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(54) **SINGLE DOSE DISPENSING PACKAGE**

EINZELDOSENSPENDERPAKET

CONDITIONNEMENT DE DISTRIBUTION DE DOSE UNIQUE

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(73) Proprietor: **Amcol International Corporation**
Arlington Heights IL 60004 (US)

(72) Inventors:
- **BEIHOFFER, Thomas, W.**
  Arlington Heights, IL 60005 (US)
- **CURETON, Kevin**
  Evanston, IL 60201 (US)

(74) Representative: **Fiussello, Francesco et al**
Studio Torta S.p.A.
Via Viotti, 9
10121 Torino (IT)

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Description

[0001] The present invention generally pertains to single dose packaging of one or more compositions, and to dispensing packages further comprising an applicator for the one or more compositions, according to the preamble of claim 1 or 9.

BACKGROUND OF THE INVENTION

[0002] Various designs have been used to package different types of compositions. Prior devices, however, generally have been unable to provide packages that are capable of dispensing liquids, gels, creams, dispersions, pastes and other types of fluid and semi-fluid compositions in a controlled and easy to use fashion. In addition, many packages require the use of two hands to open the package. Further, many packages require fine dexterity or the use of fingernails to peel off coverings to access the contents of the package. Opening these types of packages requires additional time, and may require skills not possessed by various segments of the population. Prior devices also have been unable to easily and economically allow the simultaneous application of two or more incompatible compositions.

[0003] Exemplary packaging dispensers are shown and described in U.S. Patent No. 4,140,409; U.S. Pat. No. 4,430,013; and U.S. Pat. No. 6,007,264, .Additional packaging dispensers are disclosed in U.S. Patent Publication No. 2006/0283727. However, the art still requires a simple and easy to use, low cost package that allows the user to open the package with one hand, and dispense and apply the contents of the package in a controlled manner.

SUMMARY OF THE INVENTION

[0004] The invention is defined in claims 1 or 9. The present invention is directed to an economical, easy to use dispensing package that contains one or more reservoirs of a composition. In embodiments containing two or more reservoirs of a composition, the compositions can be incompatible, either physically or chemically. The contents of the reservoirs are dispensed onto an absorbent material when the dispensing package is opened, and essentially an entire surface the absorbent material acts as an applicator for simultaneous application of the compositions. After the dispensing package is opened, and the contents of a reservoir is released, the absorbent material remains attached to the remainder of the dispensing package for ease of application to a surface, for example, human skin. In embodiments wherein two or more reservoirs of compositions are present, the compositions can be applied directly to the skin in the absence of an applicator.

[0005] In one embodiment, the present invention is directed to a package for compositions and dispensing the compositions through at least one opening, said package comprising a backing of sufficient rigidity to maintain the package in a substantially flat configuration; a first score formed extending at least partially into a first side of the backing; a coating formed on a second side of the plastic backing having an elastic limit that is greater (i.e., is more flexible) than the elastic limit of the backing; a pouch formed on the second side of the backing that is adapted to hold the contents of the package; and at least one second score extending from an interior portion of the pouch and at least partially into the second side of the backing, the at least one second score substantially aligned with the first score on the backing such that flexure of the backing by a first amount is sufficient to cause the backing to exceed the first elastic limit and break along the first score, while flexure to a folded position is insufficient to cause the coating to exceed the second elastic limit.

[0006] In another embodiment, the present invention is directed to a package for two or more compositions and the simultaneous dispensing of the compositions through two or more openings, said package comprising a body of sufficient rigidity to maintain the package in a substantially flat configuration; a first score found extending at least partially in a first side of the backing; a coating formed on a second side of the plastic body having an elastic limit that is greater than the elastic limit of the backing; two or more pouches formed on the second side of the backing that are adapted to hold two or more compositions as contents of the package; and at least one second score extending from an interior portion of each pouch and at least partially into the second side of the backing, the at least one second score substantially aligned with the first score on the backing such that flexure of the backing by a first amount is sufficient to cause the backing to exceed the first elastic limit and break along the first score, while flexure to a folded position is insufficient to cause the coating to exceed the second limit.

[0007] In each embodiment, an absorbent material is adhered to the package solely at an area substantially aligned with the scores of the package. In accordance with the present invention, when the contents of the pouch are released by bending the ends of the dispensing device, the contents of the pouch contact and are absorbed by the absorbent material. The absorbent material is secured to the package in such a manner that it does not flex with the backing of the dispensing package, and an essentially entire surface area of the absorbent material is available to apply the released composition or compositions to a surface.

[0008] In embodiments wherein the package comprises two or more pouches, the absorbent material can be omitted to allow a simultaneous application of two or more compositions without premixing prior to application to a surface. In preferred embodiments of packages comprising two or more pouches, the absorbent material is present and the two or more compositions are premixed in the applicator prior to application to a surface.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0009] FIG. 1 is a perspective view of one embodiment of a dispensing package 100 in accordance with the present invention. Dispensing package 100 can be of any shape, such as square, round, rectilinear, triangular, and "dog bone" for example. Dispensing package 100 has a backing 102 typically made of a thin plastic or foil material, such as polystyrene, polyethylene, polypropylene or other polymeric or plastic type of material, including laminates of the previously mentioned materials and metal foils. Backing 102 has a sufficient thickness and stiffness to hold dispensing package 100 in a substantially flat configuration. According to FIG. 1, a score 106 is made into backing 102. Upon flexure of dispensing package 100, backing 102 breaks along score 106. A pouch 108 on the under side of dispensing package 100 contains a fluid material, such as a liquid or gel, that is dispensed through the broken backing 102. Pouch 108 also can comprise various plastic, foil, or plastic and metal and plastic foil laminate materials. Pouch materials can be designed to provide appropriate barrier properties to the pouch to prevent the ingress or egress of materials or gases that could adversely affect the contents of the package.

[0010] A metering hole is formed by a second score that extends through the interior portion of the package into backing 102 such that the contents of dispensing package 100 is dispensed over score 106.

[0011] FIG. 2 is a side perspective view of dispensing package 100 of FIG. 1. As shown in FIG. 2, backing 102 has a thickness that provides sufficient structural integrity to hold dispensing package 100 in a substantially flat configuration. Score 106 is formed into backing 102. As seen in FIG. 2, a pouch 108 is attached to the underside of backing 102 and contains the contents of the package, which typically is a liquid, lotion, gel, paste, dispersion, or other such composition.

[0012] FIG. 3 is a perspective view of the underside of dispensing package 100. As shown in FIG. 3, backing 102 has a score 106 that extends the entire width of backing 102 as indicated above. An additional score, or metered slit, 110 is formed underneath pouch 108 on the interior portion of dispensing package 100, which is the backside (or underside) of backing 102. Score 110 typically is a short score and, as disclosed above, provides a metering hole for dispensing the contents of dispensing package 100.

[0013] FIG. 4 is a perspective view of the present invention showing that the underside of dispensing package 100 includes a continuous piece of absorbent material 112, such as foam, flock, or sponge, that is positioned over score 106 and metered openings 114, 116, 118 to provide controlled application of the contents of dispensing package 100. Although three metered openings are depicted, those skilled in the art can appreciate that there can be any number of metered openings in a variety of different configurations to provide controlled application of the contents of dispensing package 100 onto material 112. Material 112 is secured to backing 102 only in the vicinity of scores 116, e.g., along the line formed by metered opening 114, 115, and 118. The remainder of material 112 is not secured to backing 102. Material 112 does not need to be attached to the backing 102 over the full width of the package (i.e., along the score line formed by the metered opening 114, 115, and 118). The attachment can be adjusted as necessary along the score to maintain desired package performance.

[0014] Absorbent material 112 can be of any shape, i.e., round, oval, square, or rectangular, for example. Absorbent material 112 preferably is at least as wide (width is defined as parallel to the score 106) as backing 102, and most preferably is slightly larger in width than backing 102. The larger width allows the absorbent material to shield the sharp edges of the package from exposure to the surface being treated with the dispensing package after the package is opened.

[0015] The absorbent material can be reinforced to assist the material to remain in a desired shape when the dispensing package is opened. Any method of reinforcing the absorbent material is appropriate as long as it does not compromise the ability of the material to dispense the contents of the package. Examples of reinforcements include the use of a backing material attached to the absorbent material, the use of a variable density absorbent material, a multiplicity of absorbent materials laminated together, a non-absorbent porous material laminated to the surface of the absorbent material, an embossed absorbent material and the like.

[0016] The absorbent material can be of a configuration and/or identity to retain the full contents of the package when opened or to allow a portion of the package contents to flow through the absorbent material and exit through a surface of the material. Preferred absorbent materials retain a substantial portion of the package contents within the material structure and acts as an effective applicator to apply/transfer the package contents to a target surface.

[0017] Material 112 is sufficient absorbent to collect the contents of the pouches and has the ability to release the contents to a surface contacted by the material 112. In the case of dispersion, the absorbency and porosity of material 112 is sufficient to apply the dispersed solid particles of the dispersion to a surface.

[0018] FIG. 5 is a side view illustrating the manner in which dispensing package 100 can be grasped by a user. As shown in FIG. 5, the ends of dispensing package 100 are grasped between the thumb and middle finger of the user. The index finger can then be used to push on the pouch side of dispensing package 100. Dispensing package 100 flexes and breaks along score 106 to dispense the contents of the pouch.

[0019] FIG. 6 is a perspective view illustrating the manner in which dispensing package 100 is opened. FIG. 6 illustrates that score 106 extends across the entire width

of backing 102 and continuous piece of absorbent material 112 is positioned and secured over score 106. As shown in FIG. 6, pouch 108 dispenses contents 402 along the center portion of score 106 and into absorbent material 112. Holding the two ends of backing 102, a user can apply contents 402 of dispensing package 100 in a controlled manner using the entire surface of absorbent material 112. Applications for this embodiment include, but are not limited to, applying a sterilizer to a surface, applying a lotion or cosmetic, cleaning a surface, and the like.

[0020] FIG. 7 more particularly illustrates how dispensing package 100 connects an applicator of absorbent material 112 when contents 402 are released from the pouch. Contents 402 are readily applied to a surface as ends of the package 100 are held between the fingers. As seen in FIG. 7, absorbent material 112 is adhered to backing 102 along an area defined by score 106.

[0021] FIG. 8 illustrates another embodiment of the present invention. In this embodiment, the package contains two or more pouches for the delivery of two or more compositions. This embodiment is especially useful for the simultaneous application of compositions that may be physically or chemically incompatible. This embodiment is useful, for example, in the application of a substrate and an activator, e.g.,, a self tanning system, wherein it is preferred to maintain the activator separate from the substrate to avoid a premature activation of the substrate. Another example of incompatible materials that can be applied simultaneously is clindamycin and benzoyl peroxide for the treatment of acne. In another embodiment, the two compositions are immiscible, i.e., an aqueous composition and a hydrocarbon-based composition.

[0022] More particularly, FIG. 8 is a perspective view of the underside of a dispensing package 200. As shown in FIG. 8, a backing 202 has a score 206 that extends the entire width of backing 202. Package 200 contains two pouches 218 and 220 as reservoirs for compositions A and B. Pouches 218 and 220 are separated along separation zone 222, for example, by a heat seal. Additional scores, or metered slits, 210 are formed underneath each of pouch 218 and pouch 220 on the interior portion of dispensing package 200, which is the backside (or underside) of backing 202. Scores 216 typically are short-scores for to provide metering holes for dispensing compositions A and B.

[0023] Although FIG. 8 illustrates a dispensing package having two pouches, any plurality of pouches, e.g., three to eight pouches, are envisioned for this embodiment.

[0024] FIG. 9 is a perspective view illustrating the manner in which package 200 is opened. In this embodiment, package 200 is free of an applicator of absorbent material. As shown in FIG. 9, compositions A and B are separately and simultaneously dispensed from package 200 for application to a surface, such as human skin. After application to the surface, the treated surface can be rubbed or wiped to admix and distribute compositions A and B.

[0025] In another embodiment, dispensing package 200 has an applicator of absorbent material connected thereto, as illustrated in FIG. 6 and FIG. 7. In this embodiment, the composition of each pouch is released into the applicator, admixes with compositions from the other pouches, and the compositions are applied to a surface via the applicator.

[0026] In another embodiment, dispensing package 200 has an applicator of absorbent material connected thereto, as illustrated in FIG. 6 and FIG. 7, in which the applicator is attached in such a way to create a chamber (not shown) between the absorbent material and the pouches wherein the composition of each pouch can admix with the compositions from the other pouches just prior to entering the applicator. The admixed compositions are then applied to a surface via the applicator.

[0027] Advantages of the present invention include, but are not limited to, the ability of a user to open a package with one hand and control the dispensing of the contents of the package in accordance with the flexure of the package. A backing maintains the structural integrity of the package. The backing material can be easily flexed with force applied by a thumb and a single finger of one hand. Flexing of the backing causes the backing to exceed its elastic limit along a score, which causes the package to open. A second score on the interior of the package provides a metering hole through a structural layer that regulates the dispensing of a fluid. An absorbent material placed adjacent to or covering the score provides controlled dispensing and application of the contents of the dispensing package.

Claims

1. A single dose dispensing package (100) for one or more compositions comprising:

   (a) a backing layer (102) including an outer and an inner side, the backing having sufficient rigidity to maintain said dispensing package in a flat configuration, wherein at least one score (106, 116) is formed at least partially through said backing and said backing has an elastic limit selected such that said backing breaks along said at least one score when subjected to a flexure force;

   (b) at least one pouch (108) formed on said outer side of said backing layer that is adapted to carry the composition of the package, the composition being in fluid communication with the at least one score; and

   (c) an absorbent material (112) positioned over the at least one score on said inner side of said backing layer, **characterized in that** said absorbent material is secured to the backing only

in a vicinity of the score such that ends of the absorbent material are unsecured to the backing.

2. The dispensing package of claim 1 wherein the absorbent material (112) is perpendicular to the package when the package is flexed 180°.

3. The dispensing package of claim 1 wherein the absorbent material (112) is sufficiently wide to shield the edges of the package from contact with a target surface.

4. The dispensing package of claim 1 wherein the absorbent material is adhered to the package in a manner to promote a full use of a surface area of the absorbent material to contact a target surface.

5. The dispensing package of claim 1 wherein the absorbent material is selected from the group consisting of sponge, cloth, flock, and foam.

6. The dispensing package of claim 1 comprising one pouch.

7. The dispensing package of claim 1 comprising two or more pouches.

8. The dispensing package of claim 7 further comprising a chamber between the two or more pouches and the absorbent material.

9. A single dose dispensing package (100) for one or more compositions comprising

(a) a backing (102) of sufficient rigidity to maintain the package in a flat configuration and having a first and a second side, with a first score (106, 116) extending at least partially into the first side of the backing, and having a coating formed on the second side of the backing, said coating having a second elastic limit greater than a first elastic limit of the backing;
(b) a pouch (108) formed on the second side of the backing adapted to hold the composition of the package, said second side having at least one second score extending at least partially into the backing and aligned with the at least one first score; and
(c) an absorbent material (112) positioned over the at least one first score on the first side of the backing, **characterised in that** said absorbent material is secured to the backing only in a vicinity of the at least one first score such that ends of the absorbent material are unsecured to the backing; wherein a flexure of the backing sufficient to cause the backing to break along the at least one first score is insufficient to exceed the second elastic limit of the coating of the second side of the backing.

Patentansprüche

1. Einzeldosenspenderpaket (100) für eine oder mehrere Zusammensetzungen, das umfasst:

(a) eine Verstärkungsschicht (102) mit einer Außen- und einer Innenseite, wobei die Verstärkung eine ausreichende Steifheit hat, um das Spenderpaket in einem flachen Aufbau zu halten, wobei wenigstens eine Kerbe (106, 116) wenigstens teilweise durch die Verstärkung ausgebildet ist und die Verstärkung eine Elastizitätsgrenze hat, die derart ausgewählt ist, dass die Verstärkung entlang der wenigstens einen Kerbe bricht bzw. reißt, wenn sie einer Biegekraft unterzogen wird;
(b) wenigstens einen Beutel (108), der auf der Außenseite der Verstärkungsschicht ausgebildet ist, der geeignet ist, die Zusammensetzung des Pakets aufzunehmen, wobei die Zusammensetzung in einer Fluidverbindung mit der wenigstens einen Kerbe steht; und
(c) ein Absorptionsmaterial (112), das über der wenigstens einen Kerbe auf der Innenseite der Verstärkungsschicht positioniert ist, **dadurch gekennzeichnet, dass** das Absorptionsmaterial nur in einer Nachbarschaft der Kerbe an der Verstärkung befestigt ist, so dass Enden des Absorptionsmaterials nicht an der Verstärkung befestigt sind.

2. Spenderpaket nach Anspruch 1, wobei das Absorptionsmaterial (112) senkrecht zu dem Paket ist, wenn das Paket um 180° geknickt bzw. gebogen wird.

3. Spenderpaket nach Anspruch 1, wobei das Absorptionsmaterial (112) ausreichend breit ist, um die Ränder des Pakets gegen eine Berührung mit einer Zieloberfläche zu schützen.

4. Spenderpaket nach Anspruch 1, wobei das Absorptionsmaterial in einer Weise an das Paket geklebt ist, um die vollständige Nutzung des Oberflächenbereichs des Absorptionsmaterials zu fördern, um eine Zieloberfläche zu berühren.

5. Spenderpaket nach Anspruch 1, wobei das Absorptionsmaterial aus der Gruppe ausgewählt ist, die aus einem Schwamm, einem Gewebe bzw. Stoff, Flocken und Schaum besteht.

6. Spenderpaket nach Anspruch 1, das einen Beutel umfasst.

7. Spenderpaket nach Anspruch 1, das zwei oder mehr Beutel umfasst.

8. Spenderpaket nach Anspruch 7, das ferner eine Kammer zwischen den zwei oder mehr Beuteln und dem Absorptionsmaterial umfasst.

9. Einzeidosenspenderpaket (100) für eine oder mehrere Zusammensetzungen, das umfasst:

(a) eine Verstärkung (102) mit ausreichender Steifheit, um das Paket in einem flachen Aufbau zu halten, die eine erste und eine zweite Seite hat, mit einer ersten Kerbe (106, 116), die sich wenigstens teilweise in die erste Seite der Verstärkung erstreckt, und die einen Überzug hat, der auf der zweite Seite der Verstärkung ausgebildet ist, wobei der Überzug eine zweite Elastizitätsgrenze hat, die größer als eine erste Elastizitätsgrenze der Verstärkung ist;
(b) einen Beutel (108), der auf der zweiten Seite der Verstärkung ausgebildet ist, der geeignet ist, die Zusammensetzung des Pakets aufzunehmen, wobei die zweite Seite wenigstens eine zweite Kerbe hat, die sich wenigstens teilweise in die Verstärkung erstreckt und mit der wenigstens einen ersten Kerbe ausgerichtet ist; und
(c) ein Absorptionsmaterial (112), das über der wenigstens einen ersten Kerbe auf der ersten Seite der Verstärkung positioniert ist, **dadurch gekennzeichnet, dass** das Absorptionsmaterial nur in einer Nachbarschaft der wenigstens einen ersten Kerbe an der Verstärkung befestigt ist, so dass Enden des Absorptionsmaterials nicht an der Verstärkung befestigt sind; wobei eine Biegung der Verstärkung, die ausreicht, um zu bewirken, dass die Verstärkung entlang der wenigstens einen ersten Kerbe reißt, nicht ausreicht, um die zweite Elastizitätsgrenze des Überzugs der zweiten Seite der Verstärkung zu überschreiten.

Revendications

1. Emballage distributeur de dose unique (100) pour une ou plusieurs compositions comprenant :

(a) une couche de support (102) comprenant un côté externe et un côté interne, le support étant suffisamment rigide pour maintenir ledit emballage distributeur dans une configuration plane, où au moins une entaille (106, 116) est formée au moins partiellement à travers ledit support et ledit support a une limite d'élasticité choisie de sorte que ledit support se brise le long de ladite au moins une entaille lorsqu'il est soumis à une force de flexion ;
(b) au moins un sachet (108) formé sur ledit côté externe de ladite couche de support qui est adapté pour comporter la composition de l'emballage, la composition étant en communication fluidique avec la au moins une entaille ; et
(c) un matériau absorbant (112) positionné sur la au moins une entaille sur ledit côté interne de ladite couche de support, **caractérisé en ce que** ledit matériau absorbant est fixé au support uniquement à proximité de l'entaille de sorte que des extrémités du matériau absorbant ne sont pas fixées au support.

2. Emballage distributeur selon la revendication 1, dans lequel le matériau absorbant (112) est perpendiculaire à l'emballage lorsque l'emballage est fléchi à 180 °.

3. Emballage distributeur selon la revendication 1, dans lequel le matériau absorbant (112) est suffisamment large pour protéger les bords de l'emballage d'un contact avec une surface cible.

4. Emballage distributeur selon la revendication 1, dans lequel le matériau absorbant est mis à adhérer à l'emballage de façon à favoriser une utilisation complète d'une aire du matériau absorbant pour entrer en contact avec une surface cible.

5. Emballage distributeur selon la revendication 1, dans lequel le matériau absorbant est choisi dans le groupe consistant en une éponge, un tissu, un floc et de la mousse.

6. Emballage distributeur selon la revendication 1, comprenant un sachet.

7. Emballage distributeur selon la revendication 1, comprenant deux sachets ou plus.

8. Emballage distributeur selon la revendication 7, comprenant en outre une chambre entre les deux sachets ou plus et le matériau absorbant.

9. Emballage distributeur de dose unique (100) pour une ou plusieurs compositions comprenant

(a) un support (102) suffisamment rigide pour maintenir l'emballage dans une configuration plane et ayant un premier et un second côtés, avec une première entaille (106, 116) s'étendant au moins partiellement dans le premier côté du support et ayant un revêtement formé sur le second côté du support, ledit revêtement ayant une seconde limite d'élasticité supérieure à une première limite d'élasticité du support ;
(b) un sachet (108) formé sur le second côté du support adapté pour contenir la composition de

l'emballage, ledit second côté ayant au moins une seconde entaille s'étendant au moins partiellement dans le support et alignée avec la au moins une première entaille ; et

(c) un matériau absorbant (112) positionné sur la au moins une première entaille sur le premier côté du support, **caractérisé en ce que** ledit matériau absorbant est fixé au support uniquement à proximité de la au moins une première entaille de sorte que des extrémités du matériau absorbant ne sont pas fixées au support ; où une flexion du support suffisante pour amener le support à se briser le long de la au moins une entaille est insuffisante pour dépasser la seconde limite d'élasticité du revêtement du second côté du support.

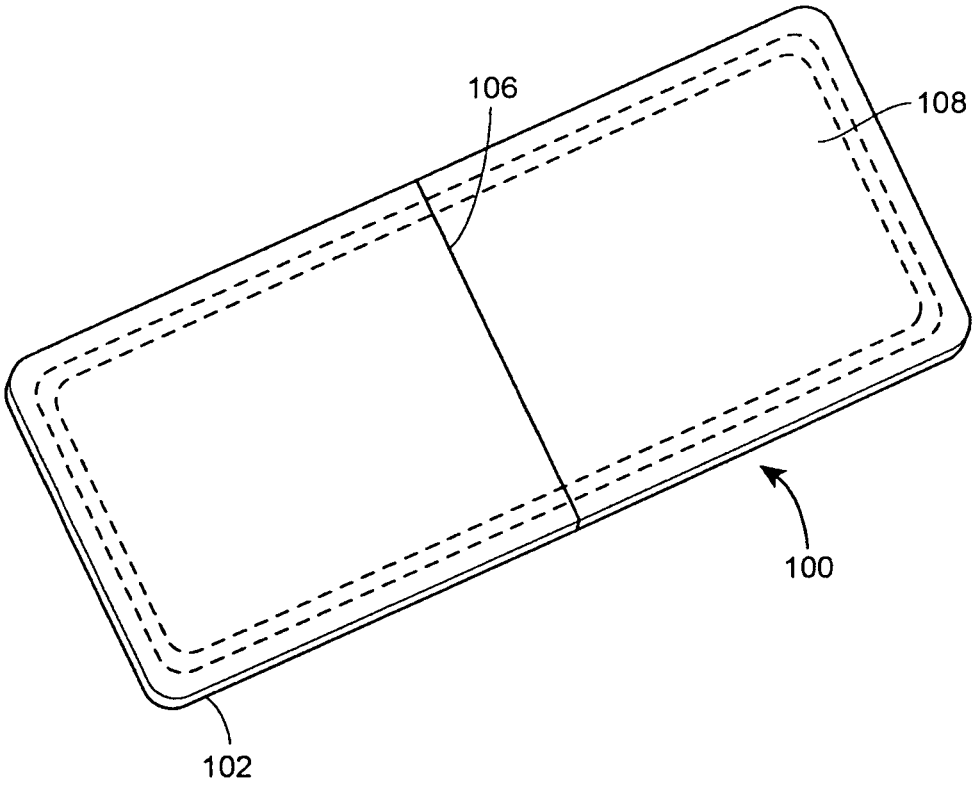

FIG. 1

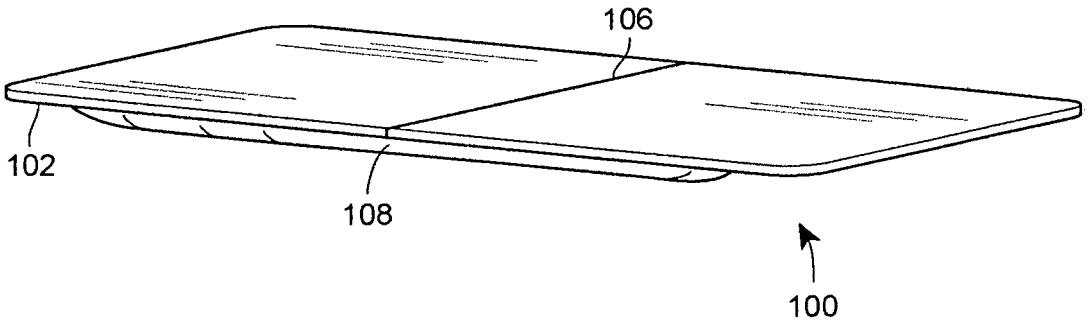

FIG. 2

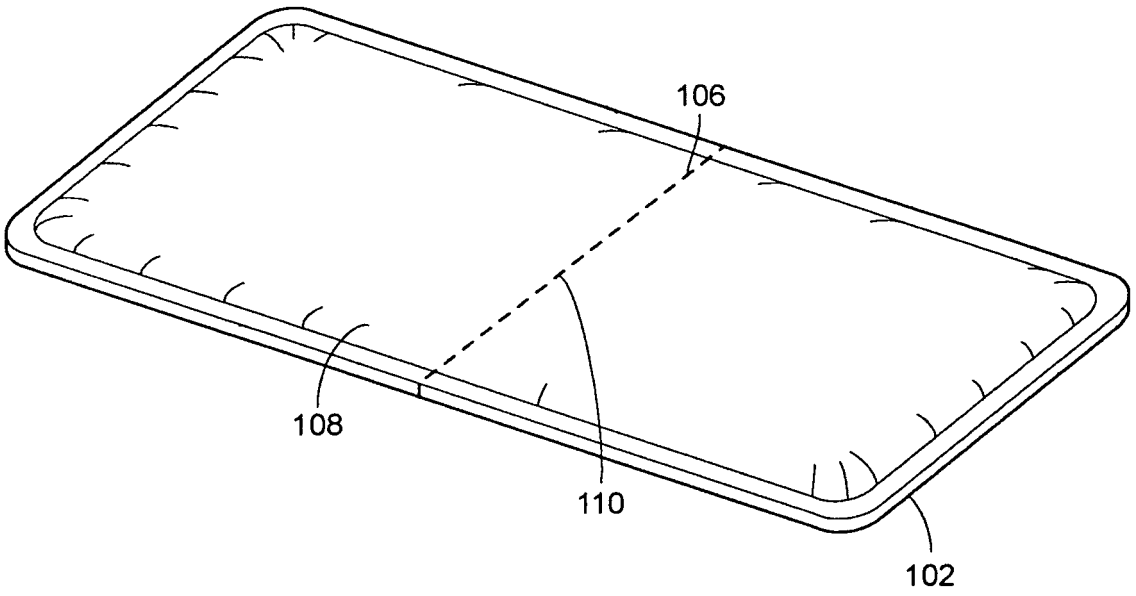

FIG. 3

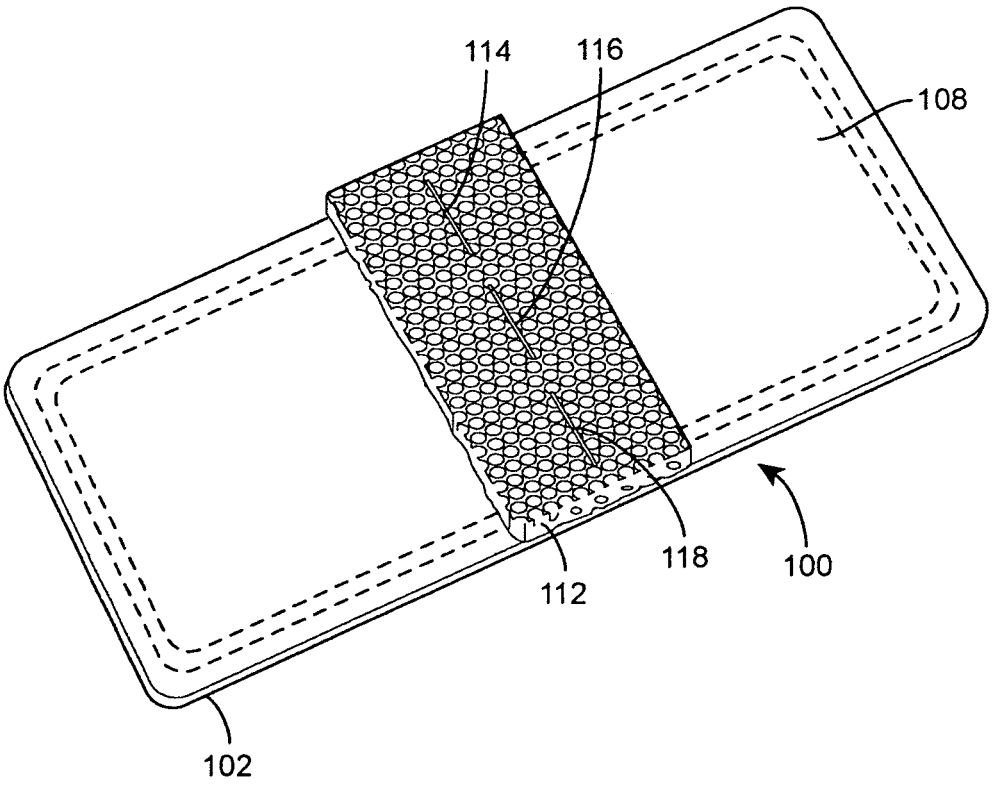

FIG. 4

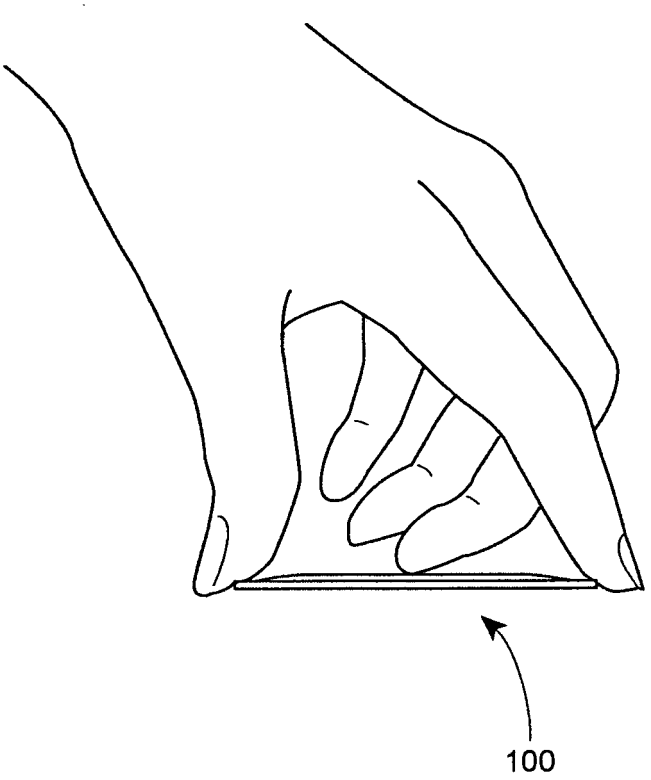

FIG. 5

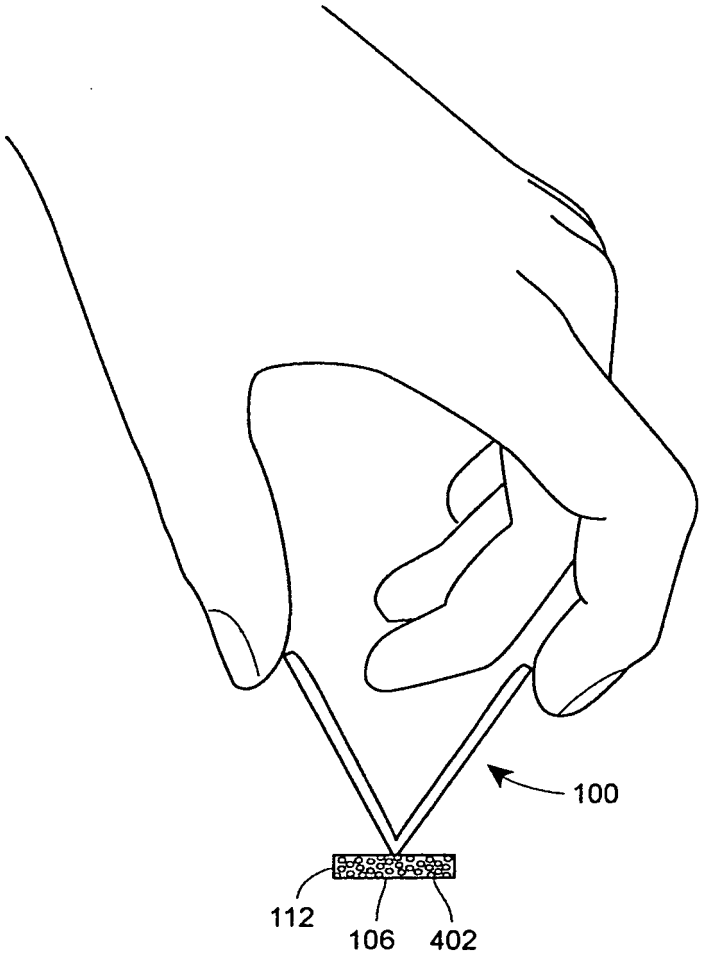

FIG. 6

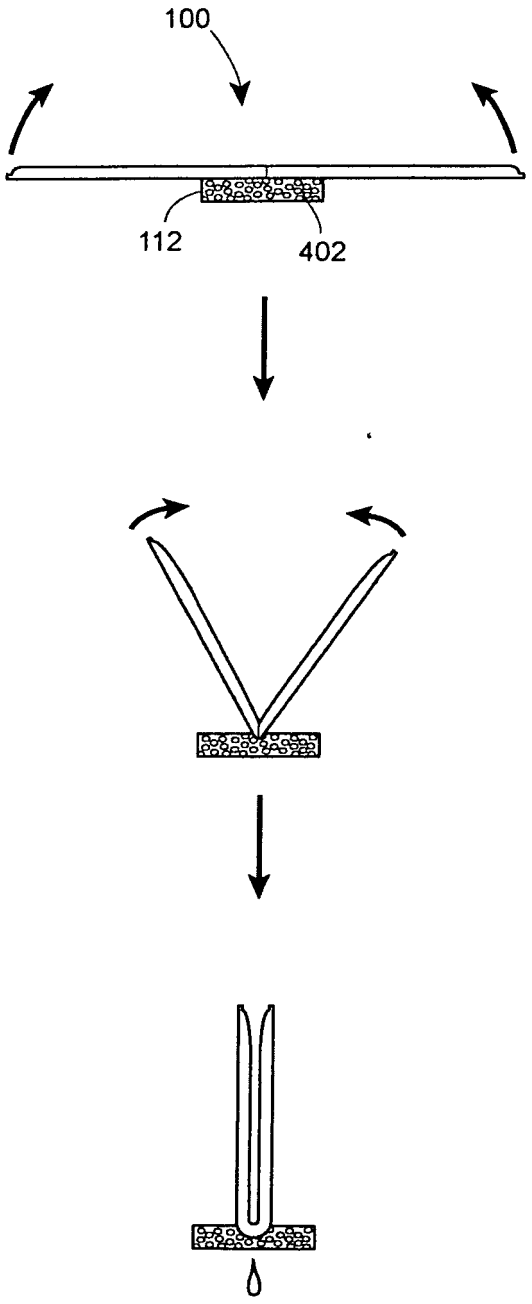

FIG. 7

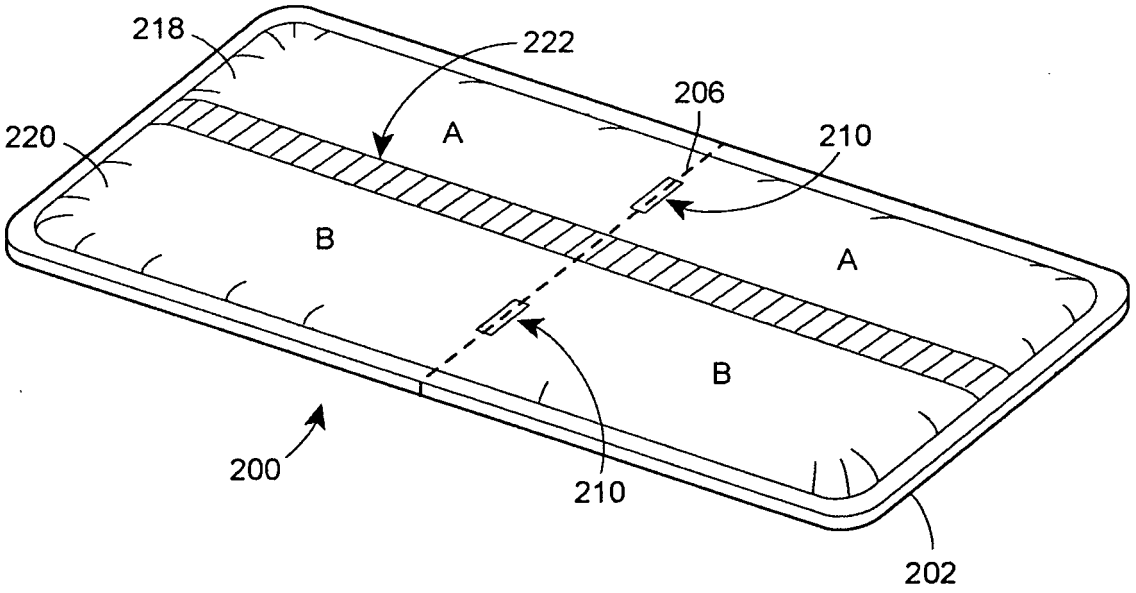

FIG. 8

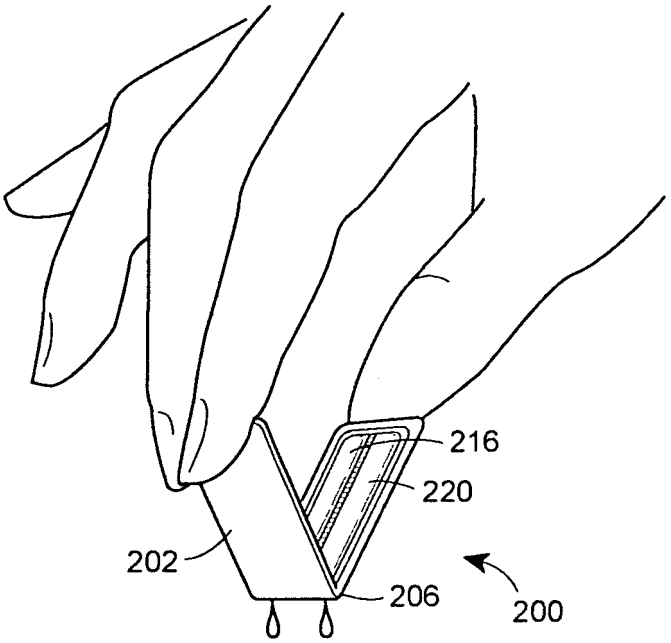

FIG. 9

REFERENCES CITED IN THE DESCRIPTION

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- US 6007264 A **[0003]**
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