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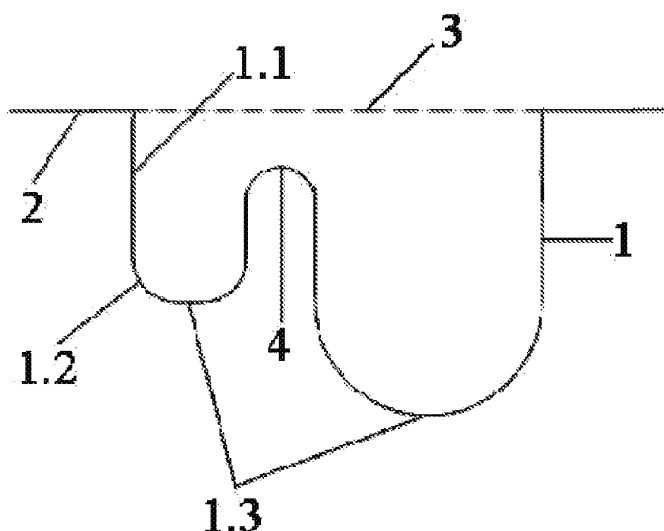
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(54) **Blister packaging with multi compartments blister units**

(57) The present invention relates to a blister provided with medicament-carrying cavities (1), this blister being characterized by comprising at least one bridging element (4), which allows to place at least two medica-

ments into different wells without any contact occurring between the medicaments, and once a push action is applied over the outer surface of the respective cavity (1), which allows to release the medicaments out of their wells in a concurrent manner.



**Figure- 3**

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## Description

### Field of Invention

[0001] The present invention relates to newly-developed blisters.

[0002] The present invention more particularly relates to improvements made in medicament-carrying blister cavities. The present invention makes it possible to release at least two or more tablet- or capsule-like medicaments from the cavities in which they are stored in by means of a single push action.

### Prior Art

[0003] There are blisters available nowadays, of various shape, size, and capacity, all developed for carrying medicaments. With respect to their general structures, the blisters are composed of a carrier body, a cavity in which a medicament is stored, and a protective layer. The blisters can be designed so as to be used manually or within/by means of an apparatus, according to the prevailing purposes. Blisters do both facilitate the carrying of medicaments, and prevent drug contamination, as well as prolong the shelf life thereof as necessary.

[0004] In conventional blisters, said cavities are joined all around (i.e. throughout their periphery) to the blister body. The user can release a single tablet/capsule from the blister with a single push action. Likewise, those combined medicaments which must be used simultaneously are also released individually (i.e. one by one). Helipak™, for instance, was designed to allow for a combination of three medicaments. Each medicament is stored there in a separate cavity. Thus, three separate push actions are required for using the three medicaments at the same time. In this case, the releasing of medicaments, which are used in combination at the same time, from their cavities occurs by at least two actions. This fact is not preferable or desired particularly for sick persons of older ages. Additionally, the inefficient use of the volume of blister and cavity brings about other undesired factors, such extra material costs.

[0005] Accordingly, a novelty is necessitated in the art of blisters with multi-cavities to overcome the drawbacks pointed out above.

### Object and Brief Description of Invention

[0006] The present invention relates to a novel blister with multi-cavities, eliminating all aforesaid problems and bringing additional advantages to the relevant prior art.

[0007] Accordingly, the main object of the present invention is to obtain a blister embodiment, which allows releasing at least two concurrently-administered medicaments from the cavities in which they are stored, by means of a single push action.

[0008] Another object of the present invention is to obtain a blister having a bridging element, which allows the

storage of at least two distinct medicaments without said medicaments contacting each other.

[0009] A blister is embodied comprising medicament-carrying cavities to carry out all objects, referred to above and to emerge from the following detailed description.

[0010] According to a preferred embodiment of the present invention, said novelty is realized by means of at least one bridging element, which allows to place individually at least two medicaments into different wells without any contact occurring between the medicaments, and once a push action is applied over the outer surface of the respective cavity, which allows to release the medicaments out of their wells in a concurrent manner.

[0011] According to another preferred embodiment of the present invention, the size of each well produced is identical to or different from each other.

[0012] According to a further preferred embodiment of the present invention, the volume of each well produced is identical to or different from each other.

[0013] According to another preferred embodiment of the present invention, said bridging element is disposed between at least two annular-, oval-, triangular- or rectangular-shaped cavities, or between at least two cavities shaped in the combinations of said geometries.

### Brief Description of Figures

#### [0014]

Figure 1 is a schematic top view of an illustrative embodiment according to the present invention.

Figure 2 is a schematic side view of an illustrative embodiment according to the present invention.

Figure 3 is a schematic illustration of a cavity according to the present invention.

### Reference Numbers in Figures

#### [0015]

1. Cavity
  - 1.1 Inner surface of cavity
  - 1.2 Outer surface of cavity
  - 1.3 Wells
2. Carrier body
3. Protective layer
4. Bridging element

### Detailed Description of Invention

[0016] In the following detailed description, the blister according to the present invention shall be described illustratively by making references to annexed figures, only to make clear the present invention without imposing any restrictions thereon.

[0017] The bridging elements (4) are respectively dis-

posed between the cavities (1) and the planar carrier body (2), on which said cavities (1) are provided, as illustrated in figures 1, 2, and 3. The bridging element (4) makes an adequate projection from the surface of said carrier body (2) and is disposed between the cavities (1) without contacting the protective layer (3). The top of the cavity is closed entirely with the protective layer (3). The medicaments stored in the cavities are kept at different wells (1.3) without contacting each other. These wells may be of different size and volume, or of the same size and volume.

**[0018]** When the user exerts a push action over the outer surface (1.2) of the blister cavity, the volume of both cavity walls is reduced so that the protective layer (3) is broken and the medicament contained is released. Thanks to this feature, a single push action allows to release more than one medicament out of the blister.

**[0019]** The same embodiment can be applied to more than one cavities such that more tablets or capsules can be easily used. The materials used can be rigid, semi-rigid or soft, depending on the design and features of the blister. The material can be selected from a polymer-based substance, in compliance with hygiene criteria. Such polymers may be selected from the following group of materials: polyethylene, ethylene vinyl acetate, polytetrafluoroethylene, polyurethane foam, polyethylene terephthalate, polypropylene, polystyrene, vinyl, vinyl chloride acetate, polyvinylidene chloride, polycarbonate, polyacrylics, melamine formaldehyde, urea formaldehyde, phenol formaldehyde etc..

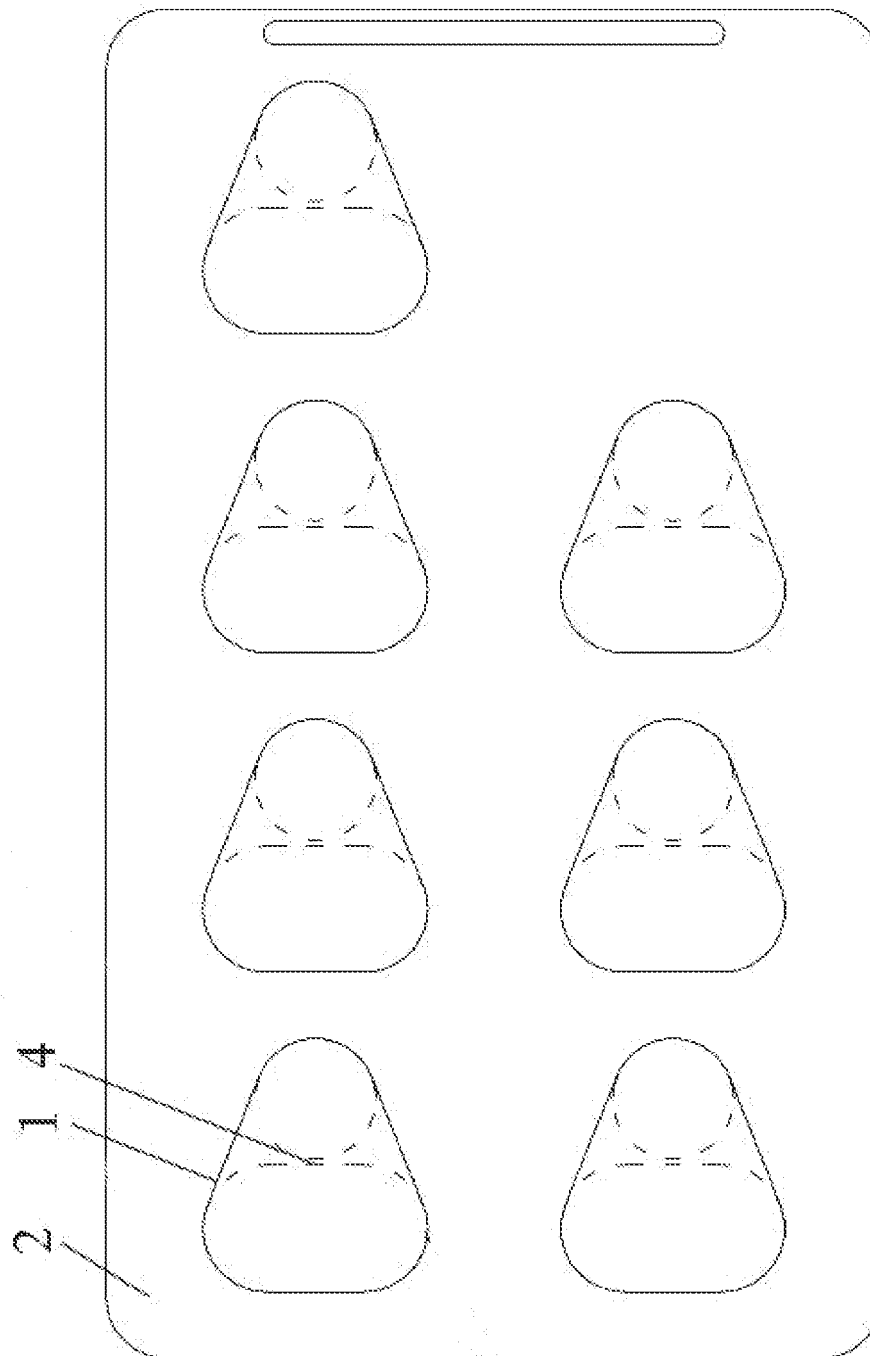
**[0020]** The design of components used may be varied in alternative embodiments according to the type of blister being produced. In result, the protection scope of the present invention is set forth in appended Claims and cannot be restricted to the illustrative disclosures given above, under the detailed description. It is obvious that a person skilled in the relevant art can produce similar embodiments under the light of the foregoing disclosures, without departing from the main principles of the present invention.

3. A blister according to any of the preceding claims, wherein the volume of each well separated is identical to or different from other wells.

5 4. A blister according to any of the preceding claims, wherein said bridging element (4) is disposed between at least two annular-, oval-, triangular- or rectangular-shaped cavities, or between at least two cavities shaped in the combinations of said geometries.

## Claims

1. A blister provided with medicament-carrying cavities (1), **characterized in that** at least one bridging element (4), which allows to individually place at least two medicaments into different wells without any contact occurring between the medicaments, and once a push action is applied over the outer surface of the respective cavity (1), which allows to release the medicaments out of their wells in a concurrent manner.
2. A blister according to Claim 1, wherein the size of each well separated is identical to or different from other wells.



**Figure- 1**

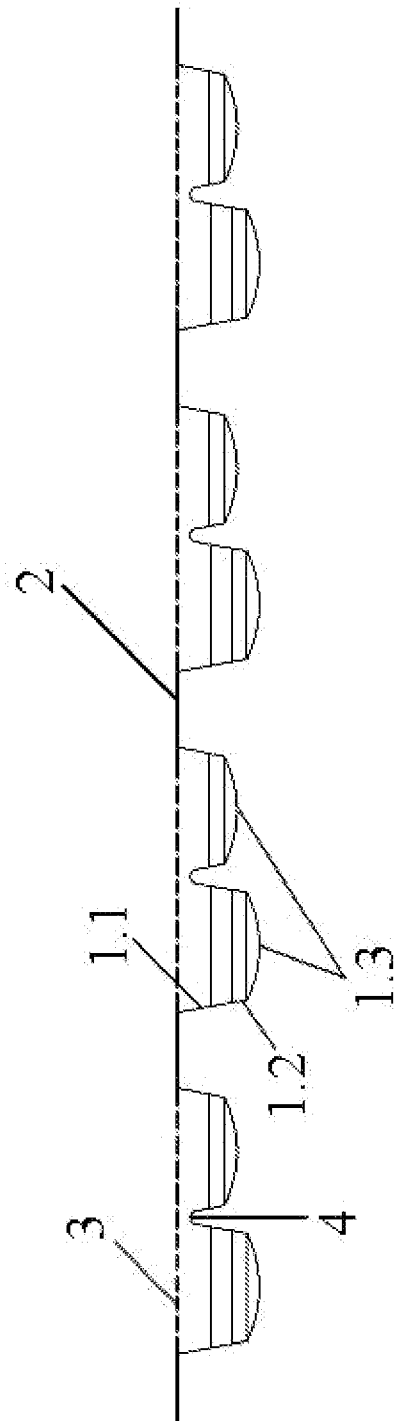
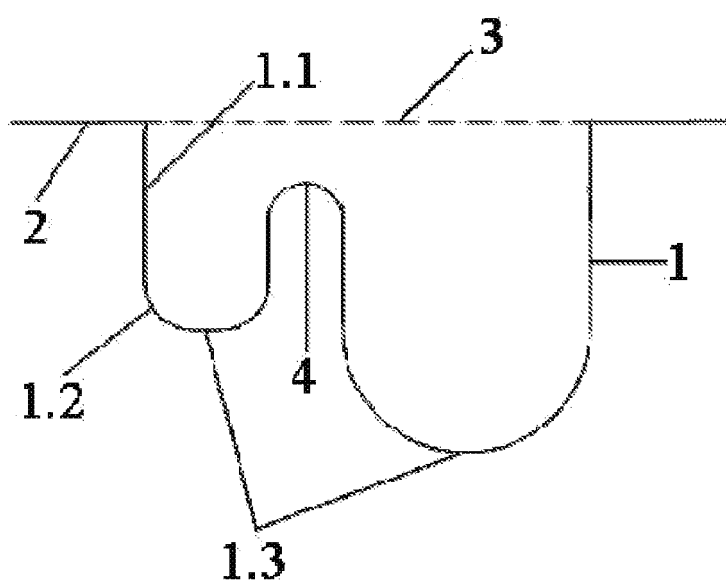


Figure- 2



**Figure- 3**



## EUROPEAN SEARCH REPORT

Application Number  
EP 10 16 0639

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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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The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 19 August 2010	Examiner Visentin, Mauro
<p>CATEGORY OF CITED DOCUMENTS</p> <p>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</p> <p>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 &amp; : member of the same patent family, corresponding document</p>			

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EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT  
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EP 10 16 0639

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.  
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