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(54) Trigger lock for pill calendar

(57) According to one aspect of invention, a locking apparatus for a device including a container that contains at least one article is provided. The locking apparatus includes a blocking element positionable with respect to at least a portion of the container, the blocking element being movable between a first position and a second position and configured to at least partially inhibit removal of articles from the container when in the second position and to permit removal of articles when in the first position. The locking apparatus also includes a lock that optionally locks the surface in the first position to inhibit movement of the blocking element into the second position.

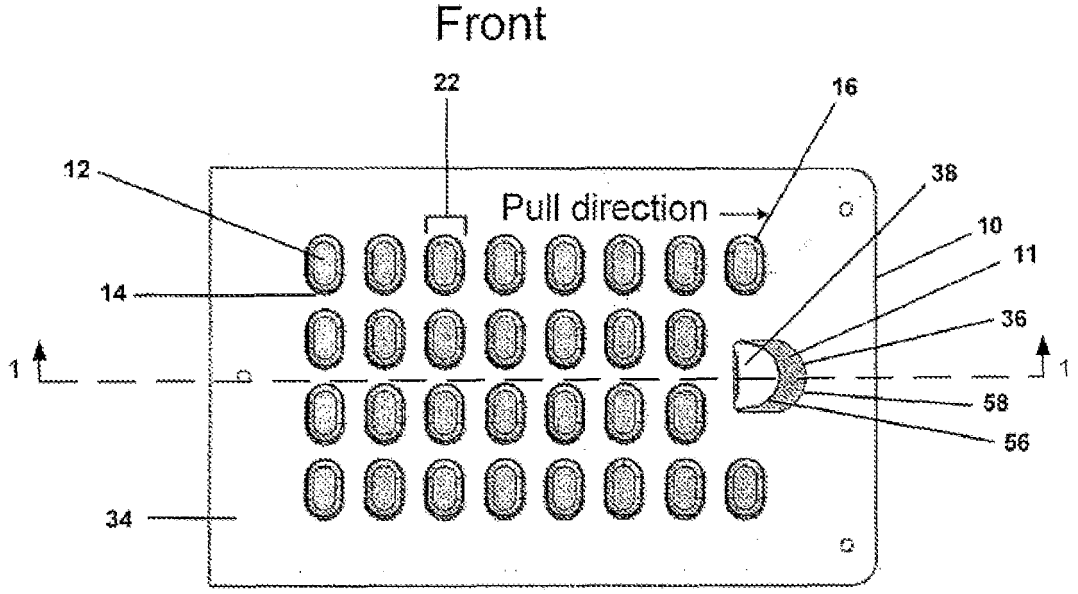

FIG. 1

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Description

BACKGROUND OF THE INVENTION

Field of the Invention

[0001] The invention relates to a device for inhibiting the removal of an article from a blister package-type container and, more particularly, to a child-resistant device for inhibiting removal of an article from a blister package, in which the device's ability to inhibit removal can be deactivated.

[0002] Each year, thousands of children are injured by ingesting articles such as pharmaceutical products. For example, pills, tablets, and capsules of pharmaceutical products are often shaped, sized, and colored for the convenience of adults, yet represent an attractive hazard to young children unaware of the danger of ingesting such products. Young children may also be injured by playing with other pharmaceutical products, such as syringes.

[0003] Many pharmaceutical products, such as pills, tablets, capsules and syringes and other such articles, are packaged in so-called blister-type packages or containers to facilitate removal but to inhibit contamination and product tampering. With such packages or containers, the article is typically sandwiched between a layer of transparent or translucent plastic in the form of an outward extension, cavity or blister, and a rupturable or puncturable layer. Force applied to the blister is transmitted to the article, which ruptures or punctures the puncturable layer for removal of the article by the user.

[0004] To comply with government regulations that require child-resistant caps on bottles and vials of many pharmaceuticals, there has been developed at least one device which inhibits the removal by children of articles such as pills, syringes, etc., from blister-type containers, disclosed in U.S. Patents 5,150,793 and 5,244,091 (*Tannenbaum*), the entire contents of which are incorporated by reference herein. However, some users of child-resistant packaging may lack the manual dexterity to open and close the package, leading to annoyance and frustration. In particular, in the case where the packaging is used for dispensing pharmaceutical products, such as medication, adult users who do not have children in their household may prefer to use packaging that is not child-resistant. Often such users will request non-child-resistant packaging to avoid such difficulties. While such a request may be accommodated by the pharmacist dispensing drugs in non-child-resistant packaging at the point of sale, it is often not easy to repackage blister-packaged drugs which come in standard sized dosage formats. The user can choose to accept the child-resistant package from the pharmacist or have the contents of the blister container transferred to another container that does not have the feature of being child-resistant. Another solution to the problem would be for a manufacturer or supplier to produce or sell two differently packaged products. Such product differentiation, however, involves higher cost and difficulty of meeting demand for the product based solely on packaging preference.

SUMMARY OF THE INVENTION

[0005] Briefly stated, the present invention comprises an improvement for a device that inhibits removal of an article from a blister-type container in order to protect a child from the package contents, but which has means to bypass the child-resistant feature. In particular, a lock is provided which locks open access to remove articles which are contained in the blister package.

[0006] According to one aspect of invention, there is provided a locking apparatus for a device housing a container that contains articles. The inhibiting device includes a layer movable between two positions with respect to at least a portion of the container. The layer is configured to at least partially inhibit removal of articles from the container when in one position and to permit removal of articles when in the other position. When moved into the former position, thus, the layer serves as a blocking element to interfere with the easy removal of the articles from the container. The locking apparatus also has a lock that can be operated to lock the layer in the latter position, where removal of the articles from the container is permitted, and to prevent movement of the layer to the other position, where removal of the articles is inhibited.

[0007] Another aspect of the invention is a device that includes a container, a layer like that just mentioned, retaining means, biasing means, and a housing. The container may be a blister container, such as is well-known in the art and is specifically described in the above-mentioned *Tannenbaum* patents, but one of skill in the art will recognize that the device described above may include other types of containers. The container (if it is a blister container) includes a first generally flat sheet having at least one cavity or blister formed therein for accommodating an article. The container also comprises a puncturable and generally flat second sheet having a first side that faces one side of the first sheet. The article can be removed from the container by applying pressure to the exterior surface of the blister to force the article against and through the second sheet.

[0008] The device comprises a layer moveable with respect to the container between a first position and a second position. The layer is between the first and second sheets, and has at least one opening that is substantially aligned with the blister when the housing is in the first position, and that is of such a size as will permit passage of the article therethrough.

[0009] The device also includes biasing means, arranged to bias the layer into the second position, where the opening in the layer is no longer aligned with the blister, and thus inhibits removal of the article from the container. The layer is arranged so that it can be moved against the bias of the biasing means into the first position, bringing the blister substantially into alignment with

the layer opening to permit removal of the article as mentioned above.

[0010] The device also includes retaining means, operable when the layer is in the first position, for retaining the layer in the first position. In addition the device can include a housing surrounding at least a portion of the container and in communication with the biasing means.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011] The foregoing summary, as well as the following detailed description of a preferred embodiment of the invention, will be better understood when read in conjunction with the appended drawings. For the purpose of illustrating the invention, there is shown in the drawings an embodiment which is presently preferred, it being understood, however, that the invention is not limited to the specific instrumentalities disclosed. In the drawings:

[0012] FIG. 1 is a front view of a device, in accordance with an embodiment of the present invention, in a position in which removal of an article from the container is inhibited;

[0013] FIG. 2 is a rear view of the device of FIG. 1;

[0014] FIG. 3 is a front view of the device of FIG. 1, wherein the container is in a position that permits removal of an article from the container;

[0015] FIG. 4 is a rear view of the device of FIG. 1, with the container in a position that permits removal of an article from the container;

[0016] FIG. 5 is a perspective view of a portion of the device of FIG. 1, in which the container is in a position that permits removal of an article from the container;

[0017] FIG. 6 is a cross-sectional view of the device taken along the dotted line in FIG. 5;

[0018] FIG. 7 is a plan view of a component of the embodiment of FIG. 1;

[0019] FIG. 8 is a detailed view of a portion of the component shown in FIG. 7.

[0020] FIG. 9 is a cross-sectional view of the device taken along line 1--1 of FIG. 1, but with the device in a position that permits removal of an article from the container; and

[0021] FIG. 10 is a plan view of a variation of the component of FIG. 7.

DESCRIPTION OF THE PREFERRED EMBODIMENT

[0022] Certain terminology is used in the following description for convenience only and is not limiting. In particular, the words "outwardly", "right" and "left" designate directions in the drawing to which reference is made.

[0023] FIGS. 1 and 2 show a device 10, which can be a package for a container 14, such as a blister-type container used in pharmaceutical packaging. The device 10 may include a housing 34 that at least partially surrounds the container 14. The device 10 is provided with a hole or window 36 into which a user can insert a finger from either the front or the back of the housing 34. The hole 36 may assist the user in handling the package during use, but is provided for a particular purpose, as described below. The housing 34 also includes openings visible from the front through which portions of the container 14 protrude. These protruding portions are constructed as blisters 22 in a first sheet 16 (more readily seen in FIG. 9) that is made of a flexible material, such as included in those containers described in the *Tannenbaum* patents mentioned above and as described below.

[0024] FIG. 2 shows the back of the device 10 shown in FIG. 1. As viewed from the back, the housing 34 also includes openings 60 which are aligned with the corresponding openings on the front of the housing 34 and the blisters 22, shown in FIG. 1. Through the openings 60 in FIG. 2 can be seen small portions of a second sheet 24 of the container 14. The second sheet 24 may be a layer of foil, such as aluminum foil, sealed to the first sheet to seal the articles 12 in the blisters 22. By virtue of the placement of the openings 60 in the back of the housing 34, the user can dispense an article from a blister 22 by pressing on the blister 22 to push the article 12 through the second sheet 24 through the opening 60 in the housing 34.

[0025] To prevent inadvertent or otherwise undesired dispensing of articles from the device 10, a layer 32 is provided in the device 10, as shown in FIGS. 1 and 2, to inhibit removal of articles 12. Layer 32 is in part a sheet of a material that, unlike the foil sheet 24, cannot easily be punctured even if a person presses quite hard on a blister. The layer 32 is provided with holes 48 which, in this embodiment, are of the same shape and size as the openings 60 in the back of the housing, and which are arranged the same as the latter openings, other than the openings 60 in the left-most column. Layer 32 is movable between two positions. In a first position (shown in FIGS. 3 and 4), the holes 48 are aligned with the openings 60 in the housing, except as mentioned those farthest to the left. The layer 32 is made short enough that in this position, its left edge is to the right of that column of openings 60, which thus are also unblocked. With the layer 32 in this position, the user can easily press an article through the puncturable material of sheet 24 and through the opening 60. In the second position (shown in FIGS. 1 and 2), the holes 48 are not aligned with the openings 60 in the housing 34, and thus block any attempt the user may make to press an article from a blister 22 out of the package. The layer 32 is of course made long enough to block all the openings 60, even though it does not extend to the left-most column thereof when in the open position.

[0026] To move the layer 32 between these two positions the layer is provided with a trigger 11. When the layer is in the position shown in FIGS. 1 and 2, the trigger 11 extends partway into the opening of the window 36. A user can move the layer 32 into the position shown in FIGS. 3 and 4 by inserting a finger into the window 36 and sliding the layer 32 to the right (as shown in FIGS. 1-4).

[0027] In the preferred embodiment, the layer 32 is bi-

ased into the second position (that shown in FIGS. 1 and 2). To remove an article 12 from the container 14, therefore, the user might simply keep his or her finger in the window 36 to hold the layer 32 in the right-ward position shown in FIGS. 3 and 4, keeping the holes 48 in the layer 32 aligned with the openings 60 in the housing and permitting the user to extract an article by pushing on the blister 22 housing it. Removing the finger then permits the layer 32 to return to the position shown in FIGS. 1 and 2, in which the layer blocks removal of articles from the container.

[0028] For users suffering from reduced coordination, or arthritis, however, this may not be practical, or may be painful. Accordingly, the preferred embodiment is provided with a tab 42 on the layer 32 so as to be revealed extending into the window 36 from the left when the trigger 11 is pressed to the right. The tab 42 is coplanar with the layer 32. In order to retain the trigger 11 and the layer 32 in the first (open) position the user can bend or fold the tab 42 out of the plane of the layer 32 and into the window 36, as is shown in FIGS. 5 and 6.

[0029] As shown in FIGS. 5 and 6, the tab 42 is able to move in a hinged manner relative to the layer 32, the axis 52 of the hinged movement lying in the plane of layer 32, along the dotted line in FIG. 5. As long as the tab 42 is bent or folded so that portion 50 of the tab extends into the window 36, the layer 32 cannot be returned to the second (closed) position. To lock the layer 32 still more securely in place, the tab 42 is provided with a portion 54 that is located at the hinging of the tab 42 to the layer 32. Portion 54 is shaped so that when the tab 42 is bent or folded into the window 36, portion 54 is thereby also moved out of the plane of layer 32, but extending away from the hinge position in a direction opposite to that of the main portion 50 of the tab 42. The portion 54 is long enough to engage an edge of the window 36 so that some portion of the package housing is held between the portion 54 and the layer 32, as shown in FIGS. 5 and 6. In particular, when the trigger 11 is in the first position, the disabling tab 50 can be deflected with respect to the plane of the container 14 and the housing 34 into or out of the openings 36 and 38 around the axis 52, which will deflect the disabling tab 54, also, away from the housing 34 and the container 14. When the disabling tab 50 and the retaining tab 54 rotate a predetermined amount, such as, for example, between sixty and ninety degrees, the retaining tab 54 can engage either an edge 62 of the window 36 or an edge 64 of the container 14, or both. (The portions 50 and 54 may be termed a disabling tab and a retaining tab, respectively.) This arrangement aids in holding layer 32 in the first (open) position, unless and until the user decides to return it to the second (closed) position by manually returning the tab 42 to its original orientation, in the plane of layer 32.

[0030] The disabling tab 50 and the retaining tab 54 are formed of a material that permits them to be flexed about the axis 52.

[0031] FIG. 7 shows layer 32 removed from the rest of the child-resistant device and container. In this embodiment, the layer 32 is integral with the trigger 11, which in fact is simply the right-hand edge 56 of window 38 in layer 32. The layer 32 is movable in the directions parallel to the arrow in this Figure to bring the layer 32 into the first (open) position and the second (closed) position described above. In this embodiment the layer 32 is made of a material that has a fair degree of resilience, and is formed with portions 44 at the right-hand end and a portion 46 at the left-hand end that serve to bias the layer into the closed position. The layer 32, including resilient portions 44 and 46, is shaped such that when the resilient portions are in their relaxation positions (shown in FIG. 7), the layer is in the second (closed) position.

[0032] As can be seen from FIG. 7, the user moves the layer 32 to the right (toward the first position), the resilient portions 46 at the left edge of the layer 32 is extended, and the two springs formed by the resilient portions 44 in communication with the right edge of the layer 32 are compressed. As a result, the layer 32 will remain in the first (open) position only as long as the user holds it in that position, or uses the locking effect of tab 42 as described above. If the layer 32 is released, such as, for example, by the user removing his or her finger from the window 36 of the housing and the finger hole 38 of the layer 32, the compressed resilient portions 44 and 46 relax and move the layer 32 back into the second (closed) position, preventing further removal of the articles 12 from the container 14.

[0033] In this embodiment, as can be seen, the lock (formed of the tab 42) is itself formed as a part of layer 32, and in fact, those elements as well as the resilient portions 44 and 46, and the surrounding frame or base are all formed from a single piece of material, for example by stamping. The layer 32, tab 42, and biasing means 44, 46 are preferably made from a flexible plastic material, such as polyvinyl chloride or polypropylene. Moreover, the layer 32 and biasing means 44, 46 can be integrally formed, from the same or different materials, or can be separate elements. However, one of skill in the art will appreciate that those components may also be formed from other suitable materials, all of which are within the scope of the present invention.

[0034] While the layer 32 is in this embodiment configured to slide relative to container 14, it is within the broad scope of the invention to make the layer 32 translationally or rotationally movable with respect to the container 14.

[0035] The article 12 is typically a pill, tablet, capsule, or a syringe or the like, although one of ordinary skill in the art will understand that the article 12 may be any article or product that it is convenient to package in a blister-type package or container 14. One of ordinary skill in the art will also understand that the article 12 need not be restricted to pharmaceutical articles, but may be any article, such as a screw, nut, bolt, razor blade, etc.

[0036] Preferably, the blister-type container 14 comprises a conventional blister package, best shown by the

cross-sectional view in FIG. 9, which is a cross-sectional view of the device along line 1--1 in FIG. 1. However, one of ordinary skill in the art will understand that the blister-type container 14 may take any shape or form in accordance with the spirit and scope of the present invention. For example, the container may have a generally circular or disc shape, and the layer that serves as a blocking element, like layer 32 in the preferred embodiment, may be arranged to slide rotationally rather than laterally, using torsion provided in any convenient way as a biasing force.

[0037] In the preferred embodiment, the container 14 comprises a first generally flat sheet 16. The first sheet 16 is formed from a generally compressible, formable material which would allow pressure applied to the first sheet 16 to be transmitted to the article 12 to remove the article 12 from the container 14.

[0038] The first sheet 16 is preferably formed from a formable polymeric material, such as one selected from the group consisting of polyvinyl chloride, styrene, polypropylene, barrex, aclar, polyethylene terephthalate (PET), polyethylene terephthalate glycol (PETG), and amorphous polyethylene terephthalate APET including laminations or co-extrusions thereof in accordance with the chemical and/or mechanical characteristics of the article 12 and which may be formed to accommodate the size and shape of the article 12. One of ordinary skill in the art will understand, however, that the first sheet 16 may be formed from any other generally compressible, formable material such as aluminum.

[0039] The first sheet 16 has a first side 18 and a second side 20. The first sheet 16 also has at least one and typically several generally outwardly extending blisters 22 for accommodating the articles 12. The interior dimensions of the blisters 22 preferably conform to the size and shape of the article 12. One of ordinary skill in the art will understand that the first sheet 16 need not be flat, and may have blisters 22 of any size and shape in keeping with the spirit and scope of the present invention.

[0040] The container 14 includes a rupturable or puncturable generally flat second sheet 24. The second sheet 24 is preferably generally rupturable by the article 12 in the area of the blister 22 when force is applied to a blister 22 of the first sheet 16 and thereby to the article 12. The force may be generated by the pressure of one or more fingers of an individual, for example.

[0041] Preferably, the second sheet 24 is a metallic foil, such as aluminum foil. However, one of ordinary skill in the art would understand that any other rupturable or puncturable material, such as a plastic material of the type described above in connection with the first sheet 16 or a paper material, may be used for the second sheet 24.

[0042] One of ordinary skill in the art will understand that the second sheet 24 need not be generally flat, but may have ridges or indentations, etc. Preferably, the second sheet 24 generally conforms in size to the first sheet 16, but one of ordinary skill in the art would understand that the second sheet 24 may be larger or smaller than the first sheet 16, as desired.

[0043] The second sheet 24 has a first side 26 and a second side 28. The first side 26 of the second sheet 24 sealingly engages a portion 30 of the first side 18 of the first sheet 16. The portion 30 generally does not include the area of the blisters 22. Preferably, the first side 26 of the second sheet 24 is heat sealed or adhesively engaged to the portion 30 of the first sheet 16. For purposes of clarity in the drawing, the adhesive or heat seal coating is not shown. One of ordinary skill in the art will understand that the first side 26 of the second sheet 24 may be engaged with the portion 30 of the first sheet 16 by some other means.

[0044] The blister package or container 14 as described above is a typical blister package well known to those skilled in the art. An article 12 may be removed from the container 14 by applying pressure to an outside surface 23 of a blister 22 to force the article 12 to rupture or puncture the second sheet 24. One of ordinary skill in the art will understand that the pressure necessary to puncture the second sheet 24 with the article 12 is, among other criteria, a function of the shape and compressibility of the article 12, as well as the compressibility, thickness and type of material from which the first sheet 16 and second sheet 24 are formed. The pressure is generally that which is capable of being generated by one or more fingers of an individual.

[0045] FIG. 10 shows a variant structure for the layer 32. In this alternative structure, one resilient portion (portion 46) is omitted, and a more compact structure is obtained.

[0046] In another alternative structure, the finger hole 38 may be replaced with a gripping surface (not shown) or gripping tab exposed through the window 36 so that the exposed portion 40 of the layer 32 positioned within in the window 36 can be manipulated or moved with at least one finger positioned at least within the interior 68 of the housing 34 and within the window 36. The gripping surface or tab may be configured to at least partially fill the area defined by the window 36, and may be at least partially solid (i.e., free of apertures). The gripping surface or gripping tab may be configured with a texture suitable to be engaged or manipulated by a finger of a user of the device 10. Such an exposed gripping surface within the window 36 can be coplanar with the surrounding portions of the layer 32, or may be a raised or indented surface (e.g., a detent or indent), or have another configuration to facilitate gripping with a finger. Moreover, such a gripping surface or gripping tab may be completely contained within the interior 68 of the housing 68, or may protrude outwardly through the window 38 from within the interior 68 of the housing 34 such that the user can grip the surface of the tab without passing a finger through the window 36.

[0047] The housing 34 shown in FIGS. 1-4 can be constructed from a flexible plastic or paper material. Of course, other suitable materials known to one of skill in

the art may be used to construct the housing, and are within the scope of the invention. The housing 34 may be configured to be resistant to tearing, by for example, the application of twisting or bending forces exerted by the hands of the user. The housing 34 can at least partially surround a portion of the container 14, and may include a plurality of openings 66 in the front of the housing 34 through which the blisters 22 of the container 14 may protrude.

[0048] The biasing means 44, 46 shown in FIGS. 7 and 10 are configured to bias the layer 32 into the second (closed) position to inhibit the removal of articles 12 from the container 14. As shown in FIGS. 7 and 10, the springs 44 and 46 are planar and are co-planar with the layer 32, but they may instead take other forms, such as, for example, coil springs or flexible bellows, without deviating from the broad scope of the invention. It should be noted that the biasing means may be integral with or joined to a portion of the housing 34, and the housing and the biasing means may be constructed from the same material.

[0049] The locking tab 42 is shown in FIG. 7 as being formed in the layer 32 along an edge of finger hole 38 in the layer 32. The tab 42 and the layer 32 may be integrally formed, from the same or different materials, or may be separate elements. An enlarged view of the tab 42 and the finger hole 38 of FIG. 7 is provided in FIG. 8. The finger hole 38 is configured to permit a finger of a user of the device to pass therethrough.

[0050] In order to prevent an undesired return of the layer 32 from the first position to the second position, the tab 42 can be used to lock the layer 32 into the first position. Thus the locking apparatus of the invention assists a user who does not need or wish to use a self-closing, or other similar child-resistant feature, of the device 10. By virtue of the locking tab 42, the layer 32 can be retained in the first position to disable any return (automatic or otherwise) of the layer 32 to the second position, unless and until the tab 42 is manually moved to the unlocking position.

[0051] The layer 32 can be returned to the second position by deflecting the disabling tab 50 back toward the layer 32. In addition, the layer 32 may be configured to require a user to move the layer 32, through pulling on the disabling tab 50, a further predetermined amount in the direction shown of the arrows in FIGS. 1, 3, and 7 prior to being able to move the disabling tab 50 back into a position which is co-planar with the remainder of the layer 32.

[0052] It is to be understood that the locking apparatus is not limited to the embodiment described above, and one of skill in the art will recognize that the retaining tab 54 and the disabling tab 50 may be replaced with other structures within the scope of the invention. For example, the disabling tab 50 and retaining tab 54 may be replaced with one or more snap closures so as to connect a portion of the layer 32 to a portion of the container 14 to inhibit any relative movement between them when the layer 32 is in the first position. Such snap closure can be performed while the layer 32 is in the first position, for example, by applying pressure through the exterior of the housing 34 at a location corresponding to the location of the snap closure within the housing 34.

[0053] It will be appreciated by those skilled in the art that changes can be made to the embodiments described herein without departing from the broad inventive concept thereof. It is understood, therefore, that this invention is not limited to the particular embodiments disclosed, but is intended to cover all modifications which are within the spirit and scope of the invention as defined by the appended claims.

Claims

1. A locking apparatus for a device (10) including a container (14) that contains at least one article (12), the locking apparatus comprising:

   a blocking element (32) positionable with respect to at least a portion of the container (14), the blocking element (32) being movable between a first position and a second position and configured to at least partially inhibit removal of articles (12) from the container (14) when in the second position and to permit removal of articles (12) when in the first position; and
   a lock (42) that optionally locks the blocking element (32) in the first position to inhibit movement of the blocking element (32) into the second position.

2. A locking apparatus according to claim 1, wherein the lock (42) optionally unlocks the blocking element (32) to permit the blocking element (32) to return to the second position.

3. A locking apparatus according to any one of claims 1-2, wherein the blocking element (32) is a planar layer.

4. A locking apparatus according to any one of claims 1-3, wherein the lock (42) is configured to engage at least a portion of the container (14).

5. A locking apparatus according to any one of claims 14, wherein the device (10) includes at least one opening configured to receive and engage the lock (42).

6. A locking apparatus according to any one of claims 1-5, wherein the lock (42) is formed of the same piece of material as the blocking element (32).

7. A locking apparatus according to any one of claims 1-6, wherein the lock (42) is formed as a tab that is

hingedly connected to the blocking element (32).

8. A locking apparatus according to any one of claims 1-7, wherein the blocking element (32) is slidable with respect to the container (14) to move between the first and the second positions.

9. A locking apparatus according to any one of claims 1-7, wherein the blocking element (32) is rotationally positionable with respect to the container (14) to move between the first and the second positions.

10. A device (10) for inhibiting removal of an article (12) from a blister-type container (14), the container (14) comprising a first generally flat sheet (16) having a first side (18) and a second side (20) and a blister (22) for accommodating the article (12) and a puncturable generally flat second sheet (24) having a first side (26) and a second side (28), the first side (26) of the second sheet (24) engaging a portion of the first side (18) of the first sheet (16), whereby the article (12) may be removed from the container (14) by applying pressure to an outside surface (23) of the blister (22) to cause the article (12) to puncture the second sheet (24), and the device (10) further comprising a base (32) moveable with respect to the container (14) between a first position and a second position, the base (32) being positioned facing the second side (28) of the second sheet (24), the base (32) having at least one base opening (48) substantially in alignment with the blister (22) when the base (32) is in the first position, and the base opening (48) being configured to permit passage of the article (12) therethrough,
characterized in that:

a lock (42), optionally operable when the base (32) is in the first position, to inhibit movement of the base (32) with respect to the container (14).

11. The device (10) according to claim 10, wherein the lock (42) comprises a planar surface hingedly connected to the base (32).

12. The device (10) according to any one of claims 10-11, wherein the lock (42) includes a snap closure.

13. The device (10) according to any one of claims 10-12, wherein the base (32) includes an opening (38) through which a person's finger can pass to move the base (32) to the first position from the second position.

14. The device (10) according to any one of claims 10-13, wherein the device (10) further comprises a retaining means (54) arranged to retain the lock (42) in a locked position, and wherein the base (32) and the retaining means (54) are integrally formed with each other.

15. The device (10) according to claim 14, wherein the device (10) further comprises a biasing means (44, 46) arranged to bias the base (32) into the second position, and wherein the base (32), the retaining means (54), and the biasing means (44, 46)are coplanar with each other.

16. The device (10) according to claim 15, wherein the device comprises a housing (34) surrounding at least a portion of the container (14) and in communication with the biasing means (44, 46).

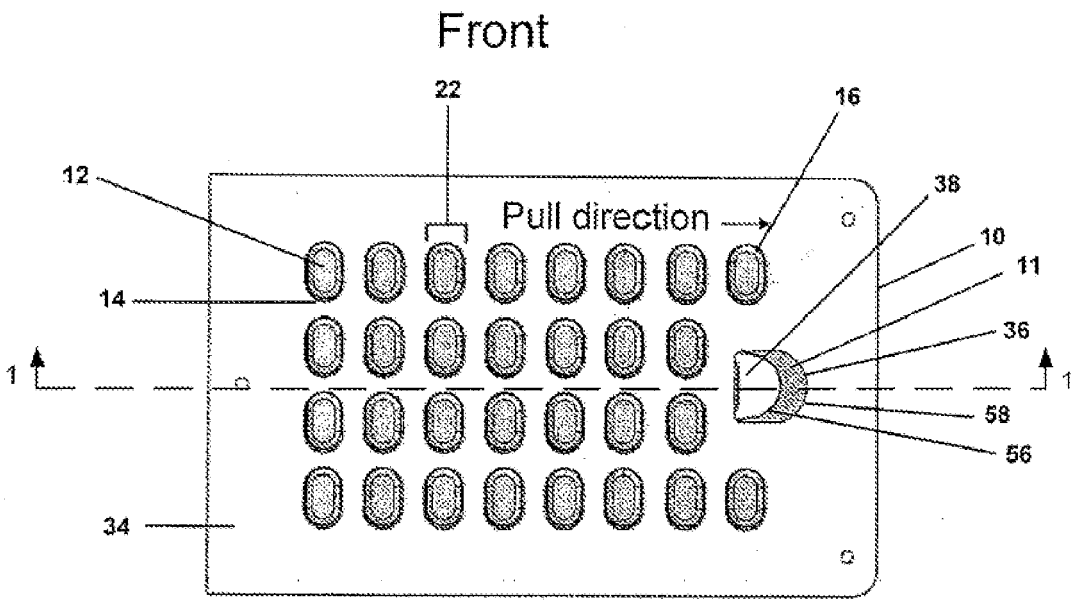

FIG. 1

Back

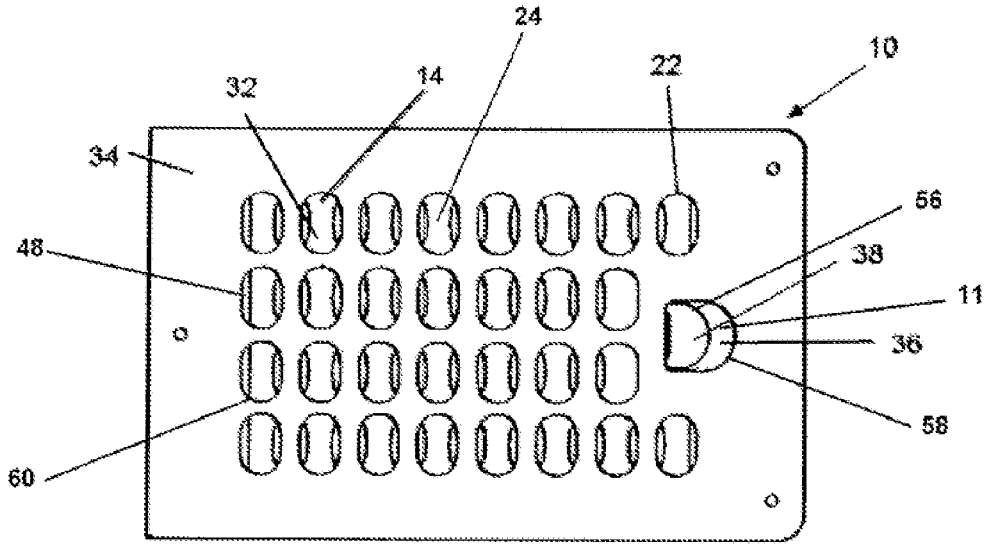

FIG. 2

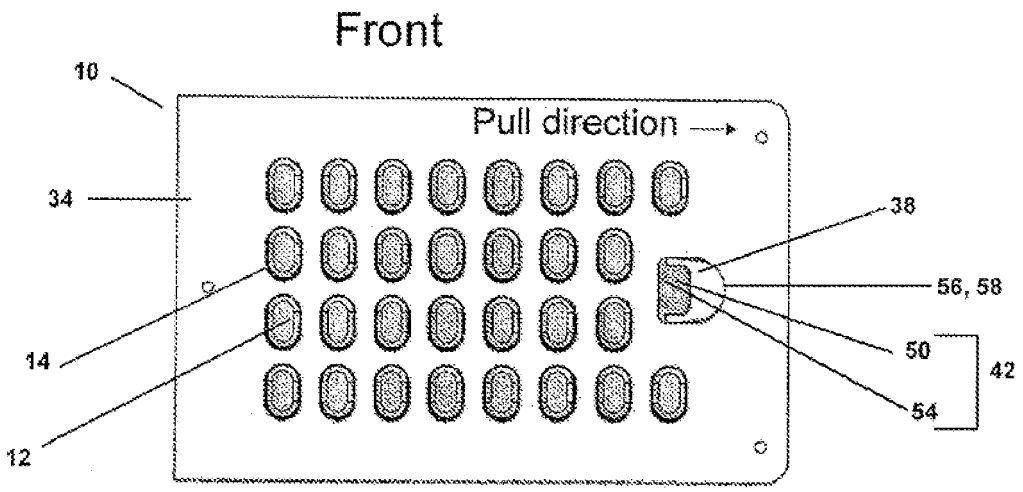

FIG. 3

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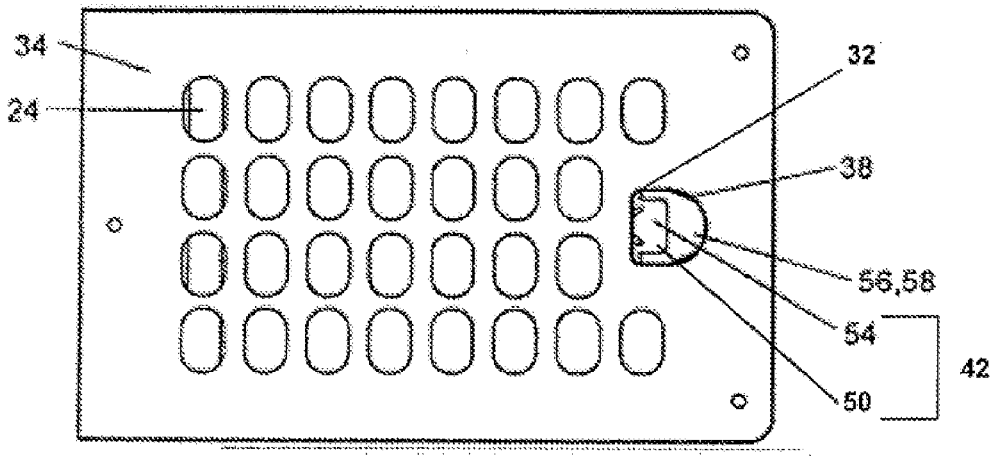

FIG. 4

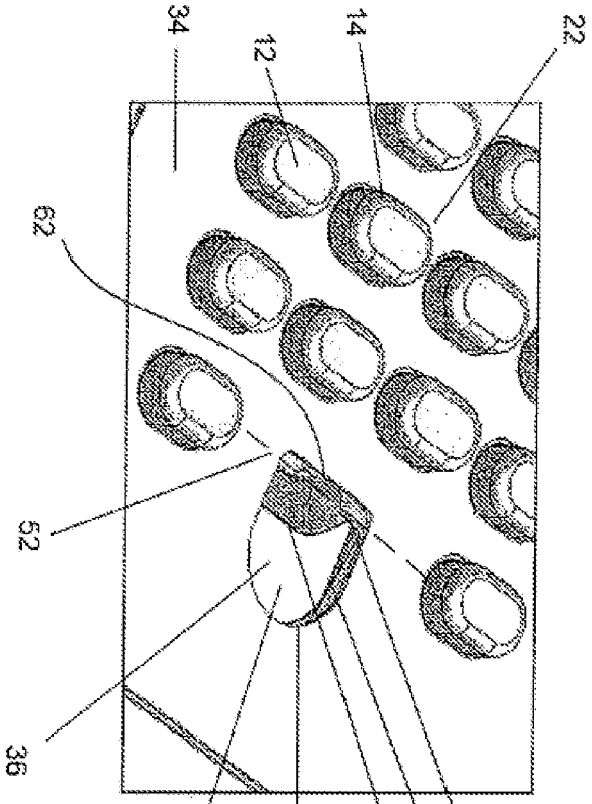

FIG. 5

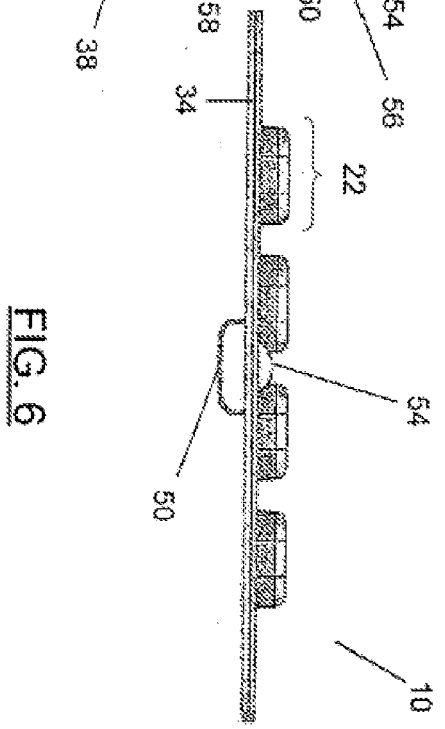

FIG. 6

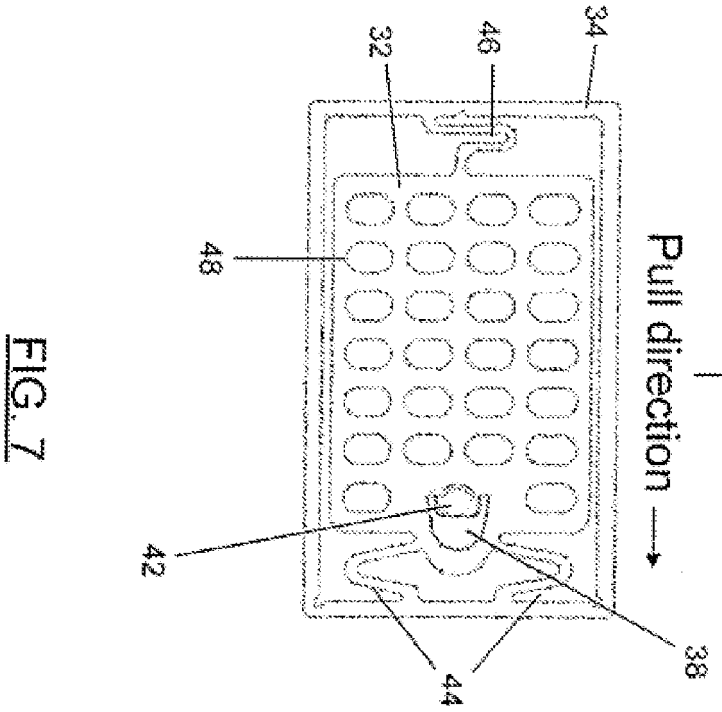

FIG. 7

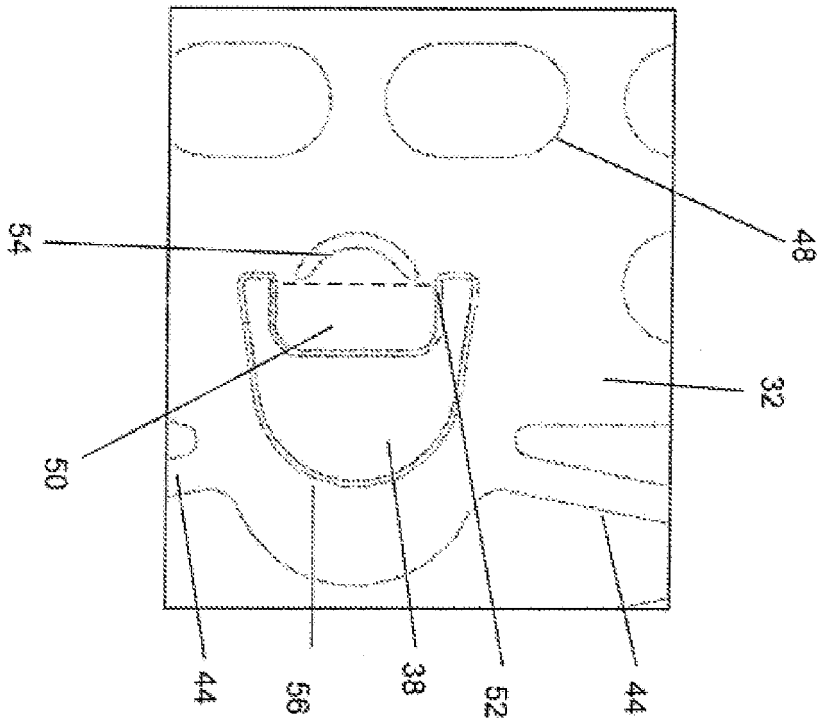

FIG. 8

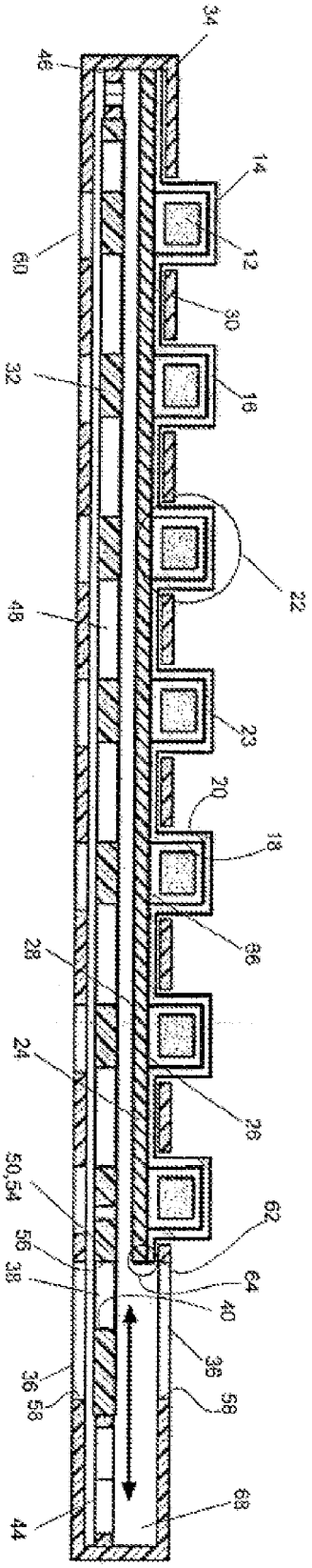
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FIG. 9

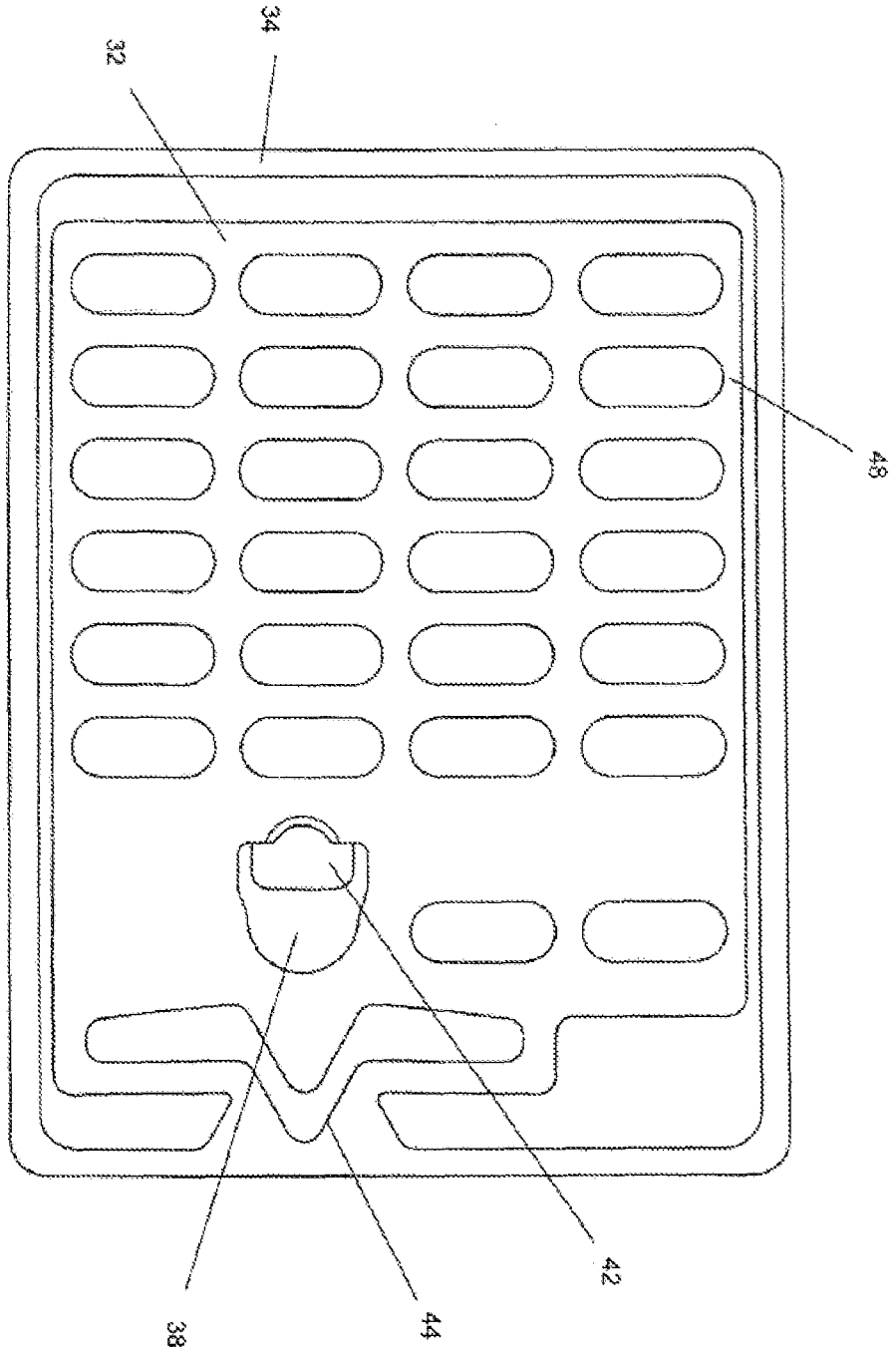

FIG. 10

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EUROPEAN SEARCH REPORT

Application Number
EP 09 16 0321

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 6 394 275 B1 (PALIOTTA MICHAEL [US] ET AL) 28 May 2002 (2002-05-28) * column 4, line 5 - line 27; figures 1-5 *	1-8	INV. B65D83/04
X	US 2007/084747 A1 (GHERDAN VICTOR [US] ET AL) 19 April 2007 (2007-04-19) * paragraph [0078] - paragraph [0080]; figures 1-17 *	1	
X	US 2002/166791 A1 (DONEGAN MICHAEL PATRICK [US]) 14 November 2002 (2002-11-14) * paragraph [0027] - paragraph [0034]; figures 1-12 *	1,9,10	
A	FR 2 892 398 A (CAD SARL [FR]) 27 April 2007 (2007-04-27) * page 5, line 18 - page 6, line 24; figures 1-11 *	10-16	
A	WO 2004/052749 A (MSO CLELAND LTD [GB]; EDWARDS IAN [GB]; JACKSON DONNA [GB]; KELLY RONA) 24 June 2004 (2004-06-24) * page 8, line 15 - page 10, line 17 *	10-16	TECHNICAL FIELDS SEARCHED (IPC) B65D

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	12 August 2009	Derrien, Yannick

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12-08-2009

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 6394275 B1	28-05-2002	NONE	
US 2007084747 A1	19-04-2007	AU 2006304342 A1	26-04-2007
		CN 101326111 A	17-12-2008
		EP 1934116 A2	25-06-2008
		JP 2009511207 T	19-03-2009
		WO 2007047533 A2	26-04-2007
US 2002166791 A1	14-11-2002	US 2004118740 A1	24-06-2004
FR 2892398 A	27-04-2007	CA 2626276 A1	03-05-2007
		EP 1945532 A1	23-07-2008
		WO 2007048906 A1	03-05-2007
		US 2009038982 A1	12-02-2009
WO 2004052749 A	24-06-2004	AU 2003293921 A1	30-06-2004

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Patent documents cited in the description

- US 5150793 A **[0004]**
- US 5244091 A **[0004]**