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• **Jafiko B.V.**
5321 JJ Hedel (NL)

(72) Inventor: **KOLKMAN, Gerrit Richard Marcel**
5321 JJ Hedel (NL)

(74) Representative: **Jilderda, Anne Ayolt**
LIOC Patents & Trademarks
Zwaanstraat 31 L
5651 CA Eindhoven (NL)

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(71) Applicants:
• **Gebroeders Kolkman B.V.**
5321 JH Hedel (NL)

(54) **PACKAGING**

(57) A packaging for a product, particularly for fresh foods, comprises an integrally formed container (10) with a form-retaining chamber (15) which is enclosed by a wall (11) and in which the product is receivable. The wall (11) ends in a protruding flanged edge (20) and a circumferential cover rim (24) which is connected via a relatively weak break zone (22) to an adjacent part of the flanged edge (20). A sealing film (30) is receivable on at least the cover rim (24). The cover rim (24) comprises a downward hanging shoulder (26) in which a number of inward directed protrusions (28) are formed. The flanged edge (20) provides an engagement (27) for the protrusions (28), behind which a protrusion (28) is receivable. The cover rim (24) provides an attaching surface for the sealing film (30) and is releasable together therewith from the adjacent flanged edge (20) as independent cover along the break zone (22).

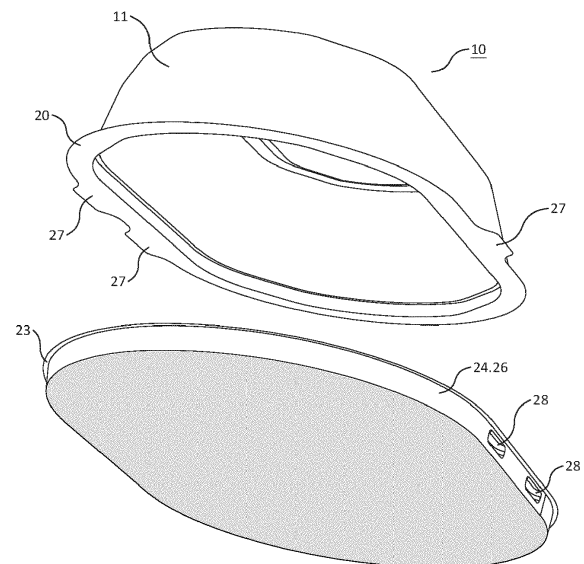


Fig.3

Description

[0001] The present invention relates to a packaging for a product, particularly for fresh foods, comprising a container which is formed from a blank plastic substrate by thermoforming and has a form-retaining chamber which is enclosed by a wall and in which the product is receivable, wherein the wall ends in a protruding flanged edge which is connected via a relatively weak break zone to a circumferential cover rim, and wherein a sealing film is receivable on at least the cover rim. The invention relates particularly here to a packaging for fresh foods such as nuts, salads, fruits and savoury snacks.

[0002] A packaging of the type described in the preamble is usually manufactured from clear plastic and is applied mainly in wholesaler's, supermarkets and shops as part of a range of foodstuffs. The form-retaining chamber forms a receptacle in which in the order of several hundred grams of the product can typically be received and optionally be packaged from a bulk packaging. The packaging is closed with the sealing film which is adhered to the flanged edge in order to seal the chamber hermetically. In first use of the packaging the film is removed in order to release the product in the chamber.

[0003] It is desirable here for the packaging to be reclosable afterward in order to enable any remainder of the product to be covered after use. This is for instance provided for by the packaging described in the Netherlands patent NL 2011432. Known therefrom is a plastic receptacle wherein the sealing film is adhered only onto a break-off cover rim of the receptacle. By breaking the cover rim off the receptacle together with the film a complete cover is obtained, which can then be replaced onto the receptacle as such.

[0004] In order to realize the intended reclosability the known packaging comprises a relatively complicated cover rim in the form of an inner ring and an outer ring lying higher, wherein the break zone connects the two rings to each other. Once the two rings have been separated from each other at the position of the break zone, they can be reunited again by forcing the outer ring over the inner ring. An inward directed edge on the outer ring now hooks behind an outward directed edge on the inner ring corresponding therewith, and a mutual connection between cover and receptacle is thus realized.

[0005] A drawback of the known packaging is that the material usage required and tools needed for the relatively complicated cover rim considerably increase the production costs of the packaging. Furthermore, the intended interaction between the two edges on respectively the outer ring and the inner ring make not only the manufacturing process of the packaging particularly critical, but also the covering with the sealing film which must be arranged under sufficient tension. This latter is generally performed by a third party who will fill the packaging, and is therefore an uncontrollable factor from a production engineering viewpoint.

[0006] The present invention therefore has for its ob-

ject, among others, to provide a packaging of the type described in the preamble, which sets significantly less stringent requirements for both the manufacture thereof and a further processing in a downstream link in a logistics chain, while maintaining the simplicity of a production process suitable therefor.

[0007] In order to achieve the stated object a packaging of the type described in the preamble has the feature according to the invention that a number of hollow protrusions directed toward the flanged edge are formed in the cover rim, that the flanged edge provides an engagement for the protrusions with which a protrusion can enter into co-action in order to bring about a reclosable connection therebetween, and that the cover rim provides an attaching surface for the sealing film and is releasable together therewith from the flanged edge along the break zone. The protrusions are here directed "inward", i.e. the protrusions are directly substantially toward the chamber. "Outward" will conversely refer below to an opposite direction or side, i.e. out of the container.

[0008] In first use of the packaging the cover rim together with the sealing film can be broken off or at least removed as independent cover along the break zone. The flanged edge then provides a reliable engagement behind which the protrusions can engage when the two parts of the packaging are brought together again in order to reclose the packaging, if desired. The invention can suffice with a relatively simple flanged edge and cover rim which can be formed simultaneously from a flat substrate by means of thermoforming. The hollow protrusions formed here reach sufficiently far inward and provide sufficient strength and grip to engage in the flanged edge beyond the engagement in efficient manner in order to enable the packaging to be reclosed.

[0009] In a particular embodiment the packaging has the feature according to the invention that the engagement comprises a tongue on the flanged edge at the position of a corresponding cut-out in the cover rim. Such a tongue formed in the flanged edge provides an intrinsic resilience which can easily be overcome with a protrusion on the cover rim and subsequently reliably catches and locks the protrusion therebehind when the packaging is reclosed.

[0010] A preferred embodiment of the packaging according to the invention has the feature here that the cut-out and each of the protrusions lie in separate parts of the cover rim. The protrusions and the cut-outs thus lie distributed in a periphery of the container, in separate parts of the flanged edge. The cover rim is thus not weakened at the position of the protrusions, but provides stiffness which supports the function of the protrusions.

[0011] A further preferred embodiment of the packaging has the feature according to the invention that the cover rim comprises a circumferential shoulder and that the protrusions are formed in a downward hanging shoulder edge. The shoulder provides a circumferential bend in the cover rim, which thereby obtains an increased rigidity of form which provides rigidity in use in an inde-

pendent cover and provides a solid base for the protrusions.

[0012] A further strengthening of the circumferential cover rim is obtained with a further preferred embodiment of the packaging which is characterized according to the invention in that the downward hanging shoulder edge transposes distally into a lying, protruding edge. The transposition to the flat distal part once again gives the cover rim a preferred form which prevents physical deformation during use. Such a flat edge requires hardly any additional material, but provides a relatively great deal of strength, particularly at the position of the protrusions, which will thereby spring outward to lesser extent.

[0013] This solid base is particularly present in a further particular embodiment of the packaging which has the feature according to the invention that the downward hanging shoulder edge comprises at the position of each of the protrusions an indentation, wherein the protrusion forms part of an upright wall of the indentation directed toward the flanged edge. These are cup-shaped depressions which were formed together with the hollow protrusions at separate positions in the cover rim during thermoforming of the container. It is mainly the upright side walls of such a cup-shaped indentation that impart resistance and strength to the protrusion forming part of the wall lying therebetween. The above described lying distal edge of the shoulder edge preferably continues as bottom of a thus formed indentation and creates thereby a form fitting and increased stiffness.

[0014] In a further preferred embodiment the packaging is characterized according to the invention in that the flanged edge provides a stop against which at least one of the protrusions is laterally receivable, and particularly strikes. It is possible, particularly in a packaging with a round or partially rounded periphery, that the cover is laterally enclosed between or against one or more of such stops on the flanged edge in that one or more of the protrusions strike thereagainst and thereby resist a further lateral displacement, such as a rotation, of the cover.

[0015] A further particular embodiment of the packaging according to the invention has the feature that a protrusion and an engagement of the flanged edge co-acting therewith lie, at least in projection, on opposite sides of the container, particularly, at least in projection, diametrically or directly opposite each other. Such a mutually opposite positioning of the protrusions and the engagement co-acting therewith provides additional design freedom in the realization of both. In particular, material usage of one therefore requires no material saving in the other, enabling both to be embodied optimally. This moreover results in a significant simplification of the production process in that the engagement and the protrusions can lie spaced apart in this way. This makes alignment of the cutting or punching tool necessary for forming the engagement relative to the protrusions considerably less critical. When reclosing the packaging, the cover is simply rotated through 180 degrees in order to restore the correct orientation of the protrusions and engage-

ment relative to each other.

[0016] The packaging is advantageously manufactured in large numbers at relatively low cost. For this purpose a further preferred embodiment of the packaging has the feature according to the invention that the blank plastic substrate comprises a plastic sheet or plastic film. It has been found in practice that the container can be integrally formed particularly efficiently and at relatively low cost from a flat plastic sheet or film with a substantially constant wall thickness by means of thermoforming, also referred to as vacuum forming or vacuum drawing. A further particular embodiment of the packaging has the feature here that the protrusions are hollow, and open outward. The constant wall thickness of the substrate continues here into the hollow protrusions, which were imposed by corresponding projections in the vacuum mould applied for this purpose.

[0017] Good results have been obtained with a further embodiment of the packaging, which is characterized according to the invention in that the blank plastic substrate has a wall thickness in the order of between 300 and 800 microns, particularly a wall thickness between 400 and 600 microns, more particularly a wall thickness of about 500 microns. With such a wall thickness the container has been found on one hand to provide enough stiffness and strength as is desirable for the co-action of the protrusions and engagement, while no or hardly any more plastic material is on the other hand required than is used for a similar conventional packaging.

[0018] Although use can be made of an almost unlimited range of thermoplastic plastics for forming the container, a further particular embodiment of the packaging has the feature that the plastic comprises a translucent or transparent thermoplastic plastic, particularly a plastic from a group comprising polyesters, more particularly polyethylene terephthalate (PET), and preferably reused polyethylene terephthalate (rPET). The use of such a transparent or translucent plastic for the blank results in the final packaging in a wholly transparent wall of the container and therefore an unimpeded view of the contents thereof.

[0019] From a viewpoint of limiting environmental impact caused thereby a further particular embodiment of the packaging has the feature according to the invention that the plastic comprises a biodegradable plastic, particularly one of biological origin. Owing to the use of such so-called bioplastics the packaging has only a relatively small environmental footprint. Biodegradable plastics are here understood to mean both industrially compostable plastics, which can be decomposed in a factory, and completely naturally compostable bioplastics which decompose in nature or on a compost heap.

[0020] In order to preserve the quality and integrity of the content of the packaging a further particular embodiment thereof has the feature according to the invention that the sealing film is adhered with decreasing adhesion to respectively the cover rim and the flanged edge, and seals the chamber at least substantially hermetically.

Owing to the adhesion of the film to both the cover rim and the flanged edge lying inside thereof, it extends over the relatively weak and possibly interrupted break zone so that a hermetic sealing of the chamber can nevertheless be achieved. Because the film is however adhered less firmly to the flanged edge than to the cover rim, the film will remain adhered to the cover rim when the cover is removed, while the film peels away from the flanged edge.

[0021] For the sealing film use can be made of a further particular embodiment of the packaging according to the invention, characterized in that the sealing film comprises a, compared to the container, relatively thin film having a film thickness of less than 100 microns, particularly between 30 and 60 microns, more particularly in the order of about 50 microns, particularly a metal foil such as particularly aluminium foil, or a plastic film, more particularly a transparent plastic film, such as particularly a polyester film. Because the cover rim on its own already provides for sufficient structural stiffness of the cover, the sealing film need only provide for a desired degree of airtightness and initial sealing of the contents of the packaging. Such a sealing film with a film thickness of less than 100 microns has been found to suffice for this purpose.

[0022] The invention will be further elucidated hereinbelow with reference to an exemplary embodiment and an accompanying drawing. In the drawing:

- Figure 1 is an isometric view of a container of a first exemplary embodiment of the packaging according to the invention;
- Figure 2 is an isometric view of the container of figure 1, closed with a sealing film;
- Figure 3 is an isometric view of the packaging of figure 2 with a cover broken off it;
- Figure 4 is a bottom view of the packaging of figure 2;
- Figure 5 is the packaging of figure 3 in a reclosed state;
- Figure 6 is an isometric view of a container of a second exemplary embodiment of the packaging according to the invention;
- Figure 7 is a first side view of the container of figure 6;
- Figures 8A-B are a second side view, transversely of that of figure 7, of the container of figure 6, in respectively an original, closed state and subsequently reclosed state;
- Figure 9 is a top view of the container of figure 6 in original, closed state;
- Figure 10 is a top view of the container of figure 6 in a reclosed state; and
- Figure 11 is a top view of the cover of the packaging of figure 6.

[0023] It is otherwise noted here that the figures are purely schematic and not always drawn to (the same) scale. Some dimensions in particular may be exagger-

ated to greater or lesser extent for the sake of clarity. Corresponding parts are designated in the figures with the same reference numeral.

[0024] The packaging shown in the figures is substantially formed by the container 10 shown in figure 1. This container 10 forms a receptacle or a tub and is formed integrally from a flat (blank) film or sheet of a suitable translucent or transparent thermoplastic plastic by means of thermoforming, also referred to as a vacuum forming. Thermoforming is a non-machining shaping technique. The flat (blank) basic material is first heated, after which it is plastically deformed in order to thus realize a three-dimensionally shaped product from a flat film or sheet. Any material that becomes plastic when heated, i.e. thermoplasts, are suitable for this purpose in principle. When thin films are used, the basic material is usually supplied from a roll, and different stages of the process can be integrated in one machine.

[0025] In a first process step the flat basic material is heated, usually with one or more infrared heaters, and single-sided or double-sided, this imparting increased plasticity to the material. The heated film is then clamped into a mould, after which the air is extracted through channels in the mould. This will cause the still plastic material to take on the shape of the mould. As soon as the material has taken on the shape of the mould it is force-cooled, causing the material to be fixed in the shape imparted by the mould. Compressed air can optionally be supplied on the opposite side of the heated film in order to have the process run more quickly and therefore more economically. Finally, the thus formed product is removed from the mould and punched out of the film. The resulting waste can often be reused.

[0026] Materials suitable for thermoforming are for example: polyvinyl chloride (PVC), polyethylene (PE), acrylonitrile butadiene styrene (ABS), polystyrene (PS), polyethylene terephthalate (PET), polypropylene (PP), polylactic acid (PLA) and polyesters. For the packaging use can particularly be made of a clear polyethylene terephthalate (PET) film, and preferably one of reused polyethylene terephthalate (rPET). Films composed of layers of different materials can also be used. In the food industry vapour-resistant films are often used to extend the shelf life of the food products. From an ecological viewpoint use can advantageously be made of thermoplastic bio-based materials, such as polylactic acid (PLA), cellulose and Miscanthus Giganteus. This latter material is also compostable.

[0027] In this embodiment a plastic from a group of polyesters has been opted for, namely reused polyethylene terephthalate (rPET) with a wall thickness in the order of between 300 and 800 microns, particularly a wall thickness between 400 and 600 microns, and more particularly, as in this embodiment, a wall thickness of about 500 microns. A sturdy, form-retaining receptacle 10 (tub) as shown in figure 1 is hereby obtained.

[0028] Characteristic for this is a container 10 having as its central part a hollow chamber 15 enclosed by a

wall 11, in which the product to be packaged can be received, having all around it a flat, protruding flanged edge 20 which is separated by a relatively weak break zone 22 from a circumferential cover rim 24 and forms one whole therewith. The cover rim 24 is therefore connected to the flanged edge 20 only via the relatively weak break zone 22.

[0029] Attachable to the circumferential cover rim 24 is a sealing film 30 with which the chamber 15 is hermetically sealed after being filled with the product, see figure 2. Sealing film 30 comprises for instance a clear polyester film with a wall thickness of less than 100 microns, particularly between 30 and 60 microns, and more particularly, as in this embodiment, of about 50 microns. Local heating with a standard tool such as a sealing blade enables such a film to be fused reliably to the cover rim 24 of the container.

[0030] Sealing film 30 is here preferably also arranged on the flanged edge 20 so that a fully airtight whole is obtained. In that case a stronger adhesion is realized for the attachment of the sealing film onto cover rim 24 than onto the flanged edge 20 lying on the inside thereof by applying a greater compacting pressure and/or temperature (power) for the relevant sealing blade than for the sealing blade with which the film is attached to the flanged edge. The packaging shown here is particularly suitable for packaging fresh foods, for instance food products such as fruits, sweets, nuts, savoury snacks, dairy products and salads. If desired, the packaging can here be closed under a protective atmosphere in order to guarantee a shelf life of the product.

[0031] In this embodiment the cover rim 24 comprises a shoulder with a downward hanging flank 26 in which a number of inward directed protrusions 28 are formed. Beyond protrusions 28, cover rim 24 furthermore comprises a flat peripheral edge 23 which provides for further strength all around. The flanged edge comprises for each of the protrusions 28 an engagement in the form of an edge part or tongue 27 of the flanged edge, behind which such a protrusion 28 is receivable. Each tongue 27 results in the cover rim in a corresponding cut-out in the form of a narrowed portion imposed by the break zone 22. The protrusions 28 and the cut-outs are here in each case located in separate parts of the cover rim 24, so that the cover rim retains strength and sturdiness along its whole periphery. Tongues 27 can thus also be formed spatially separated from protrusions 28, whereby a greater aligning tolerance is obtained therebetween.

[0032] The flanged edge 20 with the tongues 27 is given its final form at the same time as cover rim 24 and the shoulder with the protrusions 28 hanging downward therefrom in a single thermoforming production operation of receptacle 10, as integral part thereof.

[0033] Protrusions 28 take a concave form here; opening outward toward a visible side of the edge 26 in which they are formed. The break zone 22 can be arranged in the material at the same time, but can also be provided afterward by means of for instance punching or (laser)

cutting.

[0034] The cover rim 24 can be broken off the adjacent flanged edge 20 along the break zone 22 in a relatively simple and in a defined manner by a user, see figure 3. Cover rim 24 is now released together with sealing film 30 from container 10 as a complete and independent cover but, if desired, can be arranged back thereon once again in order to reclose the packaging. For this purpose a protrusion 28 and a tongue 27 co-acting therewith in each case lie, at least in projection, on opposite sides of container 10 relative to each other, see also figure 4. In the embodiment given the protrusions 28 and corresponding tongues 27 in each case lie directly opposite each other. If desired, protrusions and tongues can however also be formed in the corners, which will in this case lie, at least in projection, diametrically opposite each other.

[0035] In order to (re)close the receptacle 10 again, cover 30 and receptacle 10 are rotated through 180 degrees relative to each other so that the protrusions 28 and the tongues 27 corresponding therewith are brought together. More particularly, the protrusions 28 on the upper side in figure 4 will therefore now be in register with the tongues 27 on the underside and, vice versa, the protrusion 28 on the underside is now in register with the tongue 27 on the upper side. Cover 24, 30 can be replaced onto receptacle 10 in this orientation, see figure 5, wherein each of the protrusions 28 will in each case engage behind the tongue 27 on flanged edge 20 corresponding therewith. Owing to this snap connection a strong assembly is once again obtained, wherein receptacle 10, 15 is once again closed. The cover can then be removed and replaced again repeatedly in this same orientation.

[0036] Figure 6 shows a second exemplary embodiment of a container for a packaging according to the invention. In terms of material usage, dimensions and manufacturing process the container is similar to that of the first exemplary embodiment, which is therefore referred to in this respect. Corresponding parts of the container are also designated with the same reference numerals. Other than in the first embodiment, in this embodiment the downward hanging shoulder edge 26 of cover rim 24 comprises at the position of each of the protrusions 28 an indentation 29. The protrusion 28 in each case forms part of an upright wall of the indentation 29 which was formed by compression of the material on the side of indentation 29 directed toward flanged edge 20. A bottom of indentation 29 comprises a part of the lying distal peripheral edge 23 of cover 24, 30, which in figure 11 is shown separately including a closing clear polyester film 30. This imparts a form fitting in the indentation, which provides an increased stiffness thereto.

[0037] Indentations 29 are formed in the blank basic material at the same time as the container is formed in the thermo-vacuum forming process. The bends in the wall of the cover rim imposed thereby provide rigidity of form to the curved indentation 29, which is manifest in an increased bending strength of the protrusions 28

formed thereon. The protrusions lie roughly halfway along the upright wall 26 of cover rim 24, which is separated from the container by a break zone of flanged edge 20, see particularly the enlargement in figure 8A and figure 9. After separation of flanged edge 20 the cover rim can be rotated through one turn, see particularly the enlargement in figure 8B, and be pressed down, whereby flanged edge 20 engages with its opposite side under (behind) the protrusion 28. With a uniform pressing down of cover 24, 30 these snap connections between flanged edge 20 and protrusions 28 together provide for an adequate (re)closing of container 11 as shown in figure 10.

[0038] All in all, with the invention a particularly practical, reclosable packaging is obtained which can be manufactured in large numbers and at relatively low production costs.

[0039] Although the invention has been further elucidated above with reference to only several exemplary embodiments, it will be apparent that the invention is by no means limited thereto. On the contrary, many variations and embodiments are still possible within the scope of the invention for a person with ordinary skill in the art. Downward directed projections, which will strike laterally against the tongues 27 when the cover is replaced, can particularly be provided in the flat part of the shown cover rim. This fixes the replaced cover on the container in lateral sense, i.e. against a translation and/or rotation. These projections can furthermore be provided at their outer end with a lateral widening which engages behind a tongue 27 in similar manner as a protrusion 28 in the exemplary embodiment. Use can optionally even be made exclusively of such projections, which then provide for both the reclosability of the packaging and for the lateral fixation.

Claims

1. Packaging for a product, particularly for fresh foods, comprising a container which is formed from a blank plastic substrate by thermoforming and has a form-retaining chamber which is enclosed by a wall and in which the product is receivable, wherein the wall ends in a protruding flanged edge which is connected via a relatively weak break zone to a circumferential cover rim, and wherein a sealing film is receivable on at least the cover rim, **characterized in that** a number of hollow protrusions directed toward the flanged edge are formed in the cover rim, that the flanged edge provides an engagement for the protrusions with which a protrusion can enter into co-action in order to bring about a reclosable connection therebetween, and that the cover rim provides an attaching surface for the sealing film and is releasable together therewith from the flanged edge along the break zone.

2. Packaging according to claim 1, **characterized in**

that the engagement comprises a tongue on the flanged edge at the position of a corresponding cut-out in the cover rim.

3. Packaging according to claim 2, **characterized in that** the cut-out and each of the protrusions lie in separate parts of the cover rim.
4. Packaging according to one or more of the preceding claims, **characterized in that** the cover rim comprises a circumferential shoulder and that the protrusions are formed in a downward hanging shoulder edge.
5. Packaging according to one or more of the preceding claims, **characterized in that** the downward hanging shoulder edge transposes distally into a lying, protruding edge.
6. Packaging according to claim 4 or 5, **characterized in that** the downward hanging shoulder edge comprises at the position of each of the protrusions an indentation, wherein the protrusion forms part of an upright wall of the indentation directed toward the flanged edge.
7. Packaging according to one or more of the preceding claims, **characterized in that** the flanged edge provides a stop against which at least one of the protrusions is laterally receivable, and particularly strikes.
8. Packaging according to one or more of the preceding claims, **characterized in that** a protrusion and an engagement of the flanged edge co-acting therewith lie, at least in projection, on opposite sides of the container, particularly, at least in projection, diametrically or directly opposite each other.
9. Packaging according to one or more of the preceding claims, **characterized in that** the substrate comprises a flat plastic plate or plastic film.
10. Packaging according to one or more of the preceding claims, **characterized in that** the hollow protrusions open outward.
11. Packaging according to one or more of the preceding claims, **characterized in that** the substrate has a wall thickness in the order of between 300 and 800 microns, particularly a wall thickness between 400 and 600 microns, more particularly a wall thickness of about 500 microns.
12. Packaging according to one or more of the preceding claims, **characterized in that** the substrate comprises a translucent or transparent thermoplastic plastic, particularly a plastic from a group comprising polyvinyl chloride (PVC), polyethylene (PE), acrylonitrile

butadiene styrene (ABS), polystyrene (PS), polyethylene terephthalate (PET), polypropylene (PP), polylactic acid (PLA) and polyesters, more particularly polyethylene terephthalate (PET) and preferably re-used polyethylene terephthalate (rPET).

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13. Packaging according to one or more of the preceding claims, **characterized in that** the plastic comprises a biodegradable plastic, particularly one of biological origin.

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14. Packaging according to one or more of the preceding claims, **characterized in that** the sealing film is adhered with decreasing adhesion to respectively the cover rim and the flanged edge and seals the chamber at least substantially hermetically.

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15. Packaging according to one or more of the preceding claims, **characterized in that** the sealing film comprises a, compared to the container, relatively thin film having a film thickness of less than 100 microns, particularly between 30 and 60 microns, more particularly in the order of about 50 microns, particularly a metal foil such as particularly aluminium foil, or a plastic film, more particularly a transparent plastic film, such as particularly a polyester film.

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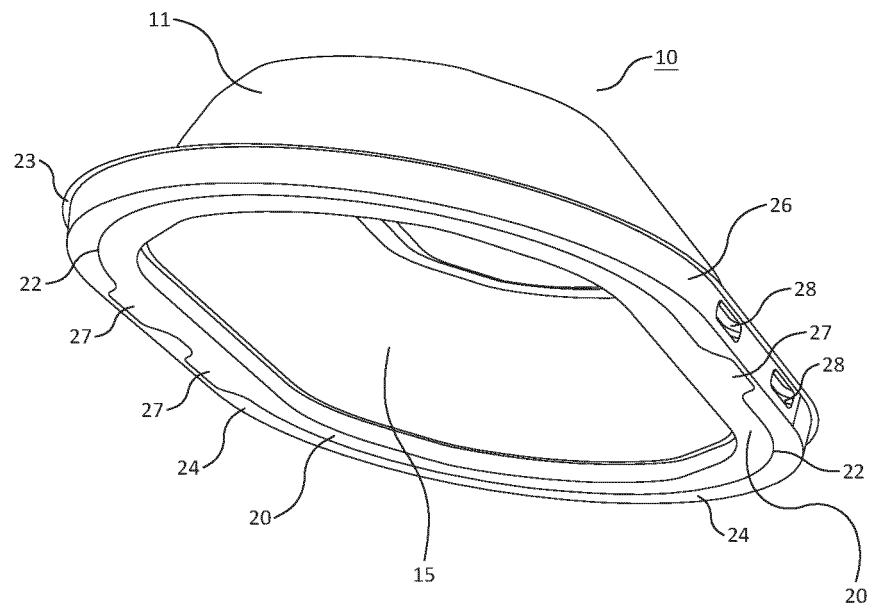


Fig.1

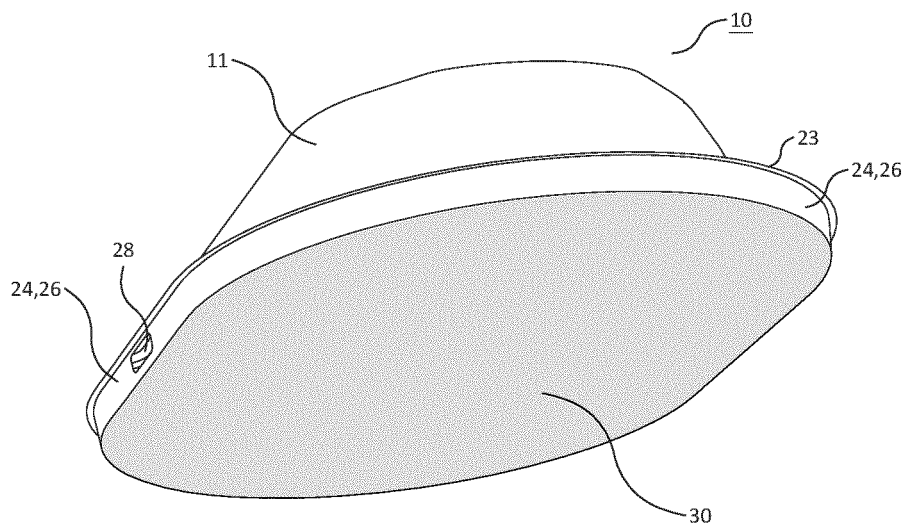


Fig.2

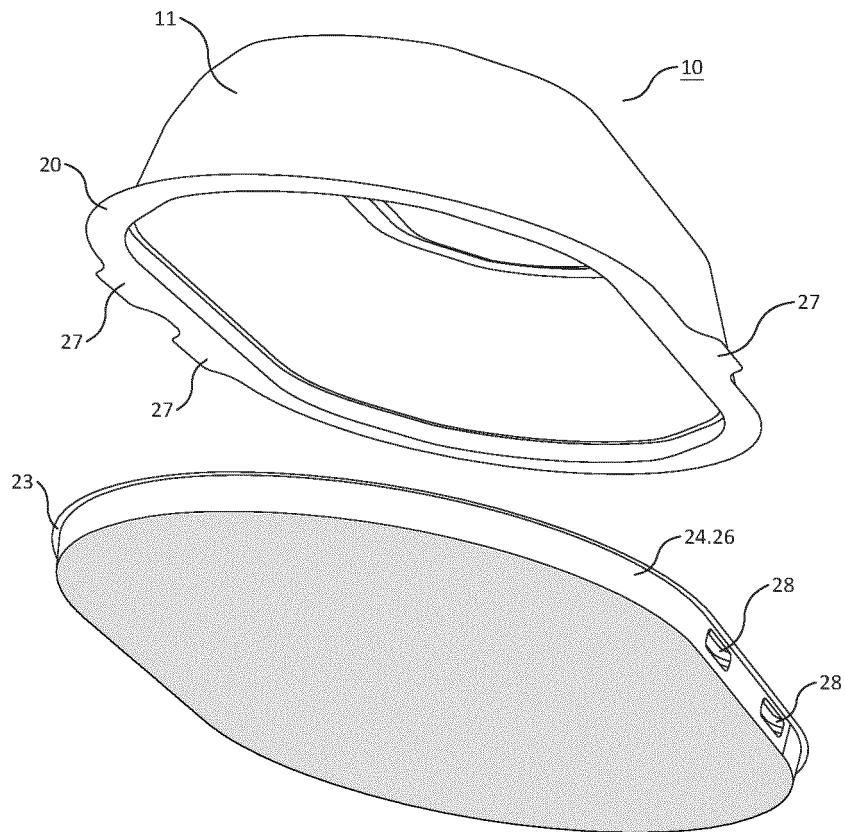


Fig.3

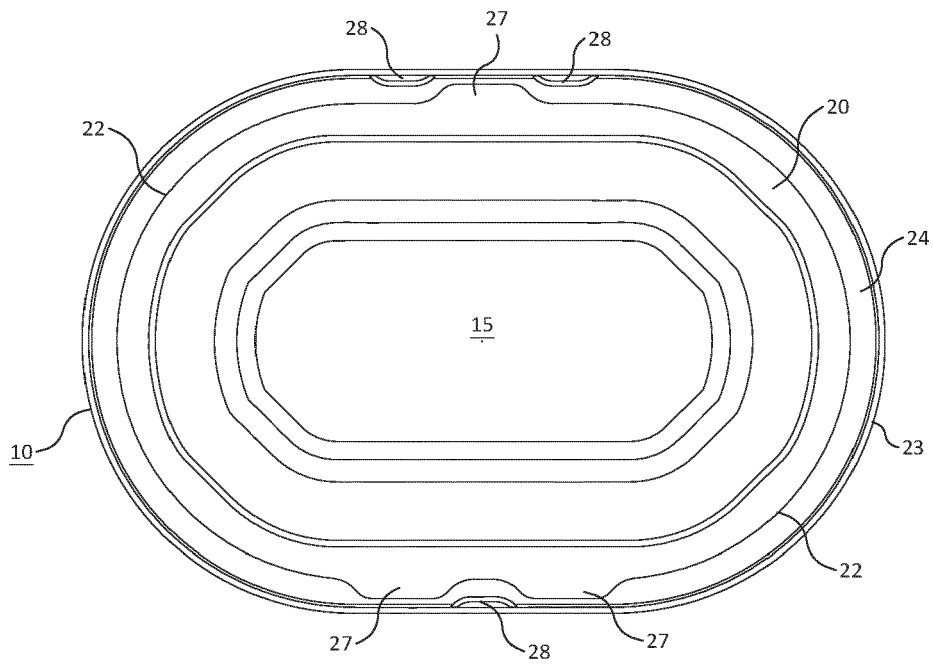


Fig.4

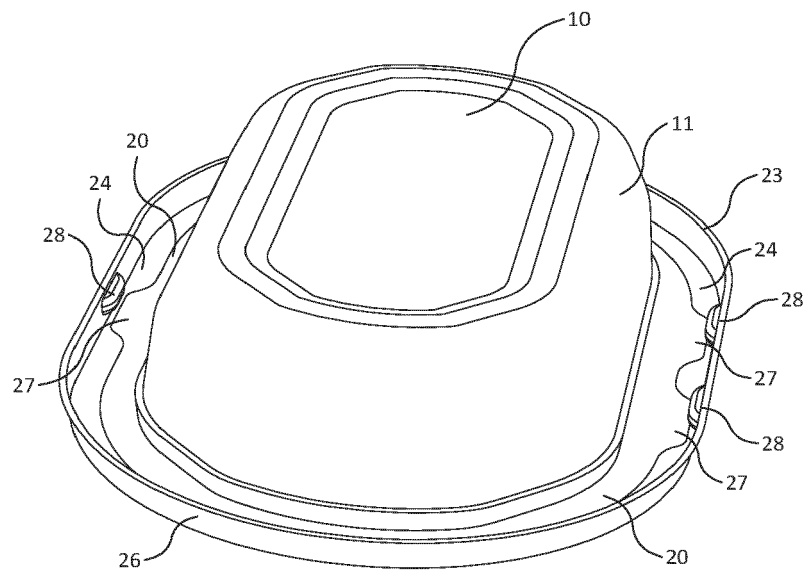


Fig.5

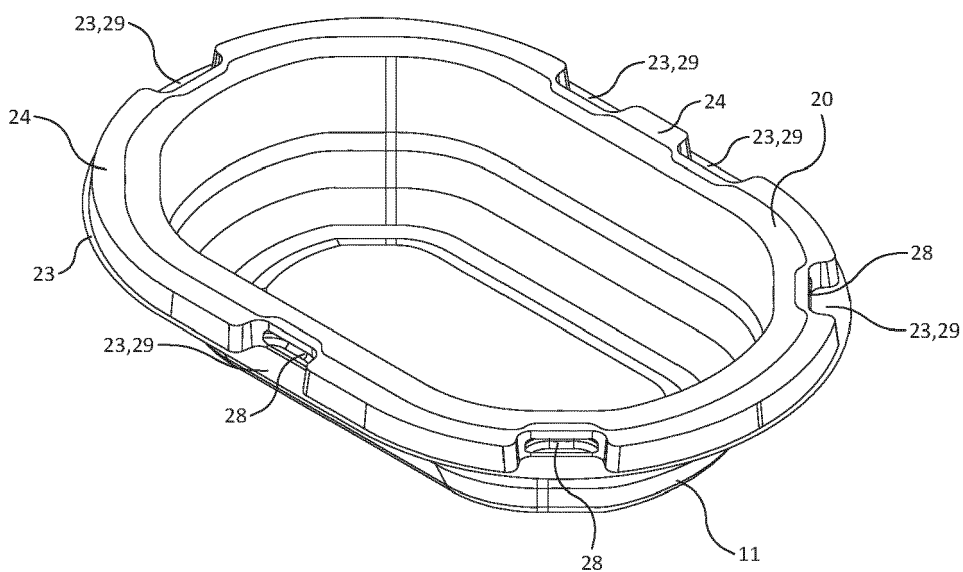


Fig. 6

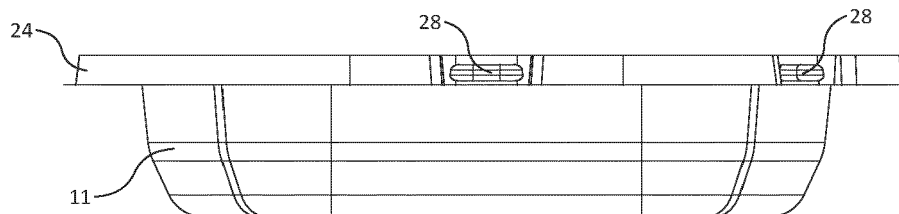


Fig. 7

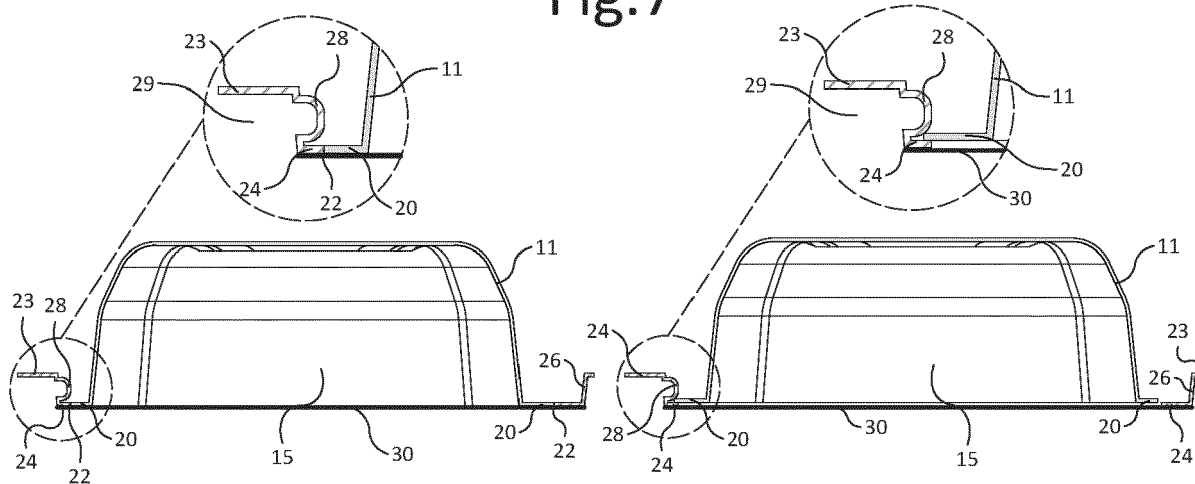


Fig. 8A

Fig. 8B

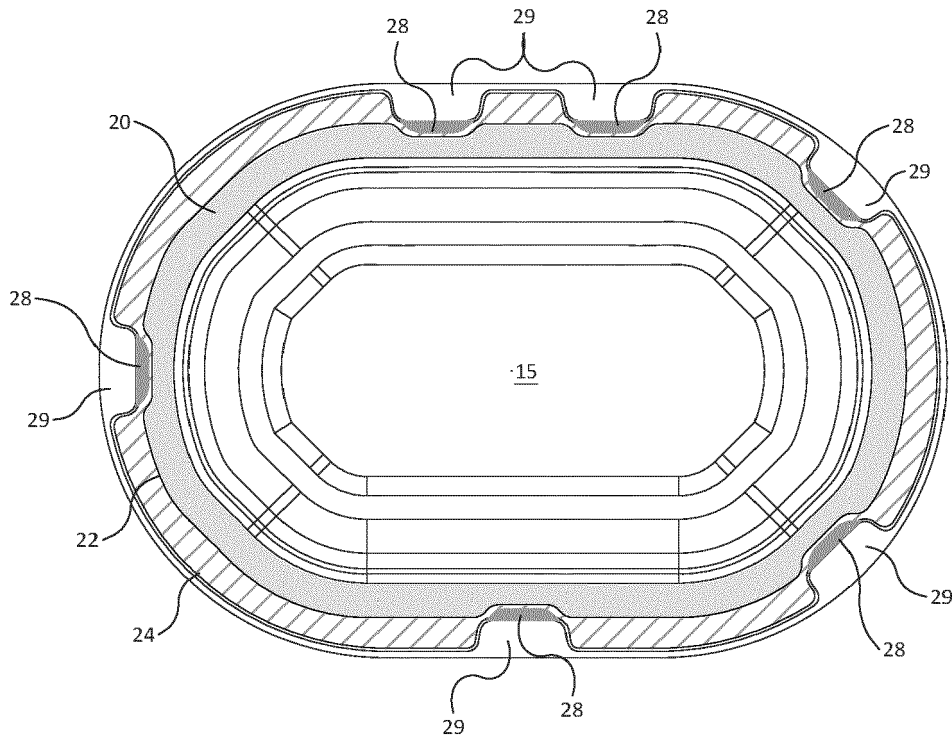


Fig.9

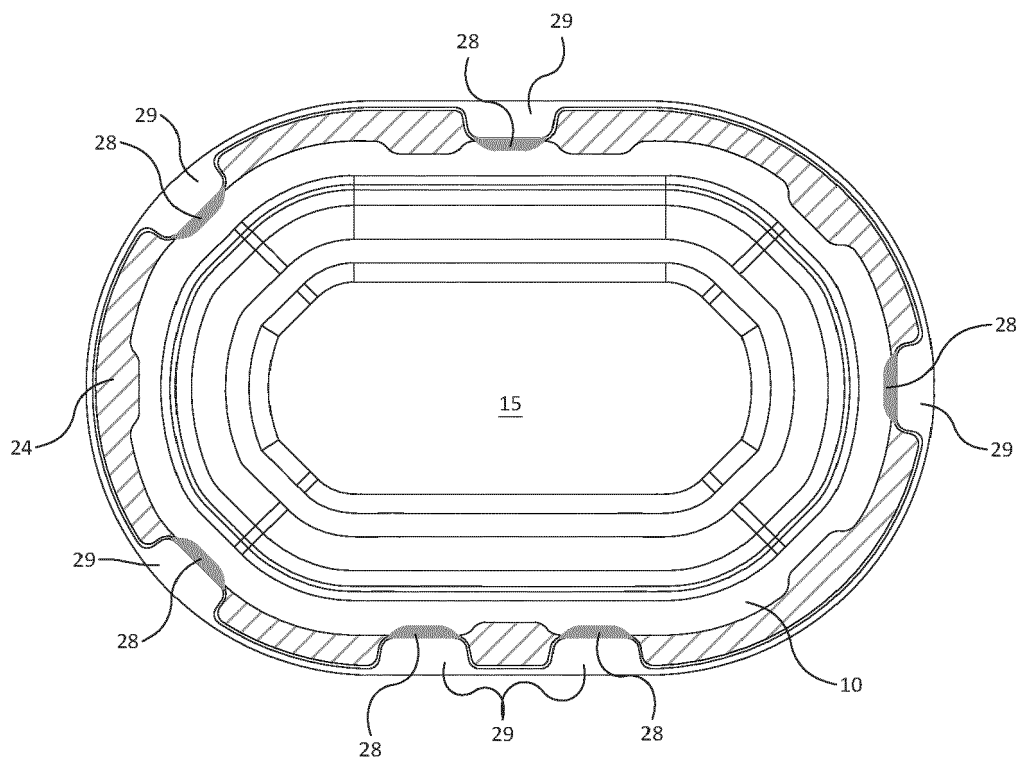


Fig.10

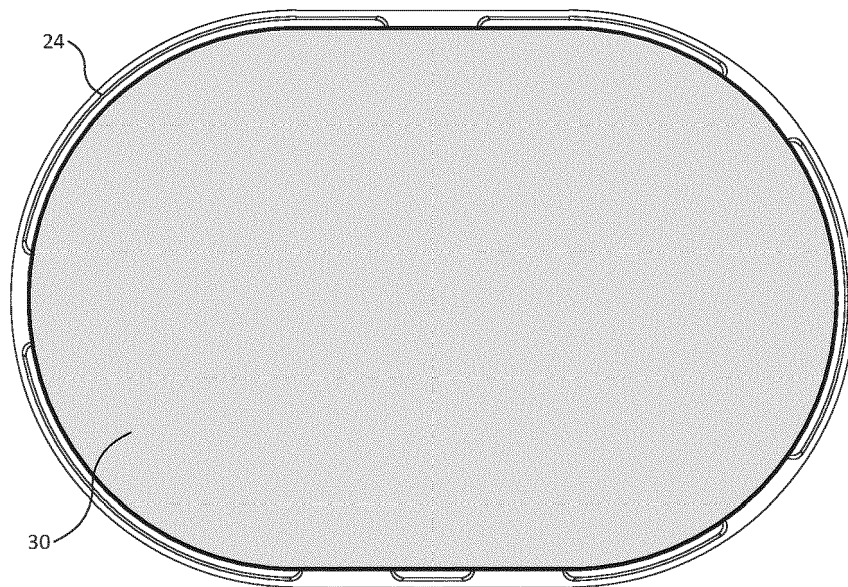


Fig.11



EUROPEAN SEARCH REPORT

Application Number

EP 24 16 7432

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EPO FORM 1503 03.82 (P04C01)

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	JP 7 143047 B2 (.) 28 September 2022 (2022-09-28)	1,4,5,7,9-15	INV. B65D77/20
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