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(71) Applicant: **Bech Packaging Sp. z o.o.**
64-300 Nowy Tomzsl (PL)

(72) Inventor: **Nawrot, Grzegorz**
64-320 Buk (PL)

(74) Representative: **Kondrat, Mariusz**
Kondrat & Partners
Al. Niepodleglosci 223 lok.1
02-087 Warszawa (PL)

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(54) **FLEXIBLE DISPENSING PACKAGE, IN PARTICULAR FOR FINE FOOD AND/OR PHARMACEUTICAL PRODUCTS**

(57) Flexible dispensing package, in particular for fine food and/or pharmaceutical products, comprising a body (1) and a closure (2) of the package, wherein the body has a substantially rectangular shape and is in the form of a pocket formed of arcuate surfaces (1A, 1B) juxtaposed relative to one another with straight edges, at least one of the arcuate surfaces comprising a third arcuate (1C) surface intersecting in its upper part the juxtaposed vertical surfaces to form the arcuate edge being the dispensing opening (3), and in the lower part the body on the inner side comprises at least one groove (4) or projection (5), and the closure is in the form of substantially rectangular vessel with a bottom, which in the upper part constricts and comprises at least one projection (5) or groove (4), which is located near the upper edge.

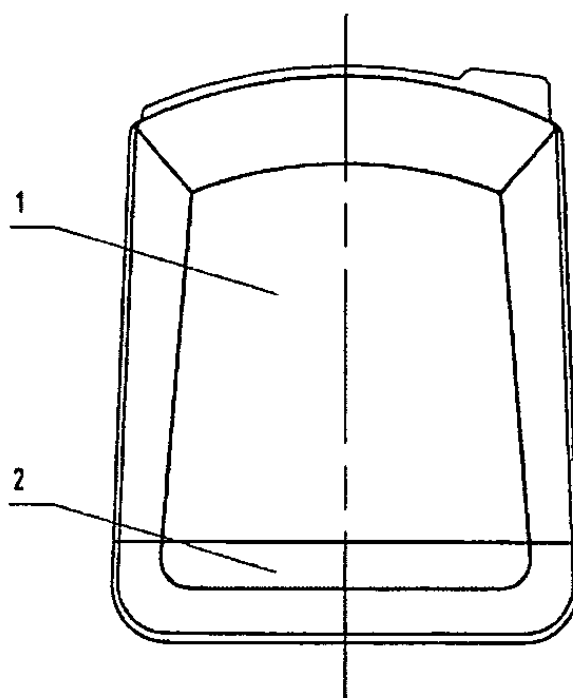


fig. 1

przekrój AA

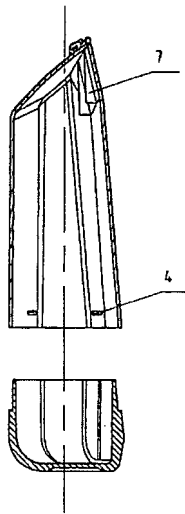


fig. 5

Description

[0001] The object of the present invention is a flexible dispensing package, in particular for fine food and / or pharmaceutical products, usable in packaging of products, in particular such as sweets, lozenges, tablets, chewing gums, and the like.

[0002] Currently used packages of fine pastry products are usually in form of a rectangular, rigid box, comprising in the upper part a hinged opening. However, these packages do not provide the proper dosing of individual pieces of the product contained within. Such package also prevents the maintenance of hygiene conditions, because in time of dispensing, the package does not protect products contained within from direct contact with hand.

[0003] Thus, pharmaceutical products are usually packaged individually, in blisters or vials, that as bulk packages also do not provide a precise and at the same time hygienic way of dispensing the product.

[0004] There are also known packages for sweets and tablets prepared in form of a rigid container provided in the upper part with a dispensing element and with a closure of the dispenser. These packages provide the function of hygienic dispensing of one piece of product without the necessity of pouring an excess of the desired dose of product back to the container after its contact with hand. However, some disadvantages of these packages are their rigid structure, generally made of thermoplastics, which maintains identical shape regardless of the amount of product remaining in the package, and the need to use on it a special dispenser to control hygienic dispensing of the product and closure of the dispenser. Another disadvantage of this type of packages is the necessity to personalise the dispenser and its head to dimensions and shape of the dosed products, such as tablets or sweets. The dispenser suitable for fine, circular drops will not provide its functions in the case of larger, rectangular lozenges placed in the package.

[0005] The aim of the invention is to provide the construction of a new form of dispensing package, in particular intended for fine food and / or pharmaceutical products, including sweets, lozenges, tablets, chewing gums, and the like, having a hygienic product dispenser enabling precise administration.

[0006] The subject matter of the invention is the construction of a flexible package for food and / or pharmaceutical products, having a package body and the closure characterised in that the package body is formed by at least three arcuate surfaces, converging towards each other in the top part. Wherein the angle of arcuate surfaces relative to each other can be individually modified and changed. However, the application of at least one third of the arcuate surface intersecting in the upper part at least one vertically juxtaposed arcuate surface forms a dispensing opening in the top part of the package. The angle of inclination of the third arcuate surface is in the range of 1 to 80°. In the bottom part of the package there is located its closure in the form of a rectangular vessel

with a bottom. The side edges of the vertically juxtaposed arcuate surfaces are joined together, preferably welded or glued together.

[0007] Furthermore, on the inner wall of the at least one arcuate surface in its upper part, in the vicinity of the package dispensing opening, there is provided at least one suitably selected projection, which is used for precise product dispensing, allowing the dispensing of individual pieces of the product. The projection prevents larger amounts of product from penetrating to the vicinity of the dispensing opening outlet, that protects the remaining package contents from contact with hand, thus serving as a hygienic dispenser.

[0008] In addition, application of at least one third of the arcuate surface intersecting in the upper part the vertically juxtaposed arcuate surfaces also serves to improve the function of dispensing products. It is because the third arcuate surface constricts the body of the package in the direction of the dispensing opening, what makes, that only a small number of products placed in the package passes thereto. In turn, application in the immediate vicinity of the dispensing opening of at least one projection causes that the product is dispensed in single pieces.

[0009] Each dispensing of the product is carried out by compressing the side edges of the package body. Due to the pressing force applied to the side edges of the package body, the dispensing opening repeals and releases one piece of the product placed in the package. By reducing the pressing force, the dispensing opening returns to the initial position, closing the interior of the package body and preventing spillage of other products from the package.

[0010] In another embodiment of the invention, at least one of the vertically juxtaposed arcuate surfaces has a side surfaces chamfered with a suitable angle.

[0011] With this solution, dispensing of the product is carried out by compressing the chamfered side surfaces of the package body. Meanwhile, closing is carried out in the same manner as in the above embodiment, by reducing the pressing force.

[0012] Before the first use of the package, the dispensing opening is factory-supplied with a closing element, preferably a weld provided with a handle or an element of reinforced breaking tape, or the like.

[0013] Flexible package also comprises a closure with a bottom, the shape of which, at its edges, substantially corresponds to the shape of the package body. Application of the package closure detachably connected to the package body enables the package interior to be filled with the product. The flexible dispensing package is in fact being filled in the inverted position, mechanically or manually. Next, the closure of the package is put onto its body using a suitable constricting of the upper edge of the package closure and at least one protrusion / groove corresponding to the shape of the at least one groove / projection situated on the inner side of the lower edge of the package body. The applied method for permanent

attaching of the closure connects the two portions of the flexible package - its body and closure. Such closure provides safety of the product and makes the access to the interior of the package from its bottom side difficult. Another embodiment of the invention may comprise a package closure in the form of a plug, mounted on the underside of the package body, provided with the collar comprising at least one projection / groove enabling mounting of the plug to the package body.

[0014] The solution according to the invention shows a package made from flexible synthetic materials, for example injection moulded thermoplastics.

[0015] Primary beneficial effects of the flexible package application for fine food and / or pharmaceutical products, according to the invention, with reference to the prior art, consist in the fact, that it has a simple construction providing at the same time precise and hygienic dispensing of the product allowing to avoid touching the products placed in the package with a hand during the release of a single piece. The package according to the invention is convenient to use, does not occupy too much space when placed, for example, in a purse or pocket, and is elegant to handle.

[0016] The flexible dispensing package, in particular for fine food and / or pharmaceutical products, comprising a body and a closure of the package, is characterised in that the body of a substantially rectangular shape is in the form of a pocket formed of arcuate surfaces juxtaposed relative to one another with straight edges, at least one of the arcuate surfaces comprising a third arcuate surface intersecting in its upper part the juxtaposed vertical surfaces to form the arcuate edge being the dispensing opening, and in the lower part the body on the inner side comprises at least one groove / projection, and the closure is in the form of substantially rectangular vessel with a bottom, which in the upper part constricts and comprises at least one projection / groove, which is located near the upper edge; wherein after overlapping of the body and the closure, the body overlaps the closure, and moreover, the inner side of at least one of the arcuate surfaces comprises at least one projection in the vicinity of the dispensing opening.

[0017] Preferably, one of the arcuate surfaces has chamfered side surfaces.

[0018] Preferably, the dispensing opening of the flexible dispensing package is closed in the upper part with a closing element provided with a handle.

[0019] Preferably, the closing element is made if the form of reinforced breaking tape or horizontal weld.

[0020] Preferably, the flexible dispensing package has a projection in the form of rib.

[0021] Preferably, the package closure has in the upper, constricted part at least one venting slot.

[0022] Preferably, the angle of inclination and / or bend of the arcuate surface intersecting the upper part of the body is dependent on the desired deflecting force of the dispensing opening.

[0023] Preferably, filling of the flexible dispensing

package is carried out in the inverted position, and is performed manually or automatically.

[0024] Preferably, dispensing of the product is carried out by compressing of the longer side edges of the package body in its upper part, and closing is carried out by reducing the pressure force applied to the package body.

[0025] Preferably, closure of the package is made of the same material as the body, or of other material, including non-elastic material.

[0026] The present invention has been explained in the embodiment, in the accompanying drawing, in which Fig. 1 shows a plan view from the front, Fig. 2 shows a plan view from the side, Fig. 3 shows a plan view from the top, Fig. 4 shows a plan view from the front, with the closure separated from the body, Fig. 5 shows a cross-sectional view, Fig. 6 shows a perspective view from the front, with exposed closing element, Fig. 7 shows a perspective view from the back, with exposed closing element, Fig. 8 shows a perspective view from the front, without the closing element, Fig. 9 shows a perspective view with the half-opened dispensing opening, Fig. 10 shows a perspective view with half-opened dispensing opening and exposed projections.

[0027] The flexible dispensing package comprising the body 1 and the closure 2, characterised in that the body 1 is formed of at least three arcuate surfaces 1A, 1B and 1C. The surfaces 1A and 1B are vertically juxtaposed relative to one another and their edges are welded. In the embodiment, the arcuate surface 1A further comprises the arcuate surface 1C intersecting in the upper part the arcuate surface 1A, thus constricting the upper part of the package body 1 in the direction of the dispensing opening 3. The juxtaposition of these three arcuate surfaces 1A, 1B and 1C forms the arcuate dispensing opening 3. The object of the invention in another embodiment may comprise two or more arcuate surfaces intersecting at any angle two arcuate surfaces 1A and 1B vertically juxtaposed relative to one another.

[0028] In this embodiment of the invention, the body 1 comprises four grooves 4 on the inner side of the arcuate surfaces 1A and 1B in their lower parts. Four projections 5 arranged around the upper, constricted edge of the closure 2 correspond to the grooves 4. The closure 2 in this embodiment has the shape of a substantially rectangular vessel, which by means of the projections 5 and the corresponding grooves 4, is mounted to the package body 1. In addition, the constricted upper edge of the closure 2 comprises eight vertical venting slots 8 that facilitate mounting of the closure 2 to the body 1, preventing the formation of a vacuum, that makes it difficult to close the body 1 after filling its interior with the product. The closure 2 is mounted to the body 1 in such way, that its detaching was extremely difficult.

[0029] In the present embodiment, the arcuate surface 1A comprises chamfered sides, with a plane constricting upwardly, in the direction of the dispensing opening 3, to form side planes 6 facilitating the compression of the package body 1 when dispensing the product. In this em-

bodiment, dispensing of the product will be carried out by applying the pressure force to these chamfered side planes 6.

[0030] However, in another embodiment of the invention, the sides of the package body 1 may remain the same. In such embodiment, dispensing of the product will be carried out by compressing the side edges of the package body 1.

[0031] In addition, on the inner side of the arcuate surface 1B there are provided four projections 7 the function of which is to precisely dispense the product. The projections 7 can be of any shape and form, also, they can be made of any material. In this embodiment, the projections 7 are in the form of ribs.

[0032] In this embodiment, the dispensing opening 3 of the package body 1 is closed by means of the closing element 9 in the form of a horizontal weld provided with a handle 10 facilitating tearing the weld off from the package body 1. Also, other forms of the closing element 9 are allowed.

[0033] Filling the flexible package with the product is carried out in the inverted position and can be done manually or mechanically.

[0034] The package body 1 is made of a flexible material. The package closure 2 can be made of any material, including non-elastic material.

[0035] The flexible package according to the present embodiment has the shape of a rectangular pocket.

[0036] The flexible package according to the invention may be multi-coloured and / or transparent. Developed geometry allows the various treatment of the form in terms of plasticity. Arcuate surfaces angles of inclination, sizes, bends and other details may be changed. The flexible package can be decorated.

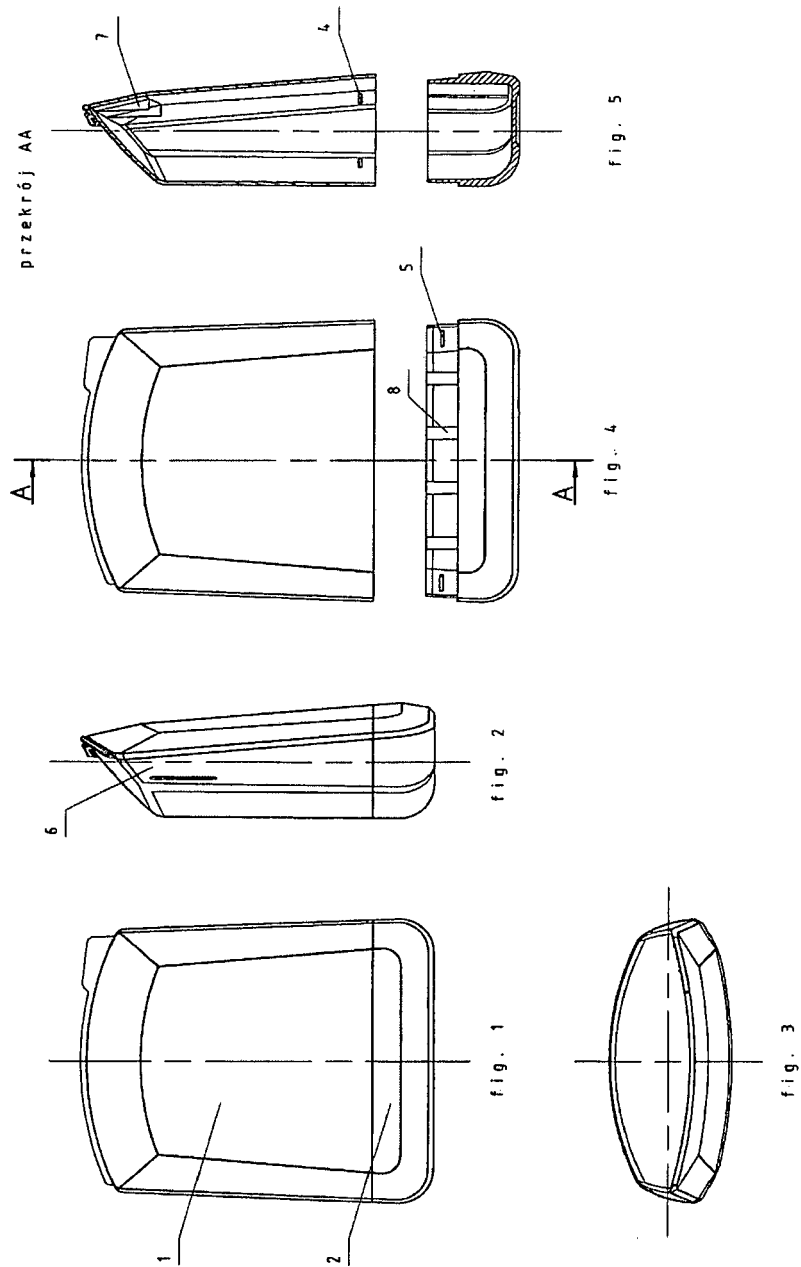
[0037] Therefore, the present invention is the flexible dispensing package, in particular for fine food and / or pharmaceutical products, which provides a hygienic and precise method for dispensing products contained in the package. This flexible dispensing package has a simple structure and is convenient and elegant to use. Moreover, the scope of protection of the present invention is not limited to the embodiments mentioned above, but any other modification of the present invention is also within the scope of protection defined by the claims of the invention.

Claims

1. A flexible dispensing package, in particular for fine food and / or pharmaceutical products, comprising a body and a closure of the package, **characterised in that** the body 1 of a substantially rectangular shape is in the form of a pocket formed of arcuate surfaces 1 A and 1B juxtaposed relative to one another with straight edges, at least one of the arcuate surfaces comprising a third arcuate surface 1C intersecting in its upper part the juxtaposed vertical

surfaces 1A and 1B to form the arcuate edge being the dispensing opening 3, and in the lower part the body 1 on the inner side comprises at least one groove 4 / projection 5, and the closure 2 is in the form of substantially rectangular vessel with a bottom, which in the upper part constricts and comprises at least one projection 5 / groove 4, which is located near the upper edge; wherein after overlapping of the body 1 and the closure 2, the body 1 overlaps the closure 2, and moreover, the inner side of at least one of the arcuate surfaces comprises at least one projection 7 in the vicinity of the dispensing opening 3.

2. The flexible dispensing package according to claim 1, **characterised in that** one of the arcuate surfaces has chamfered side surfaces 6.
3. The flexible dispensing package according to claim 1, **characterised in that** the dispensing opening 3 is closed in the upper part with the closing element 9 provided with a handle 10.
4. The flexible dispensing package according to claim 3, **characterised in that** the closing element 9 is made in the form of a reinforced breaking tape or a horizontal weld.
5. The flexible dispensing package according to claim 1, **characterised in that** the projection 7 is in the form of a rib.
6. The flexible dispensing package according to claim 1, **characterised in that** the closure 2 in the upper, constricted part has at least one venting slot 8.
7. The flexible dispensing package according to claim 1, **characterised in that** the angle of inclination and / or bend of the arcuate surface 1C intersecting the upper part of the body 1 is dependent on the desired deflecting force of the dispensing opening 3.
8. The flexible dispensing package according to claim 1, **characterised in that** the filling of the flexible dispensing package is carried out in the inverted position, and is performed manually or automatically.
9. The flexible dispensing package according to claim 1, **characterised in that** the dispensing of the product is carried out by the compression of the longer side edges 6 of the package body 1 in its upper part, and closing is carried out by reducing the pressure force applied to the package body 1.
10. The flexible dispensing package according to claim 1, **characterised in that** the closure 1 of the package is made of the same material as the body or of other material, including non-elastic material.



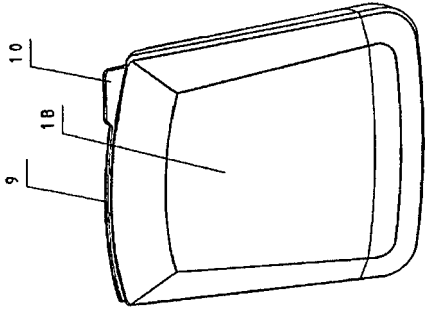


fig. 6

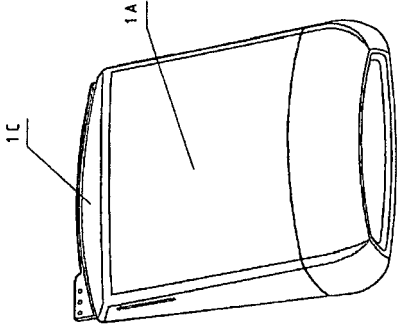


fig. 7

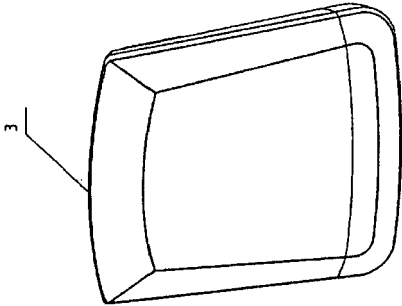


fig. 8

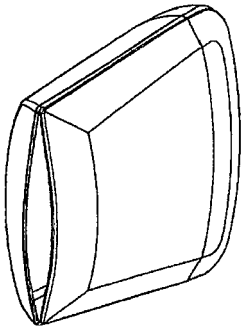


fig. 9

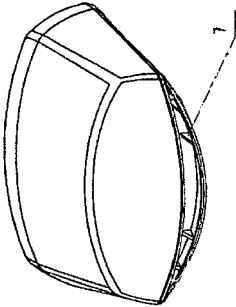


fig. 10



EUROPEAN SEARCH REPORT

Application Number
EP 15 00 2565

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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			TECHNICAL FIELDS SEARCHED (IPC)
			B65D
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 21 December 2015	Examiner Duc, Emmanuel
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

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