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(73) Patenthaver: **MedComb Holding ApS, Vesterbrogade 149, 1620 København V, Danmark**

(72) Opfinder: **WAGNER, John, Bavnehøj Park 1, st. th., 3500 Værløse, Danmark**
WAGNER, Flemming, Hauchsvej 20, 4.tv., 1825 Frederiksberg C, Danmark

(74) Fuldmægtig i Danmark: **Plougmann Vingtoft A/S, Rued Langgaards Vej 8, 2300 København S, Danmark**

(54) Benævnelse: **EN INDPAKNING OMFATTENDE ORGAN TIL ÅBNING AF BLISTERE**

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DESCRIPTION

FIELD OF THE INVENTION

[0001] The present invention relates to a package for pharmaceutical blister packs. The present invention also relates to a method for opening a package for pharmaceutical blister packs and a method for opening blisters of pharmaceutical blister packs.

BACKGROUND OF THE INVENTION

[0002] Solid pharmaceutical compositions such as tablets and capsules are often contained for dispensing in pharmaceutical blister packs. Generally a blister pack comprises a moulded plastic sheet having one or more depressions each defining a blister chamber or cavity, typically for containing a tablet or capsule; these depressions are commonly referred to as "blisters". This plastic sheet is generally covered by a thin layer of foil, also referred to as "protecting foil", for sealing the tablets or capsules within the blisters.

[0003] Pharmaceutical blister packs are generally push-through packs. Pressing on a blister causes the tablet or capsule contained in that blister to penetrate the foil layer so that it can easily be removed from the package. The blister from which the tablet is removed is left deformed, and the foil is torn in the region below the blister, but the other blisters remain intact. Blister packages are usually further packed in a paper box together with a leaflet containing information about the medication.

[0004] For example, US 2005/0077203 relates to a press through blister package (PTP) case with one or more pills therein. The PTP case includes foldable members to accommodate the blisters.

[0005] Standard PTP protecting foil may be very thin to allow rupture upon pressure. However, this may lead to undesired rupture during transport.

[0006] In order to avoid undesired rupture PTP case may have reinforced protective foil.

[0007] However, several studies have highlighted the issue that older adults have problems in opening pharmaceutical blister packs having different opening than standard PTP.

[0008] An alternative solution for packing tablets is described in US 2006/289328. This document discloses a foldable package including a blank having a face panel and a back panel, where a blister pack is sealed between them. In this way the blisters are aligned over gates and protrude through apertures and tabs and form a composite pull tab. To remove an item from a blister, the pull tab is pressed out of the panels, the tab strip is peeled from the

back panel, and pressure is applied to force the item through the backing sheet of the blister pack and the exposed gate.

[0009] However, other studies demonstrated also that elderly people have great difficulties in opening blister packs having peel-open features.

[0010] A common trait of the elderly population is decreased hand strength and dexterity. Decreased hand strength is a result of declining skeletal muscle mass (40% decrease between ages 50-80) and central command fatigue. This is a condition which advances as people age. Additionally, the elderly population have a high consumption of tablets and pills which come in a variety of different packages. Due to decreased hand strength and dexterity, these blister packages are generally hard for the elderly to open.

[0011] The decreased hand strength exhibited by elderly patients can lead to difficulty in carrying out everyday tasks. Furthermore, the reduced dexterity of the elderly populations limits there capability of handling the tablets removed from the pharmaceutical blister pack. US 5 356 010 A comprises the disclosure of medical, blister-based packages including "protrusion"-type tool/opener-elements, which are - however - only designed for removing the blister foil such that there is a need for a device that makes the process of opening pharmaceutical blister packs easier for the elderly population and reduces strains on users' joints.

[0012] Hence, an improved package which makes the process of opening pharmaceutical blister packs easier for the elderly population would be advantageous and in particular an improved package having the ability of removing the pharmaceutical composition from a pharmaceutical blister pack and hold the pharmaceutical composition would be advantageous as it would reduce the difficulties for the elderly population to take care of their daily compliance to a pharmaceutical treatment.

OBJECT OF THE INVENTION

[0013] It is an object of the invention to provide a package for pharmaceutical blister packs containing pharmaceutical compositions where the pharmaceutical compositions contained are protected against undesired rupture of the pharmaceutical blister pack while opening of the pharmaceutical blister pack is still easy and convenient for people of all level of ability and dexterity.

[0014] It is a further object of the invention to provide a device which makes the process of opening pharmaceutical blister packs pills easier for the elderly population.

[0015] Another object of the invention may be seen as to provide a package for pharmaceutical compositions and a device that can increase the capability in elderly population of handling the pharmaceutical compositions removed from pharmaceutical blister packs.

[0016] A further object of the present invention may be seen as to provide a childresistant package that can be easily opened by one who has been given instructions on how to do so, but cannot be opened by the uninstructed child.

[0017] It is a further object of the present invention to provide an alternative to the prior art.

[0018] In particular, it may be seen as an object of the present invention to provide a package for pharmaceutical blister packs that solves the above mentioned problems of the prior art by comprising means for removing the pharmaceutical compositions contained in the pharmaceutical blister packs.

SUMMARY OF THE INVENTION

[0019] Thus, the above described object and several other objects are intended to be obtained in a first aspect of the invention by providing a package for carrying at least one pharmaceutical blister pack comprising a protecting foil, the package comprising means for removing the protecting foil.

[0020] Pharmaceutical blister packs may be several types of pre-formed plastic packaging used for pharmaceuticals.

[0021] The words medical package, blister pack and blister package are all used interchangeably in the following description in relation to the invention.

[0022] The primary component of a pharmaceutical blister pack is a cavity or pocket made from a formable web, usually a thermoformed plastic. The protecting foil may be a lidding seal, e.g. aluminium, plastic or paper foil, and has the function of sealing and protecting the pharmaceutical compositions, such as tablets or capsules, located inside the blisters or cavities of the blister pack.

[0023] The package of the invention by comprising means for removing the protecting foil as defined in claim 1 improves the properties of the package as the means for removing the protecting foil are capable of producing a rupture of the protecting foil with the aim of removing and holding the pharmaceutical composition contained in the pharmaceutical blister pack being in the form of tablets. The invention has the advantage of reducing the strength and dexterity required to open pharmaceutical blister packs. Furthermore the invention provide a versatile tool applicable to a variety of pill packages including both punch out and peel away packaging in a variety of shapes and sizes and where the pharmaceutical composition remain unharmed in the process of removal.

[0024] The removal of the protecting foil allows for direct access to the pharmaceutical compositions being tablets contained in the blisters of the pharmaceutical blister packs.

[0025] As mentioned above the reduced dexterity of the elderly populations limits there capability of handling the tablets removed from the pharmaceutical blister pack. The package of the invention thus has the further advantage of allowing for easier removal of the protecting foil and at the same time of holding the tablets contained in the blisters of the blister pharmaceutical blister pack.

[0026] Thus, the means for removing said protecting foil are adapted to remove and hold the pharmaceutical composition contained in the blisters of the pharmaceutical blister packs.

[0027] The package of the invention thus provides a device which makes the process of opening blister packaged pills easier for the elderly population and the disabled patients with decreased hand strength. The device provided is ideal for home use by the patient, and does not require assistance to use. The device was tested using a variety of over the counter pills showing a high degree of efficiency blisters opening on the first try with none or only minimal damage to the pills.

[0028] In some embodiments the package is a plastic package, such as a plastic container or receptacle for permanent use as storage, or for temporary use, e.g. for transporting pharmaceutical compositions.

[0029] Other materials alone or in combination with plastic may be used to produce the package.

[0030] The package has size suitable for containing at least one pharmaceutical blister pack. For example the package may contain 2, 3, 4, 5 or more pharmaceutical blister packs.

[0031] A pharmaceutical composition herein referred may comprise any biologically-active substance, without limitation, for example vitamins essential fatty acids, folic acid, chemical elements, minerals, biologically-active substances, and combinations and derivatives thereof, without limitation. Non-limiting exemplary derivatives of vitamin compounds include salts, alkaline salts, esters and chelates of any vitamin compound.

[0032] Pharmaceutical composition may be prescription or non-prescription substances or excipients for use in prescription or non-prescription substances. Non-prescription substances can be a vitamin or derivative thereof, or a mineral compound or derivative thereof. Derivatives of vitamin compounds include salts, alkaline salts, esters and chelates of any vitamin compound, without limitation. The non-prescription substances can also be a herbal compound, herbal extract, derivative thereof or combinations thereof, without limitation.

[0033] Pharmaceutical composition herein referred may include, without limitation, chewable tablet, quick dissolve tablet, effervescent tablet. The preparation of any of the above forms may be performed by techniques and methods well known and readily available to persons of ordinary skill in the art.

[0034] In some embodiments the pharmaceutical blister packs, may be medical blister trays containing medical tools, accessories or devices. In this case the means for removing said protecting foil may be adapted to hold medical tools, accessories or devices contained in the medical blister trays.

[0035] The package may comprise a container having an internal and external surface. In some embodiments the at least one pharmaceutical blister pack is contained inside the container.

[0036] The means for removing the protecting foil may be located on a surface of the package.

[0037] For example the means for removing the protecting foil may be located on the internal or the external surface of the container. According to the invention as defined in claim 1 the means for removing the protecting foil is or comprises a protrusion extending out of a surface of the package.

[0038] For example the surface may be a surface of the container.

[0039] In some embodiments the protrusion has at least an indentation.

[0040] Indentation is defined as the presence of cuts, such as concave cut, into an edge of the protrusion with tooth-like notches or angular incisions.

[0041] Indentation may also be defined as small pits on the edge of a surface. Indentation may have the advantage of providing an easier rupture/better shredding of the protecting foil. Indentations may also provide an improved way of holding the pharmaceutical compositions removed from the pharmaceutical blister pack.

[0042] In some embodiments the package further comprises a lid. For example the container comprised in the package may comprise the lid.

[0043] The lid may be connected to the container. For example the lid may be pivotally connected to the container.

[0044] Pivotally is herein defined as connected in a pivotal manner, e.g. by means of or on a pivot so that it can be turned around or along a pivot such a specific point, axes or edge, e.g. a fold line on the container.

[0045] In some embodiments the lid may be hinged to the container.

[0046] In some embodiments the lid is hingedly connected to a hinge element that is in turn hingedly connected to the container.

[0047] The package may be produced by means of injection moulding techniques. For example, the container may be obtainable by injection moulding techniques.

[0048] In some embodiments the container and the lid are obtainable by injection moulding techniques produced as parts of a single product.

[0049] In some further embodiments the container, the lid and the protrusion are obtainable by injection moulding techniques and produced as parts of a single product.

[0050] However, other methods may be used for producing the package of the invention, such as thermoforming or additive manufacturing.

[0051] The package is provided with opening means.

[0052] In some embodiments the protrusion is provided on the peripheral outer surface of the package.

[0053] The peripheral outer surface of the package is defined as the peripheric part of the outer, i.e. external surface of the package, where peripheric is defined as the part of the package which is the most far from the opening means. This location is advantageous as situated far from the opening of the package and thus does not interfere with the opening means.

[0054] In some other embodiments the protrusion has a lateral and a vertical extent and the lateral extent is larger than the vertical extent.

[0055] In some further embodiments the protrusion has a lateral and a vertical extent and the lateral extent is larger than the vertical extent. This specific configuration has the advantage of improving the capability of holding the pharmaceutical composition removed from the pharmaceutical blister pack.

[0056] In some embodiments the protrusion has a radial extent smaller than a blister of the at least one blister pack contained in the package.

[0057] In this way by putting in contact the protrusion with the protecting foil and applying pressure onto the blister pack, following the rupture of the protecting foil the protrusion can penetrate into the cavity of the blister pack, i.e. with no hindrance due to the side walls of the cavity.

[0058] In some embodiments the radial extent is larger than or equal to the pharmaceutical composition contained in the blister or cavity of the blister pack. In this way, once the protrusion penetrates into the cavity of the blister pack, the pharmaceutical composition can be easily removed from the cavity and held by or in the protrusion present on the surface of the package.

[0059] The protrusion may be of any suitable size and/or shape that allow removal, grip and temporary storage of the pharmaceutical composition contained in the cavities of the blister packs.

[0060] The radial extent of the protrusion may match the dimensions, e.g. the diameter of the pharmaceutical composition contained in the cavities of the blister packs. In some embodiments the protrusion is a single continuous protrusion.

[0061] In some other embodiment the protrusion is two or more separate protrusions. The protrusion and the container may be made of the same kind of material.

[0062] In some embodiments the protrusion comprises other material than the one of the container.

[0063] The means for removing the protecting foil may be fastened to or included in the container.

[0064] The means for removing the protecting foil may be produced separately from the package and/or fastened to the external or internal surface of the package, e.g. glued to the container.

[0065] The means for removing the protecting foil may not be part of the package and may be added, e.g. included in the container, at a later stage. The package may further comprise means for detecting tampering of the package.

[0066] Means for detecting tampering comply with the raising need of tamper proof packaging.

[0067] Means for detecting tampering are for example tamper resistance means. Resistance to tampering, so as to deter package tampering, may be achieved by marking the physical access to the package upon first use. For example, tamper resistance ranges from simple features, such as plastic locks that need to be broken upon opening of the package, e.g. similar to screws with special heads for bottles, to more complex devices where opening of the package may be achieved only by special tools or using specific knowledge.

[0068] In some embodiments means for detecting tampering are only tamper-evident rather than tamper-resistant.

[0069] In a second aspect of the invention a method of opening a pharmaceutical blister pack comprised in a package according to the first aspect of the invention is provided; the method comprising: opening the package; removing the pharmaceutical blister pack; contacting the protrusion to the protecting foil covering a blister of the pharmaceutical blister pack; exerting a pressure on the protrusion thereby removing the foil in correspondence of the blister. This

method is defined in claim 15. The present disclosure also comprises means rendering packages child-resistant . Thereby the opening of the package is physically impaired to a child, i.e. a child would not be able to open the package.

BRIEF DESCRIPTION OF THE FIGURES

[0070] The package and the methods according to some aspects of the invention will now be described in more detail with regard to the accompanying figures. The figures show one way of implementing the present invention and is not to be construed as being limiting to other possible embodiments falling within the scope of the attached claim set.

Figure 1 is a prospective view of the closed package according to some embodiments of the invention.

Figure 2 is a prospective view of the open package according to some embodiments of the invention.

Figure 3 is a cross section of the closed package of figure 1.

Figure 4 is a prospective view of examples of means for removing protecting foil according to some embodiments of the invention.

Figure 5 is a prospective view of the open package according to some other embodiments of the invention.

Figure 6 is a cross section of the package of figure 5 when closed.

Figure 7, 8 and 9 show schematically 3-dimensional views of a medical package in its closed and opened state showing the locking mechanism according to some embodiments of the invention.

Figures 10 and 11 show schematically 3-dimensional views of a medical package in its closed state having two means for opening located on the shortest and opposite sides of the medical package.

Figures 12, 13 and 14 show schematically 3-dimensional views of a medical package in its closed state where the correspondent two means for opening have different shapes.

Figures 15 and 16 show schematically 3-dimensional views of a medical package in its closed state and half-opened state.

Figure 17 show schematically a 3-dimensional view of a medical package having more than two means for opening.

Figure 18 shows a medical package which comprises different shapes and sizes of blisters.

Figure 19 shows an unfolded medical package having different sizes of blisters on the two

parts.

Figure 20 shows a medical package having covering foils each covering a plurality of blisters.

Figure 21 is a flow-chart of the method of opening a blister pack according to one aspect of the invention.

DETAILED DESCRIPTION OF AN EMBODIMENT

[0071] Figure 1 is a prospective view of the closed package according to some embodiments of the invention.

[0072] Figure 1 shows a package 7 comprising opening means 1, such as a pressure mean located on both side of the container 3. The opening means 1 in figure 1 have the appearance of prolonged buttons that need to be simultaneously pushed so as to open the package. The lid 2 is hinged to the container 3. As shown in figure 1 the lid 2 and the container 3 may be produced by injection moulding techniques in a single piece. In some embodiments as shown in figure 1 the lid 3 is hingedly connected to a hinge element 4 that is in turn hingedly connected to the container 3. The use of the hinge element 4 allows for an improved degree of rotational freedom as the lid can rotate relative to two axes of rotation, i.e. 5 and 6. At the same time the use of hinge element 4 gives more flexibility to the lid facilitating the use of the means for removing the protecting foil that is located on the lid internal surface.

[0073] Figure 2 shows the package 7 when opened. It can be noticed that buttons 1 comprise elements 8 that engage with complementary elements 9 located on the internal wall surface of the container 3. Thus, the means of opening may comprise a snap lock. A protrusion 11, for removing the protective foil of the blister packages 12, is located on the internal surface 10 of the lid 2. The lid may have a wall 13 along its internal edge. In this embodiment a frame 14 surrounding the protrusion 11 may be used so as to facilitate the removal of the protecting foil.

[0074] The frame 14 has the function of raising the internal surface 10 of the lid at the same or similar level in respect to the level of the wall 13. In this way the removal of the protecting foil is facilitated. In some further embodiments the internal surface of the lid comprises means for raising the internal surface to the level of wall 13, or within 1 to 5 mm from the level of wall 13.

[0075] The position of the centre of the protrusion 11 is shown in figure 2 at a certain distance from the axis 5. This distance may match the distance between the centre of the last blister of the blister pack and the farthest end, along its width, or the punched line 36, of the blister pack 12 contained in the container 3. This facilitates the use of the lid 2 and the protrusion 11 for removing the protecting foil. Other locations of the protrusion 11 on the lid surface are also possible.

[0076] Figure 3 is a cross section of the package 7 when closed. It can be noticed that the means for raising the internal surface, e.g. the frame 14 has a height that is close to, within few millimetres, the height of the wall 13.

[0077] Indeed, when the blister pack is positioned onto the protrusion 11 in correspondence of the blister where the protecting foil should be removed, the protecting foil is removed by applying pressure on the blister. By applying pressure the protrusion penetrates in the blister, reaches the tablets therein contained and holds it. The presence of frame 14 facilitate the process as it provides a support for the blister pack at the end of the pressure process as the blister cannot be pushed further since the blister pack surface at the edge of the blister is in contact with the frame and the further pressure exerted, e.g. on the lid causes only the release of the tablet that is hold by the protrusion. In this way, the removal of the protecting foil of the blister is facilitated by the presence of the frame 14 or by other means having the same function. The height of the protrusion 11 may be higher than the depth of the blister cavity.

[0078] By holding the tablets in the protrusion the invention has the further advantage of avoiding contamination of the tablets due to the users handling the tablets or due to presence of contaminants on the external surface of the protecting foil.

[0079] Figure 4 is a prospective view of examples of means for removing protecting foil according to some embodiments of the invention. For example protrusions may be circular protrusions 15 or oval protrusions 16 depending on the shape of the blisters and of the tablets or capsules to be removed and held. Protrusions may also be half open rim protrusion, such as a half open frame 17, or a closed rim, such as a closed frame 18.

[0080] The protrusions may also have at least an indentation 19 so as to provide a better removal of the protecting foil upon applying pressure on the lid or the blister. The diameter of the protrusions may be in the area between 5 and 20 mm, e.g. 10, 12 or 14 mm. The diameter may be determined by the specific size of the tablet or capsule that has to be removed and held.

[0081] In some embodiments more than one protrusions having different shape may be present. The de-blistering tool 20 or 21 comprising one or more protrusions may be included in the container of the package together with blister packs.

[0082] Figure 5 is a prospective view of the open package 22 according to some other embodiments of the invention. Package 22 is characterized by the presence of at least one separator walls 23 that can be inserted into dedicated slides 24 on the internal wall 25 of the container 26. The wall reduces the internal length of the container 26 so that blister packages 27, having a length shorter than the length of the container 26 can better be accommodated into the container. In this way the transport of the blister package is safer as the blister packages 27 are not moving inside the container 26.

[0083] Package 22 has also a protrusion 28 on the internal surface 29 of the lid 30. As it can

be clearly seen from figure 6 the package 22 has a protrusion 28 having a height higher than the wall 31 and does not have a frame surrounding the protrusion 28.

[0084] Figure 6 is a cross section of the package of figure 5 when closed.

[0085] Figure 7 shows schematically a 3-dimensional view of a medical package in its closed state. Two pairs of gripping elements 48, 49 and 50,51 are shown locate on the longest and opposite side of the medical package 52.

[0086] The pairs 50, 51 cannot be seen due to the orientation of the 3-dimentional view, however they resemble the pair 48, 49.

[0087] However, even if resembling each other, the two gripping elements of the pairs 48, 49 and 50, 51 have different functions. Gripping element 48 and 50 are opening elements. In order to open the medical package 52 and adult hand has to apply pressure on both opening elements 48 and 50 so as to distort the first portion 56 allowing the hidden latches 57 and 58 to be released. Hidden latches 57 and 58 may be located underneath the opening elements 48 and 50, therefore applying pressure on the opening elements 48 and 50 may allow the release latches 57 and 58 without distortion in the structure of the portion 56. In order to complete the opening following the release of the hidden latches 57 and 58, an adult hand should grip the gripping elements 49 and 51 so as to open the medical package 52 as shown in figure 8 and 9. The opening elements 18 and 20 may comprise the latches 57 and 58 as shown in figure 9. Thus, opening may also be achieved by minimum distortion of the structure of the opening elements 48 and 50. The opening elements 48 and 50 may be comprised in the rim 59 of the carrier portion 56.

[0088] The shape and/or appearance of the pairs of gripping elements 18, 19 and 20, 21 is advantageously the same. If not instructed, a user, or a child approaching the medical package would not be able to distinguish the different functions of the gripping elements as they have the same appearance. A child thus may be tempted to grip all the elements thus hindering the release of the hidden latches. Figures 10 and 11 show schematically 3-dimensional views of a medical package in its closed state having a pair of opening elements 54 and 55 located on the shortest and opposite sides. In this way a higher level of child safety is achieved as a child hand cannot simultaneously exert pressure on both opening elements located at a distance that is longer than the distance between the child thumb and one of the child four fingers when opened.

[0089] Figures 12, 13 and 14 show schematically 3-dimensional views of a medical package in its closed state where the correspondent pairs of opening elements 37, 38 and 39 have different shapes. The shapes may be misleading as counterintuitive towards the correct opening of the medical package.

[0090] Figures 15 and 16 show schematically 3-dimensional views of a medical package in its closed state and while opening. Upon applying pressure on the opening elements 61 and 62

the medical package is unlocked and can be opened.

[0091] The medical package showed in the previous figures may follow the same opening steps as shown in figure 16.

[0092] Figure 17 shows schematically a 3-dimensional view of a medical package having more than two means for opening. For example the package 63 has three opening elements 64, 65 and 66. Two or more finger-actuated latches or tool-actuated latches may be released in a certain sequence so as to allow opening of the medical package. It may be that two or more sets of latches may have to be released in a certain sequence so as to allow opening, thus requiring two adult hands to actuate the two or more set of latches.

[0093] Figure 18 shows a blister pack 71 which comprises different shapes and sizes of blisters in a partly cut-through view. Such a blister pack 71 can be used in combination with the overall inventive idea of the present invention or it may be used in another packaging adapted to contain the blister pack as an insert. It may also be used without any further enclosing packaging. It will typically comprise a foil covering and protecting the content of the blisters. Such a foil may be adapted to be removed from one or more blister openings at a time to provide access to the content. This is shown more clearly in figure 20. The blister pack may e.g. be used for different types of medicine that can then easily be provided and carried around in one package. It may alternatively or in combination therewith be used for supplements, such as those mentioned above. Such supplements may e.g. in solid or liquid form; they may also be a freeze-dried substance. The material used for the blisters as well as any foil covering the blisters should be chosen in accordance with how the content of the blisters may react with the surroundings.

[0094] It may e.g. have to be a material that is moisture impermeable at the temperatures and pressures that the packaging may experience. The blister pack 71 shown in figure 18 is formed by an upper part 72 and a lower part 73, where "upper" and "lower" refers to the orientation shown in the figure. In use the pack may be turned in any direction, such as upside-down compared to the one shown. The upper and lower parts 72,73 each contain an array of blisters which are arranged so that when the blister pack 71 is in a folded configuration as the one shown in figure 18, the blisters 74 of the upper part 72 intermesh with the blisters 74 of the lower part 73. In a preferred embodiment, the blisters intermesh in a way so that they support each other without deforming or damaging each other when the pack is folded into engagement. These blisters of the upper and lower parts 72,73 may interlock or press fit, e.g. male-female lock upon folding and/or pressing together the parts. An interference fit, also referred to as a press fit, provides fastening between the blisters when they are pushed into contact.

[0095] In the embodiment shown in figure 18, the upper part 72 contains two different shapes and sizes of blisters marked as 76 and 78, and the lower part 73 contains to other shapes and sizes of blisters marked as 75 and 77. In embodiments intended for storing more types of medicine and/or supplements that are to be taken at the same time, it will be appropriate to

cover these with one separable piece of cover foil.

[0096] When the embodiment in figure 18 is used in combination with a package comprising means for removing the protective foil covering the blisters as described above, the means may have a plurality of protrusion 15,16 e.g. such as those shown in figure 4. The shapes and sizes of these protrusions 15,16 should then be matched to the actual blisters in the blister pack 71.

[0097] Figure 19 shows an unfolded medical package having different sizes of blisters on the two parts which are referred to as upper part 72 and lower part 73 in relation to figure 18. In the embodiment in figure 19, each part has one size of blisters.

[0098] Figure 20 shows a medical package having covering foils 79 each covering a plurality of blisters. Hereby it is easy e.g. to gain access to a plurality of medicine and/or supplements to be taken at a given time as explained in relation to figure 18.

[0099] Figure 21 is a flow-chart of the method of opening a blister pack according to one aspect of the invention. The method of opening a pharmaceutical blister pack comprised in a package comprises: opening 32, the package; removing 33, the pharmaceutical blister pack; contacting 34 the protrusion to the protecting foil covering a blister of the pharmaceutical blister pack; exerting 35 a pressure on the blister thereby removing the foil in correspondence of the blister.

[0100] Although the present invention has been described in connection with the specified embodiments, it should not be construed as being in any way limited to the presented examples. The scope of the present invention is set out by the accompanying claim set. In the context of the claims, the terms "comprising" or "comprises" do not exclude other possible elements or steps. Also, the mentioning of references such as "a" or "an" etc. should not be construed as excluding a plurality. The use of reference signs in the claims with respect to elements indicated in the figures shall also not be construed as limiting the scope of the invention.

REFERENCES CITED IN THE DESCRIPTION

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- US2006289328A **[0008]**
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Patentkrav

1. Indpakning bærende mindst én farmaceutisk blisterpakning (12), der har blistere og omfatter en beskyttelsesfolie, hvor nævnte mindst ene farmaceutiske blisterpakning omfatter farmaceutiske sammensætninger i nævnte blistere, hvor nævnte farmaceutiske sammensætninger er i formen af tabletter; hvor nævnte indpakning omfatter:

nævnte mindst ene farmaceutiske blisterpakning (12);

organ til at fjerne nævnte beskyttelsesfolie, hvor nævnte organ til at fjerne nævnte beskyttelsesfolie er indrettet til at holde nævnte farmaceutiske sammensætninger, hvor nævnte organ til at fjerne nævnte beskyttelsesfolie er eller omfatter et fremspring (11), der strækker sig ud fra en overflade af nævnte indpakning; hvor nævnte fremspring (11) har et radialt omfang mindre end en blister af nævnte mindst ene farmaceutiske blisterpakning indeholdt i nævnte indpakning, således at, når nævnte beskyttelsesfolie skal fjernes, nævnte beskyttelsesfolie fjernes ved at påføre tryk på en blister når nævnte mindst ene farmaceutiske blisterpakning (12) er positioneret på fremspringet (11) i korrespondance med nævnte blister, idet nævnte fremspring (11) penetrerer i nævnte blister, når nævnte farmaceutiske sammensætninger, der er i formen af tabletter indeholdt deri, og holder nævnte farmaceutiske sammensætninger, der er i formen af tabletter.

2. Indpakning ifølge krav 1, hvor nævnte fremspring (11) har et radialt omfang større end eller lig med nævnte farmaceutiske sammensætninger indeholdt i nævnte blistere.

3. Indpakning ifølge et hvilket som helst af de foregående krav, hvor nævnte fremspring (11) har en højde højere end dybden af blisterhulrummet.

4. Indpakning ifølge et hvilket som helst af de foregående krav, hvor nævnte indpakning yderligere omfatter en ramme (14), der omgiver nævnte fremspring, hvor nævnte ramme gør fjernelsen removal af nævnte beskyttelsesfolie lettere.

5. Indpakning ifølge et hvilket som helst af de foregående krav, hvor nævnte organ til at fjerne nævnte beskyttelsesfolie er placeret på en overflade af nævnte indpakning.

6. Indpakning ifølge et hvilket som helst af de foregående krav, hvor nævnte indpakning omfatter en beholder (3), der har en indvendig og udvendig overflade.

7. Indpakning ifølge krav 6, hvor nævnte organ til at fjerne nævnte beskyttelsesfolie er placeret på nævnte indvendige overflade af nævnte beholder.

8. Indpakning ifølge krav 6, hvor nævnte organ til at fjerne nævnte beskyttelsesfolie er placeret på nævnte udvendige overflade af nævnte beholder.

9. Indpakning ifølge et hvilket som helst af de foregående krav, hvor nævnte fremspring (11) har mindst et indsnit.

10. Indpakning ifølge et hvilket som helst af kravene 6-9, yderligere omfattende nævnte mindst ene farmaceutiske blisterpakning indeholdt inden i nævnte beholder.

11. Indpakning ifølge et hvilket som helst af kravene 6-10, hvor nævnte indpakning yderligere omfatter et låg (2).

12. Indpakning ifølge et hvilket som helst af kravene 4-11, hvor nævnte ramme (14) har en højde, der er tæt på, såsom inden for få millimeter, højden af en væg (13) langs den indvendige kant af låget (2).

13. Indpakning ifølge et hvilket som helst af de foregående krav, hvor nævnte fremspring (11) er tilvejebragt på den perifere udvendige overflade af nævnte indpakning.

14. Indpakning ifølge et hvilket som helst af de foregående krav, hvor nævnte fremspring (11) er fastgjort til eller inkluderet i nævnte beholder.

15. Fremgangsmåde til åbning af en farmaceutisk blisterpakning omfattet i en indpakning ifølge et hvilket som helst af de foregående krav 1-14, hvilken fremgangsmåde omfatter:

- at åbne nævnte indpakning;
- at fjerne nævnte farmaceutiske blisterpakning (12);
- at bringe nævnte fremspring (11) i kontakt med nævnte beskyttelsesfolie, der dækker en blister af nævnte farmaceutiske blisterpakning;
- at udøve et tryk på fremspringet (11), derved fjerne folien i korrespondance af blisteren.

DRAWINGS

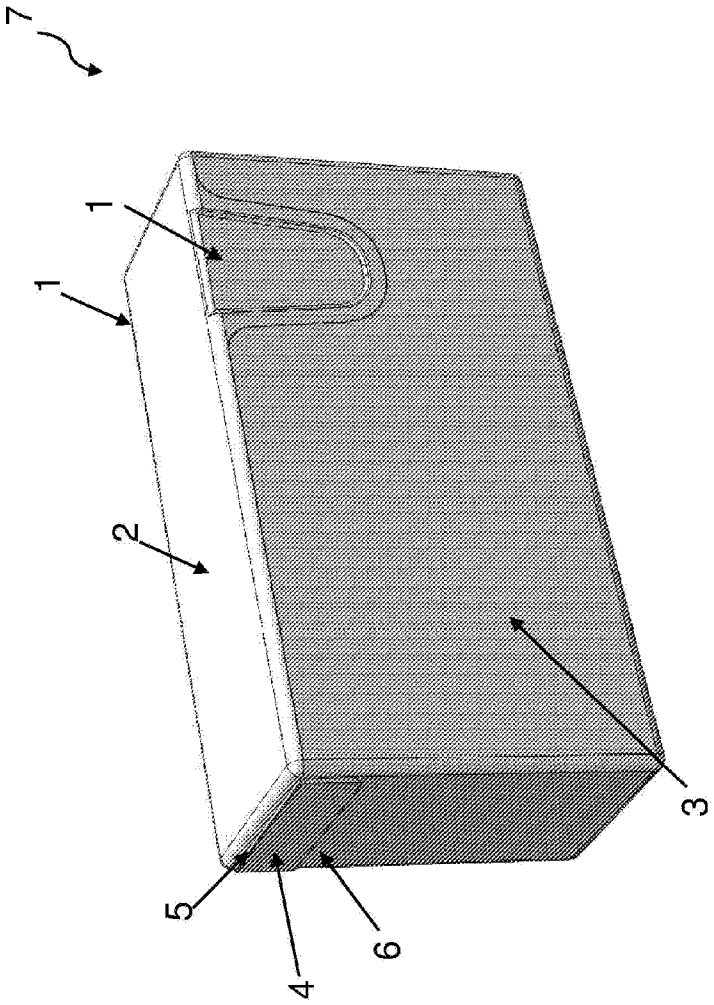


FIG. 1

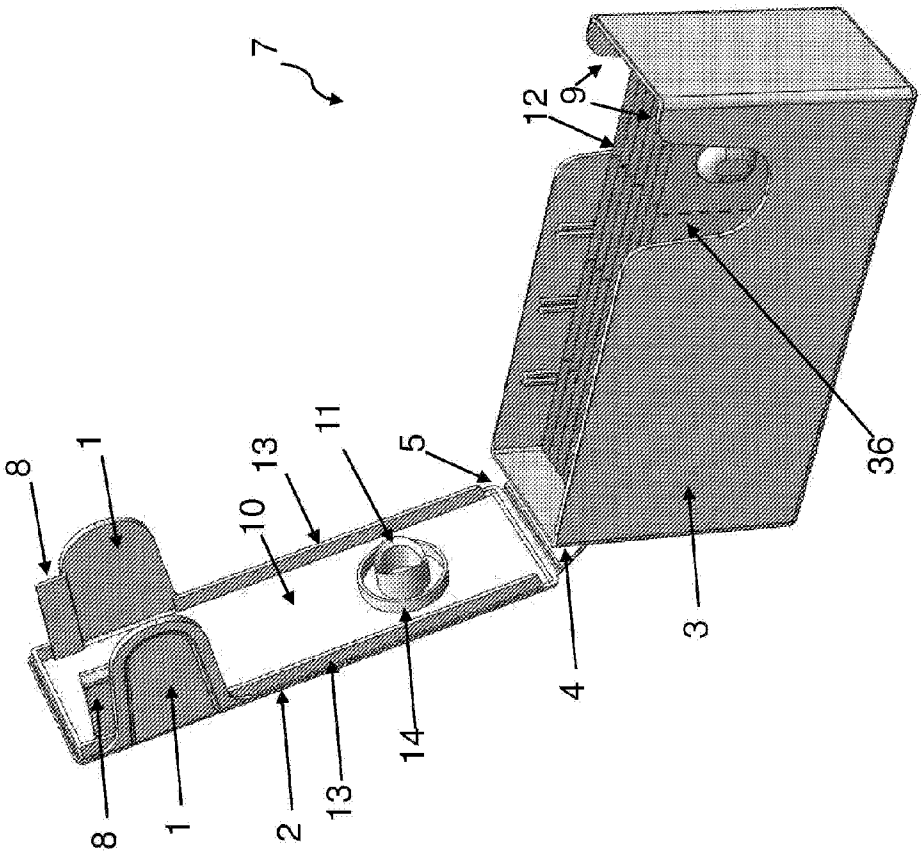


FIG. 2

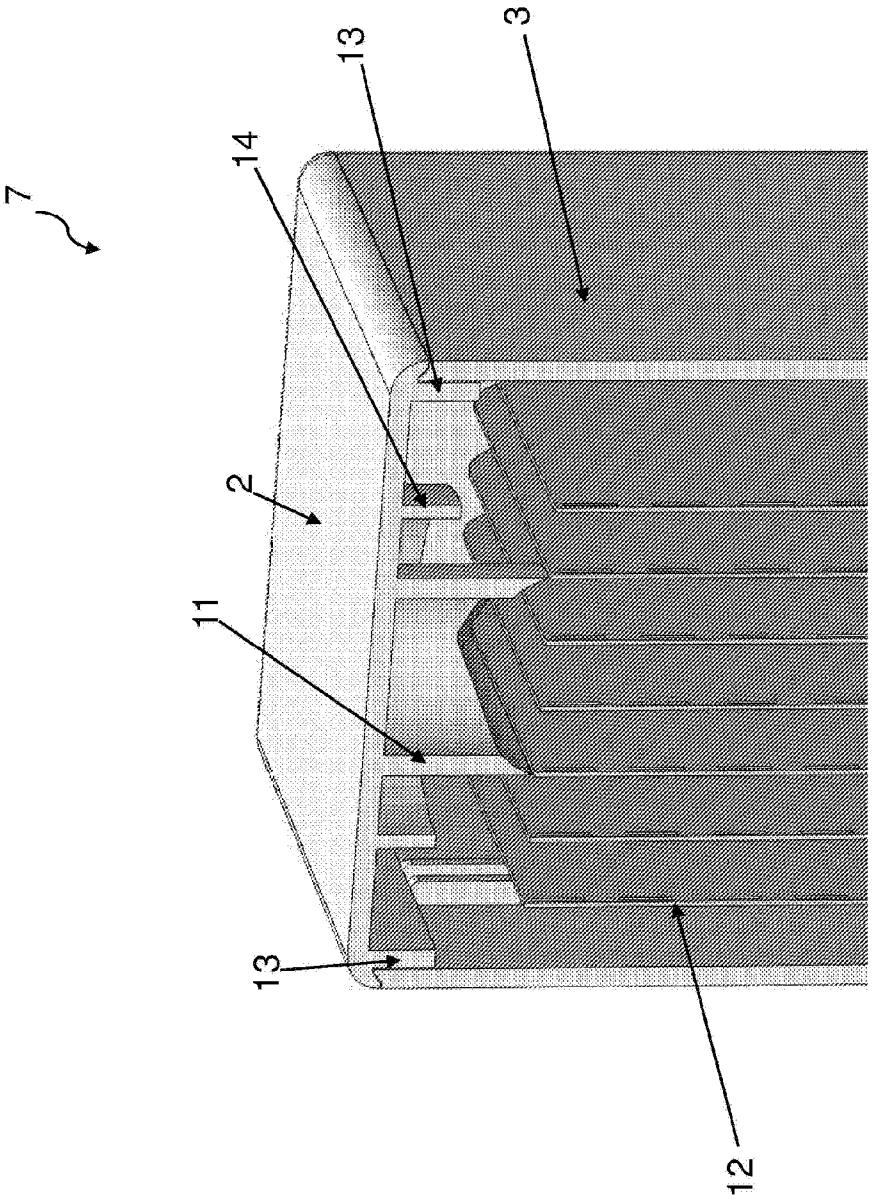


FIG. 3

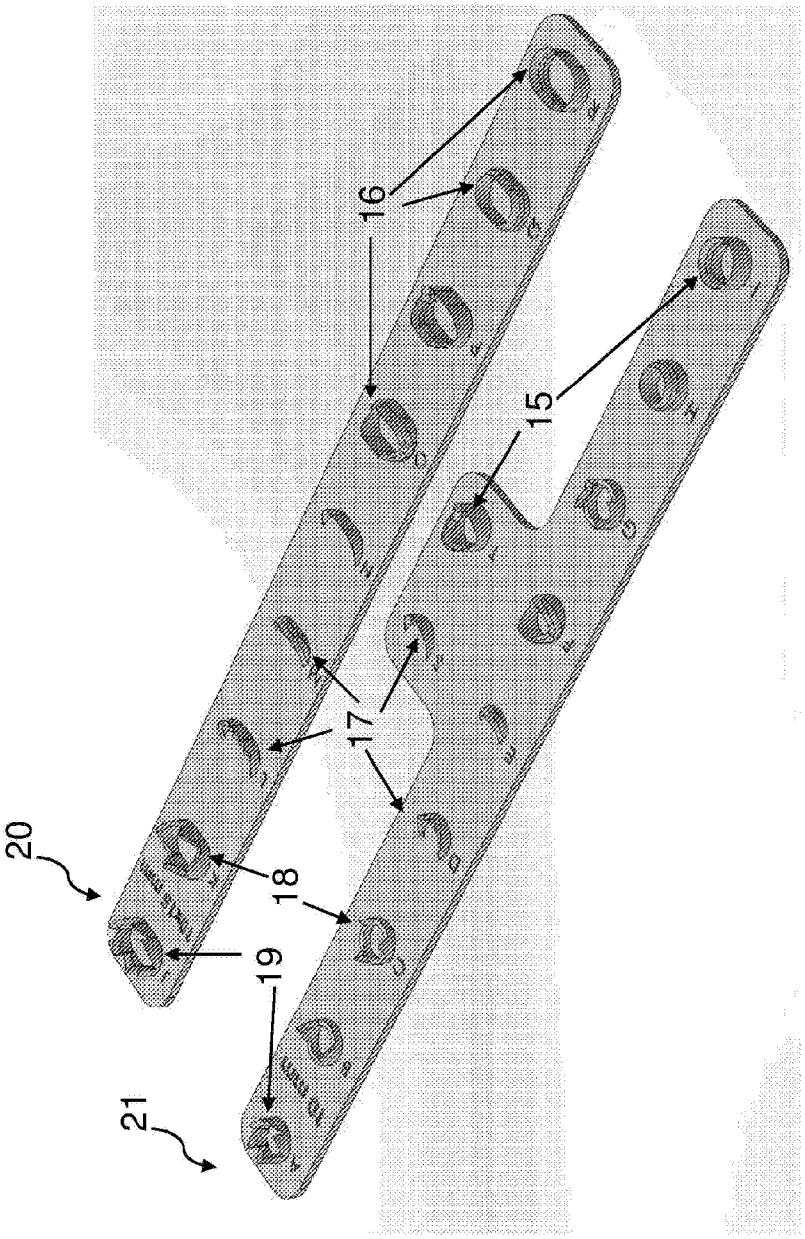


FIG. 4

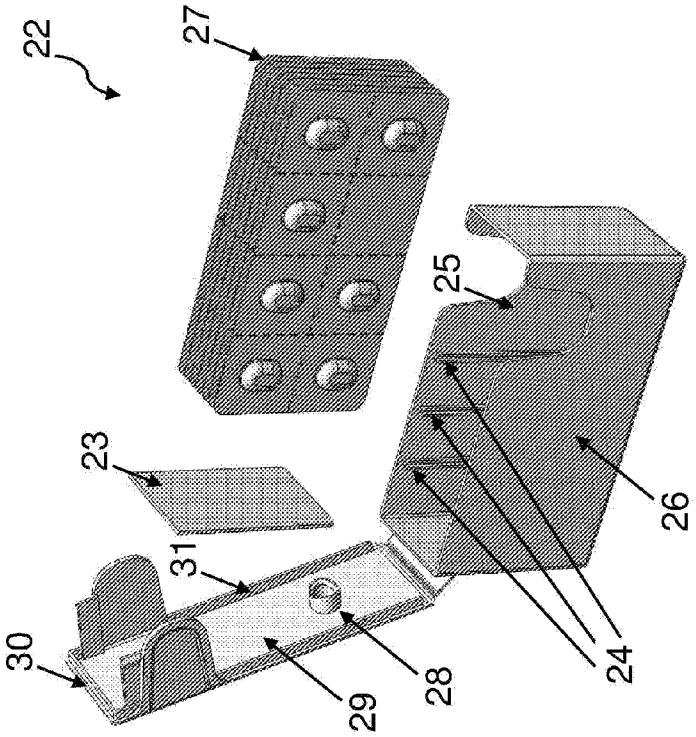
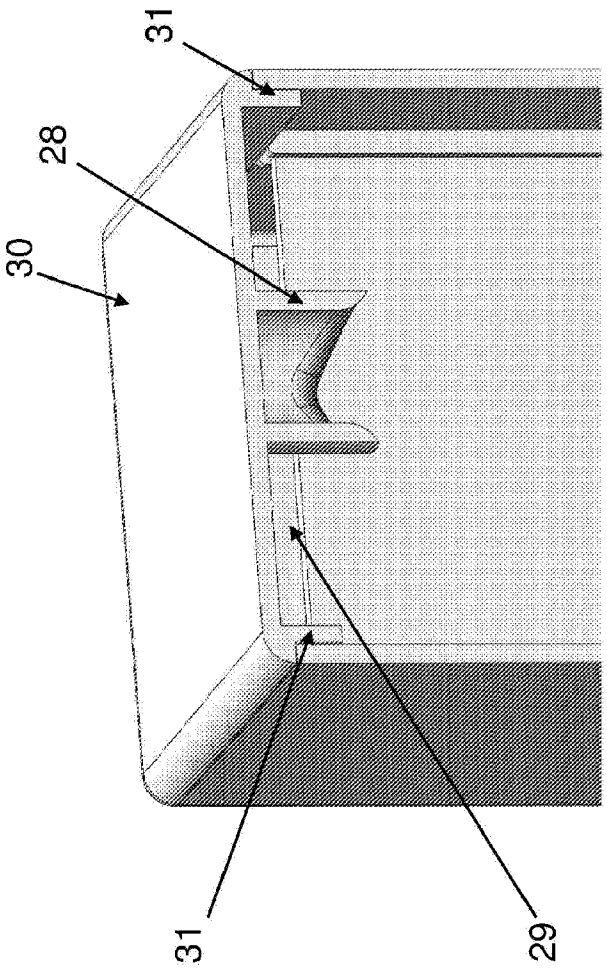


FIG. 5



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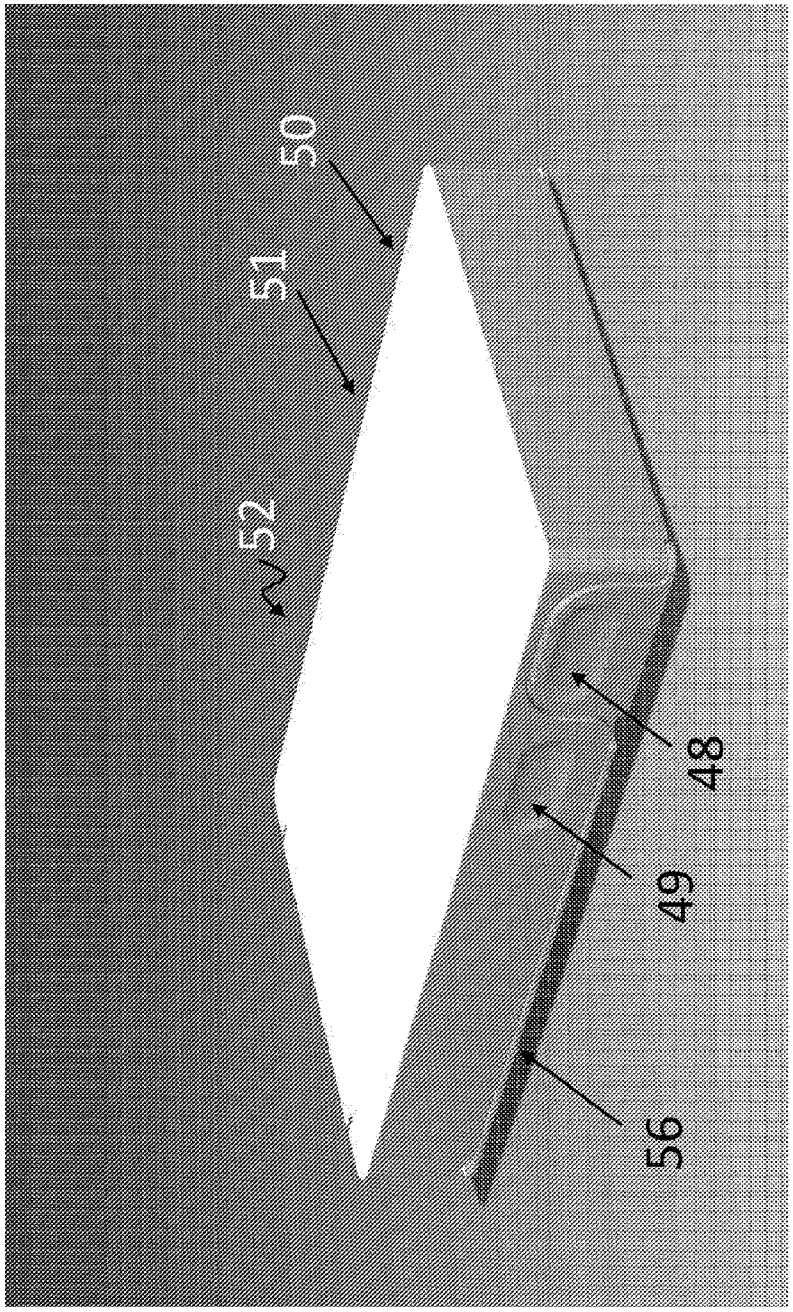


Fig. 7

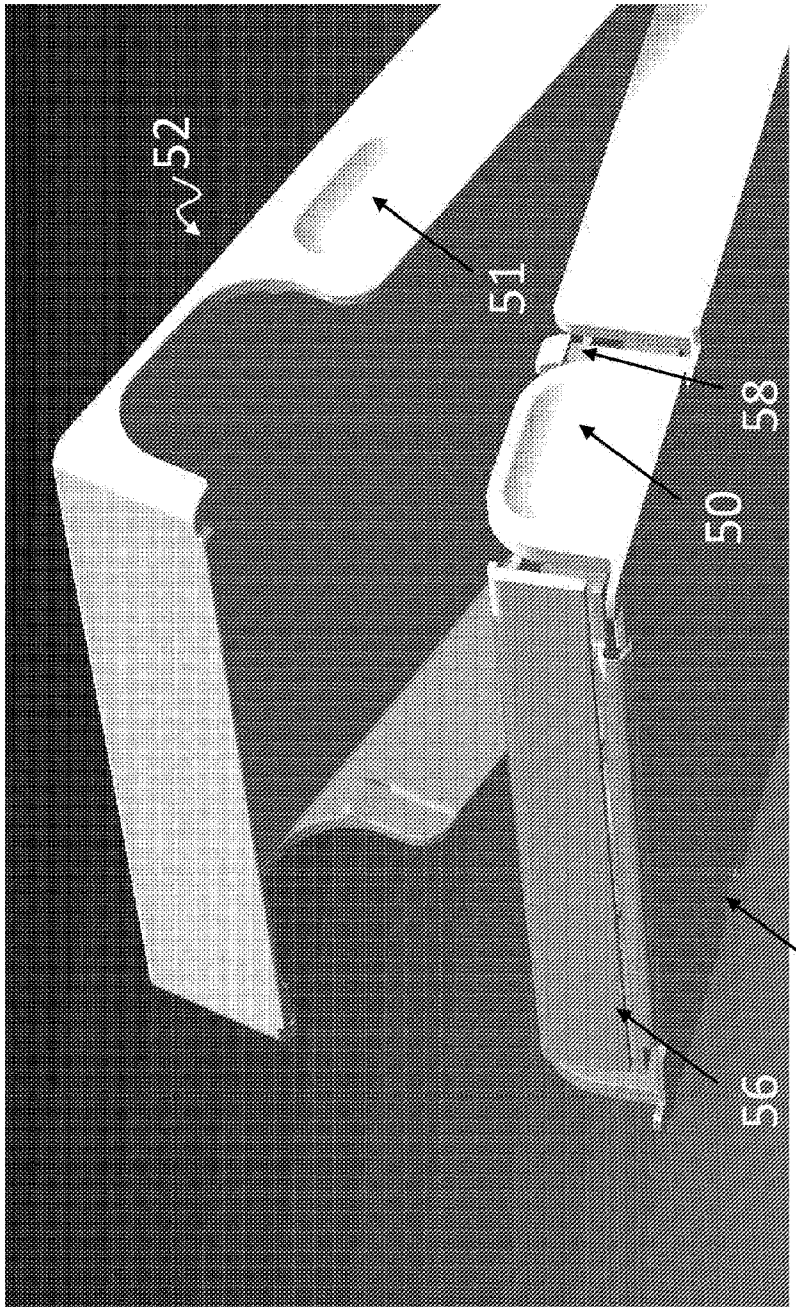


Fig. 8

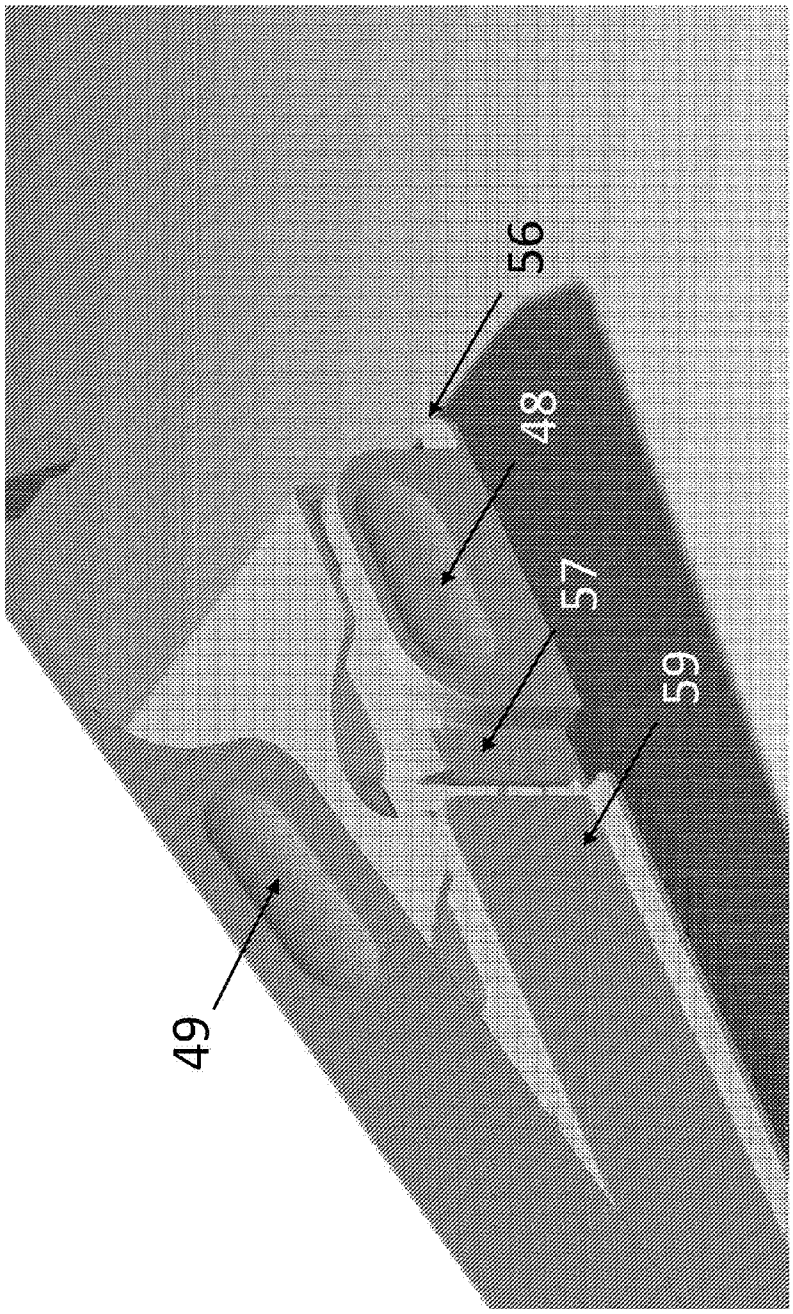


Fig. 9

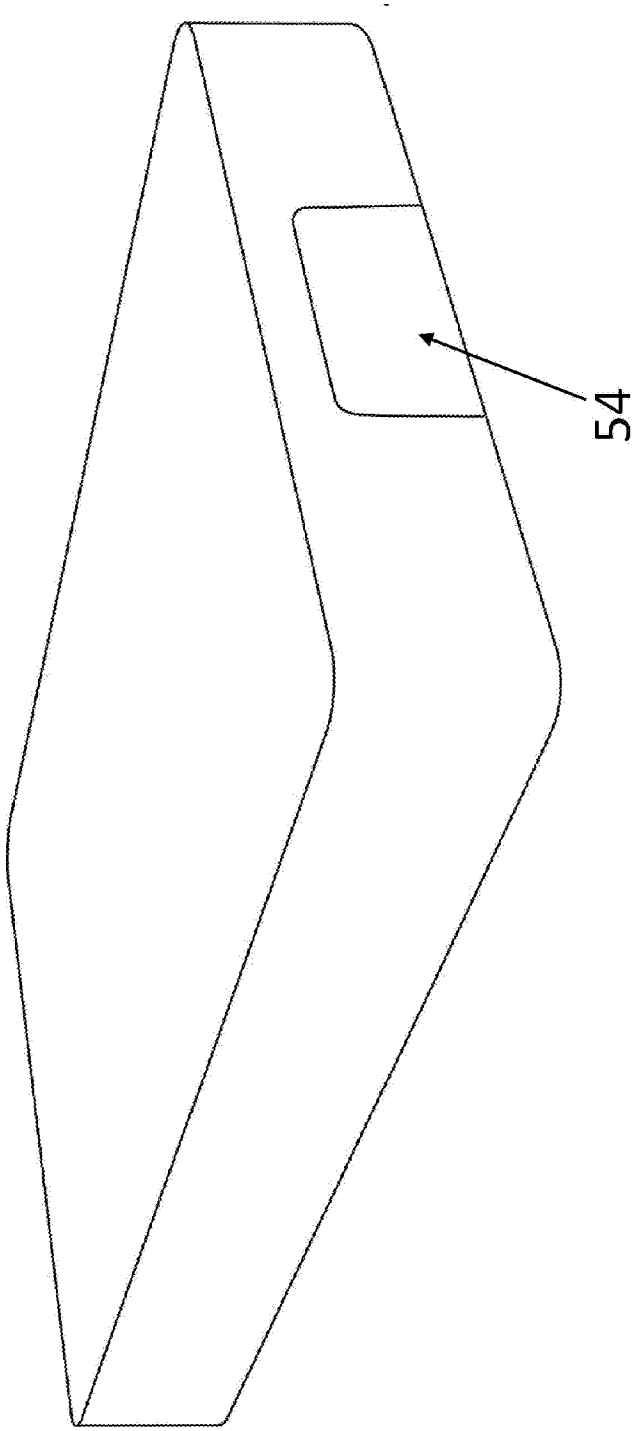


Fig. 10

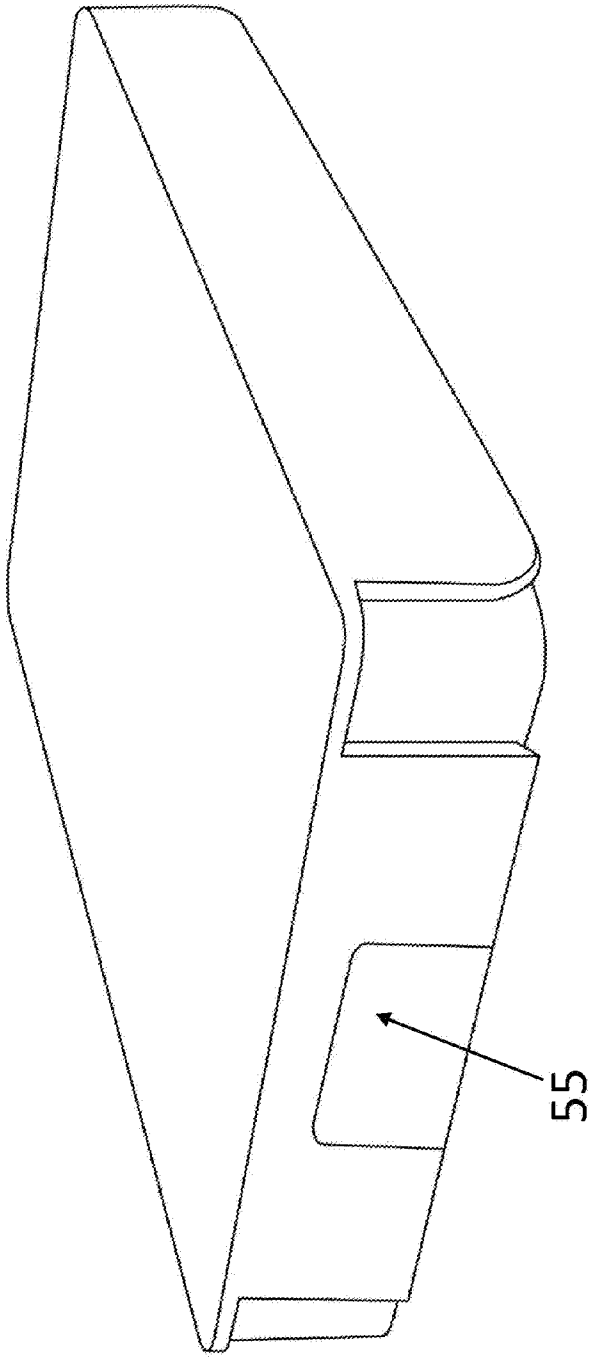


Fig. 11

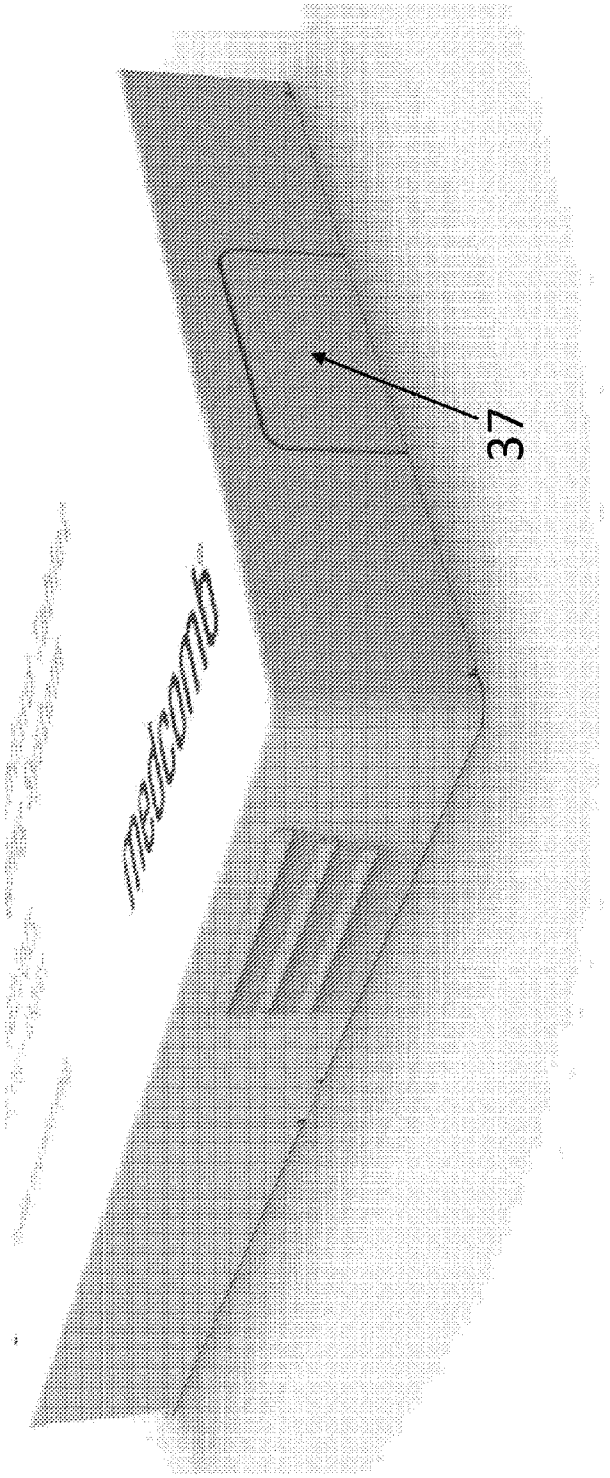


Fig. 12

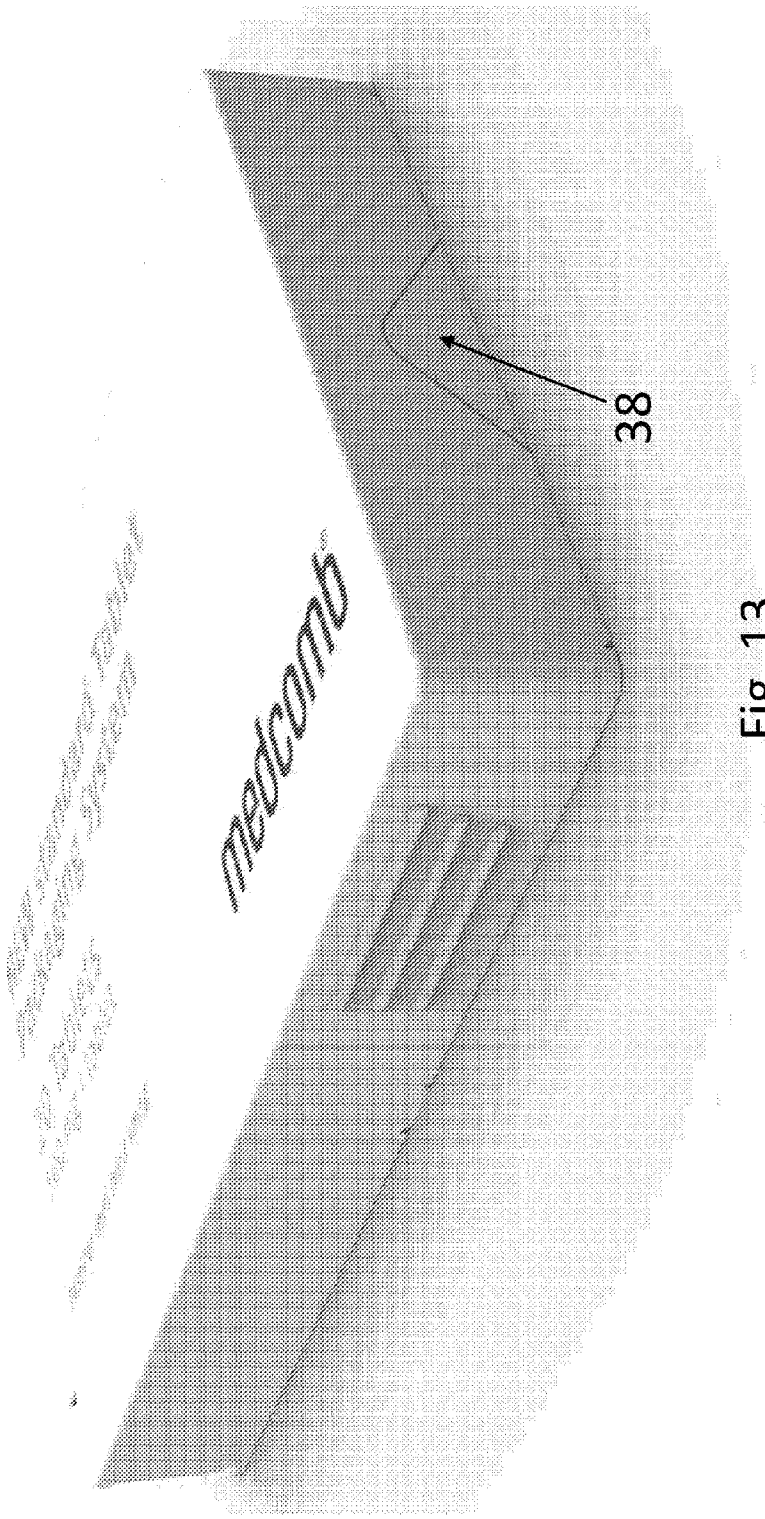


Fig. 13

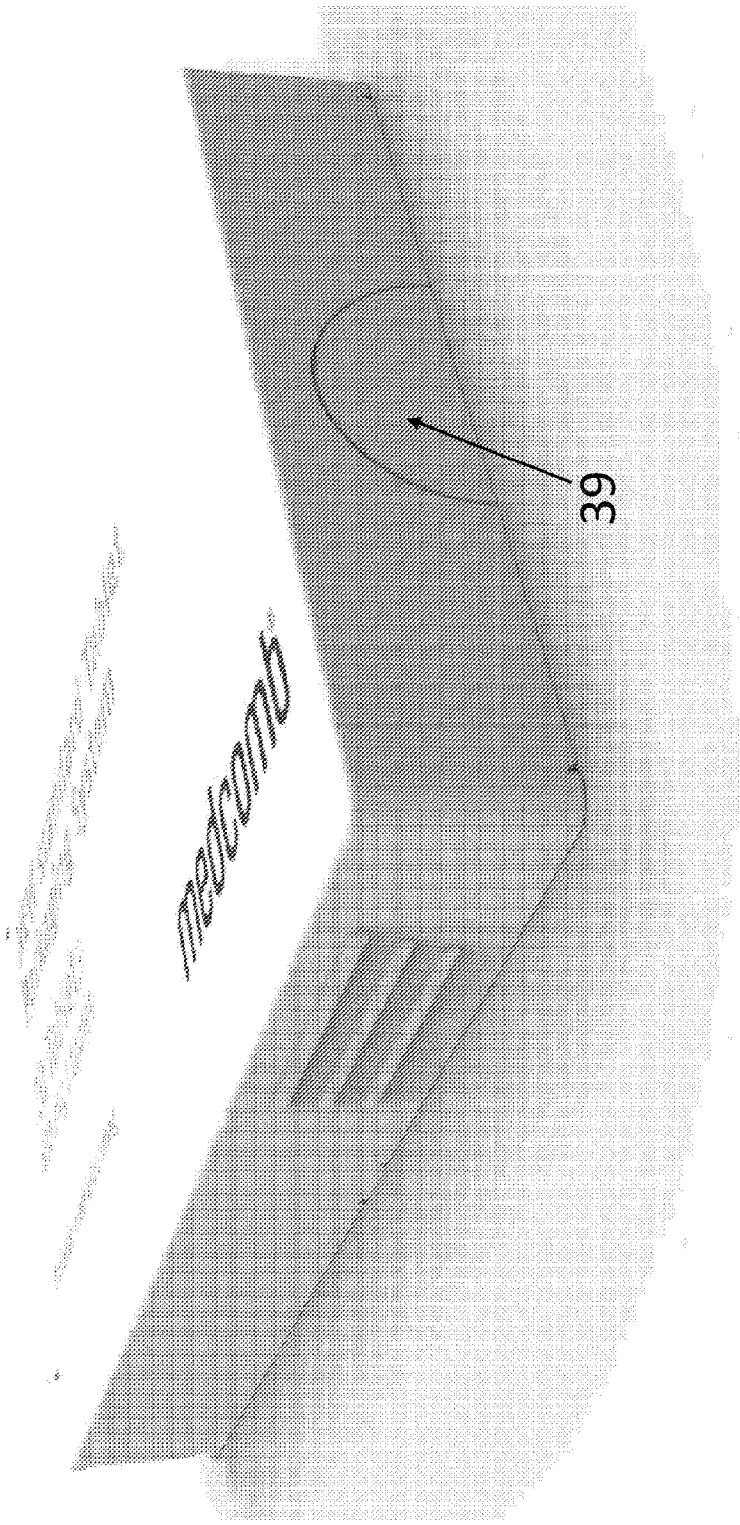
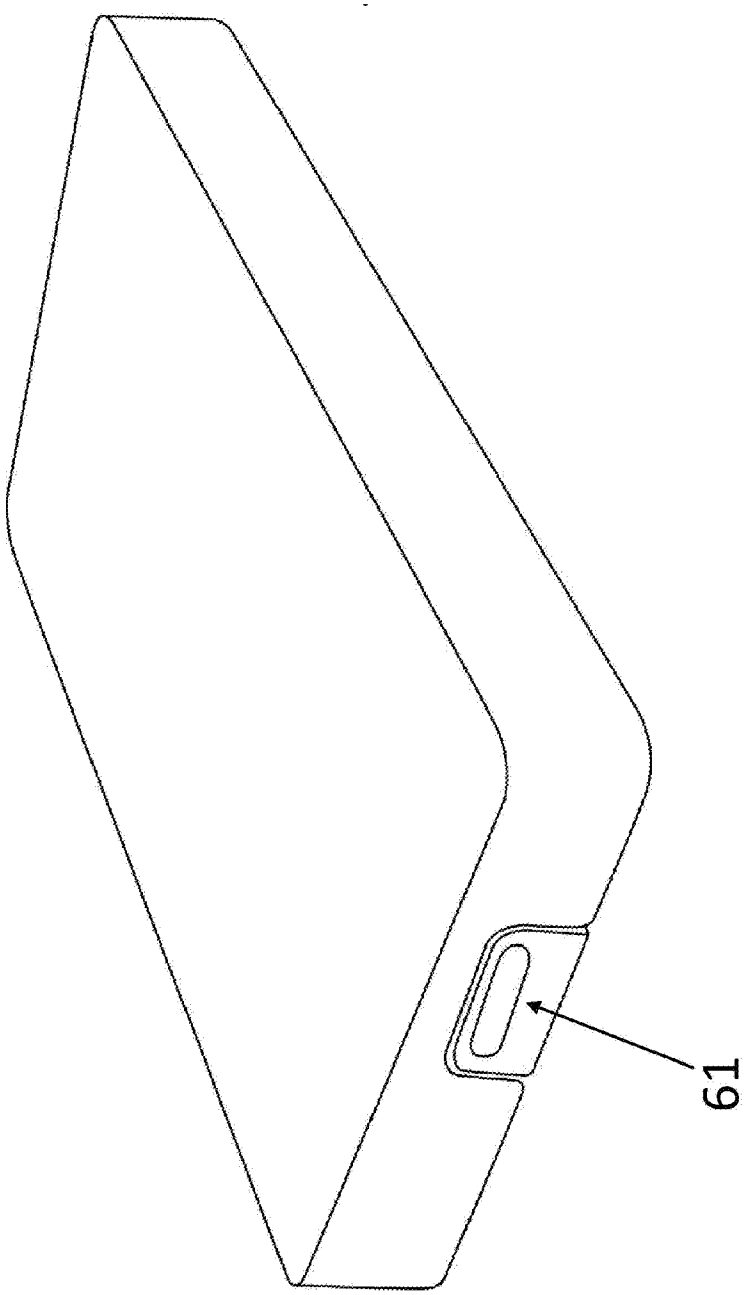


Fig. 14



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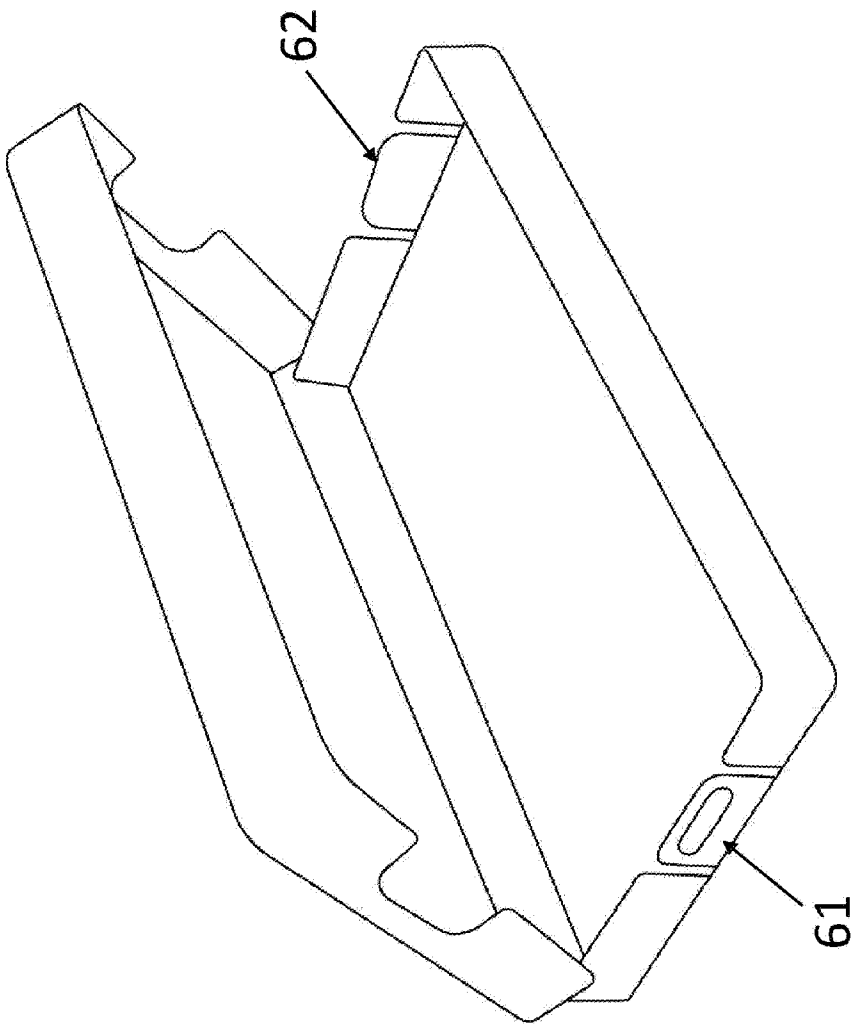

Fig. 16

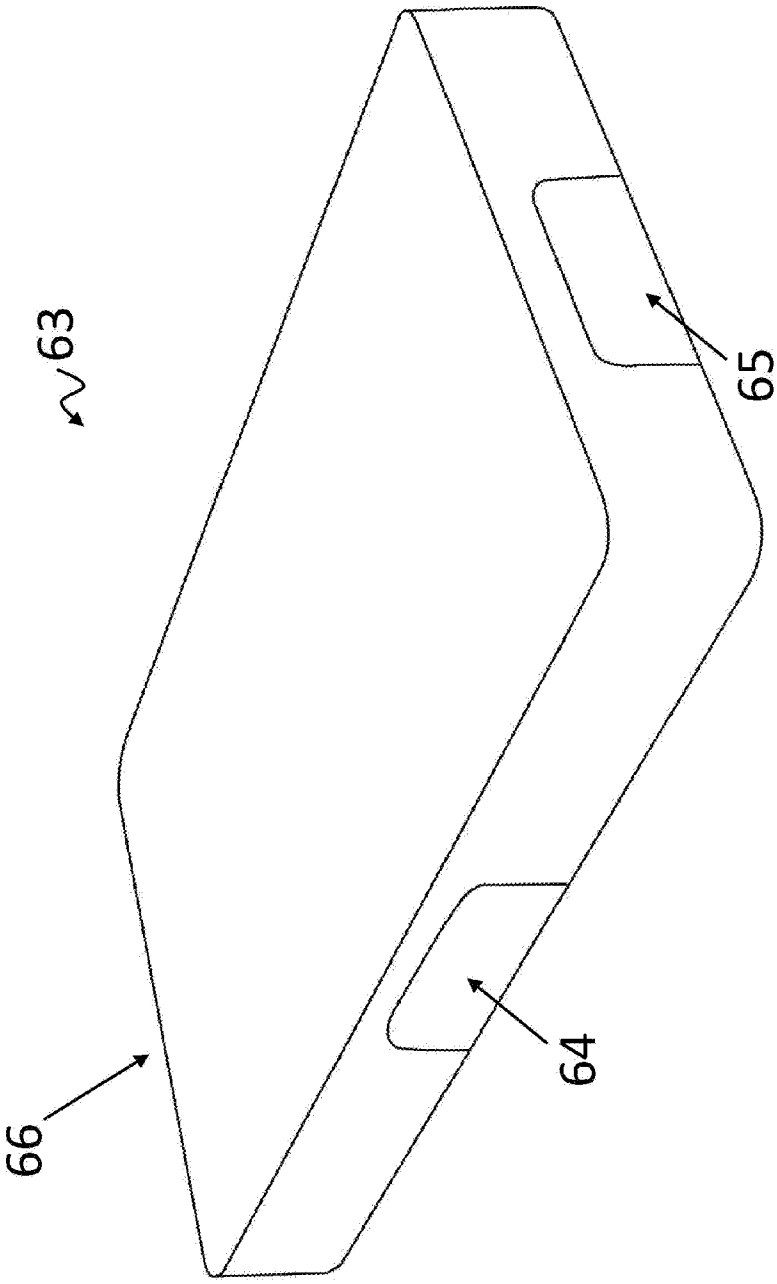

Fig. 17

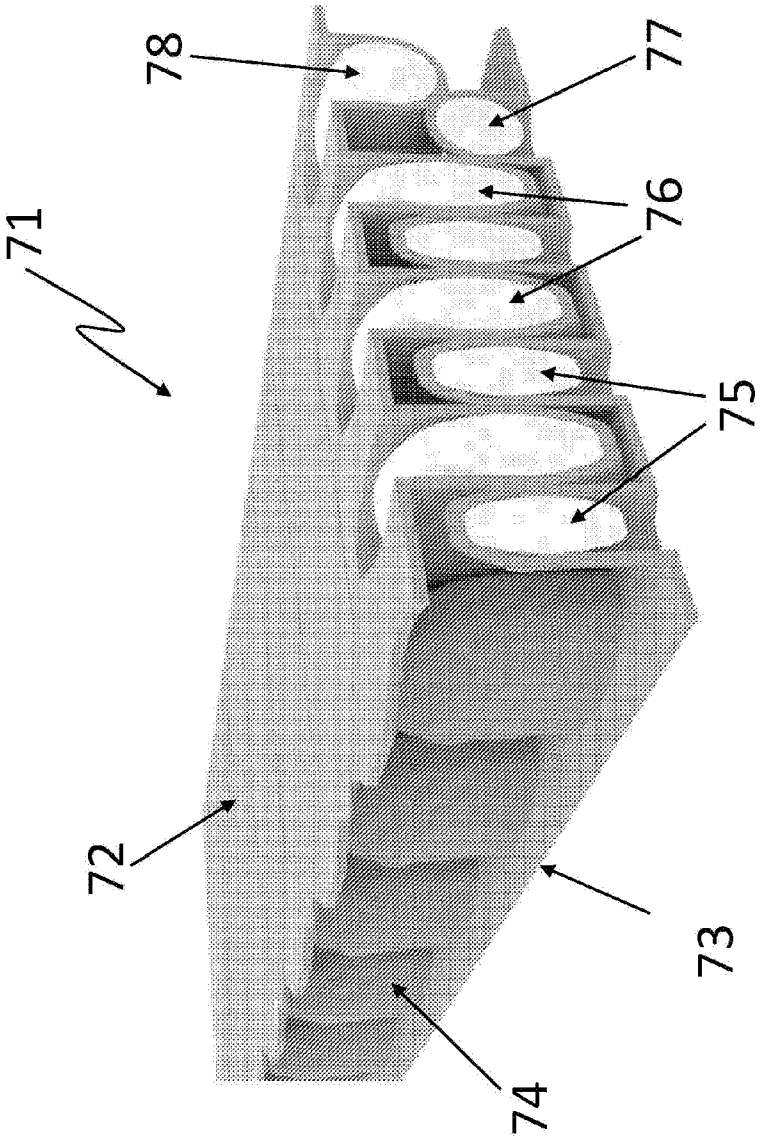

Fig. 18

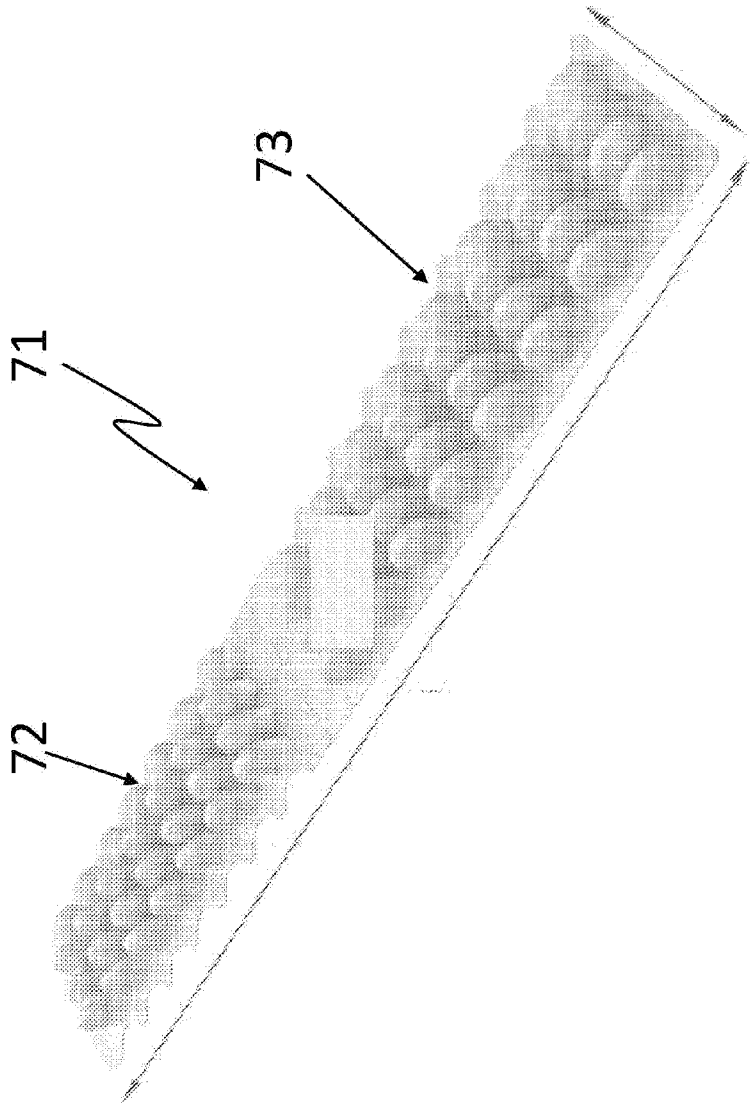

Fig. 19

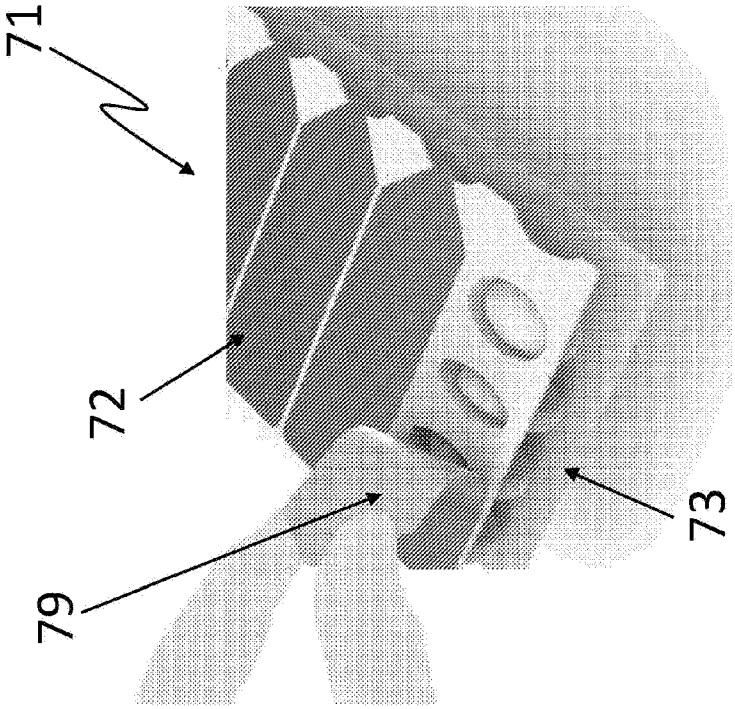

Fig. 20

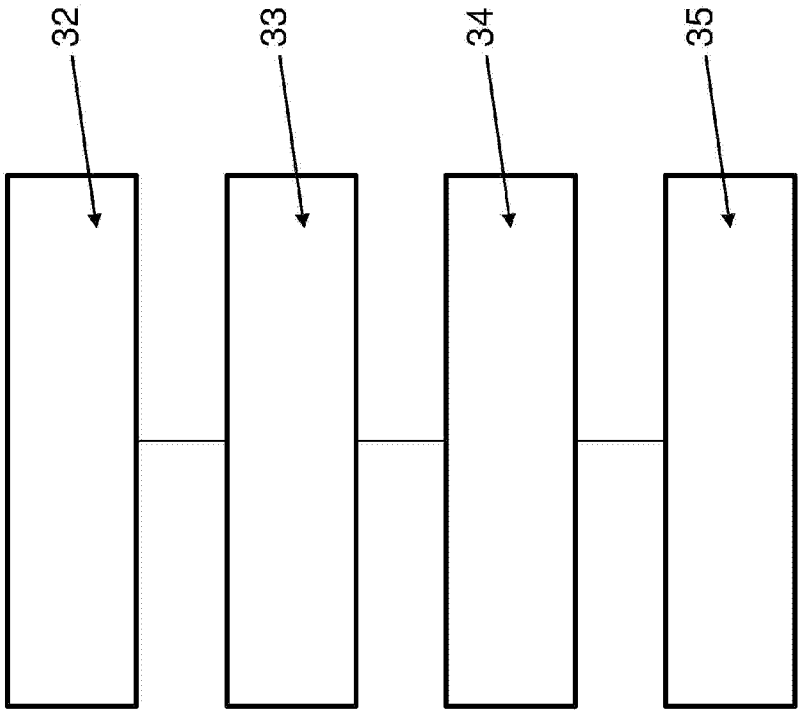

FIG. 21

step 32: opening the package
step 33: removing the pharmaceutical blister pack
step 34: contacting the protrusion to the protecting foil covering a blister
step 35: exerting a pressure on the blister thereby removing the foil