipe dispenser when required. One particular characteristic of the closure device according to the invention is that of limiting the opening angle of the cap in a mechanically simple way and, at the same time, promoting spring back of the cap. The two essential components and the interaction thereof are explained in greater detail in the following description.

[0008] The wipe dispenser can be embodied as a box or bucket with adequate inherent stability or as a bag-type container which is not inherently stable. Such a container is known as a "softpack" and could already contain pre-impregnated wipes. Particularly for use in a clinical environment, however, larger, bucket-type boxes which can hold 40 - 300 wipes are common. These are often not pre-impregnated but are first supplied with a disinfecting liquid, and can then be removed wipe by wipe from the wipe dispenser. It is envisaged that the closure device according to the invention will be usable for all wipe dispenser embodiments that may be considered.

[0009] The main body has a fastening section, which is used to fasten the main body on the wipe dispenser. It is preferred that no special modifications should be required to already existing wipe dispensers to fasten the fastening section to the wipe dispenser. The fastening section can be matched to an opening of the wipe dispenser. It is furthermore conceivable to match the container cap of a wipe dispenser and the fastening section of the closure device according to the invention to one another.

[0010] The at least one first engagement means is provided for the purpose of performing engagement with corresponding second engagement means, which are arranged on the opening of the wipe dispenser. Various versions of first and second engagement means can be envisaged. It is expedient to make the second engagement means so simple that they are defined exclusively by a contour of the opening of the wipe dispenser. The contour can be based, for instance, on a circle penetrated by radial cutouts. Between the radial cutouts there are consequently webs or projections, which can be connected to first engagement means. An example will be explored in greater detail further below.

[0011] In the installed state of the closure device, the opening section is situated on a side facing the user. The opening section is a region of the main body which surrounds the cutout for passing through the wipes. The opening section is preferably surrounded by a rim surface which is designed for the placement of the cap for closing the opening section.

[0012] The bottom of the main body is oriented towards the wipe dispenser and allows wipes to be made available and removed. Here, the cutout is preferably configured in such a way that a certain force is required to pull the wipes out of the cutout and therefore the wipes have to overcome a certain mechanical resistance. Wipes that are sticking to one another or are connected to one another by a perforated region are thereby separated. Con-

sequently, the user always removes individual wipes. Different shapes for such cutouts are known in the prior art. These often have a toothed or star shape.

[0013] By means of the hinge section, the cap is connected pivotably on one side to the main body, and a user can flip the cap back and forward around the hinge section, with the result that the opening section is open or closed with respect to the outside. One particular advantage of the closure device according to the invention consists in the configuration of the at least one stop body, which extends radially outwards from the cap or from the main body. In this case, the at least one stop body is arranged in such a way on the closure device that, beyond a certain opening angle, it comes into stop contact with that part of the wipe dispenser which lies outside the closure device when it is arranged on the cap. When it is arranged on the main body, the at least one stop body should be designed in such a way that it comes into stop contact with the cap beyond a certain opening angle.

[0014] The at least one stop body consequently counteracts the opening of the cap beyond a certain opening angle. The cap can be moved freely up to this opening angle and beyond that only with greater exertion of force. As a result, the closure device is designed to prevent the cap from being flipped open completely, thus enabling the cap to swing or spring back into the open position after the removal of a wipe from the wipe dispenser.

[0015] Drying out and contamination of the closure device are thereby prevented very effectively and by very simple mechanical means. Handling to close the cap is not absolutely essential after removal of the wipe.

[0016] In a particularly preferred embodiment, the hinge section is designed so that the cap is self-closing. For this purpose, the hinge section or a hinge formed thereby can be formed by a component which is always urged into a closed position. This component can be an integral section of the hinge or of the hinge section that continuously exerts a tensile or compressive force. This can counteract an opening movement and/or bring about an active closing movement.

[0017] In an advantageous embodiment, the hinge section has a hinge which is designed to be urged into a closed state in a first opening angle range of the cap. Hinges of this kind can be produced very easily, especially in the case of injection mouldings made of plastic. A hinge of this kind generally has interconnected lugs which are elastic, at least in some region or regions, and which provide the actual pivoting function, preferably by means of a preload. Arranged in a region situated in between or on the outside there is at least one elastic strip, which can be composed of the same material as the lugs. The strip is offset slightly with respect to the pivoting axis. As a result, the strip is increasingly stretched as the first opening angle range is traversed, with the result that it urges the cap back into the closed position when said cap is released. If the cap is opened beyond a certain opening angle, the strip will promote further opening in a second opening angle range. However, the at least one

stop body is designed in such a way that the attainment of the second opening angle range is prevented. Other mechanical components would also be conceivable instead of a strip. The hinge section is preferably configured in such a way that a restoring force acts on the cap up to an opening angle of somewhat less than 90°. The at least one stop body is preferably designed in such a way that the cap can be opened only as far as an opening angle of 75° or less without exerting a large force. Consequently, release of the cap can always lead to spring back.

[0018] Consequently, the at least one stop body is dimensioned in such a way that the cap remains in the first opening angle range.

[0019] The opening section preferably has a projecting axial rim, which is surrounded by a radial stop surface, wherein the cap is designed to be placed on the stop surface in order to surround the axial rim. The interior of the closure device is completely surrounded by the axial rim. Consequently, placing the cap on the stop surface situated radially to the outside of the rim also enables the closed cap to surround the entire rim when it is brought onto the stop surface. The rim can be designed in such a way that a cap which springs back into a closed position rests against the stop surface at least so closely that it already completely covers the rim, even when the opening angle that still remains is very small. It is therefore not absolutely essential to press the cap against a stop surface to achieve at least temporary sealing.

[0020] The axial ring and the opening section can be of round, in particular circular, configuration. However, this is not essential. More angular shapes in which the corners are rounded are also conceivable. A shape of the opening of the wipe dispenser furthermore also does not necessarily have to correlate with the shape of the cap and of the opening section. Round openings in the wipe dispenser and consequently a round fastening section in the closure device can also be combined with more angular opening sections and more angular caps.

[0021] The cap can have a hollow-cylindrical section, which is closed off on one axial side by a top surface, wherein at least one radially inward-oriented protuberance, which can be brought into contact with the axial rim of the main body to hold the cap in a closed position, is arranged on an inner side of the hollow-cylindrical section, on a side remote from the top surface. This protuberance does not have to extend over the entire available circumference of the hollow-cylindrical section. On the contrary, it is conceivable for a protuberance to extend over at least one discrete region of the circumference of the hollow-cylindrical section. It could furthermore also be expedient to provide discrete regions of the circumference with a protuberance of this kind. Depending on the embodiment of the protuberance, this would result in a more or less pronounced force holding the cap in the closed state. By way of example, there could be three protuberances distributed over the available circumference. Each protuberance could extend over 1/10 to about

1/5 of the circumference. The at least one protuberance can latch into the corresponding depressions in the main body in order to establish a positive connection.

[0022] The bottom is preferably offset axially in a direction away from the opening section. A continuous circumferential surface is arranged between the opening section and the bottom. A transition between the circumferential surface and the bottom is rounded. The rounding makes it possible to avoid liquids collecting and contributing to contamination of the closure device.

[0023] During the removal of a wipe from the wipe dispenser, any liquid which has escaped from the wipe can be returned to the wipe dispenser.

[0024] There is furthermore a preference for the bottom to have a conical shape. In this case, a surface of the bottom is preferably configured with only a very shallow conical shape. An opening angle of 160-175° may be appropriate. The cone angle is therefore 80° to 87.5°. Consequently, the base surface rises by 2.5° to 10° radially outwards, starting from the cutout for passing through the wipes. A slope of between just 5° and 6° may be regarded as advantageous for reliably avoiding adhesion of liquids.

[0025] In an advantageous embodiment, the cutout has an opening contour which is rounded on a side of the bottom facing away from the cap and is of sharp-edged design on a side facing the cap. It is thereby possible to scrape excess disinfecting liquid from the wipes, thus ensuring that they have the desired degree of moisture. The sharp-edged configuration assists the return flow of liquid into the wipe dispenser since the accumulation of liquid is prevented at sharper edges.

[0026] The at least one first engagement means is preferably embodied as a component of a bayonet joint. Consequently, the main body can be inserted with the fastening section into an opening of the wipe dispenser in a first rotational position in order to establish engagement with an opening contour of the opening after a rotation into a second rotational position. As mentioned above, the opening can have one or more cutouts in the circumferential direction, giving rise to necks which act as second engagement means.

[0027] A plurality of first engagement means, which are distributed circumferentially on the main body, is preferably provided. It may be expedient to distribute two, three or four first engagement means over the main body. It is thereby possible to establish a sufficiently secure and load-bearing connection. In particular, three first engagement means are expedient in order to avoid making the insertion of the first and second engagement means into one another unnecessarily difficult while nevertheless allowing sufficient alignment of the main body on the wipe dispenser.

[0028] To further improve handling, a respective marking body for each first engagement means, spaced apart axially from the relevant first engagement means, is arranged on a side of the main body facing the cap. During the placement of the closure device, a user is immediately

alerted as to where first engagement means are situated on the main body without having to see them. Consequently, the marking bodies can make placement significantly easier, and the first engagement means can also be arranged concealed below a surface of the main body.

[0029] The at least one first engagement means is preferably designed to enter into an irreversible connection with the wipe dispenser. The closure device can therefore be disposed of together with the wipe dispenser, once the last wipe has been removed. The accumulation of contaminants in the wipe dispenser due to repeated use of the wipe dispenser can be prevented if the closure device can no longer be released from the wipe dispenser without being destroyed and therefore the wipe dispenser has to be disposed of.

[0030] The first engagement means could, for instance, be equipped with barbs which interlock with or dig into second engagement means. Removal of the closure device without destruction is thus virtually no longer possible.

[0031] The cap preferably has a projection for engagement with a finger of a user on a side facing away from the hinge section. This makes the cap easier for a user to open. The projection points at least partially in the radial direction. Furthermore, the projection is also very easy to detect or find haptically when the container is not directly in view.

[0032] As a particular preference, the closure device is of integral design. The closure device can be produced by injection moulding in a mould suitable for this purpose, for example. Polypropylene, high-density polyethylene and polycarbonate are particularly suitable as materials. This results in particularly low-cost manufacture which enables use as a disposable article for reasons of hygiene.

[0033] The invention furthermore relates to a wipe dispenser system having a container for accommodating impregnatable wipes, a container cap for closing the container, and a closure device in accordance with the above description, wherein the container cap is designed to close the container and has an opening having at least one second engagement means for receiving the fastening section of the closure device, wherein the at least one first engagement means and the at least one second engagement means are of mutually complementary design.

BRIEF DESCRIPTION OF THE FIGURES

[0034] Further features, advantages and possible applications of the present invention will be apparent from the following description of the embodiment examples and the figures. All the features described and/or depicted, on their own and in any combination, form the subject-matter of the invention, irrespective of their combination in the individual claims or their dependency references. In the figures, the same reference signs are furthermore used for objects which are the same or similar.

Fig. 1 shows an open closure device detached from a wipe dispenser, in a three-dimensional view obliquely from above.

Fig. 2 shows an open closure device detached from a wipe dispenser, in a three-dimensional view obliquely from below.

Fig. 3 shows a closed closure device in a three-dimensional view obliquely from behind.

Fig. 4 shows a detail illustration of a hinge section.

Fig. 5 shows a closure device arranged on a wipe dispenser and opened by about 70°, in a three-dimensional view from the side.

Fig. 6 shows a closure device arranged on a wipe dispenser and opened by about 70°, in a three-dimensional view obliquely from the front.

Fig. 7 shows a closure device arranged on a wipe dispenser and opened by about 70°, in a three-dimensional view obliquely from behind.

Fig. 8 shows a detail illustration of first engagement means.

Fig. 9 shows a section through a closed closure device from the side.

Fig. 10 shows a section through the bottom of a closure device in a three-dimensional view.

Fig. 11 shows a container cap of a wipe dispenser with an opening situated therein for receiving a closure device.

DETAILED DESCRIPTION OF ILLUSTRATIVE EMBODIMENTS

[0035] Figs 1 and 2 show a closure device 2 for a wipe dispenser in an integral or one-piece embodiment. For this purpose, the closure device according to the invention can be produced from a polypropylene or a high-density polyethylene or, alternatively, from a polycarbonate. Injection moulding may be employed as a suitable production method. As a result, the closure device 2 has a main body 4 and a cap 6 arranged movably thereon. A hinge section 8, which carries the cap 6 on the main body 4, is formed between the main body 4 and the cap 6.

[0036] The main body 4 has a fastening section 10, which is illustrated in greater detail in Fig. 2 and extends in a first axial direction from a base surface 12 of the main body 4. The fastening section 10 has first engagement means 14, which are embodied as an encircling groove 16 and are delimited by a guide edge 18. The guide edge

18 extends parallel to the base surface 12 and extends over only a small part of the circumference of the fastening section 10. The groove 16 is delimited on one side by a stop 20 in the circumferential direction.

[0037] Arranged in the groove 16 are barbs 22, which are illustrated in greater detail in a subsequent figure. By way of example, three first engagement means 14 are distributed over the circumference of the fastening section 10. With the aid of the first engagement means 14, the closure device 2 according to the invention can be attached to an opening provided for this purpose, which has corresponding second engagement means. The second engagement means, which are not illustrated here, are configured, for example, as projections which enter into the grooves 16 and are held fast there by the barbs 22. The base surface 12 then rests on the wipe dispenser, and the closure device 2 is firmly connected to the wipe dispenser.

[0038] On a side facing away from the fastening section 10 there is an opening section 24, which faces the user when the closure device 2 is mounted and the cap 6 is open. By way of example, the opening section 24 has a projecting axial rim 26, which is surrounded by an annular radial stop surface 28. The stop surface 28 is designed in such a way that the cap 6 can be placed flush on said surface and, at the same time, encloses the axial rim 26. This allows a better closing function.

[0039] The main body furthermore has a bottom 30, which has a cutout 32 which, by way of example, is embodied in a star shape with five points. Of course, different numbers of points, or even completely different shapes of the cutout, are also conceivable. Wipe ends can be guided outwards out of the wipe dispenser through the cutout 32, ensuring that they are available in the cutout 32 and can be gripped by a user. The cutout 32 is designed in such a way that a certain resistance must be overcome when pulling a wipe out, thus ensuring that wipes that are sticking to one another or wipes which are separated from one another by a perforated region are separated and only one wipe is ever removed from the wipe dispenser.

[0040] The cap 6 has a hollow-cylindrical section 34, which is covered on one axial side by a top surface 36 and is open on the opposite axial side. On a side of the hollow-cylindrical section 34 which faces away from the top surface 36 there is a cap rim 38, which projects and is placed on the stop surface 28.

[0041] A transition between the hollow-cylindrical section 34 and the top surface 36 has a short rounded portion 40. Liquids cannot adhere there, and the closure device 2 can furthermore be cleaned more effectively. The same applies to a rounded portion 44 between the bottom 30 and a circumferential surface 42.

[0042] On a side facing away from the hinge section 8, the cap 6 has a projection 46, which makes it easier for a user to open the cap 6. Placement of the closure device 2 according to the invention on a corresponding opening of a wipe dispenser is facilitated by a plurality of

marking bodies 48, which are arranged at points on the circumference of the main body 4 which correspond to the first engagement means 14. Since the first engagement means 14 below the base surface 12 are not visible to a user during the placement of the closure device 2, the marking bodies 48 help a user directly and intuitively to correctly align the closure device.

One special feature consists in the arrangement of two stop bodies 50, which extend radially outwards from the cap 6 in the region of the hinge section 8. The stop bodies 50 are designed to enter into mechanical stop contact with the wipe dispenser when the cap 6 is opened, thus limiting a possible opening angle of the cap 6. This is explained in greater detail by means of a number of views in subsequent figures.

[0043] Fig. 3 shows the closure device 2 with the cap 6 closed. Here, the two stop bodies 50 are shown from a different perspective. By way of example, both stop bodies are embodied as hollow bodies and have a trapezoidal bottom surface, which extends approximately parallel to the top surface 36 or to the cap rim 38. By way of example, the individual edges thereof are rounded, and the two stop bodies define an interspace which narrows towards the hinge section 8.

[0044] In Fig. 4, the hinge section 8 is shown in a significantly larger illustration from a similar perspective to that in Fig. 1. The hinge section 8 has two interconnected lugs 52 and 54, wherein lug 52 is arranged on the main body 4 and lug 54 is arranged on the cap 6. The two lugs 52 and 54 are integral and are provided on a connecting edge 56 with a notch or neck. This intentional local weakening of the material leads to the mobility of the two lugs 52 and 54 relative to one another. By means of this configuration of the lugs 52 and 54, a particularly simple but effective hinge is made available.

[0045] Two strips 58 and 60, which likewise connect the cap 6 and the main body 4 to one another, are provided at a slight axial offset to a hinge axis 57. By virtue of the axial offset, the strips 58 and 60 are subjected in a first opening angle range to a tensile stress, which counteracts the movement of the cap. In the case of the closure device 2 according to the invention, the axial offset of the strips 58 and 60 is chosen so that the cap 6 is always urged back into the closed position in a first opening angle range of 0 to less than 90°.

[0046] Figs 5 and 6 show the cap 6 with an opening angle α of approximately 70°. Here, the main body 4 is mounted on a container cap 62 of a wipe dispenser. In this position of the cap, the stop bodies 50 come into surface contact with the container cap 62, with the result that there is a perceptible resistance by the cap 6 to further opening. This is particularly expedient since, given correct operation, the cap 6 can remain in the abovementioned first opening angle range, in which the hinge always urges the cap 6 back into the closed position.

[0047] Consequently, if a user would like to remove a wipe from a wipe dispenser on which the closure device 2 according to the invention is arranged, they would grip

the projection 46 of the cap 6 with one finger, open the cap 6 until the mechanical resistance caused by the stop bodies 50 is reached, and would then pull a wipe out of the cutout 32. Once this wipe has been pulled out and the cap 6 has been released, the cap springs back automatically into an at least approximately closed position. The cap rim 38 then comes to rest approximately on the stop surface 28 and, in doing so, surrounds the axial rim 26. By means of an additional slight pressure on the cap 6, e.g. on the top surface 36, the cap 6 is fully closed.

[0048] In order to allow easy latching in, a plurality of radially inward-oriented protuberances 64, which can be introduced into corresponding depressions 66 on an outer circumference of the axial rim 26 to hold the cap 6, is arranged on a side of the cap 6 remote from the top surface 36. By way of example, three such protuberances 64 are provided, these being distributed along the circumference of the cap 6 and corresponding to depressions 66. These are arranged on the circumference, e.g. at those points at which the marking bodies 48 and the first engagement means 14 are also arranged. The protuberances 64 and the associated depressions 66 are already visible in Figs 1 and 5. For the sake of completeness, Fig. 7 shows another perspective of an opened cap 6, in which the stop bodies 50 come into stop contact with the container cap 62.

[0049] Fig. 8 shows a first engagement means 14 in a greatly enlarged view. Two pairs of barbs 22 are visible here. A first pair of barbs is arranged directly on the guide edge 18 and distributed in a largely symmetrical way between an entry section 68 of the guide edge 18 and the stop 20. Two further barbs 22 are arranged on the base surface 12 with a slight offset in the circumferential direction relative to the entry section 68. If a projection of the container cap 62 is brought up to the base surface 12 and reaches the entry section 68, it enters the interspace between the guide edge 18 and the base surface 12, i.e. the groove 16. There, the projection must be guided alternately past a barb 22 on the base surface 12 or the guide edge 18, thereby bringing about rigid engagement between the projection and the main body. The barbs 22 and the size of the groove 16 can be designed in such a way that it is not possible to remove the projection from the groove 16 without destruction. Consequently, if the wipe dispenser is empty, the wipe dispenser must be disposed of together with the closure device according to the invention.

[0050] Fig. 9 shows a section through the closed closure device 2 from the side. Here, it can be seen that the bottom 30 has a slight conical shape. Here, an opening angle β is approximately 170°, with the result that the bottom 30 rises radially outwards by an angle γ of approximately 5° from the cutout 32. A rise by an angle γ of 5-6° is particularly preferred in order to prevent adhesion of disinfecting liquid in the main body 4.

[0051] Fig. 10 shows a section through the main body 4, in which an opening contour 69 of the cutout 32 is visible. The opening contour 69 is of sharp-edged design

on a side facing the opening section 24, while it is very rounded on a side facing the fastening section 10. The sharp-edged embodiment promotes the flowing away of disinfecting liquid in the main body 4 into the wipe dispenser, while the rounded embodiment serves to scrape off excess disinfecting liquid.

[0052] Finally, Fig. 11 shows the container cap 62 with an opening 70, which has a contour having a plurality of radial cutouts 72, between which projections 74 are formed as second engagement means. These projections 74 can enter the grooves 16 when the fastening section 10 is placed on the opening 70. Here, the cutouts 72 are dimensioned in such a way that the guide edge 18 and the stop 20 can be inserted through them, with the result that the entry section 68 is then arranged in a corner of a projection 74. By then turning slightly, the three projections 74 consequently enter the three entry sections 68 and, from there, the three grooves 16. The first engagement means 14 and the second engagement means 74 form a bayonet joint. The barbs 22 dig into the projections 74 as the projections are rotated into the grooves 16, with the result that it is not possible to turn the closure device 2 back subsequently without destruction.

[0053] In addition, it should be noted that "having" does not exclude other elements or steps, and "a" or "an" does not exclude a multiplicity. It should furthermore be noted that features which have been described with reference to one of the above embodiment examples can also be used in combination with other features of other embodiment examples described above. Reference signs in the claims should not be regarded as restrictive.

REFERENCE SIGNS

[0054]

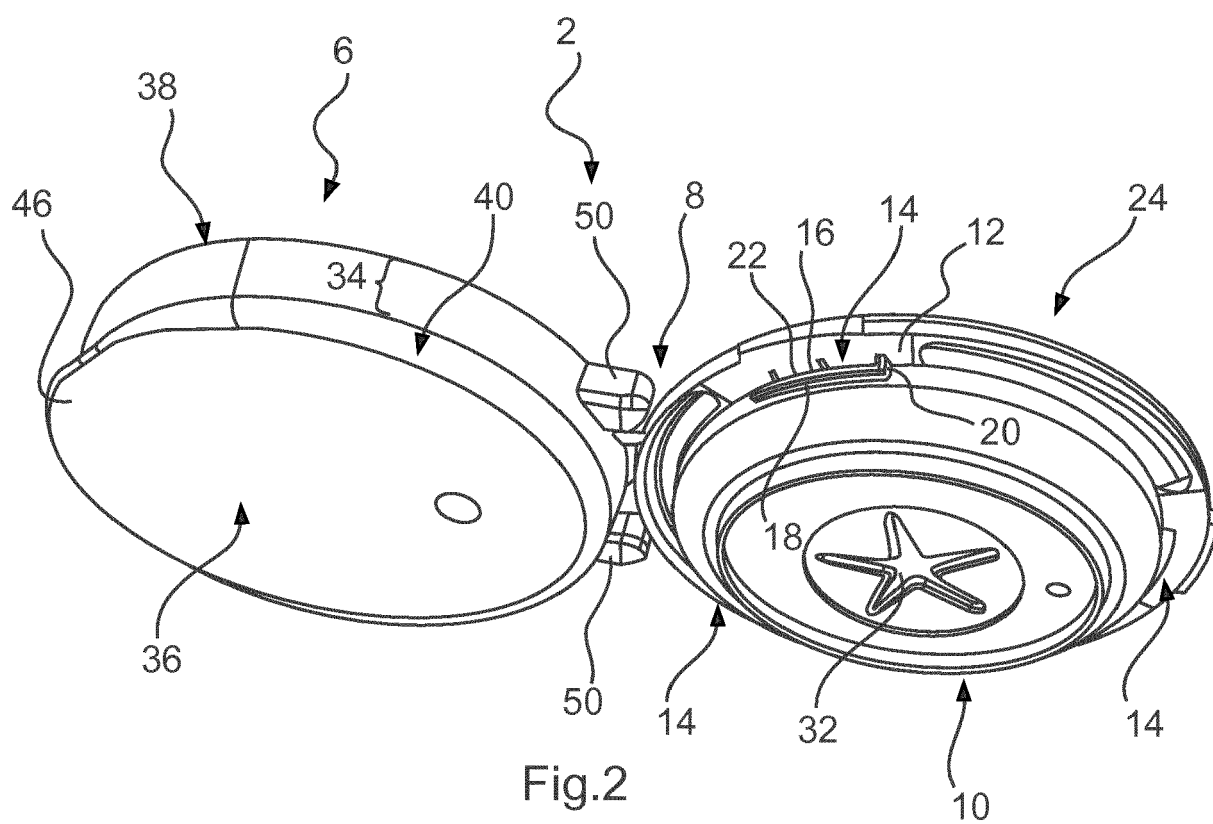
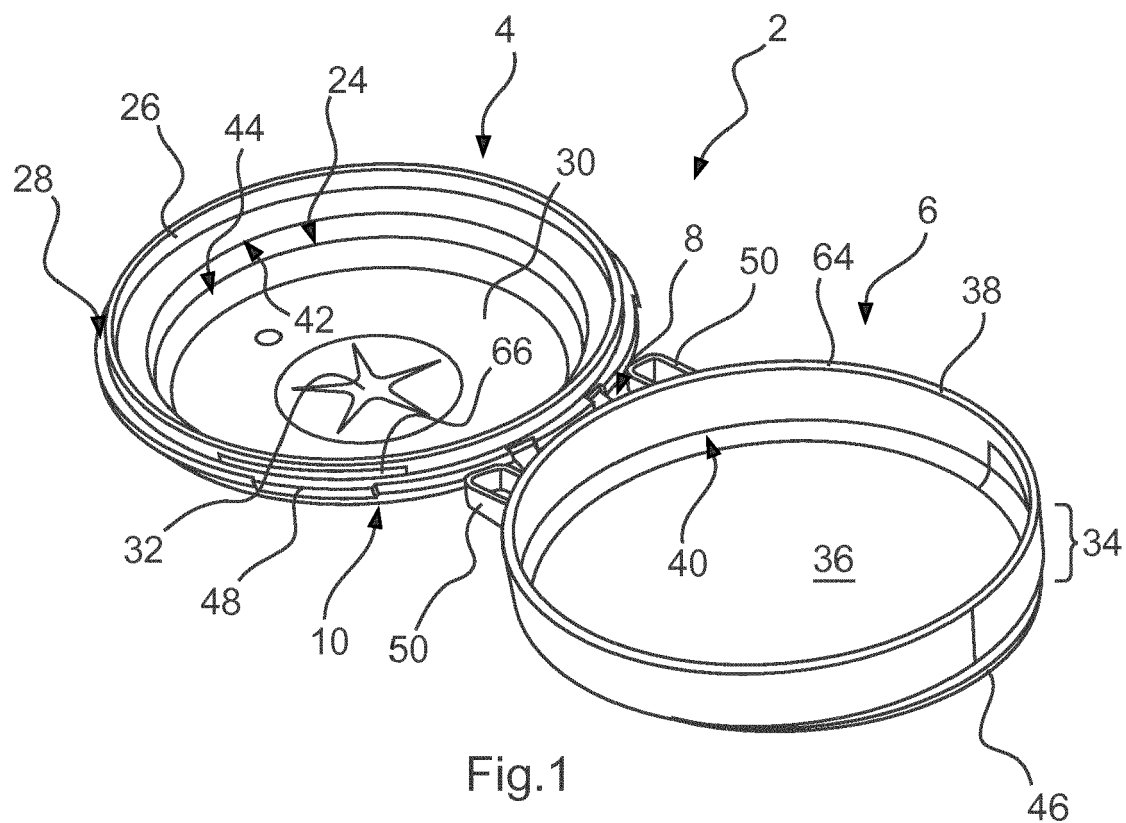
2 closure device
4 main body
6 cap
8 hinge section
10 fastening section
12 base surface
14 first engagement means
16 groove
18 guide edge
20 stop
22 barb
24 opening section
26 axial rim
28 stop surface
30 bottom
32 cutout
34 hollow-cylindrical section
36 top surface
38 cap rim
40 rounded portion
42 circumferential surface

44 rounded portion
46 projection
48 marking body
50 stop body
5 52 lug
54 lug
56 connecting edge
57 hinge axis
58 strip
10 60 strip
62 container cap
64 protuberance
66 depression
68 entry section
15 69 opening contour
70 opening
72 radial cutout
74 projection / second engagement means

Claims

1. Closure device (2) for a wipe dispenser, having a main body (4) and a cap (6) arranged movably thereon,
wherein the main body (4) has a fastening section (10) for fastening the main body (4) on the wipe dispenser, an opening section (24), which can be completely covered by the cap (6), and a bottom (30) having a cutout (32) for passing through wipes from the wipe dispenser,
wherein the fastening section (10) has at least one first engagement means (14) for connection to the wipe dispenser,
wherein a hinge section (8), in which the cap (6) is held movably on the main body (4), is arranged between the main body (4) and the cap (6), and
wherein at least one stop body (50) extends radially outwards on the hinge section (8) from the cap (6) or from the main body (4) and is designed to enter into mechanical stop contact with the wipe dispenser or with the main body (4) when the cap (6) is opened and thereby to limit a possible opening angle (α) of the cap (6).
2. Closure device (2) according to Claim 1,
wherein the hinge section (8) is designed so that the cap (6) is self-closing.
3. Closure device (2) according to Claim 1 or 2,
wherein the hinge section (8) has a hinge which is designed to be urged into a closed state in a first opening angle range of the cap (6).
4. Closure device (2) according to Claim 3,
wherein the at least one stop body (50) is dimensioned in such a way that the cap (6) remains in the first opening angle range.

5. Closure device (2) according to any one of the preceding claims,
wherein the opening section (24) has a projecting axial rim (26), which is surrounded by an annular radial stop surface (28),
wherein the cap (6) is designed to be placed on the stop surface (28) in order to surround the axial rim (26). 5
6. Closure device (2) according to Claim 5,
wherein the cap (6) has a hollow-cylindrical section (34), which is closed off on one axial side by a top surface (36), and
wherein at least one radially inward-oriented protuberance (64), which can be brought into contact with the axial rim (36) of the main body (4) to hold the cap (6) in a closed position, is arranged on an inner side of the hollow-cylindrical section (34), on a side remote from the top surface (36). 10
7. Closure device (2) according to any one of the preceding claims,
wherein the bottom (30) is offset axially in a direction away from the opening section (24),
wherein a continuous circumferential surface (42) is arranged between the opening section (24) and the bottom (30), and
wherein a transition between the circumferential surface (42) and the bottom (30) is rounded. 15
8. Closure device (2) according to any one of the preceding claims,
wherein the cutout (32) has an opening contour (69), and
wherein the opening contour (69) is rounded on a side of the bottom (30) facing away from the cap (6) and is of sharp-edged design on a side facing the cap (6). 20
9. Closure device (2) according to any one of the preceding claims,
wherein the at least one first engagement means (14) is embodied as a component of a bayonet joint. 25
10. Closure device (2) according to any one of the preceding claims,
having a plurality of first engagement means (14), which are distributed circumferentially on the main body (4). 30
11. Closure device (2) according to Claim 10,
wherein a respective marking body (48) for each first engagement means (14), spaced apart axially from the relevant first engagement means (14), is arranged on a side of the main body (4) facing the cap (6). 35
12. Closure device (2) according to any one of the preceding claims,
wherein the at least one first engagement means (14) is designed to enter into an irreversible connection with the wipe dispenser. 40
13. Closure device (2) according to any one of the preceding claims,
wherein the cap (6) has a projection (4) for engagement with a finger of a user on a side facing away from the hinge section (8). 45
14. Closure device (2) according to any one of the preceding claims,
wherein the closure device (2) is of integral design. 50
15. Wipe dispenser system having:
- a container for accommodating impregnatable or impregnated wipes,
- a container cap (62) for closing the container, and
- a closure device (2) according to any one of Claims 1 to 14,
wherein the container cap (62) is designed to close the container and has an opening (70) having at least one second engagement means (74) for receiving the fastening section (10) of the closure device (2), and
wherein the at least one first engagement means (14) and the at least one second engagement means (74) are of mutually complementary design. 55



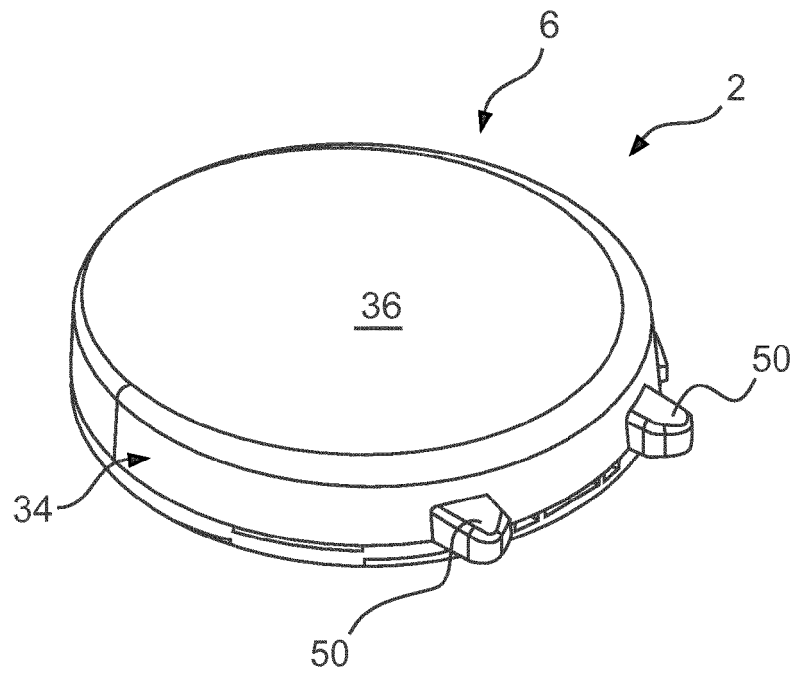


Fig.3

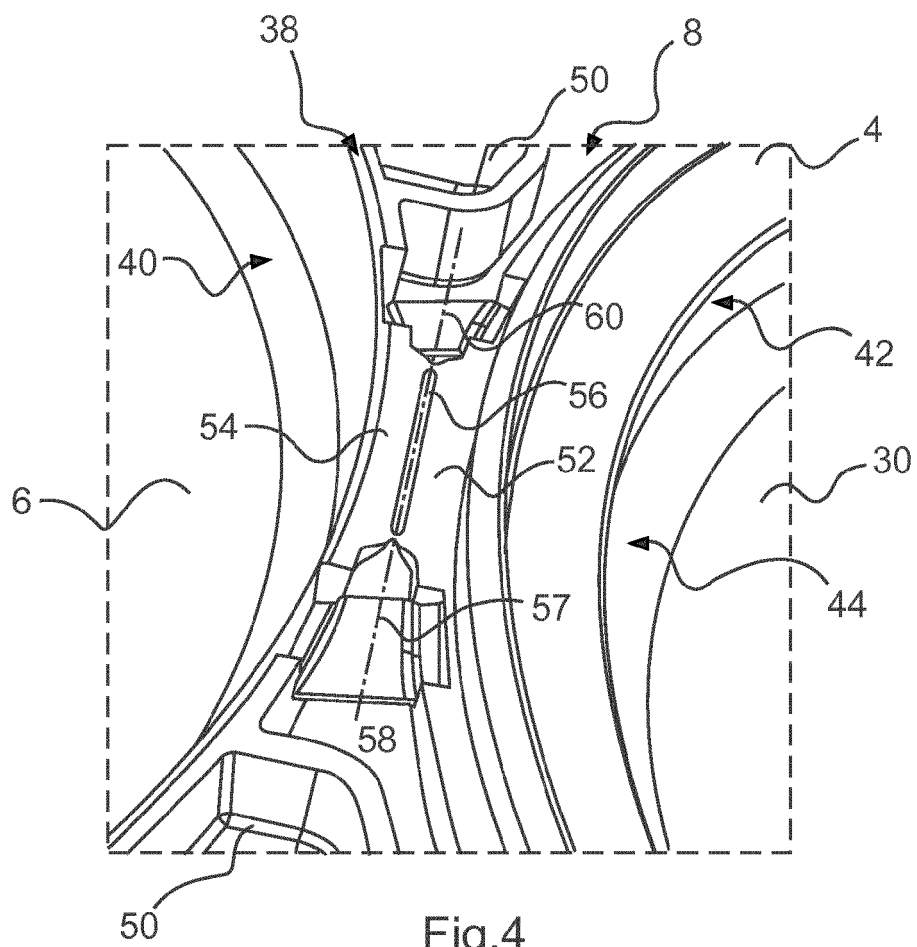
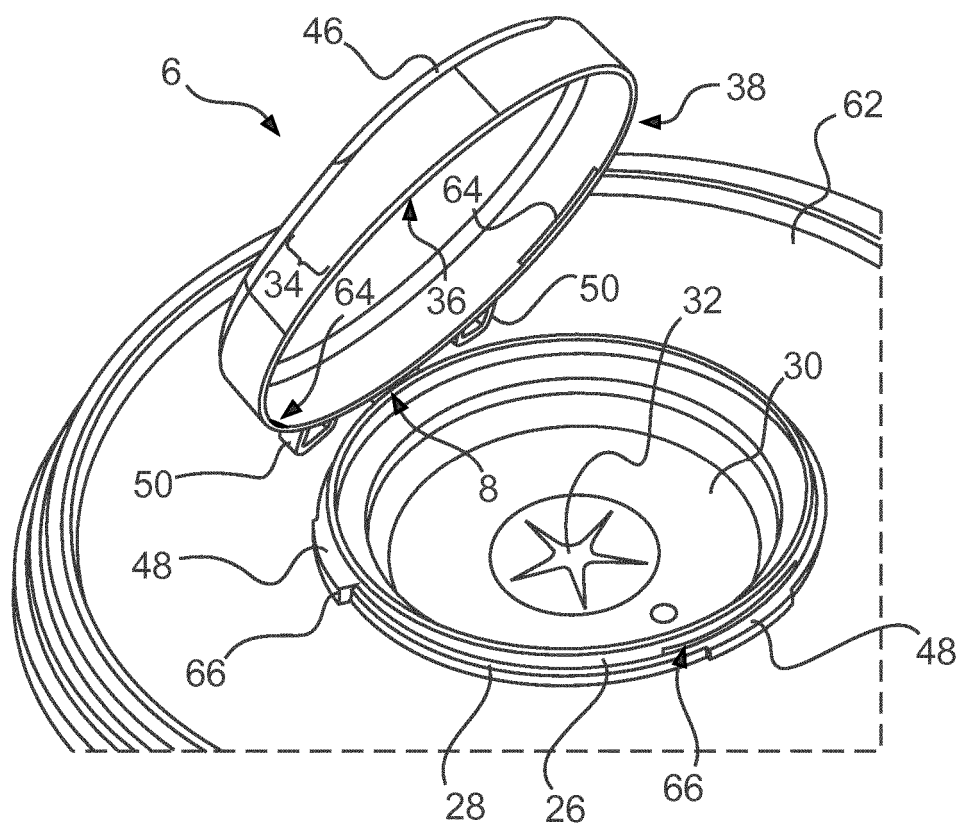
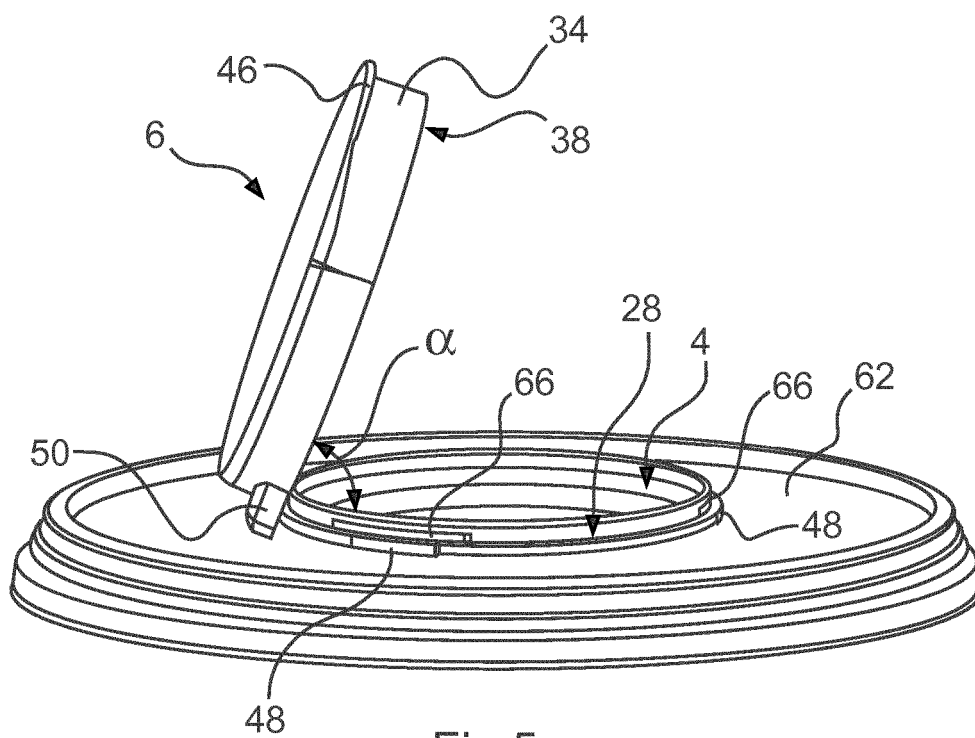


Fig.4



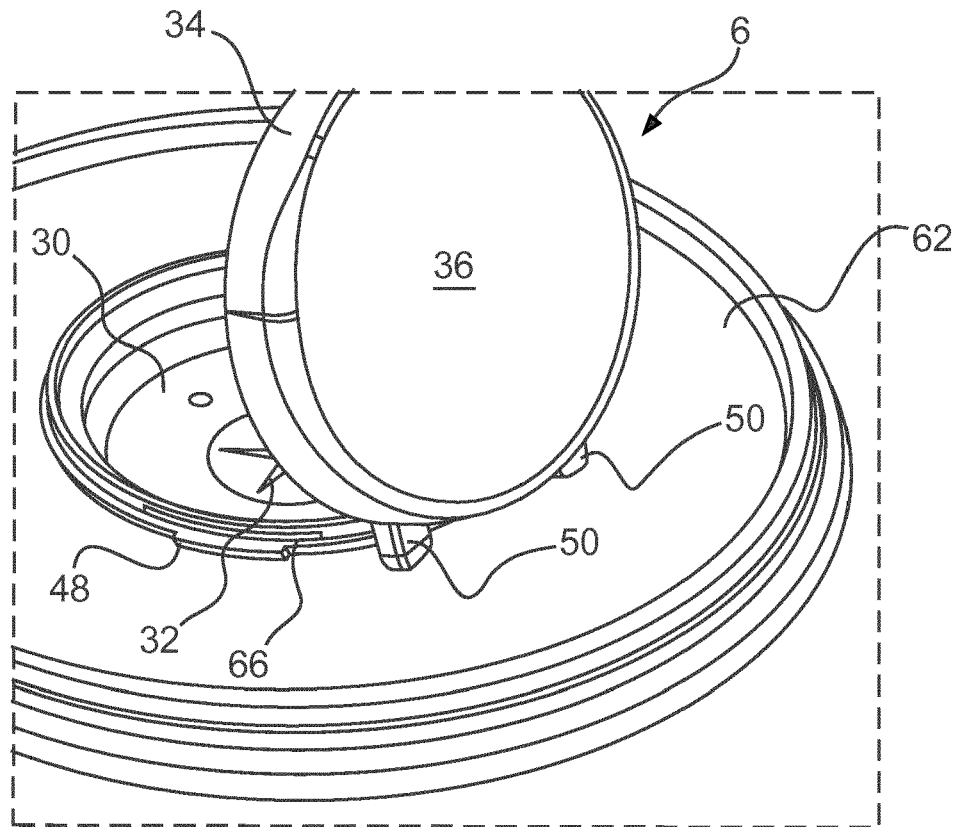


Fig.7

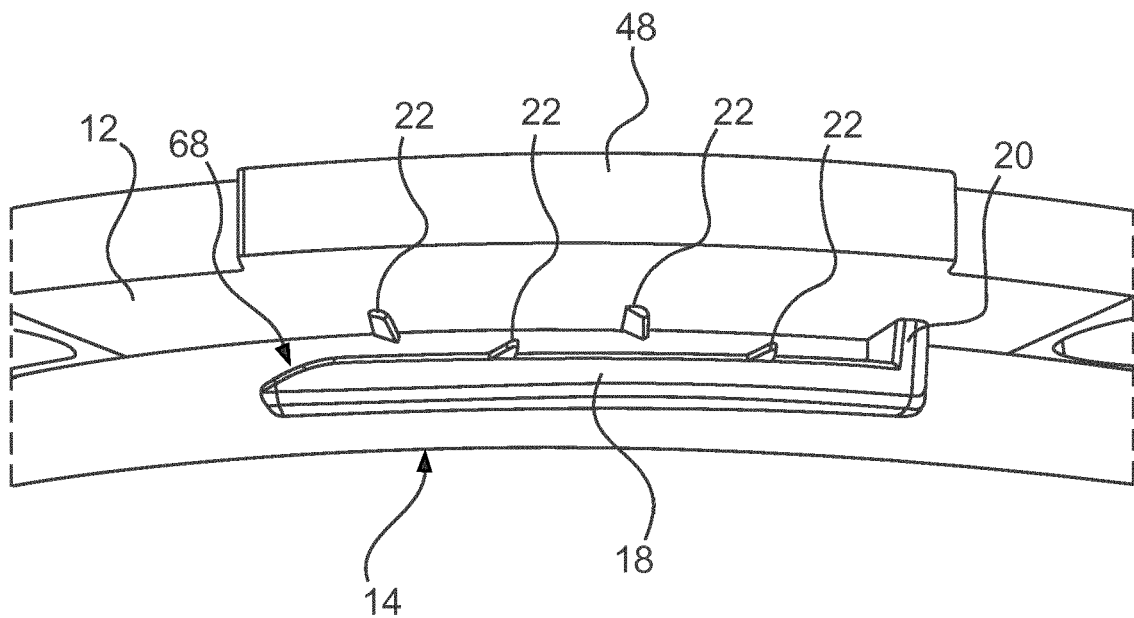


Fig.8

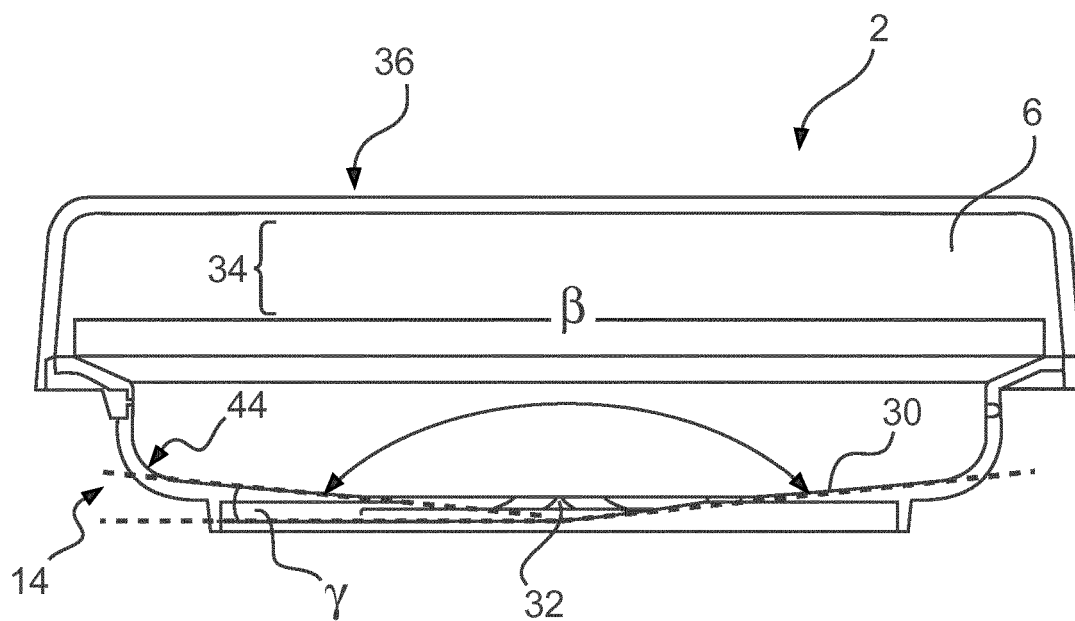


Fig.9

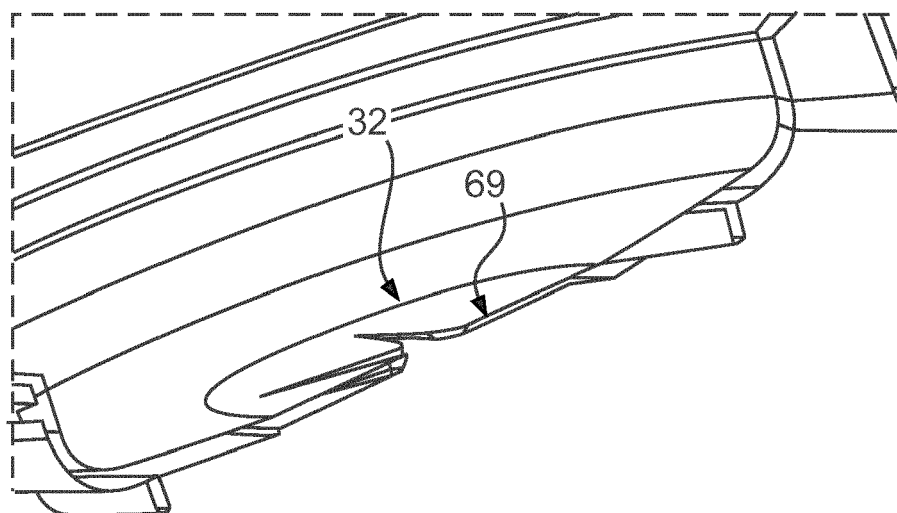


Fig.10

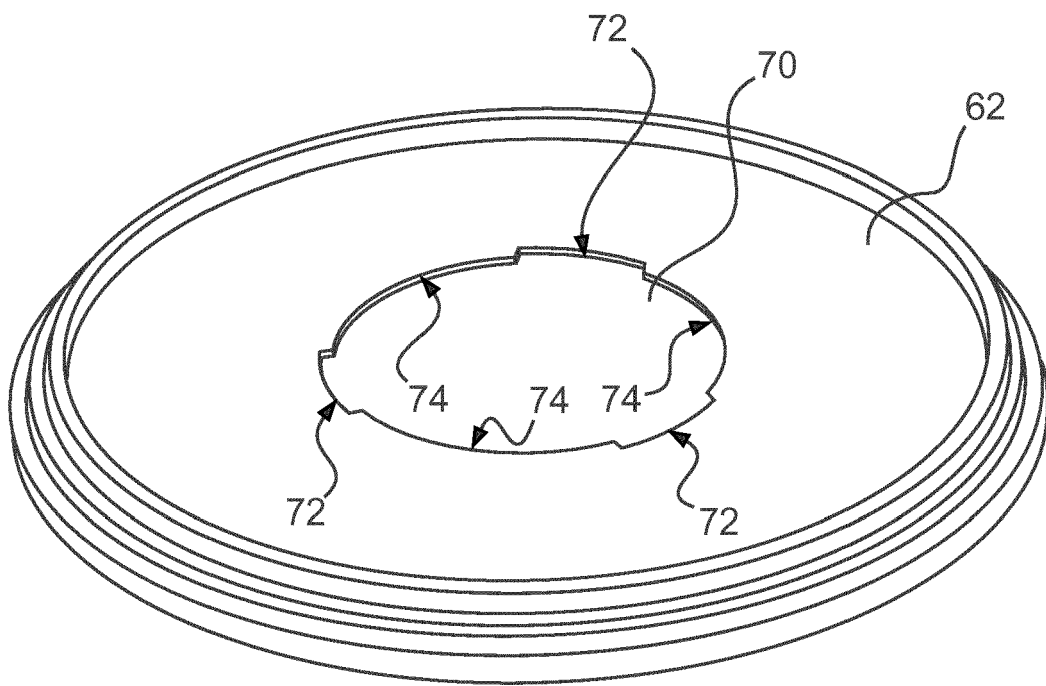


Fig.11