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(54) **CHILD-RESISTANT CONTAINER FOR HOUSING A BLISTER CARD**

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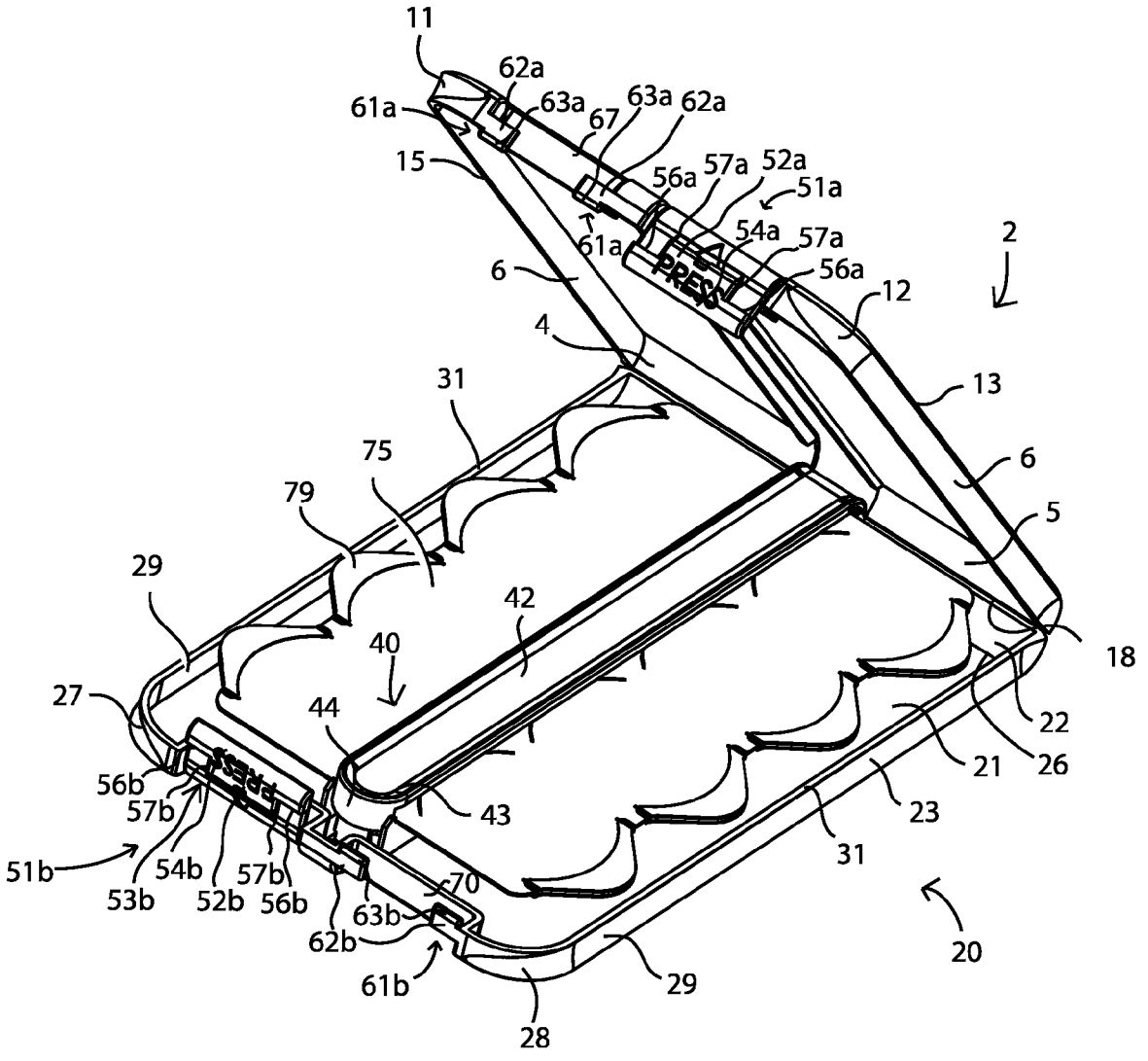
(57) **ABSTRACT**

A container for permanently securing a blister card includes a top, a bottom, and a spine connecting by a hinge. The top and bottom each includes one half of a child-resistant latch system. The top having a latch with latch recesses and a pair of latch arms formed at a front edge of the top. The bottom having an identical arrangement with a latch with latch recesses and a pair of latch arms formed at the front edge. The latch recesses in the top latch align with the latch arms in the bottom, while the latch recesses in the bottom latch align with the latch arms in the top. The recesses in both latches secure the latch arms respectively and remain in a locked position until uses presses upon the upper surface of the latches and separates the top and bottom about the hinge.



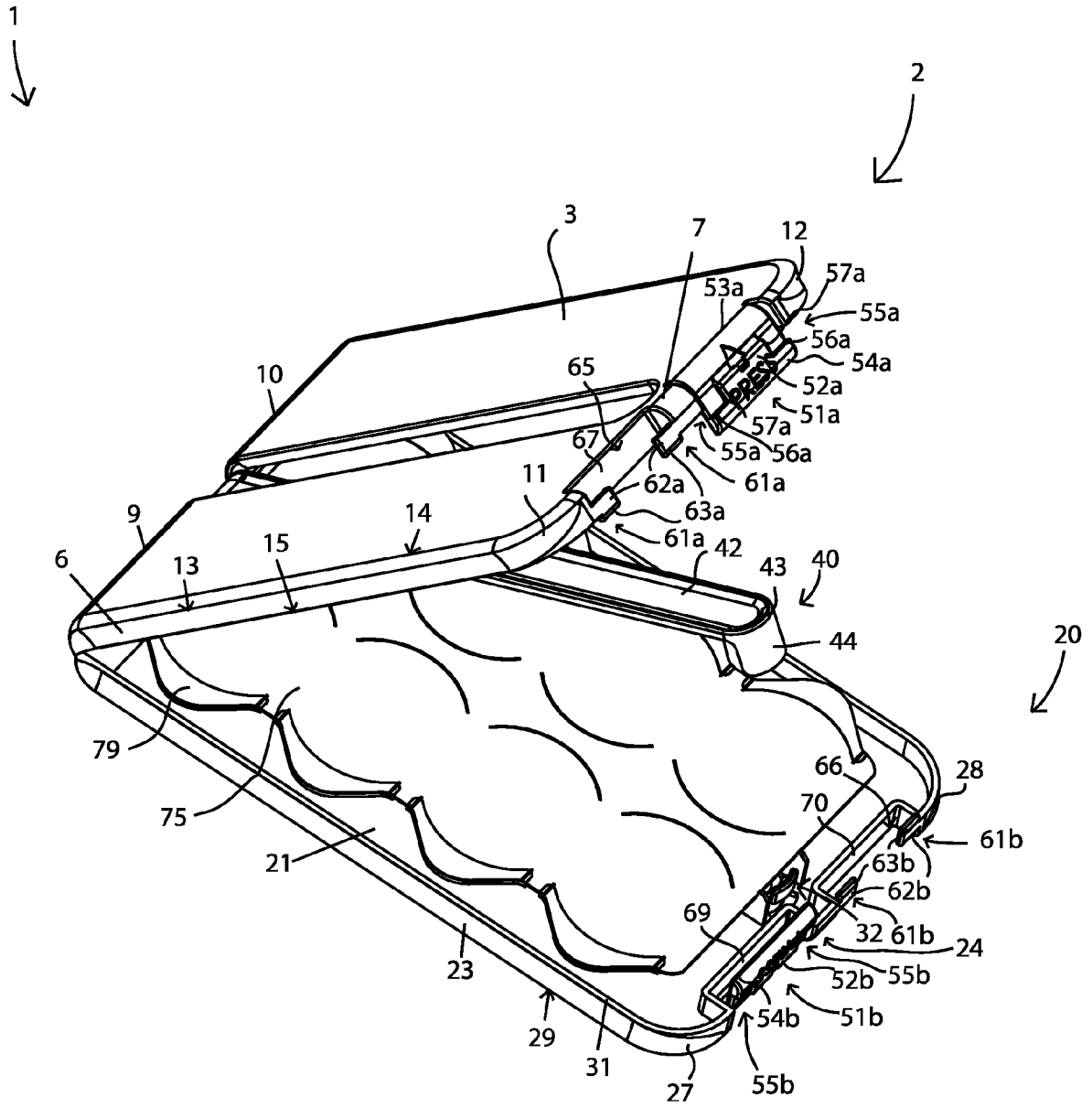

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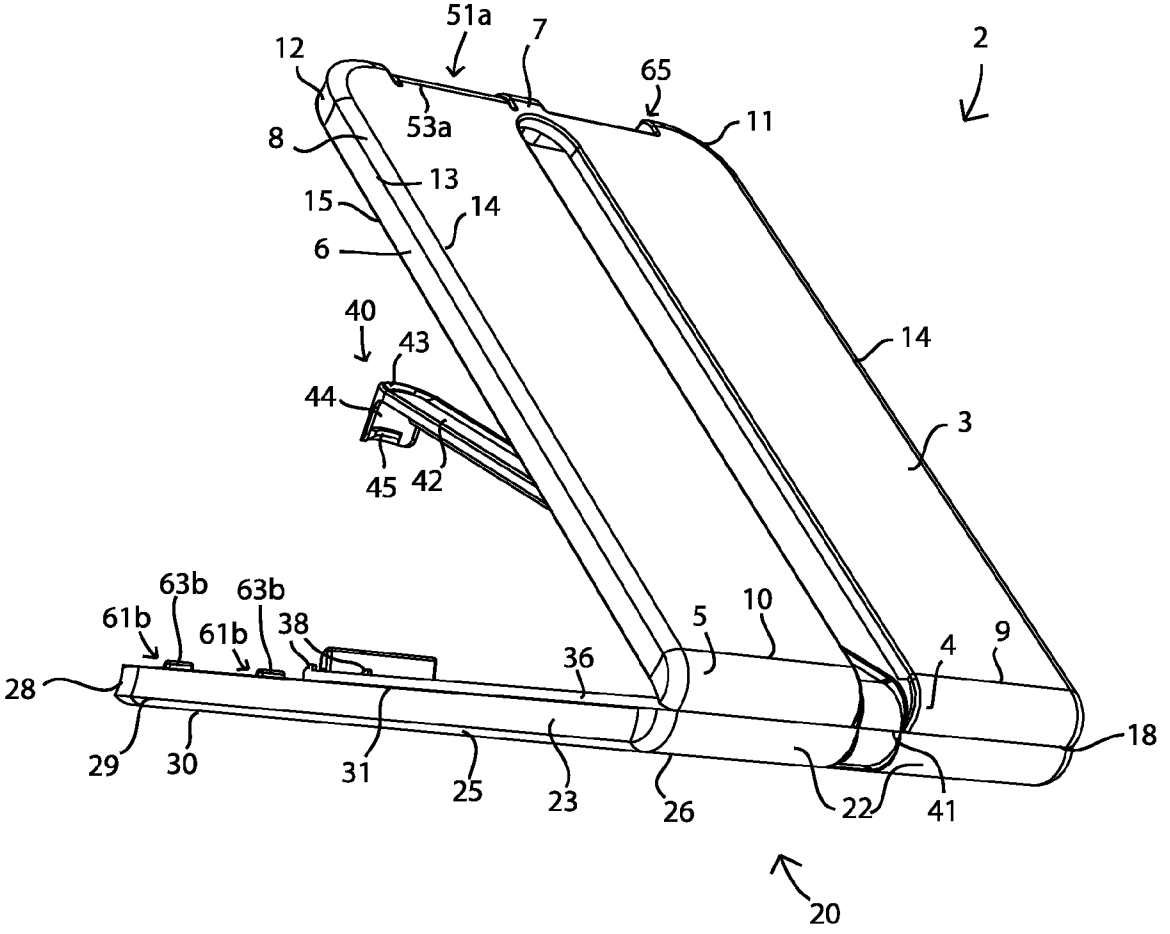
Fig. 1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61b
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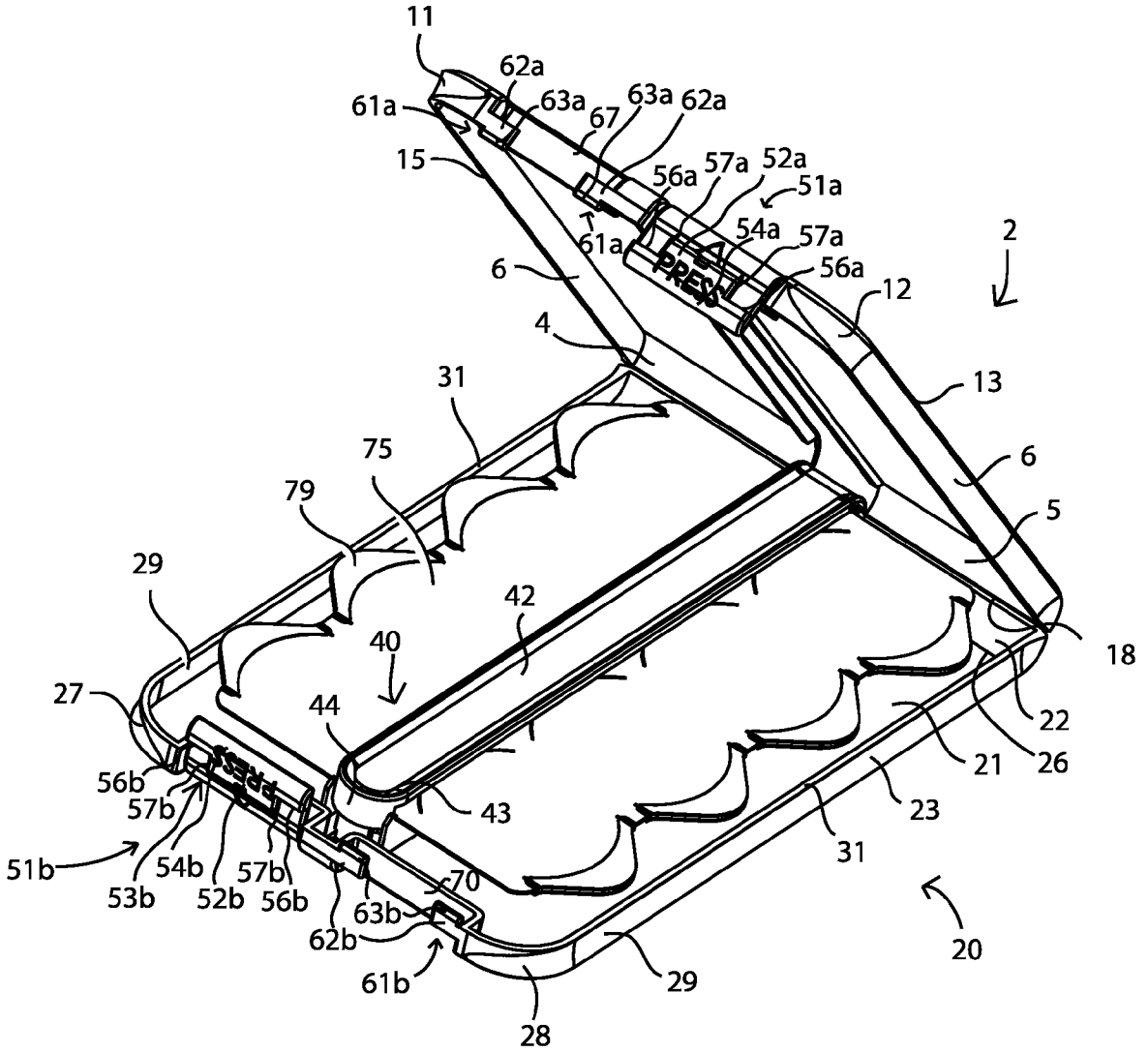
Fig. 2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18
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44
22
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56b
57b
43
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70
63b
62b
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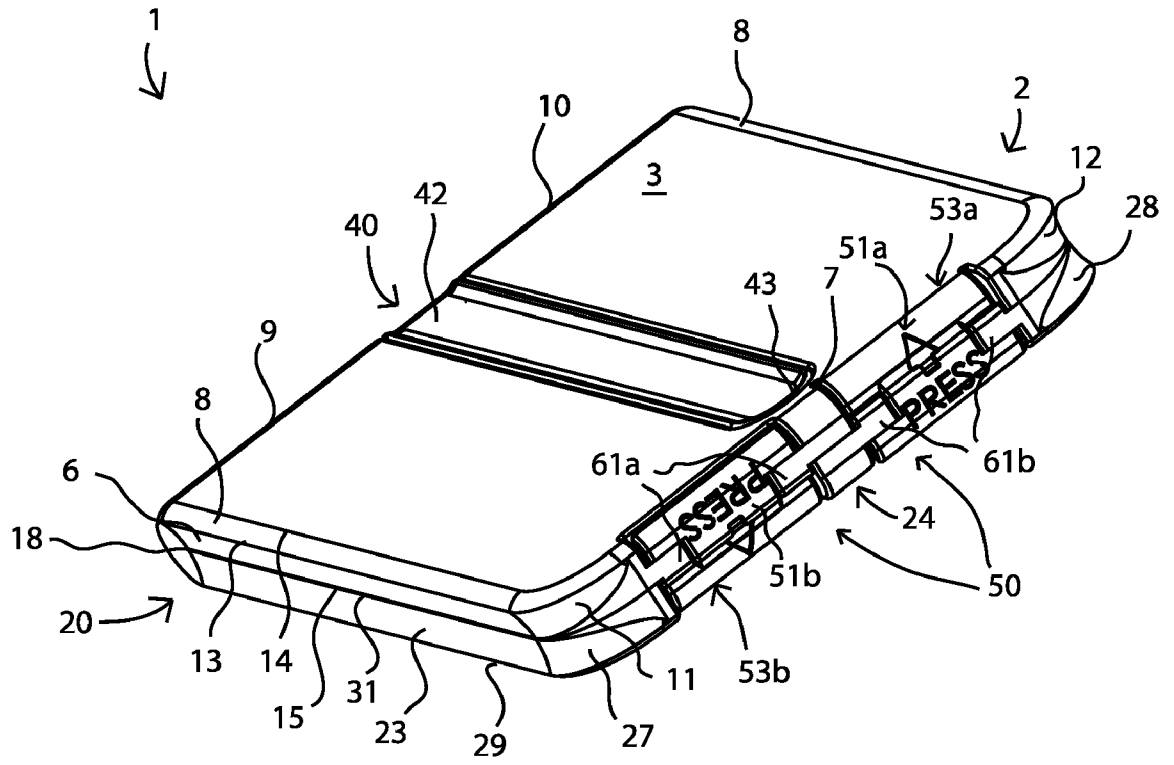
61b
29
28

Fig. 3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61a
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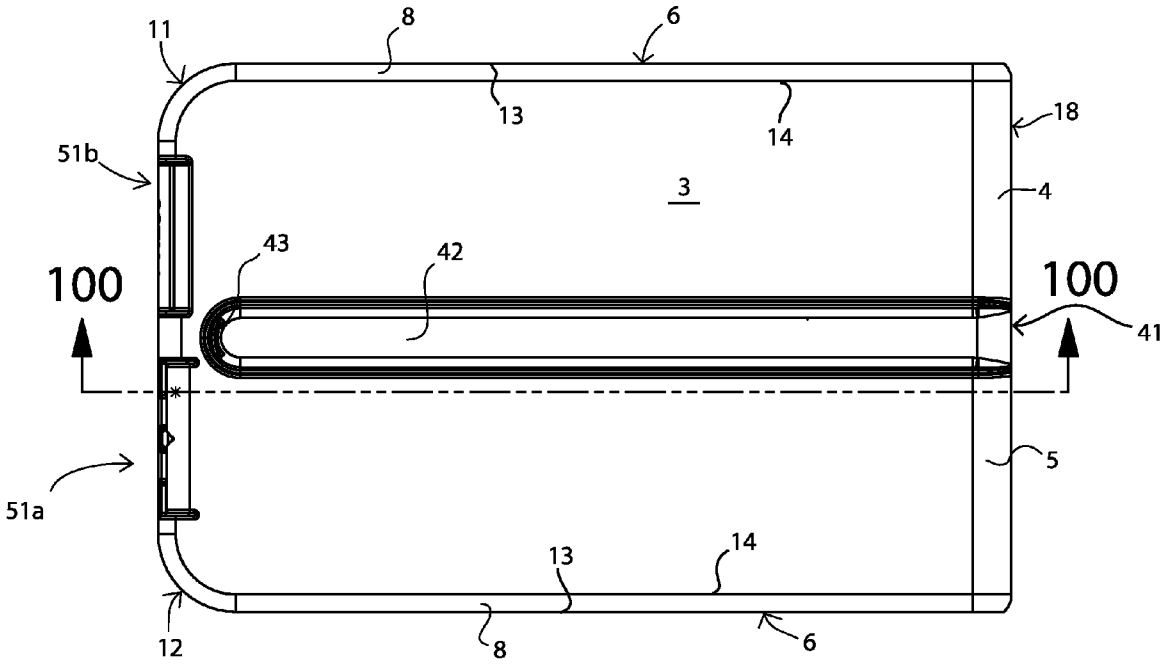
53b

Fig. 4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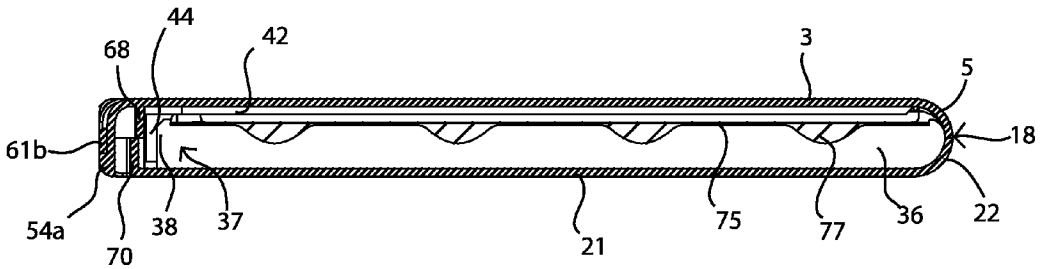
6

Fig. 5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61b
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54a
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22

Fig. 6

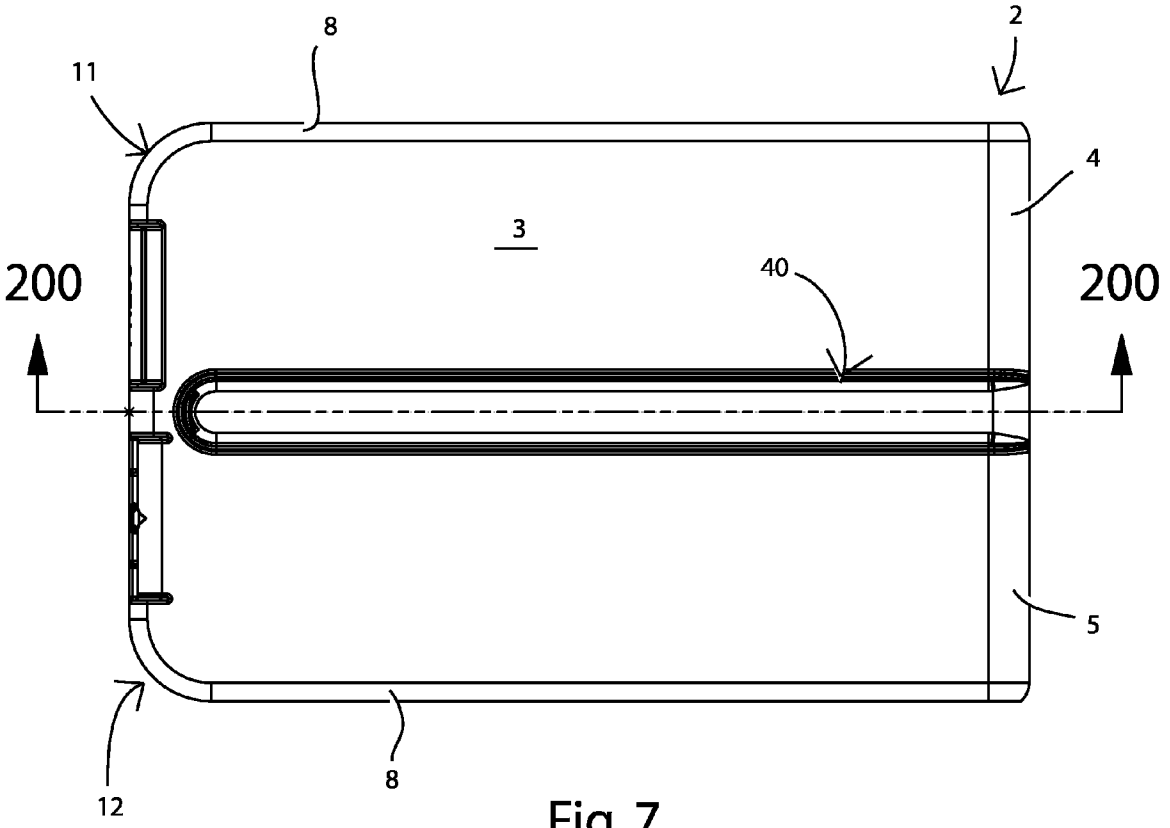


Fig. 7

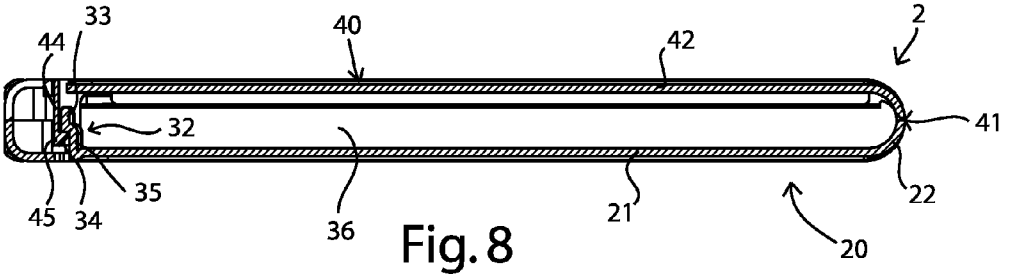
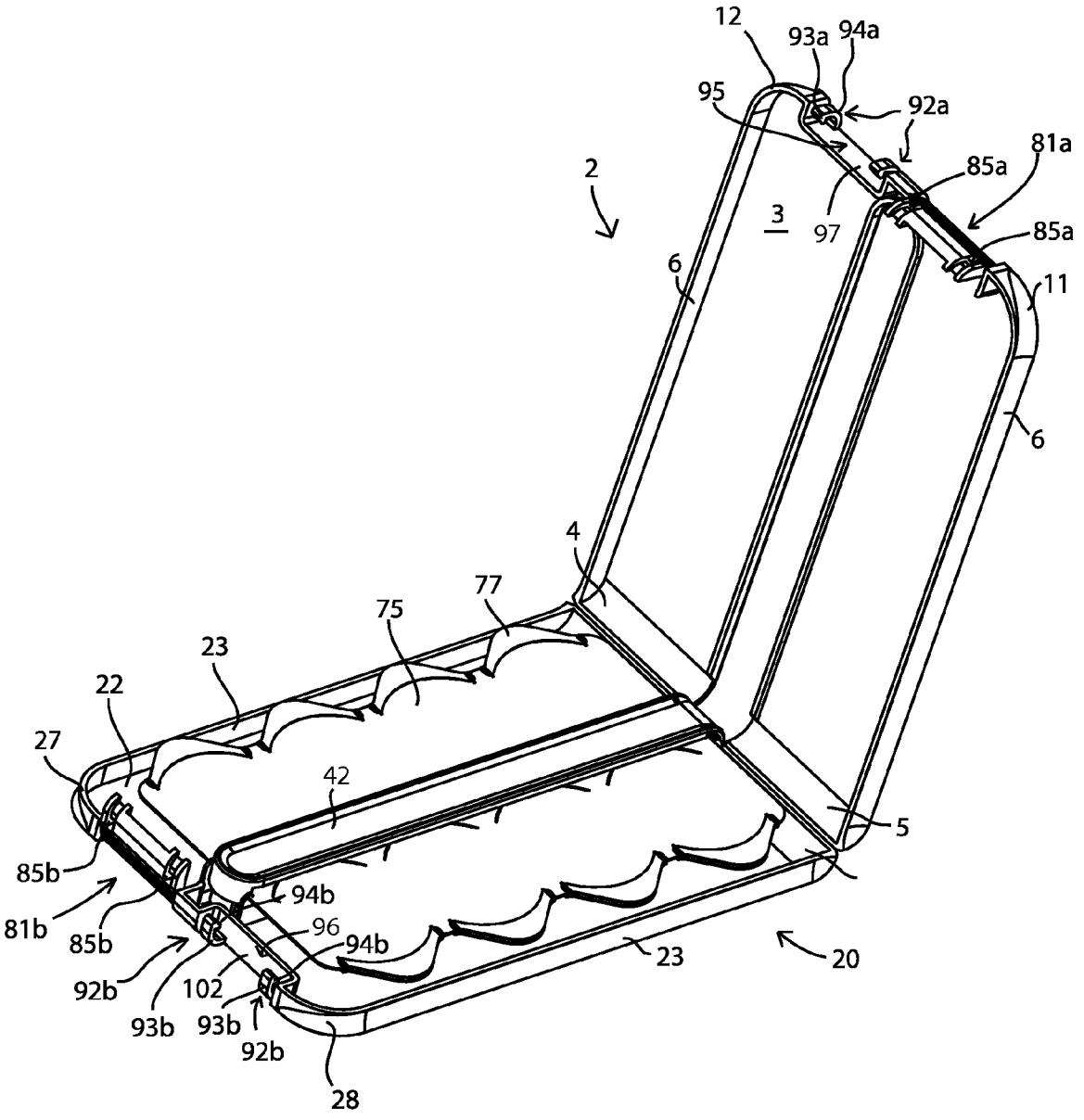


Fig. 8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22
27
42
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85b
94b
81b
85b
96
94b
23
20
92b
102
93b
93b
92b
28

Fig. 9

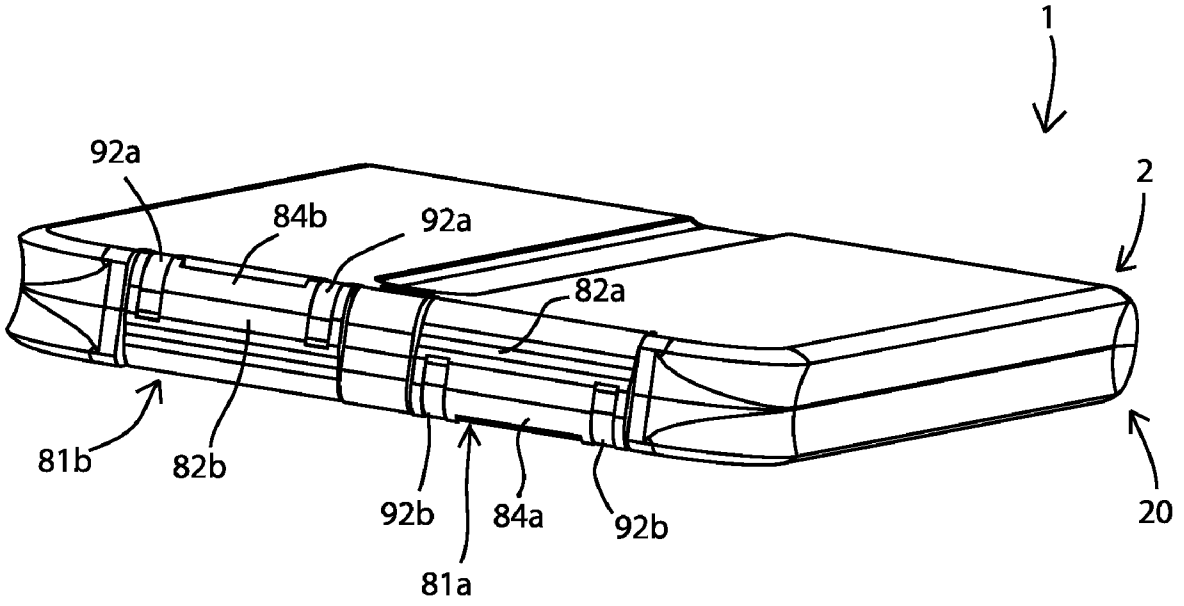

Fig. 10

CHILD-RESISTANT CONTAINER FOR HOUSING A BLISTER CARD

[0001] This application claims priority from, and the benefit of U.S. provisional patent application Ser. No. 60/988,165, filed Nov. 15, 2007 and entitled Container for Housing Medication, which is incorporated herein by reference.

FIELD OF INVENTION

[0002] The present invention generally relates to packaging suitable for storing and dispensing medication and more specifically to containers that house blister cards that provide a simple method for determining whether a dose has been taken while meeting child resistance standards.

BACKGROUND OF THE INVENTION

[0003] It is well known that medications, such as pills, tablets, and capsules, must be administered over a dosing period. In many circumstances, the medications can be harmful to children, so law-makers have passed regulations concerning child resistant packaging. The use of child resistant packaging is well known throughout the art, and has been utilized for goods ranging from household items to pharmaceutical products. The pharmaceutical industry has settled on two main methods of dispensing medication, either loosely in a "amber" bottle or more discretely in a blister card.

[0004] The traditional child-resistant "amber" bottle utilizes a "push and turn" cap by which the person wishing to open the bottle must press down to release a locking mechanism before turning the cap. These bottles are effective for mass distribution of a medication, but have significant drawbacks. First, "push and turn" cap's are often smaller in size, so that they do not provide a sufficiently stable gripping surface to allow a user of limited dexterity, i.e. the elderly, to access the medication in side easily. Secondly, the level of chemical stability of the individual pills has been a serious concern. Pills that are dispensed in traditional "amber bottles" are often handled and put back into the bottle or, since the bottle is being constantly opened and closed, causing excessive contamination and moisture often enter the bottle. For example, hand moisture and body oils can significantly reduce the shelf-life and effectiveness of a medication. Finally, "amber bottles" provide no compliance feature that informs the user as to whether or not a dose has been taken during that dosing period, be it a morning, afternoon, day, or week.

[0005] The other well-known medication packaging is "unit dose" packaging or blister cards. Blister cards are typically formed from flexible materials with a plurality of cavities that receive and dispense one pill. An open side of each cavity is covered with a pierceable foil seal. The user simply pushes a selected pill through the foil seal in order to remove the medication from its individual blister on the card. Blister card packaging ensures stability and allows for patient compliance, although it often does not provide sufficient protection for the medication or child resistance. The pierceable foil seal could be difficult to pierce or remove without damaging the dose, so some blister cards are equipped with a tab the user can pull to remove the foil seal.

SUMMARY OF THE INVENTION

[0006] The present invention provides a senior-friendly, child resistant medication dispenser for containing a blister card that includes a permanently locking spine mechanism that secures a blister card inside the container. The container having a two handed press and separate child resistant feature wherein the user must simultaneously press at least two buttons with enough force to bend the buttons as to release them from tabs holding the buttons in a locked position. Once the buttons are depressed with sufficient force as to clear the locking arms the buttons are then separated and the top and bottom of the container are separated about a hinge.

[0007] The spine mechanism is integrated into the top of the container and separates the top into multiple sections. The spine uses a hook implement on its inner surface at the peripheral edge farthest from the hinge to snap and lock permanently onto a catch mechanism that is part of the bottom of the container. The catch mechanism is a stiff plastic surface that includes a relatively deep ledge for the hook to bind upon.

BRIEF DESCRIPTION OF THE DRAWINGS

[0008] These and other features and advantages of the present invention will be more fully disclosed in, or rendered obvious by the following detailed description of preferred embodiments of the invention, which are to be considered together with the accompanying drawings wherein like numbers refer to like parts, and further wherein:

[0009] FIG. **1** is a front top perspective view of a child resistant container with attached blister card with unattached spine mechanism in an open position in accordance with the present invention;

[0010] FIG. **2** is a back perspective view of the child resistant container as shown in FIG. **1**;

[0011] FIG. **3** is a front perspective view of the child resistant container with an attached spine mechanism in accordance with the present invention;

[0012] FIG. **4** is a front top perspective view of the child resistant container in a closed position in accordance with the present invention;

[0013] FIG. **5** is a top view of the child resistant container shown in FIG. **4**;

[0014] FIG. **6** is a cross sectional view of the child resistant container shown in FIG. **5**, as taken along lines **100-100**;

[0015] FIG. **7** is a top view of the child resistant container shown in FIG. **4**;

[0016] FIG. **8** is a cross sectional view of the child resistant container shown in FIG. **7**, as taken along lines **200-200**;

[0017] FIG. **9** is a front top perspective view of the child resistant container in accordance with the present invention;

[0018] FIG. **10** is a front top perspective view of the child resistant container shown in FIG. **8**, in a closed position.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0019] This description of preferred embodiments is intended to be read in connection with the accompanying drawings, which are to be considered part of the entire written description of this invention. The drawing figures are not necessarily to scale and certain features of the invention may be shown exaggerated in scale or in somewhat schematic form in the interest of clarity and conciseness. In the description, relative terms such as "horizontal," "vertical," "up," "down," "top" and "bottom" as well as derivatives thereof (e.g., "horizontally," "downwardly," "upwardly," etc.) should be construed to refer to the orientation as then described or as shown in the drawing figure under discussion. These relative terms are for convenience of description and normally are not intended to require a particular orientation. Terms including "inwardly" versus "outwardly," "longitudinal" versus "lateral" and the like are to be interpreted relative to one another or relative to an axis of elongation, or an axis or center of

rotation, as appropriate. Terms concerning attachments, coupling and the like, such as "connected" and "interconnected," refer to a relationship wherein structures are secured or attached to one another either directly or indirectly through intervening structures, as well as both movable or rigid attachments or relationships, unless expressly described otherwise. The term "operatively connected" is such an attachment, coupling or connection that allows the pertinent structures to operate as intended by virtue of that relationship. In the claims, means-plus-function clauses, if used, are intended to cover the structures described, suggested, or rendered obvious by the written description or drawings for performing the recited function, including not only structural equivalents but also equivalent structures.

[0020] Referring to FIGS. **1-8**, senior-friendly, child-resistant container **1** that includes a top **2**, a bottom **20**, a hinge **18**, a spine **40**, and a latch system **50**. More particularly, top **2** includes top wall **3**, angled walls **8**, sidewalls **6**, curved corner walls **11** and **12**, and curved walls **4** and **5**. Angled walls **8** project downward and outwardly from angled edges **14** of top wall **3**. Sidewalls **6** project downward from side edge **13** of angled walls **14** creating top rim **15** around the perimeter of top **2**. Curved walls **4** and **5** project outwards from rear edges **9** and **10** respectively of top wall **3** connecting to hinge **18**. Curved corner walls **11** and **12** project from the sidewalls **6** toward latch edge **7**. Latch walls **67** and **68** project downward from top wall **3** at latch edge **7**.

[0021] Bottom **20** includes bottom wall **21**, angled walls **25**, sidewalls **23**, curved wall **22**, curved corner walls **27** and **28**, spine catch **32**, and support walls **36**. Angled walls **25** projects both upwardly and outwardly from angled edge **30** of bottom wall **21**. Sidewalls **23** project upward from side edge **29** of angled wall **25** forming bottom rim **31** about the perimeter of bottom **20**. Curved corner walls **27** and **28** project forward from sidewalls **23** toward latch edge **24**. Latch walls **69** and **70** project upward from bottom wall **21** at latch edge **24**. Curved wall **22** projects upward from bottom wall **21** connecting to hinge **18** and to top **2**. Top **2** and bottom **20** open and close about hinge **18** wherein the top rim **15** and bottom rim **31** created a closed seal of container **1**.

[0022] Spine catch **32** including lower wall **35**, horizontal wall **34** and upper wall **33** projects upward from the upper surface of bottom wall **21**. More particularly, lower wall **35** projects upward from the upper surface of bottom wall **21** near latch edge **24**. Horizontal wall **34** projects forward toward latch edge **24** and turns upward forming upper wall **33** creating spine catch **32**. Support walls **36** including a front end **37** and abutments **38** project upward from the upper surface of bottom wall **21** and run the length of bottom **20** from rear edge **26** to front end **37**. Blister card **75** having pill tabs **79** is set upon support walls **36** and pushed forward against abutments **38**.

[0023] Spine **40** including spine wall **42**, rim **43**, and rounded wall **44** rotates about hinge **41** clamping down upon the back surface of blister card **75**. Rounded wall **44** extends downward from rim **43** of spine wall **42** connected to container by via hinge **41**. Ledge **45** projects from the inner surface of rounded wall **44** such that when spine **40** is in a clamped position rounded wall **44** extends beyond the upper wall **33** of spine catch **32** and ledge **45** bends the spine catch **32** inward. Once ledge **45** is lowered beyond the height of upper wall **33**, ledge **45** hooks into horizontal wall **34** releasing the pressure off of the upper wall **33** and permanently attaching the spine **40** to spine catch **32** trapping blister card **75**. Blister card **75** further including cavities **77** holding medication (not shown) cannot be removed from container **1**.

[0024] Child-resistant latch system **50** including top latch **51***a*, bottom latch **51***b*, top latch arms **61***a*, and bottom latch arms **61***b* seals the top **2** and bottom **20** about hinge **18** until a user opens container **1**. Top latch **51***a* including curved wall **52***a* projecting downward from latch hinge **53***a* attached to top wall **3** at latch edge **7** and extending forward over front wall **68**. Lip **53***a* bulges from the lower edge or curved wall **52***a* to create an additional impediment for releasing child-resistant latch system **50**. Lip wall **56***a* and sidewall **57**a project inward from the outer surface of curved wall **52***a* to form latch recesses **55***a*. Bottom latch **51***b* includes curved wall **52***b* projecting upward from latch hinge **53***b* attached to bottom wall **21** at latch edge **24** and extending forward over front wall **69**. Lip **54***b* bulges from the upper edge of curved wall **52***b* to create an additional impediment to releasing child-resistant latch system **50**. Lip wall **56***b* and sidewall **57***b* project inward from the outer surface of curved **52***b* to form latch recesses **55***b*.

[0025] Top latch arms **61***a* includes two short walls **62***a* projecting toward one another in front of front wall **67** in a mirrored relation, whereby creating gap **65**. Flanges **63***a* project downward from the inner bottom edges of short walls **62***a*. The short walls **62***a* and flanges **63***a* are formed to identically align with and fit perfectly within latch recesses **55***b* of bottom latch **51***b*. Bottom latch arms **61***b* includes two short walls **62***b* projecting toward one another in front of front wall **69** in a mirrored relation, whereby creating gap **66**. Flanges **63***b* project upward from the inner upper edges of short walls **62***b*. The short walls **62***b* and flanges **63***b* are formed to identically align with and fit perfectly within latch recesses **55***a* of top latch **51***a*

[0026] As a result of closing top **2** and bottom **20** about hinge **18**, lip **54***a* makes contact with flanges **63***b* forcing the top latch **51***a* toward bottom front wall **70**. Curved wall **52***a* is pressed beneath bottom latch arms **61***b* until short walls **62***b* and flanges **63***b* enter into latch recesses **55***a* fitting over lip wall **56***a* and within sidewall **57***a*. Simultaneously, lip **54***b* makes contact with flanges **63***a* forcing the bottom latch **51***b* toward top front wall **67**. Curved wall **52***b* is pressed beneath top latch arms **61***a* until short walls **62***a* and flanges **63***aa* enter into latch recesses **5***b* fitting over lip wall **56***b* and within sidewall **57***b*. The combination of top latch **51***a* and bottom latch **51***b* with top latch arms **61***a* and bottom latch arms **61***b* create the child-resistance latch system **50** of container **1**. A user can release the child-resistant latch system **50** by simultaneously pressing upon the curved surface **52***a* of top latch **51***a* and curved surface **52***b* of bottom latch **51***b*. Latch hinges **53***a* and **53***b* bend allowing top latch **51***a* and bottom latch **51***b* to lower toward front walls **68** and **69** respectively. Latch recesses **55***a* and **55***b* release latch arms **61***a* and **61***b* allowing top latch **51***a* and bottom latch **51***b* to slide underneath the latch arms **61***a* and **61***b*. The user must then retain pressure on both the top latch **51***a* and bottom latch **51***b*, which pulling or pushing the top **2** and bottom **20** in opposite directions about hinge **18**.

[0027] Referring to FIGS. **9-10**, another embodiment of child-resistant latch system **80** includes top latch **81***a*, bottom latch **81***b*, top latch arms **92***a* and bottom latch arms **92***b*. Top latch **81***a* including curved wall **82***a* projecting downward from latch hinge **83***a* attached to top wall **3** at latch edge **7** and extending forward over front wall **97**. Lower wall **86***a*, sidewalls **87***a*, and nook **88***a* project inward from the outer surface of curved wall **82***a* to form latch recesses **85***a*. Nook **88***a* including back wall **89***a* (not shown), front wall **90***a* (not shown), and sidewalls **91***a* (not shown) create a secondary area within latch recess **85***a*. Bottom latch **81***b* includes curved wall **82***b* projecting upward from latch hinge **83***b*

attached to bottom wall **21** at latch edge **24** and extending forward over front wall **102**. Lower wall **86***b* and sidewalls **87***b* and nook **88***b* project inward from the outer surface of curved wall **82***b* to form latch recesses **85***b*. Nook **88***b* including back wall **89***b* (not shown), front wall **90***b* (not shown), and sidewalls **91***b* (not shown) create a secondary area within latch recess **85***b*.

[0028] Top latch arms **92***a* including hook walls **92***a* project outward and downward from latch edge **7** of top wall **3** creating gap **95** between ledge **94***a* formed at the distal edge of hook walls **93***a* and front wall **97**. Bottom latch arms **92***b* including hook walls **92***b* project outward and upward from latch edge **24** of bottom wall **21** creating gap **96** between ledge **94***b* formed at the distal edge of hook walls **93***b* and front wall **102**.

[0029] Similarly, as a result as closing top **2** and bottom **20** about hinge **18**, top latch **81***a* lowers toward bottom latch arms **92***b* causing bottom latch arms **92***b* to enter into latch recesses **85***a* entering between side walls **87***a* and making contact with lower wall **86***a*. Ledges **94***b* enter nooks **88***a* in top latch **81***a* clamping itself on the front wall **90***a* and holding top latch **81***a* to bottom latch arms **92***b*. At the same time, bottom latch **81***b* enters top latch arms **92***a* causing bottom latch arms **92***a* to enter into latch recess **85***b* entering between side walls **87***b* and making contact with lower wall **86***b*. Ledges **94***a* enters nooks **88***b* in bottom latch **81***b* clamping itself on the front wall **90***b* and holding bottom latch **81***b* to top latch arms **92***a*. Again, in order to open container **1**, the user presses upon the curved walls **82***a* and **82***b* releasing latch arms **92***a* and **92***b* from nooks **88***a* and **88***b*. Then the user pulls apart the top **2** from bottom **20** along hinge **18** simultaneously.

[0030] It is to be understood that the present invention is by no means limited to the particular constructions herein disclosed and shown in the drawings, but also comprises any modifications or equivalents within the scope of the claims.

What is claimed is:

1. A container for housing a blister card comprising:
a top;
a bottom;
said top and bottom being connected about a hinge;
a spine for permanently securing a blister card; and
a spine catch for permanently securing said spine.

2. The container for housing a blister card according to claim **1**, further including a child-resistant latch system.

3. The container for housing a blister card according to claim **2**, wherein said top having a lower surface further including a front and rear edge, sidewalls, and curved walls.

4. The container for housing a blister card according to claim **3**, wherein said bottom have an upper surface further including a front and rear edge, sidewalls, and curved wall.

5. The container for housing a blister card according to claim **4**, wherein said spine catch projects from said upper surface of said bottom.

6. The container for housing a blister card according to claim **5**, further comprising support walls projecting upward from said upper surface of said bottom.

7. The container for housing a blister card according to claim **6**, wherein said child-resistant latch system further comprising a top latch, a bottom latch, top latch arms and bottom latch arms.

8. The container for housing a blister card according to claim **7**, wherein said top latch further comprises a curved wall, lip, and latch recesses.

9. The container for housing a blister card according to claim **8**, further comprising a latch hinge connecting said top latch to said top via at said front edge.

10. The container for housing a blister card according to claim **9**, wherein said top latch arms further comprise two short walls both having flanges.

11. The container for housing a blister card according to claim **10**, wherein said bottom latch further comprises a curved wall, lip, and latch recesses.

12. The container for housing blister card according to claim **11**, further comprising a latch hinge connecting said bottom latch to said bottom at said front edge.

13. The container for housing a blister card according to claim **12**, wherein said bottom latch arms further comprise two short walls both having flanges.

14. The container for housing a blister card according to claim **13**, wherein said latch recesses in said top latch secure said bottom latch arms and said latch recesses in said bottom latch secure said top latch arms sealing said top and said bottom in a sealed position.

15. A child-resistant container comprising:
a top having sidewalls and a curved wall;
a bottom having un upper surface, sidewalls and a curved wall;
said top being secured to said bottom by a hinge;
a blister card;
a spine attached to said bottom by a spine hinge;
a pair of support walls rising from said upper surface of said bottom;
a spine lock attached to said bottom for permanently attaching said spine;
said blister card being permanently held between said spine and said support walls; and
a child-resistant latch system having a top latch, a bottom latch, top latch arms and bottom latch arms.

16. The child-resistant container of claim **15**, wherein said top latch further comprising latch recesses.

17. The child-resistant container of claim **16**, wherein said bottom latch further comprising latch recesses.

18. The child-resistant container of claim **17**, wherein said top latch arms further comprising a pair of short walls protruding toward one another each having a flange.

19. The child-resistant container of claim **18**, wherein said bottom latch arms further comprising a pair of short walls protruding toward one another each having a flange.

20. The child-resistant container of claim **19**, wherein said latch recesses of said top latch complement and receive said bottom latch arms.

21. The child-resistant container of claim **20**, wherein said latch recesses of said bottom latch complement and receive said top latch arms.

22. The child-resistant container of claim **21**, wherein said latch recesses of said top latch simultaneously retain said arms of said bottom latch arms as said latch recesses of said bottom latch retain said arms of said top latch arms holding said top and said bottom sealed.

* * * * *