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(54) **CHILD-RESISTANT CONTAINER**

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(57) **ABSTRACT**

A child-resistant container for holding at least one item. The child-resistant container includes a housing having a base wall and a top wall. A tray includes a sidewall and a base plate mounted to the housing for movement between a retracted position in which the tray is positioned in the housing and an exposed position in which the tray extends from the housing. The sidewall and base plate define a storage cavity. A lid is moveably mounted to the tray and is moveable between a closed position covering the storage space and an open position exposing the storage space. The tray includes a dividing wall extending across the base plate. The sidewall and the dividing wall define a plurality of storage wells wherein each well includes a blister positioned therein. Each storage well includes a hole in the base plate for alignment with a medication dose in the blister.

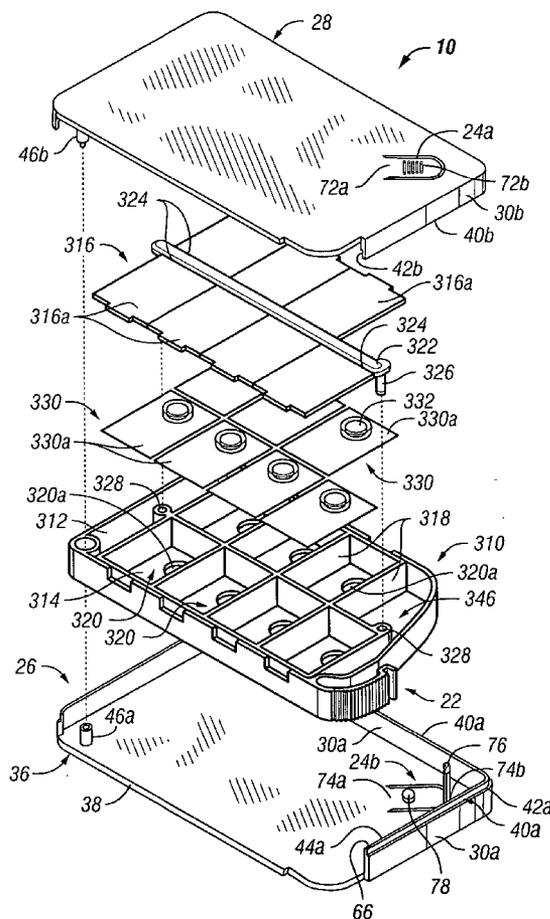
(73) Assignee: **West Pharmaceutical Services, Inc.**

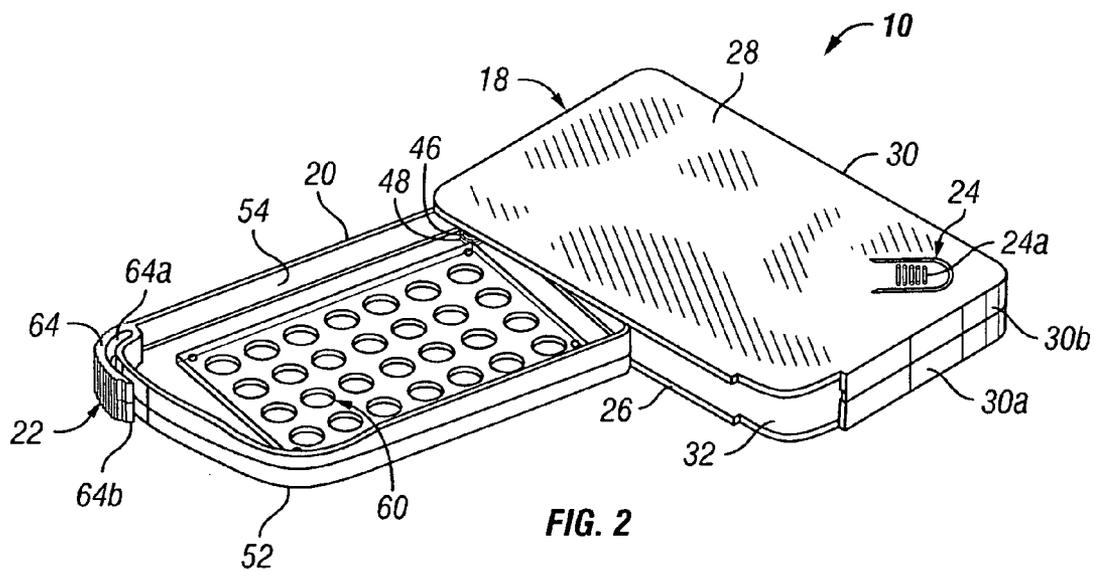
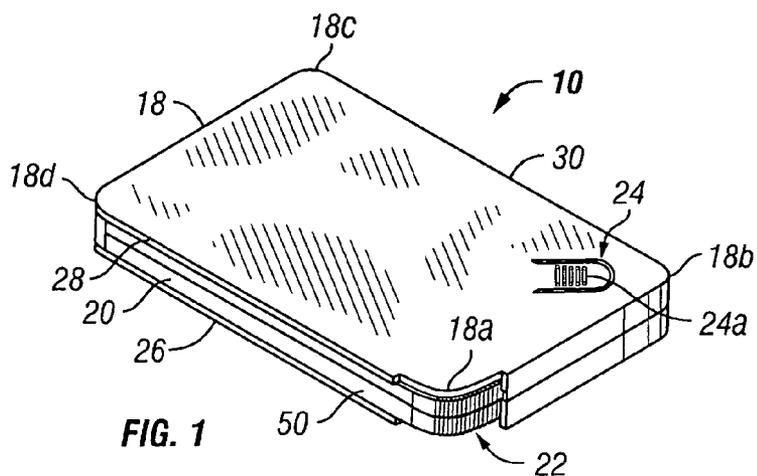
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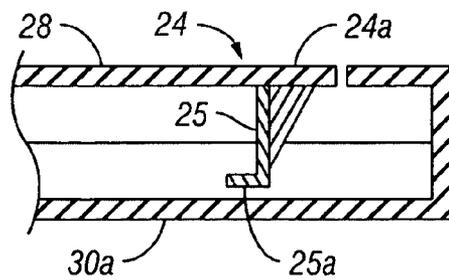
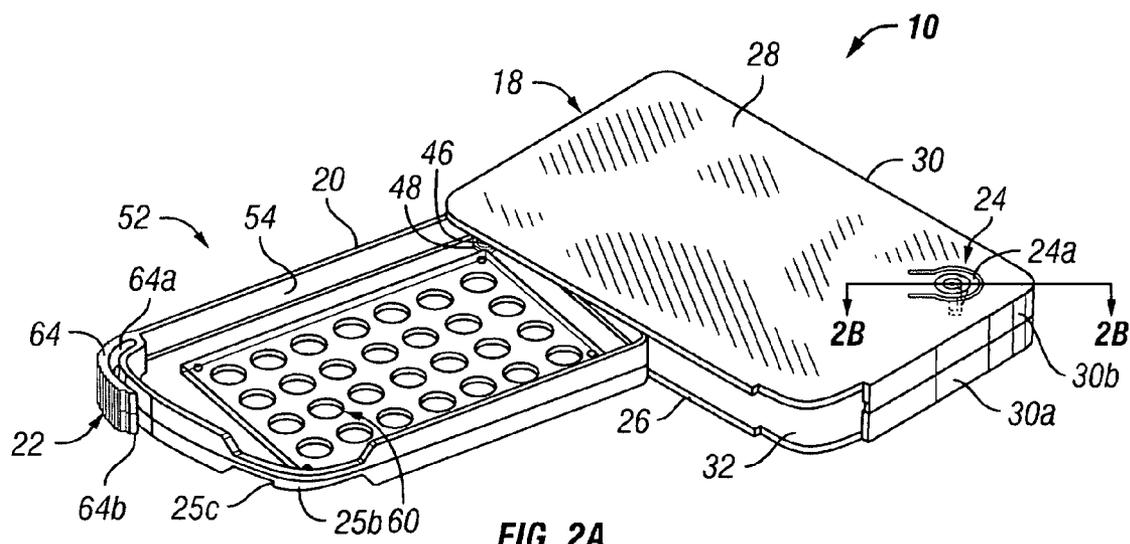
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**Related U.S. Application Data**

(63) Continuation-in-part of application No. 10/941,588, filed on Sep. 14, 2004, which is a continuation-in-part of application No. 10/308,335, filed on Dec. 2, 2002, now Pat. No. 6,789,677.







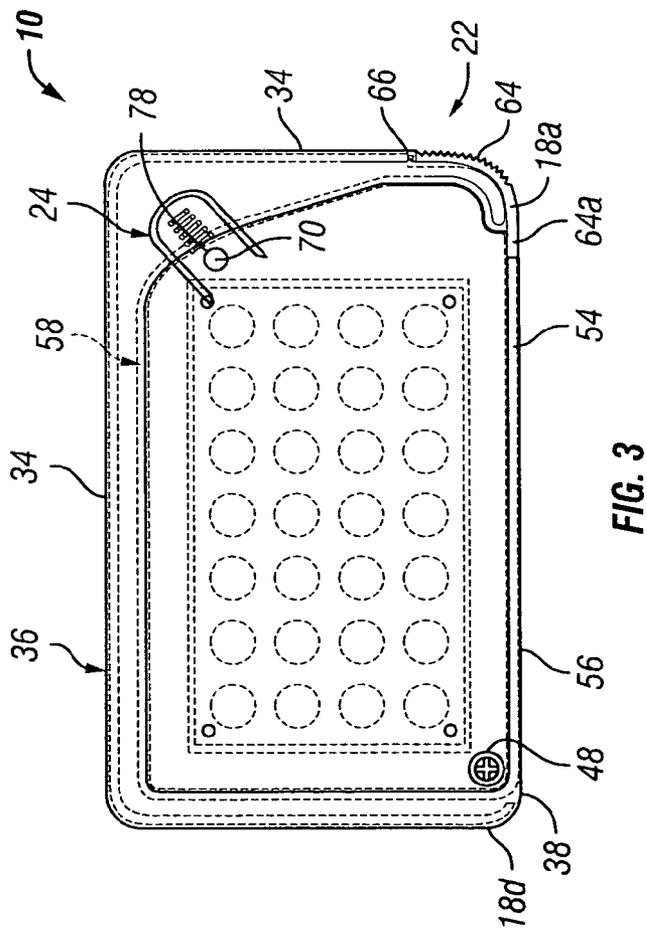


FIG. 3

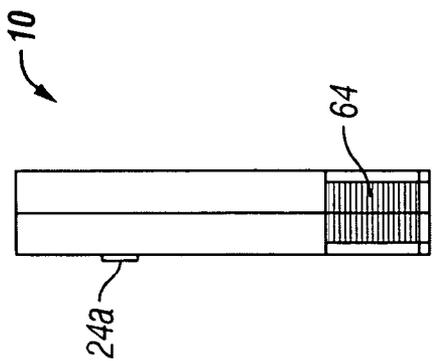


FIG. 4

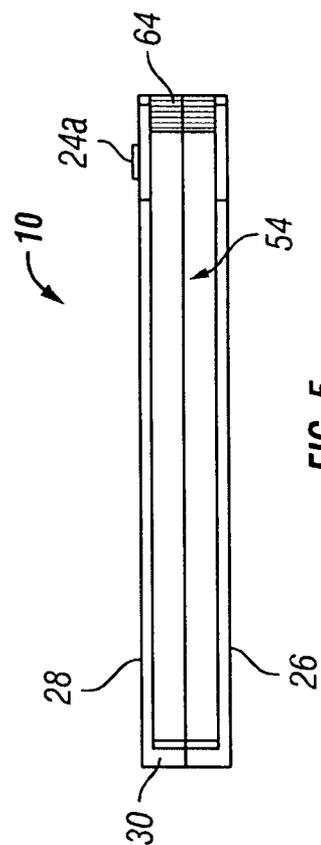
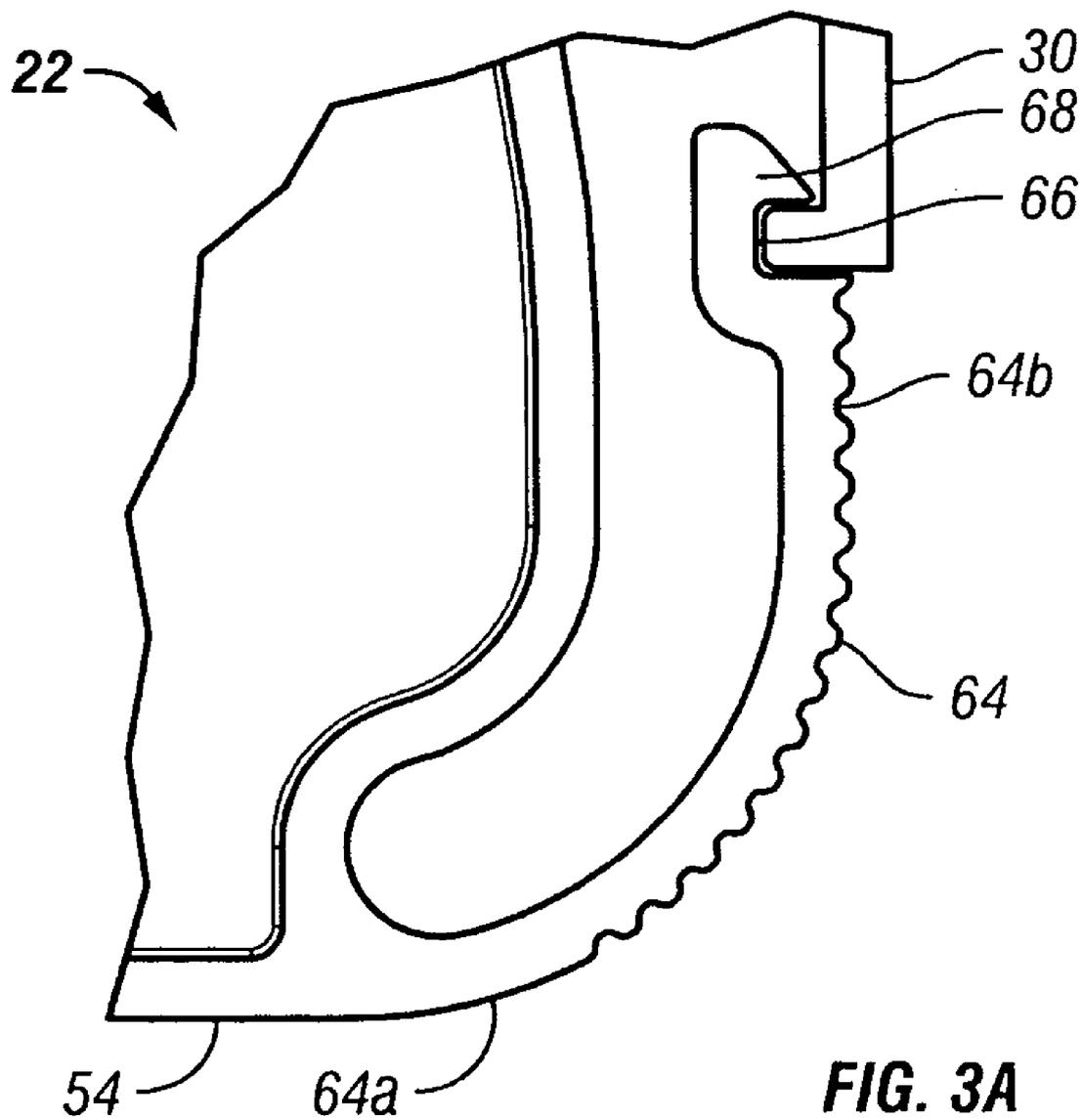


FIG. 5



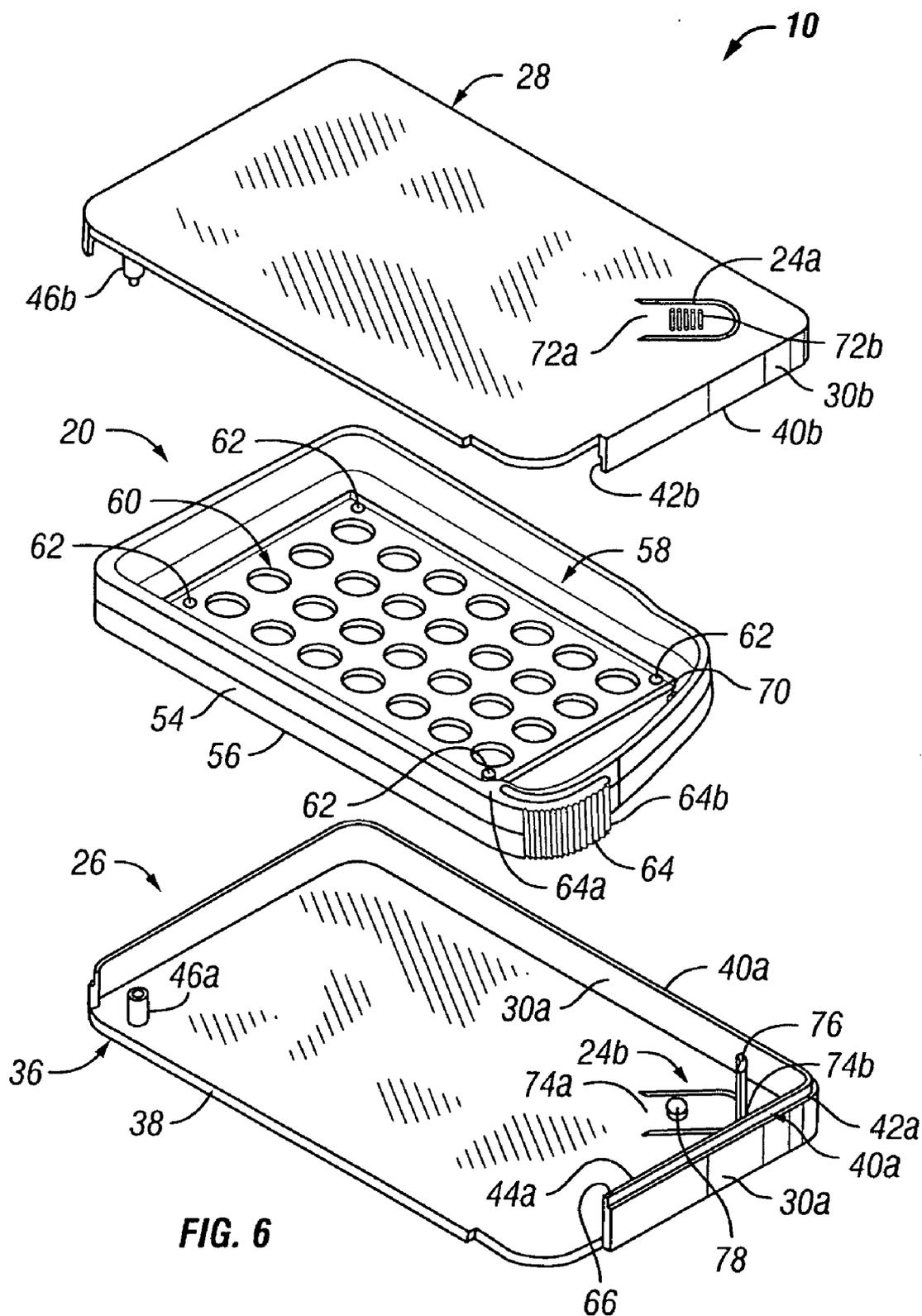


FIG. 6

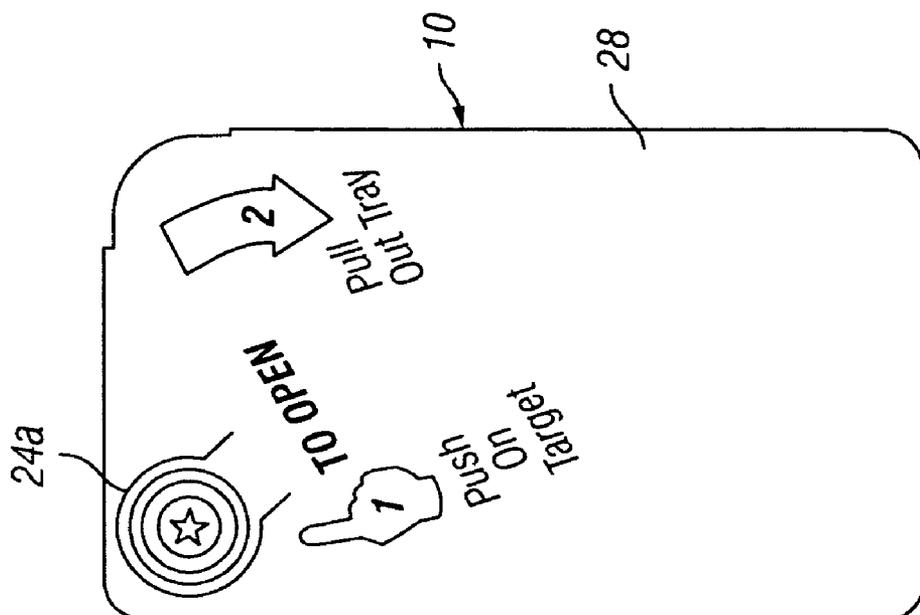


FIG. 7

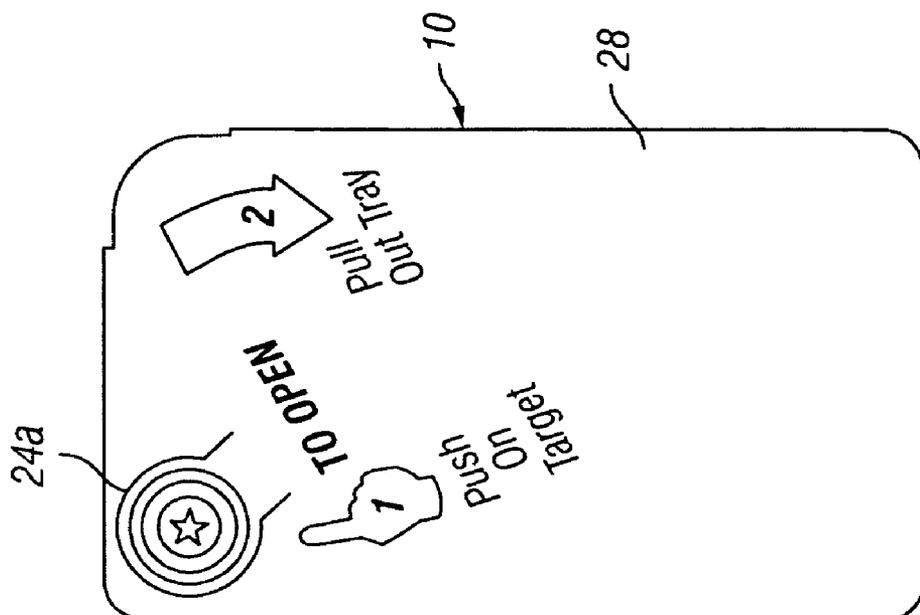


FIG. 8

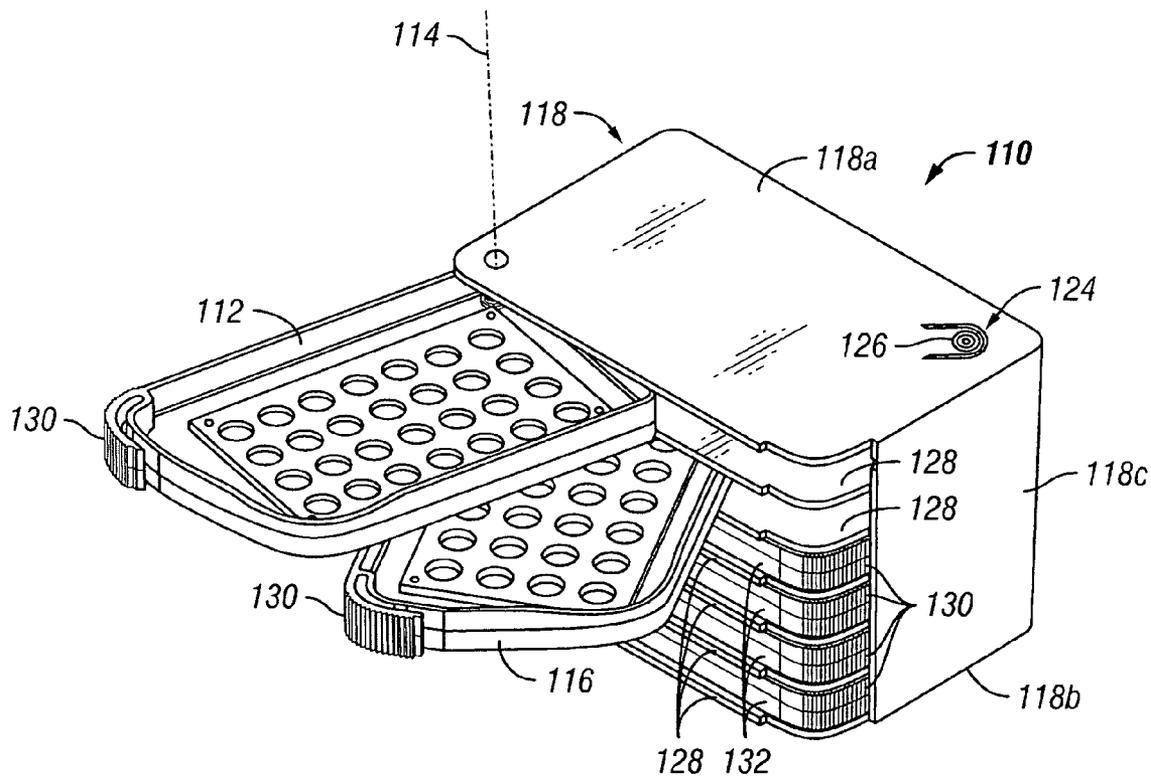
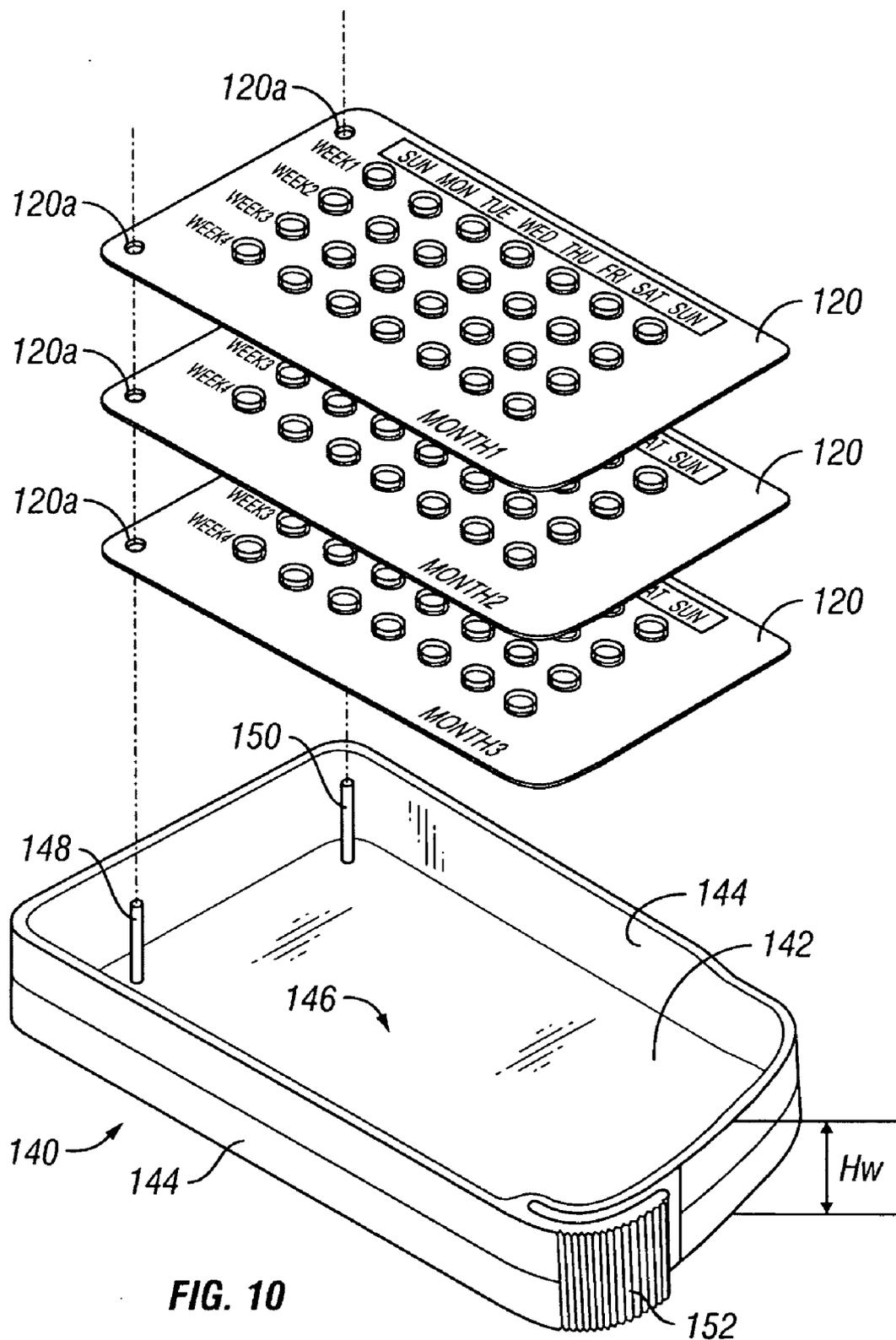


FIG. 9



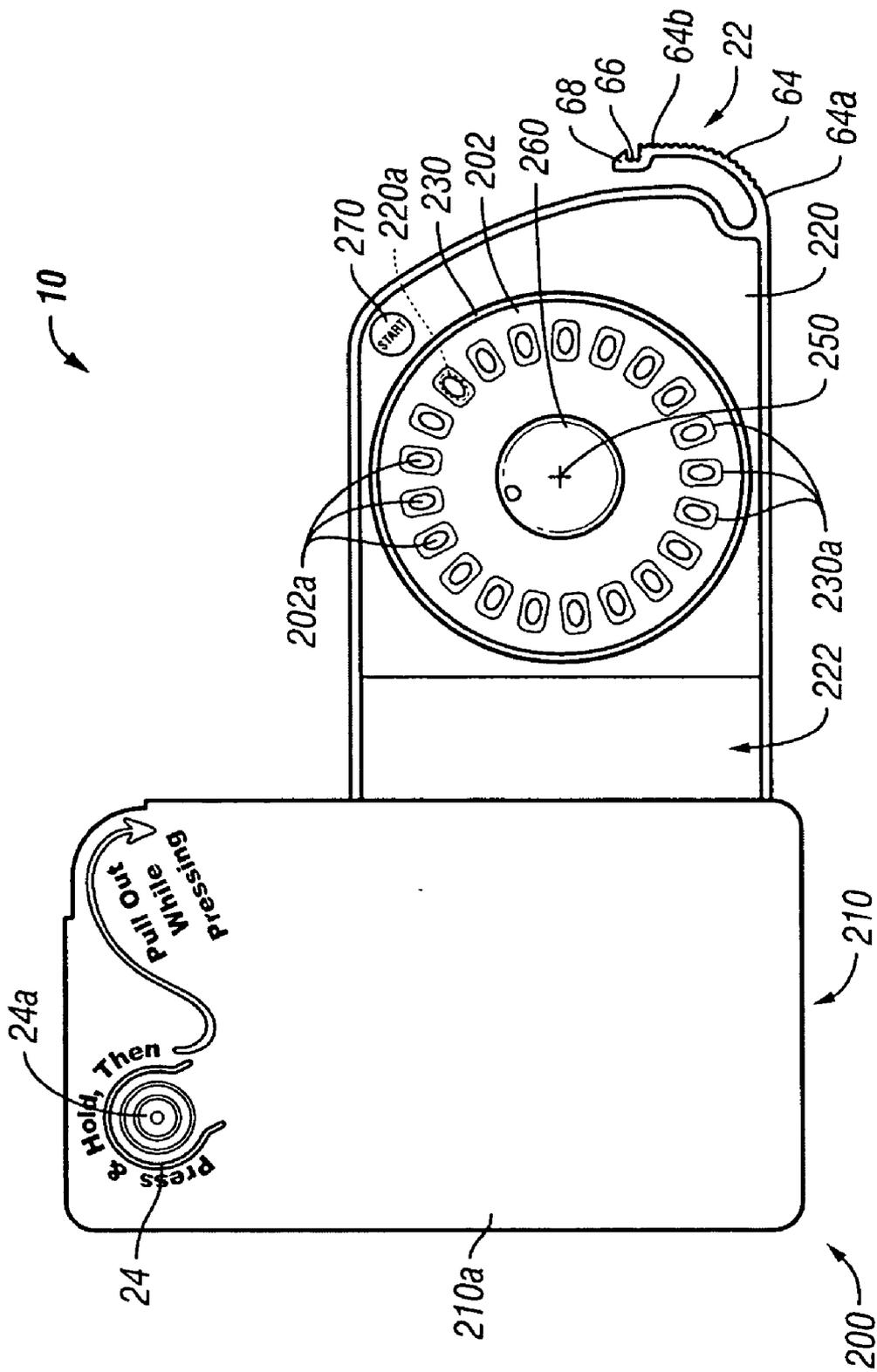


FIG. 11

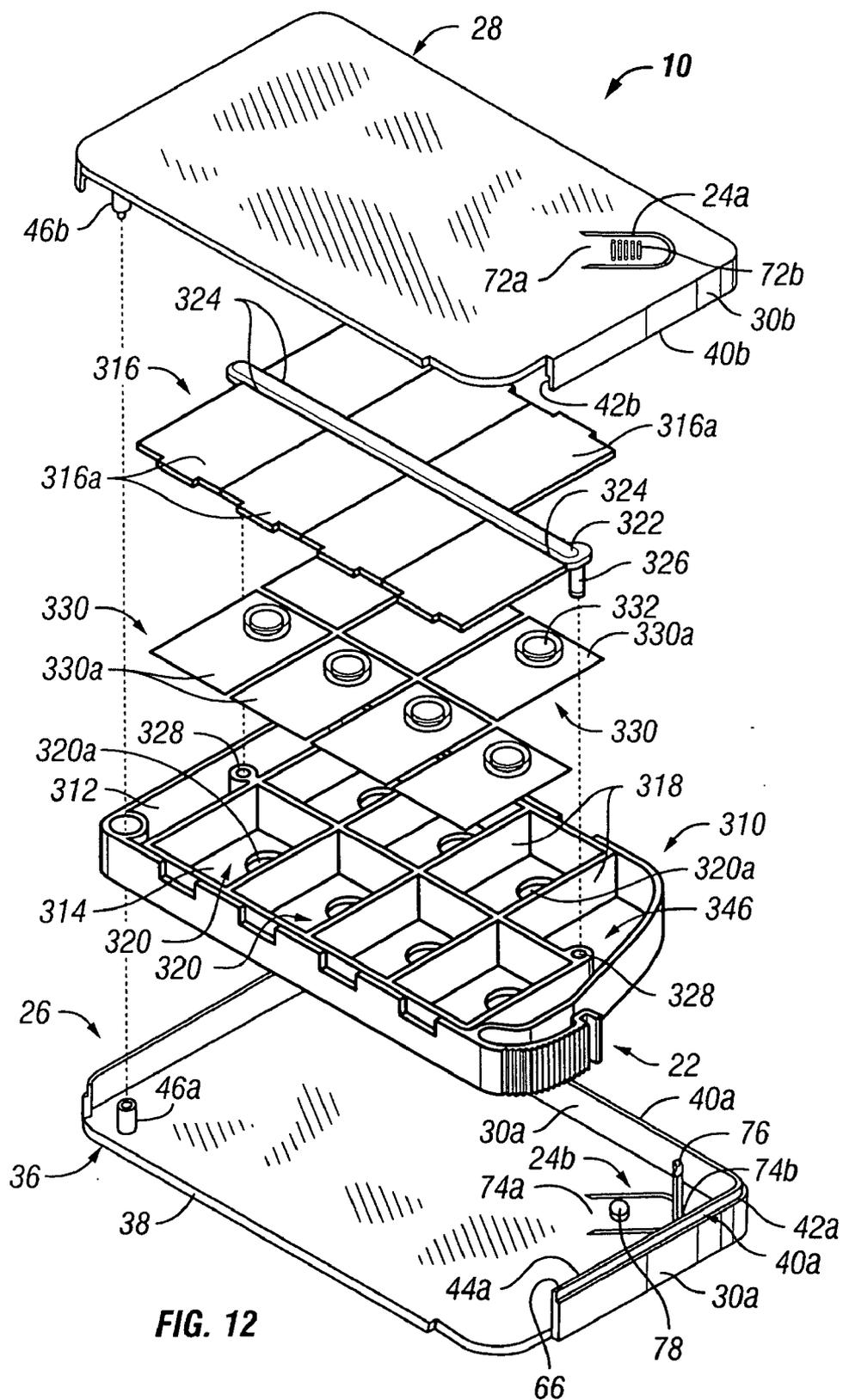
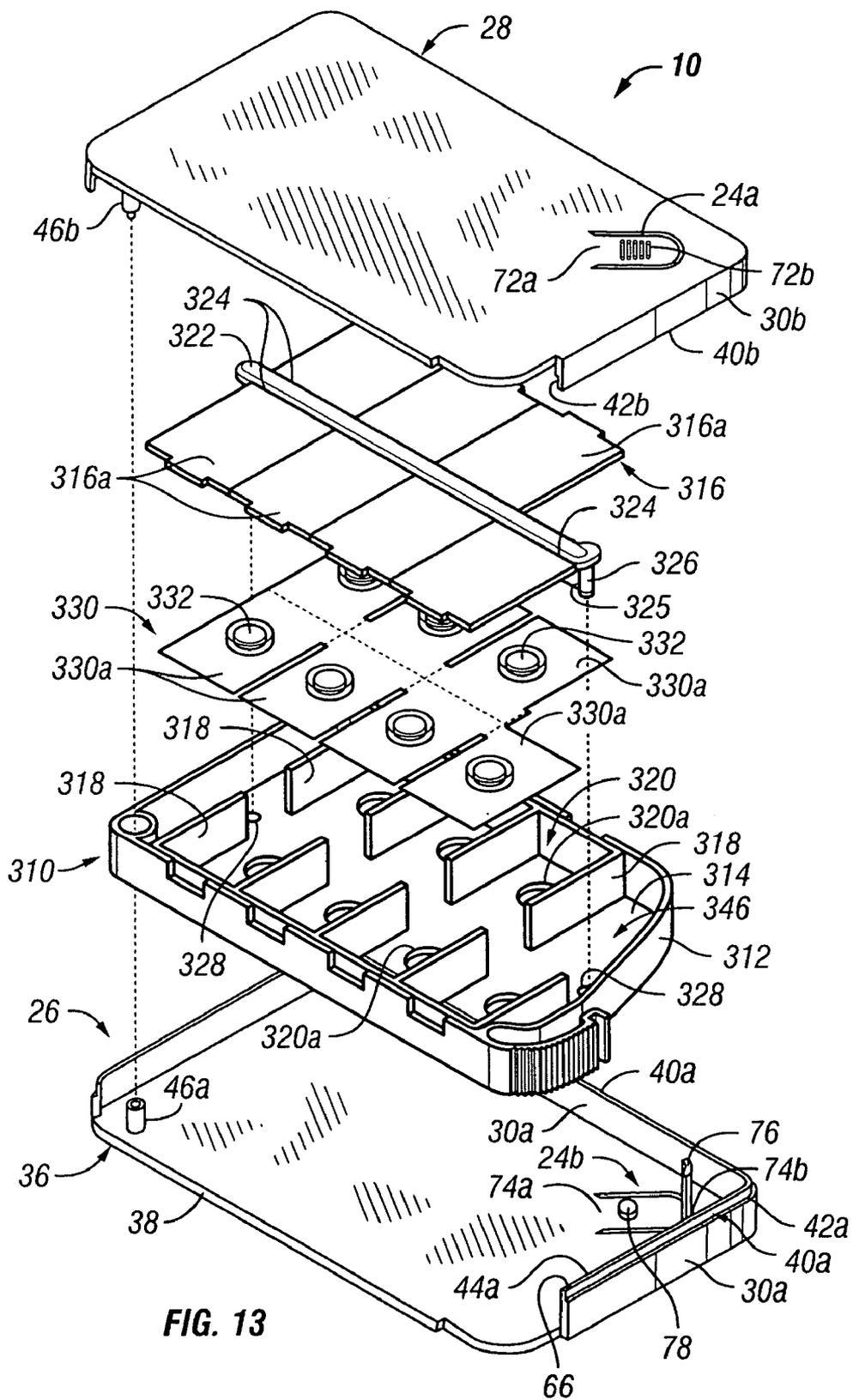


FIG. 12



## CHILD-RESISTANT CONTAINER

### CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application is a continuation-in-part application of U.S. patent application No. 10/941,588, filed Sep. 14, 2004, which is a continuation-in-part application of U.S. Pat. No. 6,789,677, filed Dec. 2, 2002 and claims priority from U.S. Provisional Patent Application No. 60/334,409, filed Nov. 30, 2001 and entitled "Child-resistant Container".

### BACKGROUND OF THE INVENTION

[0002] The present invention relates to a child-resistant container and more specifically to a child-resistant container for storing a blister pack having an arrangement of blisters each of which contains a tablet or capsule.

[0003] Many pharmaceutical products such as tablets and capsules are packaged in blister packs to deter children from obtaining and ingesting the products, to provide a small quantity of medication in a cost effective package and to allow for compliance throughout the medication cycle. In addition, the blister packs are commonly utilized as physician samples for specific drugs and are not always packaged in a child-resistant package/container. The designer of such blister packs is confronted with conflicting requirements. The blister pack should be child-resistant and at the same time able to be opened without unreasonable difficulty. Typical blister packs are known to be difficult for some adults to open while still failing to be a deterrent for unsupervised children. In addition, blister packs are often utilized to help users keep track of their daily dosage of medication, which is taken over long periods of time. Storage of multiple blister packs in a single location aids a patient in remembering to take their medication each day over the months and years that the patient may need the medication.

[0004] A child-resistant container for storing blister packs provides a second layer of safety. To be effective the container should require a degree of perception and manual dexterity above the abilities of unsupervised children attempting to gain access to the contents of the blister pack and should also be easy for adults to use. A container requiring the coordinated use of both hands and the simultaneous application of a force to both a latch and a lock assembly to gain access to the blister pack, such as the container of the invention disclosed herein, should provide the requisite level of protection.

[0005] A container that is able to conveniently store multiple blister packs that also present a convenient tool for a patient to remember to take their medication over numerous months and years is also disclosed herein. The container may include a number of trays that require the coordinated use of both hands to open and store a plurality of blister packs corresponding to multiple days, months or years worth of medication for a patient.

### BRIEF SUMMARY OF THE INVENTION

[0006] Briefly stated, the present application is directed to a child-resistant container for holding at least one item wherein the container includes a housing having upper and lower walls and a tray including a sidewall and a base plate

mounted to the housing for movement between a retracted position in which the tray is positioned in the housing and an exposed position in which the tray extends from the housing. The sidewall and base plate define a storage cavity. A lid is movably mounted to the tray and is moveable between a closed position covering the storage space and an open position exposing the storage space.

[0007] In another aspect, the present application is directed to a tray for a child-resistant container that stores a plurality of blisters of a blister pack. The tray includes a generally planar base plate and a sidewall extending generally perpendicularly from a peripheral edge of the base plate. The base plate and sidewall define a storage space. At least one dividing wall extends across the base plate within the storage space. The sidewall and the at least one dividing wall define a plurality of storage wells within the storage space. Each storage well includes a blister positioned therein and a hole in the base plate for alignment with a medication dose in the blister.

### BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS

[0008] The foregoing summary, as well as the following detailed description of the preferred embodiments 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 embodiments which are presently preferred. It should be understood, however, that the invention is not limited to the precise arrangements and instrumentalities shown.

[0009] In the drawings:

[0010] **FIG. 1** is a top perspective view of the child-resistant container in accordance with a first preferred embodiment of the present invention

[0011] **FIG. 2** is a top perspective view of the child-resistant container IN **FIG. 1** showing the tray in the second (open) position;

[0012] **FIG. 2A** is a top perspective view of the child-resistant container in **FIG. 1** showing the tray in the second (open) position and a second embodiment of a second locking mechanism;

[0013] **FIG. 2B** is a cross-sectional view of the second locking mechanism of **FIG. 2A**, taken along line 2B-2B of **FIG. 2A**;

[0014] **FIG. 3** is a top plan view of the child-resistant container in **FIG. 1**;

[0015] **FIG. 3A** is a greatly enlarged view of a portion of **FIG. 3** showing the latch assembly;

[0016] **FIG. 4** is a right side elevation view of the child-resistant container in **FIG. 3**;

[0017] **FIG. 5** is a front elevation view of the child-resistant container in **FIG. 3**;

[0018] **FIG. 6** is an exploded top perspective view of the child-resistant container in **FIG. 1**;

[0019] **FIG. 7** is a top plan view of the child-resistant container in **FIG. 1** showing a preferred ornamental design for the top of the housing;

[0020] FIG. 8 is a partial top plan view of the child-resistant container in FIG. 1, showing another preferred ornamental design for the top of the housing.

[0021] FIG. 9 is a top perspective view of a child-resistant container in accordance with a second preferred embodiment of the present application;

[0022] FIG. 10 is a top perspective view of a tray for a child-resistant container including blister packs exploded therefrom in accordance with a third preferred embodiment of the present application;

[0023] FIG. 11 is a top perspective view of a child-resistant container including a rotatable blister pack therein, in accordance with a fourth preferred embodiment of the present application;

[0024] FIG. 12 is an exploded top perspective view of a child-resistant container in accordance with a fifth preferred embodiment of the present application; and

[0025] FIG. 13 is an exploded top perspective view of the child-resistant container of FIG. 12 showing an alternative tray therein.

#### DETAILED DESCRIPTION OF THE INVENTION

[0026] Certain terminology is used in the following description for convenience only and is not limiting. The words “right,” “left,” “lower” and “upper” designate directions in the drawings to which reference is made. The words “inwardly” and “outwardly” refer to directions toward and away from, respectively, the geometric center of the child-resistant container and designated parts thereof. The terminology includes the words above specifically mentioned, derivatives thereof, and words of similar import.

[0027] Referring to the drawings in detail, wherein like numerals indicate like elements throughout, there is shown in FIGS. 1-7 a first preferred embodiment of a child-resistant container 10 in accordance with the present invention. Referring to FIGS. 1-7 and 11, the container 10 of the first preferred embodiment is for containing a blister pack 202 (see also FIG. 10—blister packs 120, 122) having an arrangement of blisters, each containing a medication dose or tablet 202a. One having ordinary skill in the art will realize that the blister pack 202 typically includes a generally transparent top layer and a generally opaque rear layer that is bonded to the top layer such that moisture or other foreign matter is unable to penetrate the blister pack 202. The rear layer of the blister pack 202 is rupturable such that the medication dose 202 may be urged through the rear layer by applying a force, generally perpendicular to the top layer, to the medication dose 202. The top layer is typically constructed of a polymeric material and the rear layer is typically constructed of a foil-type material or a laminate with at least one layer of foil therein.

[0028] Those having ordinary skill in the art will appreciate from this disclosure that contents or items other than tablets or capsules can be contained in the container 10 of the present application. For example, liquid or granular pharmaceuticals, contact lenses suspended in liquid or similar items potentially hazardous to children or adults can be safely contained in a readily accessible and convenient manner using the container 10 of the present invention.

Accordingly, while the first preferred embodiment of the container 10 is discussed below as having a tray 20 for holding a blister pack, those having ordinary skill in the art will appreciate from this disclosure that the present invention is not limited to containers for containing blister packs.

[0029] The container 10 may be used to contain other contents without departing from the spirit and scope of the present invention. The necessary changes to the container 10 to accommodate contents other than a blister pack would be obvious to one of ordinary skill in the art when considered in combination with this disclosure. Accordingly, for brevity, the below disclosure is directed to a container 10 for blister packs having an arrangement of tablets with the understanding that the invention is not limited to containing blister packs or tablets.

[0030] Referring to FIGS. 1-3 and 6, the container 10 includes a housing 18, a tray 20, a latch 22, and a lock assembly 24. The housing 18 has a generally rectangular shape. However, those of skill in the art will appreciate from this disclosure that the container 10 of the present invention is not limited to a container having a housing of any particular shape. For example, the housing 18 may be cylindrically shaped, triangularly shaped, cubically shaped or the like without departing from the scope of the present invention. Preferably, the rectangular-shaped housing 18 has first, second, third, and fourth comers 18a, 18b, 18c, 18d, each of which has a generally arcuate shape. The first corner 18a preferably has a radius of curvature greater than the second, third and fourth comers 18b, 18c, 18d and is adjacent to the second and fourth comers 18b, 18d. As will be discussed further below, those having ordinary skill in the art will understand that the first corner 18a having the greater radius of curvature enables a user to readily ascertain the orientation of the container 10. The artisan will also understand that there are numerous other methods that may be employed to enable the user to determine the orientation of the container 10, such as a faceted corner or the use of a textured surface. Thus the invention is not limited to the use of generally arcuate comers, one of which having a distinguishable difference in its radius of curvature over others, as the sole method for determining orientation.

[0031] Referring to FIGS. 2-3 and 6, the housing 18 has a base 26, a top 28, at least one closed side 30 and at least one open side 32. The at least one closed side 30 extends between the base 26 and the top 28 along a first portion 34 of a perimeter 36 of the base 26. The at least one open side 32 extends between the base 26 and the top 28 along a second portion 38 of the perimeter 36 of the base 26 and at least from the fourth corner 18d to the first corner 18a. Preferably the at least one closed side 30 comprises a base component 30a and a top component 30b. The base component 30a extends upwardly from the base 26 and the top component 30b extends downwardly from the top 28. The top edge 40a of the base component 30a of the at least one closed side 30 has a rabbet 42a with an outwardly projecting lip 44a. The bottom edge 40b of the top component 30b of the at least one closed side 30 has a rabbet 42b with an inwardly projecting lip (not shown) for mating in a snap fit connection with the corresponding rabbet 42a and lip 44a of the top edge 40a of the at least one closed side 30.

[0032] Those having ordinary skill in the art will understand from the present disclosure that the base component

**30a** and the top component **30b** of the at least one closed side **30** are preferably formed as an integral part of the base **26** and top **28**, respectively. The artisan also will understand that the base component **30a** and the top component **30b** may be secured to each other by a variety of other well known fastening methods such as an interference fit, screws, adhesives or the like. Further, the artisan will understand that the base component **30a** and the top component **30b** need not be formed as an integral part of the base **26** and top **28**, respectively, but rather may be separate structures secured to the base **26** and top **28**, respectively, by the methods discussed above without departing from the spirit and scope of the invention.

[0033] A pivot **46** extends between the base **26** and the top **28** through the tray **20** as discussed below. The pivot **46** is preferably positioned proximal to the fourth corner **18d** of the housing **18** and comprises a first cylindrical structure **46a** and a second cylindrical structure **46b**. The first cylindrical structure **46a** is integral with the base and extends upwardly from the base **26**. The second cylindrical structure **46b** is integral with the top **28**, extends downwardly from the top **28** and engages the first cylindrical structure **46a** in peg-in-hole like union. Those skilled in the art will understand from this disclosure that the pivot **46** may be any of a variety of well known connectors that provide for angular displacement between to the connected structures, such as a hinge, without departing from the spirit and scope of the invention.

[0034] The tray **20** preferably has a shape that generally corresponds to the shape of the base **26** and is preferably generally rectangular in shape. The tray **20** is pivotably connected to the housing **18**. Preferably the tray **20** has a pivot hole **48** therethrough that is journaled with the pivot **46**. The tray **20** is pivotable between a first (or closed) position **50** (FIG. 1) in which the tray **20** is in the housing **18** and a second (or open) position **52** (FIG. 2) in which the tray **20** extends through the at least one open side **32** of the housing **18**. The tray **20** has at least one side **54** that extends upwardly along a first portion **56** of the perimeter **58** of the tray **20** and that corresponds to the at least one open side **32** of the housing **18**. Those having ordinary skill in the art will understand from this disclosure that the at least one side **54** preferably, but not necessarily, extends around the entire perimeter **58** of the tray **20**. The tray **20** additionally has a plurality of access holes **60** for providing access to the corresponding arrangement of blisters of the blister pack securable to the tray **20** by a plurality of pins **62** integral with the tray **20** and extending upwardly therefrom.

[0035] Referring to FIGS. 3, 3A and 6, the latch **22** comprises a flexible member **64** associated with the tray **20** and a notch **66** associated with the housing **18**. The flexible member **64** has a first end **64a** that is integral with the at least one side **54** of the tray **20** and a second end **64b** that has an outwardly projecting tang **68**. The flexible member **64** is elastically biased outwardly. The notch **66** is in an inwardly facing surface of the at least one closed side **30** of the housing **18**. The notch **66** is proximal to the first corner **18a** of the housing and is positioned for releasably engaging the tang **68** when the tray **20** is in the first position **50** (FIG. 1). The outwardly facing surface of the latch **22** preferably, but not necessarily, is a textured surface. Those skilled in the art will understand from the present disclosure that the latch **22**

may be one of a variety of well known latching devices, such as a slider or a snap without departing from the spirit and scope of the invention.

[0036] Referring to FIGS. 3 and 6, the lock assembly **24** is connected to the housing **18** and is engageable with a security aperture **70** in the tray **20** when the tray **20** is in the first position **50** (FIG. 1). The lock assembly **24** preferably comprises a flexible upper tab **24a** and a flexible lower tab **24b**. The upper tab **24a** is preferably formed from a partial cutout in the top **28** and has a first end **72a** integral with the top **28** of the housing **18** and a second free end **72b**. The upper tab **24a** is elastically biased outwardly and displaceable inwardly. The lower tab **24b** is elastically biased inwardly and displaceable outwardly. An upwardly extending push rod **76** is integral with the lower tab **24b** proximal to the second free end **74b** and engages the upper tab **24a**. An upwardly extending security boss **78** spaced from the push rod **76** is also integral with the lower tab **24b** and is positioned for removable insertion into the security aperture **70** in the tray **20**, when the tray **20** is in the first position **50**. Those skilled in the art will understand from the present disclosure that other methods may be used to lock the tray **20** in the first position **50** such as an outwardly biased bolt slideable within a bore in the top **28** of the housing **18**, without departing from the spirit and scope of the present invention.

[0037] Referring to FIG. 2A, a second embodiment of the lock assembly **24** or second locking mechanism **24'** is movably mounted to the top wall **28** of the housing **18** and includes an arm **25** that extends downwardly from an upper tab **24a'** with a hook-shaped member **25a** at a distal end. The second locking mechanism **24'** is movable between a locking position and a release position. The second locking mechanism **24'** engages and locks the tray **20** within the housing **18** when the tray **20** is in the retracted position and the second locking mechanism **24'** is in the locking position. In this embodiment the second locking mechanism **24'** does not include the lower tab **24b** that is mounted to the base component **30a** of the housing **18**. The second embodiment of the second locking mechanism **24'** further includes a cam surface **25b** and a shoulder **25c** on the tray **20**. In the preferred alternative embodiment, the cam surface **25b** and shoulder **25c** are integrally molded into the side **54** of the tray **20** adjacent a corner of the tray **20**.

[0038] In operation, the cam surface **25b** moves the second locking mechanism **24** from the locking position to the release position as the tray **20** pivots from the exposed position toward the retracted position. The second locking mechanism **24'** engages the shoulder **25c** when the tray **20** is in the retracted position, thereby locking the tray **20** in the retracted position. To release the tray **20** from the retracted position, the upper tab **24a'** is depressed toward the tray **20**, thereby moving the hook-shaped member **25a** out of engagement with the shoulder **25c**, the latch **22** is actuated and the tray **20** is released to pivot toward the open position upon the application of a torque to the tray **20**. When returning the tray **20** to the retracted position from the open position, the cam surface **25b** contacts the hook-shaped member **25a**, moving the upper tab **24a'** from the locking position to the release position. When the hook-shaped member **25a** clears the cam surface **25b**, the resilient upper tab **24a'** urges the hook-shaped member **25a** to the locking

position, thereby engaging the hook-shaped member **25a** with the shoulder **25c** and locking the tray **20** in the retracted position.

[0039] Referring to **FIGS. 7 and 8**, the upper tab **24a** and the upper tab **24a'** of the second preferred embodiment of the locking mechanism **24'** preferably includes an ornamental design such as a star or a target applied to its outer surface as depicted in the referenced figures to direct the user's attention to the location of the upper tab **24a, 24a'** on the container **10**. Additionally, preferably, but not necessarily, the top **28** of the container **10** may bear markings such as the markings shown in **FIGS. 7, 8 and 11** providing guidance to the user regarding how to operate the device. The ornamental design on the upper tab **24a, 24a'** is not limited to a star or target and may take on nearly any ornamental shape or pattern that provides in indication to a user for actuating the locking mechanism **24, 24a'**.

[0040] Those having ordinary skill in the art will understand from the above disclosure that the tray **20** is secured in the first position **50** by the latch **22** and one of the lock assemblies **24, 24'** and is angularly displaceable from the first position **50** toward the second position **52** upon the simultaneous application of an inwardly directed force to the flexible member **64** of the latch **22** and one of the upper tabs **24a, 24a'** of the locking mechanism **24, 24'** and a torque to the tray **20**.

[0041] Preferably, but not necessarily, the above-disclosed components of the container **10** are fabricated from deformable polymeric materials. However, a wide variety of well-known materials including but not limited to metals such as aluminum or stainless steel may be used without departing from the scope and spirit of the invention.

[0042] The container **10** is preferably ergonomically designed for simplicity of use as follows. The container **10** with the tray **20** in the first or closed position **50** grasps the container **10** in the left hand with the at least one closed side **30** facing the palm of the user's hand, the top **28** facing upwardly and the left thumb placed over the upper tab **24a** of the lock assembly **24**. The index finger of the user's right hand is placed on the flexible member **64** of the latch **22**. To open the container **10**, the user simultaneously applies with the left thumb and right index finger an inwardly directed force to the upper tab **24a** and the flexible member **64** respectively and a torque to the tray **20**. The force applied to the upper tab **24a** causes the upper tab **24a** to be displaced inwardly and thereby transfer the force to the push rod **76** of the lower tab **24b** which, in turn, is displaced downwardly and outwardly to withdraw the security boss **78** from the security aperture **70** and unlock the tray **20**.

[0043] The application of the inwardly directed force to the flexible member **64** causes an inward displacement of the flexible member **64**, which in turn causes the withdrawal of the tang **68** from the notch **66** in the at least one closed side **30** of the housing **18**. The simultaneous withdrawal of the security boss **78** and the tang **68** frees the tray **20** for angular displacement about the pivot **46**. With both the upper tab **24a** and the flexible member **64** inwardly displaced, the application of the torque to the tray **20** pivots the tray **20** from the first (closed) position **50** to the second (open) position **52**.

[0044] When the tray **20** is in the open position **50**, the user may place a new blister pack in the tray **20** and secure it in

position with the blister pack retention pins **62**, remove a tablet from a blister of an already contained blister pack or replace an already present blister pack with another.

[0045] The application of a reverse torque to the tray **20** returns the tray **20** to the closed position **50**. When the tray **20** is returned to the closed position **50**, in the absence of the force applied to the upper tab **24a** and the flexible member **64**, the tang **68** is inserted in the notch **66** and the security boss **78** is inserted in the security aperture **70** due to the biased positioning of the latch **22** and the lock assembly **24**.

[0046] Referring to **FIG. 9**, a second preferred embodiment of a child-resistant container **110** for holding at least one item includes a housing **118** having an upper wall **118a** and a lower wall **118b**. In the preferred embodiment, the housing **118** also includes sidewalls **118c** that cover at least portions of three sides of the housing **118**. The housing **118** is preferably constructed of a generally rigid, injection molded polymeric material and has a generally boxy-shape. The preferred housing **118** has a similar construction to the housing **18** of the first preferred embodiment. However, one having ordinary skill in the art will realize that the housing **118** may be constructed of nearly any material and have nearly any shape that is able to withstand the normal operating conditions and meet the requirements of the child-resistant container **110** of the second preferred embodiment.

[0047] A first tray **112** is mounted on a pivot axis **114** for movement between a retracted position in which the first tray **112** is positioned in the housing **118** and an exposed position (**FIG. 9**) in which the first tray **112** extends from the housing **118**. In the second preferred embodiment, the first tray **112** is preferably constructed of the same or a similar material as the housing **118** and has a similar construction or essentially the same construction as the tray **20** of the first preferred embodiment. However, one having ordinary skill in the art will realize that the first tray **112** may have nearly any shape, construction or be produced using nearly any process that permits the first tray **112** to be mounted to the housing **118** and to be moveable between the retracted and exposed positions.

[0048] The child-resistant container **110** of the second preferred embodiment also includes a second tray **116** that is pivotally mounted to the housing **118**. The second tray **116** is mounted to the housing **118** for movement between a retracted position in which the second tray **116** is positioned in the housing **118** and an exposed position in which the second tray **116** extends from the housing **118** (**FIG. 9**). In the second preferred embodiment, the second tray **116** has the same or a similar construction when compared to the first tray **112**, however, one having ordinary skill in the art will realize that the second tray **116** may have nearly any construction or shape that is able to be mounted to the housing **118** and is moveable between the retracted and exposed positions.

[0049] In the second preferred embodiment, the second tray **116** is pivotally mounted to the housing **118** on the pivot axis **114** immediately adjacent the first tray **112**. The first and second trays **112, 116** may be mounted on a pivot shaft (not shown) that extends between the upper wall **118a** and lower wall **118b**, preferably adjacent one corner of the housing **118**. This construction and positioning of the pivot axis **114** and pivot shaft accommodates movement of the first and

second trays **112**, **116** between the retracted and extended positions, respectively. One having ordinary skill in the art will realize that the first and second trays **112**, **116** are not necessarily both pivotally mounted to the housing **118** on the pivot axis **114** and may be mounted in a different fashion to the housing **118** or at an alternative position. For example, the first tray **112** may be pivotally mounted along the pivot axis **114** and the second tray **116** may be slideably mounted to the housing **118** or pivotally mounted to the housing **118** on a different axis that is preferably positioned at one of the other corners of the housing **118**.

[0050] The first and second trays **112**, **116** are adapted for holding the at least one item, which in the preferred embodiment is comprised of first and second blister packs **120** (FIG. 10). The first blister pack **120** is preferably mounted on the first tray **112** and the second blister pack **120** is preferably mounted on the second tray **116**. The first and second trays **112**, **116** are preferably sized and have a shape that accommodates the blister packs **120** and allows simple mounting of the blister packs **120** to the trays **112**, **116**. The first and second blister packs **120** are preferably mounted to the first and second trays **112**, **116** such that the blister packs **120** are inaccessible when the first and second trays **112**, **116** are in the retracted positions and are exposed when the first and second trays **112**, **116** are in the exposed positions, respectively. In the preferred embodiment, the blister packs **120** include seven columns and four rows of medication. This configuration represents the medication for a patient during a four week period or for approximately one-month. The first and second trays **112**, **116** are preferably configured to accept this type of blister pack **120**, **122** such that the individual doses of medication are exposed from the trays **112**, **116**. One having ordinary skill in the art will realize that the first and second blister packs **120**, **122** and first and second trays **112**, **116** are not limited to the above-described one-month dose configuration and may be configured to accommodate nearly any shape and sized blister pack or other item that is convenient for storage in the child-resistant container **110**. In addition, one having ordinary skill in the art will realize the above-described configuration results in twenty-eight single items of medication on each tray, which would store doses of medication that is taken each day for a four week period or slightly short of one month in most cases. Additional slots for extra doses of medication for particular months may be inserted to accommodate single doses for each day of a month.

[0051] A common locking mechanism **124** engages the first and second trays **112**, **116** to releasably lock the first and second trays **112**, **116** in the retracted positions, respectively. In the second preferred embodiment, the common locking mechanism **124** is mounted to the housing **118** and releasably locks the first tray **112** and the second tray **116** in the retracted positions. The preferred common locking mechanism **124** is constructed in a similar manner and has a similar operation to the lock assembly **24** of the first preferred embodiment. Specifically, the common locking mechanism **124** preferably includes a flexible tab **126** that is mounted to the upper wall **118a** and has a target thereon. The common locking mechanism **124** also preferably includes a plurality of flexible lower tabs (not shown) that are similar in construction and operation to the flexible lower tab **24b** of the first preferred embodiment. The flexible lower tabs of the second preferred embodiment are preferably mounted to

intermediate walls **128** of the housing **118** that are vertically spaced between the upper and lower walls **118a**, **118b**.

[0052] One having ordinary skill in the art will realize how the flexible lower tabs are accommodated by the intermediate walls **128** with one flexible lower tab accommodated by the lower wall **118b**. The flexible lower tabs will not be described in further detail, as being understood by one having ordinary skill in the art in structure and operation. In addition, one having ordinary skill in the art will realize that the child-resistant container **118** of the second preferred embodiment does not require flexible lower tabs constructed in the same manner as the flexible lower tabs **24b** of the first preferred embodiment and may include a single flexible lower tab with a single push rod extending between the flexible tab **126** at the upper wall **118b** and being mounted to the lower wall **118b**. The single push rod would include cantilevered locking arms (not shown) extending therefrom to releasably engage at least the first and second trays **112**, **116** in the retracted positions. This configuration would be similar to the second preferred embodiment of the locking mechanism **24'** shown in FIGS. 2A and 2B.

[0053] In the second preferred embodiment, the first and second trays **112**, **116** each include an individual locking mechanism **130**. The individual locking mechanisms **130** are releasably engageable with the housing **118** to releasably lock the first and second trays **112**, **116** in the retracted positions in association with the common locking mechanism **124**. In second the preferred embodiment, the individual locking mechanisms **130** are constructed and operate in the same manner as the latch **22** of the first preferred embodiment (FIG. 3A). However, one having ordinary skill in the art will realize that the individual locking mechanisms **130** are not limited to the identical structure and/or construction of the latch **22** of the first preferred embodiment and may be constructed and have a structure of nearly any locking mechanism that releasably secures the first and second trays **112**, **116** in the retracted positions.

[0054] In the second preferred embodiment, the first and second trays **112**, **116** are only removable from the retracted positions to the exposed positions upon simultaneously releasing the common locking mechanism **124** and the respective individual locking mechanism **130**. For example, to release the first tray **112** from the retracted position to the exposed position, the flexible tab **126** is depressed toward the lower wall **118b**, thereby releasing the common locking mechanism **124** and the individual locking mechanism **130** is depressed toward a center of the first tray **112**, which releases the individual locking mechanism **130** from the housing **118**. A torque may then be applied to the first tray **112** about the pivot axis **114** to move the first tray **112** from the retracted position to the exposed position. An item that is mounted to the first tray **112** may be removed from the tray **112**, for example, a unit of medication may be removed from a blister pack **120** that is mounted to the first tray **112**. The torque may be applied manually by a patient at the individual locking mechanism **130** or anywhere that is accessible on the first tray **112** or may be applied by a spring (not shown) that is mounted at one end to the first tray **112** and to the housing **118** at another end.

[0055] One or more supplemental trays **132** may be pivotally mounted to the housing **118** on the pivot axis **114** in the second preferred embodiment. The supplemental tray

**132** or trays **132** are separate from the first and second trays **112**, **116** and are also pivotable between retracted (**FIG. 9**) and exposed positions. Nearly any number of supplemental trays **132** may be mounted to the housing **118** in a stacked manner or in nearly any configuration that allows mounting of the supplemental trays **132** to the housing **118** and movement of the supplemental trays **132** to and between the retracted and exposed positions. The supplemental trays **132** preferably have the same shape, construction, configuration and operation as the first and second trays **112**, **116**.

[0056] The common locking mechanism **124** is mounted to the housing **118** and releasably maintains the supplemental trays **132** in the retracted position. The supplemental trays **132** also include an individual locking mechanism **130** that releasably engages the housing **118** when the supplemental trays **132** are in the retracted position. The supplemental trays **132** preferably accommodate additional items for use by the patient. For example, the supplemental trays **132** may accommodate additional blister packs **120** that contain medication associated with different months or periods of time than the medication contained in the first and second trays **112**, **116** or may be associated with different medication than the medication mounted to the first tray **112** or the second tray **116**.

[0057] The individual locking mechanisms **130** releasably engage the housing **118** when of the supplemental trays **132** are in the retracted position. The inclusion of the common locking mechanism **124** and individual locking mechanisms **130** prevent easy access to the item mounted to one of the trays **112**, **116**, **132** to a child or an individual having limited manual dexterity. Specifically, in order to pivot the trays **112**, **116**, **132** from the retracted to the exposed position, the common locking mechanism **124** must be released and the individual locking mechanisms **130** must be released concurrently.

[0058] The preferred first, second and supplemental trays **112**, **116**, **132** are movable from the retracted position by application of a release force to the common locking mechanism **124** and a depression force to the respective individual locking mechanism **130**. Accordingly, both the common and individual locking mechanisms **124**, **130** must be released to release one of the trays **112**, **116**, **132**. For example, simply releasing the common locking mechanism **124** results in the trays **112**, **116**, **132** being retained in the retracted positions by the individual locking mechanisms **130**. Likewise, releasing one of the individual locking mechanisms **130** of any of the trays **112**, **116**, **132** results in the trays **112**, **116**, **132** being locked in the retracted positions by the common locking mechanism **124**.

[0059] Any of the trays **112**, **116**, **132** may be individually moved from the retracted to the exposed position without releasing any of the other trays **112**, **116**, **132** from the retracted to the exposed positions. For example, to release only the second tray **116** from the retracted to the exposed position, the common locking mechanism **124** is released, the individual locking mechanism **130** of the second tray **116** is released and the second tray **116** is pivoted from the retracted to the exposed position. The first and any other supplemental trays **132** are locked or retained in the retracted position by the respective individual locking mechanisms **130** in this situation.

[0060] The preferred supplemental trays **132** are mounted to the housing **118** on the pivot axis **114**. One having

ordinary skill in the art will realize that the supplemental trays **132** are not limited to being pivotally mounted to the housing **118** on the pivot axis **114** and may be slideably mounted to the housing **118** or pivotally mounted to the housing **118** at a location other than at the pivot axis **114**. However, mounting of all the trays **112**, **116**, **132** on the pivot axis **114** is preferred for a simple and consistent structure that is relatively simple to operate.

[0061] In the second preferred embodiment, the first, second and supplemental trays **112**, **116**, **132** are stacked in the housing **118** between the upper and lower walls **118a** and **118b** when each of the trays **112**, **116**, **132** is in the retracted position. Such a configuration consolidates the trays **112**, **116**, **132** within the housing **118** and provides for relatively easy access to the item that is mounted to one of the trays **112**, **116**, **132** and a simplified construction and operation for the child-resistant container **110** of the second preferred embodiment. However, one having ordinary skill in the art will realize that alternative constructions of the child-resistant container **110** of the second preferred embodiment may be employed where the trays **112**, **116**, **132** are not stacked when they are in the retracted positions.

[0062] In the second preferred embodiment, the first, second and supplemental trays **112**, **116**, **132** include blister packs **120** mounted thereto that store medication for a predetermined month or other time period. Accordingly, the individual trays **112**, **116**, **132** may each store a different medication for a single month or other time period or may store the same medication for consecutive months for use by a patient. For example, the child-resistant container **110** may be comprised of the first tray **112**, the second tray **116** and ten supplemental trays **132** that store the same medication for the twelve months of one year. Accordingly, a patient's medication for one year may be stored in a single child-resistant container **110** on twelve trays **112**, **116**, **132**. Alternatively, the twelve trays **112**, **116**, **132** may retain twelve different medications that will be taken over one month by a patient.

[0063] Referring to **FIG. 10**, a tray **140** for a child-resistant container of a third preferred embodiment (not shown) that stores a plurality of blister packs **120** includes a generally planar base **142** and a sidewall **144** extending generally perpendicularly from a perpendicular edge of the base plate **142**. The base plate **142** and sidewall **144** of the tray **140** define a storage space **146**. The child-resistant container of the third preferred embodiment preferably has a similar construction as the child-resistant container **10** of the first preferred embodiment besides having a generally greater distance between the top and base walls **28**, **26**, as will be described in greater detail below.

[0064] In the preferred embodiment, the tray **140** is constructed of a generally rigid polymeric material and has a generally shoe box-type configuration. One having ordinary skill in the art will realize that the tray **140** may be constructed of nearly any material and have nearly any shape or configuration that is able to withstand the normal operating conditions and requirements of the tray **140**.

[0065] The tray **140** also includes a first stake **148** that extends generally perpendicularly from the base plate **142**. The plurality of blister packs **120** are removably mounted to the first stake **148** and are positioned within the storage space **146** in a confined position. In a preferred embodiment,

the storage space 146 is large enough to accommodate three blister packs 120 therein, which are each mounted to the first stake 148 to retain the blister packs 120 within the storage space 146 in the confined position.

[0066] The preferred tray 140 has a wall height  $H_w$  that is defined by the sidewall 144, is at least one-half inch ( $\frac{1}{2}$ " ) and is preferably three-quarters of an inch ( $\frac{3}{4}$ " ). One having ordinary skill in the art will realize that the wall height  $H_w$  is not limited to being between one-half and three quarters of an inch and may have nearly any dimension that creates a storage space 146 on the tray 140. For example, if low profile blister packs 120 are mounted on the first stake 148 of the tray 140, the wall height  $H_w$  may be less than  $\frac{1}{2}$ " to accommodate the low profile blister packs 120. Alternatively, the wall height  $H_w$  may be greater than three-quarters of an inch ( $\frac{3}{4}$ " ) to accommodate thick or high profile blister packs 120 or any number of stacked blister packs 120. The typical stack of three blister packs 120 is accommodated by a three-quarter inch ( $\frac{3}{4}$ " ) wall height  $H_w$ .

[0067] A second stake 150 extends generally perpendicularly from the base plate 142 in a preferred embodiment and is spaced from the first stake 148. The blister packs 120 are preferably removably mounted to the first and second stakes 148, 150 in the confined position. The second stake 150 is not required for the operation of the tray 140 and is typically provided on the tray 140 to provide additional stability for the mounting of the blister packs 120 to the tray 140.

[0068] In the preferred embodiment, the blister packs 120 include a pair of holes 120a at one of their ends that are adhesively bonded to the first and second stakes 148, 150. One having ordinary skill in the art will realize that the blister packs 120 are not limited to the inclusion of the holes 120a or to being adhesively bonded at the holes 120a to the first and second stakes 148, 150. For example, the blister packs 120 may be clamped, bolted or secured by hook and loop material to only the first stake 148 to mount the blister packs 120 to the tray 140 or to the base plate 142 or sidewall 144.

[0069] Referring to FIGS. 1, 2 and 10, the tray 140 may be adapted for use with the child-resistant containers 10, 110 of the first or second preferred embodiments. For example, the tray 140 may be pivotally mounted to the housing 18 on the first and second cylindrical structures 46a, 46b. The tray 140 would be pivotable between a retracted position wherein the tray 140 is positioned within the housing 18 between the upper and lower walls 28, 32 and an exposed position wherein the tray 140 and blister packs 120 are accessible in the tray 140. This preferred tray 140 would also include a manual locking mechanism 152 that has a structure, configuration and operation that is preferably the same as the latch 22 of the first preferred embodiment but not so limited. The preferred manual locking mechanism 152 is mounted to the sidewall 144 and engages the housing 18 to releasably lock the tray 140 in the retracted position. One having ordinary skill in the art readily recognizes how the tray 140 is adaptable to inclusion in the child-resistant container 10 of the first preferred embodiment as a replacement for the tray 20 of the first preferred embodiment.

[0070] Mounting the plurality of blister packs 120 in the storage space 146 permits a user to store multiple blister packs 120 including identical medication for various months of the year or different medications for the same month,

while storing the medication in the storage space 146 of the tray 140. The inclusion of a plurality of blister packs 120 in the tray 140 enhances the convenience and access to the item or medication in the blister packs 120.

[0071] In the preferred embodiment, the plurality of blister packs 120 are secured to the first and second stakes 148, 150 and the items of medication from the uppermost blister pack 120 are removed and used before any of the lower blister packs 120. When all of the items or medications are removed from the uppermost blister pack 120, the uppermost blister pack 120 may be ripped or released from the first and second stakes 148, 150, thereby completely exposing the next lowest blister pack 120 from the storage space 146. The lower blister packs 120 may then be exhausted of their medication or additional blister packs 120 may be mounted on top of the lower blister packs 120 to the first and second stakes 148, 150.

[0072] Referring to FIGS. 9 and 10, one having ordinary skill in the art will also realize that the tray 140 may be adapted for use in the child-resistant container 110 of the second preferred embodiment. Specifically, multiple trays 140 may be stacked in the housing 118 such the trays 140 are movable between the retracted position and the exposed position. In the retracted position, the trays 140 would be locked by the common locking mechanism 124 and the manual locking mechanism 152.

[0073] Referring to FIG. 11, in a fourth preferred embodiment, a container 200 for holding at least one, generally disc-shaped blister pack 202 includes a housing 210 having an upper wall 210a and a lower wall (not shown). A tray 220 is mounted to the housing 210 for pivotal movement between a retracted position in which the tray 220 is positioned in the housing 210 and an exposed position (FIG. 11) in which the tray 220 extends from the housing 210. The tray 220 is pivotable on a plane that is generally parallel to the upper and lower walls 210a. In the preferred embodiment, the housing 210 and tray 220 have a similar configuration and operation when compared to the above-described trays 20, 112, 116, 132 and housings 18, as will be understood by one having ordinary skill in the art.

[0074] In the fourth preferred embodiment, the tray 220 includes a hole 220a therein. The hole 220a preferably extends through the tray 220 and has a generally circular or oval cross-section. The hole 220a is not limited to circular or oval cross-sections and may have nearly any cross-section that permits the hole 220a to perform its normal operating function, as will be described in greater detail below.

[0075] The blister pack 202 includes a plurality of medication doses or tablets 202a therein and is rotatably mounted to the tray 220 such that one of the plurality of medication doses 202a selectively aligns with the hole 220a depending upon a rotational orientation of the blister pack 202. One having ordinary skill in the art is familiar with the general structure and construction of the blister pack 202 and the mounting of individual medication doses 202a therein.

[0076] Therefore, the structure and construction of the blister pack 202 will not be described in further detail. In the fourth preferred embodiment, the individual medication doses 202a have a generally circular cross-section that is slightly smaller than the generally circular or oval cross-section of the hole 220a. Accordingly, the individual medi-

cation doses **202a** are able to move, through the hole **220a** without becoming wedged within the hole **220a**. The medication doses **202a** are not limited to generally circular or oval cross-sections and may take on nearly any shape or size and the hole **220a** may also take on nearly any shape or size that permits the individual medication doses **202a** to move through the hole **220a** without becoming wedged or jammed therein.

[0077] In the fourth preferred embodiment, the container **200** also includes a blister disc **230** that is removably and rotatably mountable to the tray **220**. The blister pack **202** is fixed to the blister disc **230** and the blister disc **230** includes a plurality of slots **230a** that correspond to the plurality of medication doses **202a** of the blister pack **202**. In the fourth preferred embodiment, the blister pack **202** has a generally disc-shaped configuration and is adhesively bonded to the blister disc **230**. The blister disc **230** also has a generally circular, disc-shape with the slots **230a** positioned within and adjacent to a peripheral edge **230b** of the blister disc **230**. The slots **230a** preferably have generally a similar cross-sectional shape as the hole **220a** and individual medication doses **202a**. The blister pack **202** is preferably fixed to the blister disc **230** such that the individual medication doses **202a** are positioned immediately above and adjacent to the slots **230a**. Accordingly, when a force is applied to the blister pack **202** at one of the medication doses **202a**, the individual medication dose **202a** is urged out of the blister pack **202** and through the respective slot **230a**.

[0078] In the fourth preferred embodiment, a post (not shown) extends generally perpendicularly from the tray **220** and is positioned generally at the center of the tray **220**. The blister disc **230** is rotatably mounted to the post and is rotatable about a rotation axis **250**. One having ordinary skill in the art will realize that the blister disc **230** is not limited to being rotatably mounted to the tray **220** on a post or to the inclusion of the blister disc **230**. For example, the blister pack **202** may be rotatably mounted directly to the tray **220** in a generally circular groove (not shown) on the tray **220** that slidably engages a peripheral edge **202b** of the blister pack **202**.

[0079] The fourth preferred embodiment further includes a disc knob **260** that is removably mountable to the post. The disc knob **260** is mounted to a distal end of the post **240** when the blister disc **230** is mounted to the tray **220** to rotatably secure the blister disc **230** on the tray **220**. The disc knob **260** removably secures the blister disc **230** to the tray **220** through a releasable force fit with the post. Accordingly, the disc knob **260** removably and rotatably secures the blister disc **230** to the tray **220**. One having ordinary skill in the art will realize that the disc knob **260** is not required for successful use of the blister disc **230** and the blister disc **230** may be secured to the post or another component of the tray **220** such that the blister disc **230** is rotatable relative to the tray **220**.

[0080] The fourth preferred embodiment also includes an alignment indicator **270** located on an exposed face of the tray **220** adjacent the hole **220a**. The alignment indicator **270** provides an indication to a user regarding when one of the individual medication doses **202a** is aligned with the hole **220a** such that a force applied to the individual medication dose **202a** toward the tray **220** urges the individual medication dose **202a** through the blister pack **202** and the hole

**220a**. The hole **220a** is covered by the blister pack **202** when the blister pack **202** is mounted to the tray **220**. The alignment indicator **270** is visible on the exposed face adjacent the peripheral edge **202b** when the blister pack **202** is mounted to the tray **220**. In the most preferred embodiment, the individual medication doses **202a** are aligned with the corresponding slots **230a** in the blister disc **230**. Further, when one of the individual medication doses **202a** is aligned with the alignment indicator **270**, the corresponding slot **230a** is aligned with the hole **220a**.

[0081] The tray **220** of the fourth preferred embodiment may include an information panel **222** on its face that may provide written information or instructions for a user when the tray **220** is in the exposed position. For example, the information panel **222** may include directions for use, ingredients, dosage or other instructions related to the medication doses **202a**. However, the information panel **222** is not limiting and may be eliminated or expanded depending upon the specific application of the tray **220**.

[0082] In operation, the generally disc-shaped blister pack **202** is adhesively bonded to the blister disc **230** and the blister disc **230** is rotatably mounted to the tray **220**. The disc knob **260** is mounted to the tray **220**, thereby removably and rotatably securing the blister disc **230** to the tray **220**. The blister disc **230** and attached blister pack **202** may be rotated about the rotation axis **250** to selectively align individual medication doses **202a** and corresponding slots **230a** with the alignment indicator **270** depending upon the rotational orientation of the blister pack **202** and blister disc **230**. When a predetermined medication dose **202** is aligned with the alignment indicator **270**, a force is applied to the individual medication dose **202a** that is aligned with the alignment indicator **270** toward the tray **220**, thereby urging the individual medication dose **202a** through the blister pack **202**, the slot **230a** and the hole **220a**. A user may position their hand on an opposite side of the tray **220** from the exposed face such that the individual medication dose **202a** falls into their hand when released from the blister pack **202**. When the individual medication dose **202a** is released from the blister pack **202**, the blister disc **230** may be rotated such that another individual medication dose **202a** and corresponding slot **230a** is aligned with the hole **220a**. A force may again be applied to urge the second individual medication dose **202a** from the blister pack **202**. Each individual medication dose **202a** may be associated with a specific medication, for example, daily doses, weekly doses or monthly doses. Cycle indicators (not shown) may also be associated with the individual medication doses **202a** to indicate the particular day, week, month, etc. during which the individual medication dose **202a** should be taken. Accordingly, the preferred tray **220** conveniently stores the individual medication doses **202a** and provides an indication to the patient if an individual medication dose **202a** has been missed or if the patient should take an individual medication dose **202a**.

[0083] Referring to FIGS. 1-2A, 12 and 13, in a fifth preferred embodiment, the child-resistant container **10** includes a tray **310** having a sidewall **312** and a base plate **314** mounted to the housing **18** for movement between a retracted position (FIG. 1) in which the tray **310** is positioned in the housing **18** and an exposed position (FIG. 2) in which the tray **310** extends from the housing **18**. The sidewall **312** and the base plate **314** define a storage space **346** for storing or holding at least one item. The tray **310**

generally operates and includes a child resistant locking mechanism that is similar to or the same as the structure, locking mechanism and operation of the above-described preferred containers. For example, in the fifth preferred embodiment, the tray **310** is pivotally mounted to the housing **18** on the first and second cylindrical structures **46a**, **46b** and preferably includes the latch **22** thereon. In addition, the housing **18** preferably includes the upper and lower tabs **24a**, **24b** for locking the tray **310** in the retracted position for child-resistant purposes. In addition, the tray **310** is preferably constructed of an injection molded polymeric material but is not so limited. The tray **310** may be constructed of nearly any material that is able to take on the general shape and withstand the normal operating conditions of the tray **310**.

[0084] In the fifth preferred embodiment, the tray **310** further includes dividing walls **318** within the storage space **346**. The dividing walls **318** preferably separate the storage space **346** into storage wells **320**. In the preferred embodiment, the tray **310** including the sidewall **312**, base plate **314** and dividing walls **318** are integrally formed by injection molding to form the storage space **346** and storage wells **320**. The tray **310** is not limited to being formed by injection molding and each of the components may be separately formed and assembled to construct the tray **310**, as would be understood by one having ordinary skill in the art. The sidewall **312** and dividing walls **318** preferably extend generally perpendicularly from the base plate **314** to form generally square or rectangular-shaped storage wells **320** within the storage space **346**. Specifically, the sidewall **312** preferably extends generally perpendicularly from a peripheral edge of the base plate **314** and the dividing walls **318** preferably extend continuously through the storage space **346** from one edge on the sidewall **312** to an opposite edge on the sidewall **312**. The storage wells **320** are preferably separated from each other by the dividing walls **318** such that an item positioned within one of the storage wells **320** has a tendency to remain in the selected storage well **320** as opposed to moving into one of the adjacent storage wells **320**. The storage wells **320** are not limited to the above-described shapes or configurations and may have nearly any shape or configuration that permits a user to position an item therein for storage purposes on the tray **310**.

[0085] In the fifth preferred embodiment, the tray **310** includes seven (7) storage wells **320** representing the seven days of a week. The tray **310** including the seven storage wells **320** may be filled with items that a user would need on one of the seven days of the week. For example, many patients who take daily doses of medication are prescribed a plurality of medications which must be taken on predetermined days of the week and the patient often takes a different number of pills during different days of the week and different types of pills are taken on specific days of the week. Accordingly, the patient may insert the proper medication into one of the storage wells **320** that is designated for a particular day of the week such that the patient takes the proper medications on the predetermined day of the week. The tray **310** with the seven storage wells **320** increases the likelihood that the patient will take the correct medication on each day of the week by identifying the medications stored in the predetermined storage wells **320** with a day of the week. The tray **310** is not limited to the inclusion of seven storage wells **320** and may include nearly any number of storage wells **320**. For example, the tray **310** may include

twenty-eight (28), thirty (30) or thirty-one (31) storage wells **320** therein designating the days of a selected month for insertion of an item that is needed on a particular day of the month or may include twenty-four (24) storage wells **320** therein for storage of items that are needed at one hour intervals during a day.

[0086] The tray **310** of the child-resistant container **10** of the fifth preferred embodiment further includes a lid **316** movably mounted to the tray **310**. The lid **316** is movable between a closed position covering the storage space **346** and an open position exposing the storage space **346**. The lid **316** is preferably constructed of an injection molded polymeric material. The material of the lid **316** may be transparent such that a user is able to view items within the storage space **346** or storage wells **320** when the lid **316** is in the closed position. In addition, the lid **316** may be opaque, potentially to protect the stored items from light. The lid **316** is not limited to polymeric construction and may be constructed of nearly any material that is able to take on the general shape of the lid **316** and withstand the normal operating conditions of the lid **316**.

[0087] In the fifth preferred embodiment, the lid **316** includes individual covers **316a** that are associated with each of the storage wells **320**. Each of the covers **316a** is moveable between the closed and open positions, alternatively covering and exposing the storage wells **320**. For example, the preferred lid **316** includes seven covers **316a** that alternatively cover or expose the seven storage wells **320**. Accordingly, a user may insert an item, such as medication into one of the storage wells **320** that is designated by a day of the week and store the medication in the selected storage well **320** with the cover **316a** in the closed position. When the selected day or time period is reached, the user may move the individual cover **316a** to the open position to remove the medication, while the remaining storage wells **320** are covered or sealed by the other covers **316a** in the closed positions. Preferably, the covers **316a** snap fit to the tray **310** in the closed position such that some force is required to move the covers **316a** from the closed to the open position. However, the covers **316** are not so limited and may rest on the sidewall **312** or the dividing walls **318** or may be biased toward the closed position in a manner that would be obvious to one having ordinary skill in the art.

[0088] The lid **316** or individual covers **316a** of the fifth preferred embodiment are pivotally mounted to the tray **310**. In the most preferred embodiment, the lid **316** includes a spine **322** having the individual covers **316a** pivotally mounted thereto. The spine **322** is preferably integrally molded with the individual covers **316a** and is preferably constructed of a polymeric material. The spine **322** is not limited to being integrally molded with the covers **316a** and may be separately constructed, as would be obvious to one having ordinary skill in the art. The covers **316a** are preferably pivotally mounted to the spine **322** by living hinges **324**. The living hinges **324** promote the pivotal movement of the covers **316a** relative to the tray **310** for movement between the closed and open positions. The covers **316a** are not limited to being mounted to the spine **322** by living hinges and may be mounted to the spine **322** or directly to the sidewall **312** or dividing walls **318** of the tray **310** using mechanical hinges or nearly any mechanism that permits movement or, preferably, pivotal movement of the covers **316a** relative to the tray **310**. In addition, the covers **316a**

may be mounted to the tray **310** such that they slide or fold between the closed position and the open position.

[0089] Referring to FIG. 13, the spine **322** of the lid **316** may extend downwardly from its top to a depth that is generally the same as a height of the dividing walls **318**. The spine **322**, in this configuration, defines at least one of the storage wells **320** along with the sidewall **312** and dividing walls **318**. That is, the spine **322** forms a central wall **325** through the storage space **346** to define the storage wells **320**. The spine **322** extends from one side of the tray **310** to an opposite side of the tray **310** and forms the central wall **325** that the dividing walls **318** butt against in an assembled configuration. In this embodiment, when the tray **310** includes seven storage wells **320**, the spine **322** forms the central wall **325** of each of the storage wells **320**. The spine **322** is not limited to extending to a depth similar to or the same as the height of the dividing walls **318**, and may not aid in defining any of the storage wells **320**, as is shown in the embodiment of FIG. 12.

[0090] In the fifth preferred embodiment, the lid **316** includes a snap post **326** and the tray **310** includes a post recess **328**. The snap post **326** preferably engages the post recess **328** to mount the lid **316** to the tray **310**. A bottom of the snap post **326** is preferably press fit into the post recess **328** to mount the lid **316** to the tray **310**. The snap post **326** and post recess **328** preferably provide for snap fitting of the lid **316** to the tray **310** to ease assembly of the child-resistant container **10**. The lid **316** is not limited to being snap fit to the tray **310** or to the inclusion of the snap posts **326** and post recesses **328**. For example, the lid **316** may be mounted to the tray **310** by adhesively bonding or ultrasonically welding the spine **322** to the tray **310** or otherwise securing the lid **316** to the tray **310** such that the covers **316a** are able to move from the closed to the open position.

[0091] Referring to FIGS. 12 and 13, in the fifth preferred embodiment, the tray **310** is used to store a blister pack **330** or individual blisters **330a**. The individual blisters **330a** include a tablet or medication dose **332** stored therein for dispensing from the blister **330a** in a manner that is well-known by one having ordinary skill in the art. Each storage well **320** preferably includes a blister **330a** positioned therein and each storage well **320** also preferably includes a hole **320a** in the base plate **314** for alignment with the medication dose **332**. Accordingly, when the blisters **330a** are positioned in the storage wells **320** such that the medication doses **332** are aligned with the holes **320a**, a user may press downwardly on the medication dose **332** such that the dose **332** is dispensed out of the hole **320a**. The tray **310** and storage wells **320** are not limited to storing blister packs **330** or blisters **330a** or to the inclusion of the holes **320a**. For example, the storage wells **320** may include solid floors or a solid base plate **314** and may store capsules, marbles, powdered medication or nearly any object that is able to fit within the storage wells **320**. However, the preferred tray **310** is convenient for the storage of blisters **330a** in the individual storage wells **320**, dispensing of the medication doses **332** from the holes **320a** and sales of blister pack-type medication to consumers. Specifically, the final user receives a child-resistant container **10** with their own seven-day regimen of blister pack-type medication therein for relatively simple dispensing and dosage monitoring.

[0092] The preferred blister pack **330** of the fifth preferred embodiment has an L-shape for insertion into the tray **310**

such that each one of the blisters **330a** is associated with one of the storage wells **320**. The blister pack **330** may be inserted into the tray **310** at least partially intact or the individual blisters **330a** may be separated from their blister pack **330** and individually inserted into the storage wells **320**. In operation, the partially separated blister pack **320** or the individual blisters **330a** are inserted into the storage wells **320** such that the medication doses **332** are aligned with the holes **320a**. The blister packs **330** or blisters **330a** are preferably inserted into the tray **310** by a blister pack manufacturer. The lid **316** is then snapped fit to the tray **310** by engaging the snap posts **326** with the post recesses **328**. The individual covers **316a** preferably cover each of the storage wells **320** and the blisters **330a** to hold the blisters **330a** and any other items within the wells **320**. The remainder of the child-resistant container **10** is then assembled around the tray **310** as was described above. The assembled child-resistant container **10** may be distributed and sold to an end user, preferably a patient who is prescribed blister pack-type medication.

[0093] The user of the blister packs **330** may unlock the child-resistant container **10** as was described above such that the tray **310** is exposed from the housing **18** and the blisters **330a** are secured in the storage wells **320** by the lid covers **316a**. The blisters **330a** are preferably positioned within the wells **320** when the user or patient receives the container **10**, but the blisters **330a** may be inserted by the user or at nearly any time during the process. The user may then move any one or any combination of the covers **316** from the closed to the open position such that additional medication or items may be inserted into the individual storage wells **320**. For example, a user may insert a medication tablet that is only taken on Wednesday into a storage well **320** identified as a Wednesday well and an alternate medication that is taken only on Tuesdays and Fridays into the storage wells **320** that may be identified as Tuesday and Friday wells. The user may also insert additional medications or items into the storage wells **320** such that they are identified by an individual day of the week or other predetermined time period. The user is then able to move the tray **310** to the storage position inside the housing **18** and the medications within the child-resistant container **10** are stored for later use. When the predetermined day arrives, the tray **310** is moved to the exposed position and the predetermined lid **316** is pivoted to the open position. Any loose medication in the storage well **320** may be removed and the medication dose **332** in the blister **330a** may be dispensed out of the hole **320a**. The lid **316** is then moved to the closed position and the tray **310** is pivoted to the storage position such that the additional medication and blisters **330a** in the storage space **346** are retained in the tray **310** for later use.

[0094] Those skilled in the art will appreciate that changes could be made to the embodiments described above without departing from the broad inventive concept thereof. By way of example, the above-described child-resistant containers may be combined and adapted into a plurality of various configurations employing features from the various embodiments in a number of different ways without departing from the spirit and scope of the present application. For example, a child-resistant container could be constructed including the child-resistant container **110** of the second preferred embodiment that includes at least one tray **140** from the third preferred embodiment and a tray **220** including the rotatable blister disc **240** of the fourth preferred embodiment. It is

understood, therefore, that this invention is not limited to the particular embodiments disclosed, but it is intended to cover modifications within the spirit and scope of the present invention as defined by the appended claims.

1. A child-resistant container for holding at least one item, the container comprising:

a housing including a base wall and a top wall;

a tray including a sidewall and a base plate mounted to the housing for movement between a retracted position in which the tray is positioned in the housing and an exposed position in which the tray extends from the housing, the sidewall and base plate defining a storage cavity; and

a lid movably mounted to the tray and movable between a closed position covering the storage space and an open position exposing the storage space.

2. The child-resistant container of claim 1 wherein the tray further includes dividing walls within the storage space, the dividing walls separating the storage space into storage wells.

3. The child-resistant container of claim 2 wherein the tray includes seven storage wells.

4. The child-resistant container of claim 2 wherein the lid is comprised of individual covers associated with each of the storage wells, each of the covers being movable between the closed and open positions alternatively covering and exposing the storage wells.

5. The child-resistant container of claim 1 wherein the lid is pivotally mounted to the tray.

6. The child-resistant container of claim 1 wherein the lid includes a spine and individual covers pivotally mounted to the spine, the tray including dividing walls within the storage space separating the storage cavity into storage wells, each cover being associated with one of the storage wells, the spine, dividing walls and sidewall defining the storage wells.

7. The child-resistant container of claim 1 wherein the tray includes dividing walls within the storage space separating the storage space into storage wells, the lid comprised of individual covers associated with each storage well, the covers being pivotally mounted to one of the dividing walls and the sidewall.

8. The child-resistant container of claim 1 wherein the lid includes a snap post and the tray includes a post recess, the snap post engaging the post recess to mount the lid to the tray.

9. A tray for a child-resistant container that stores a plurality of blisters of a blister pack, the tray comprising:

a generally planar base plate;

a sidewall extending generally perpendicularly from a peripheral edge of the base plate, the base plate and sidewall defining a storage space;

at least one dividing wall extending across the base plate within the storage space, the sidewall and the at least one dividing wall defining a plurality of storage wells within the storage space, each storage well including a blister positioned therein, each storage well also including a hole in the base plate for alignment with a medication dose in the blister.

10. The tray of claim 9 wherein seven storage wells are defined within the storage space.

11. The tray of claim 10 wherein the blister pack includes seven blisters and has an L-shape, the blister pack being positioned within the storage space such that each of the blisters is associated with one of the storage wells.

12. The tray of claim 11 further comprising:

a lid comprised of a spine and seven covers pivotally mounted to the spine, the spine, the at least one dividing walls and the sidewall defining the seven storage wells in an assembled configuration.

13. The tray of claim 9 wherein the tray is constructed of an injection molded polymeric material.

14. The tray of claim 9 further comprising:

a lid movably mounted to the tray, the lid movable between a closed position covering the storage space and an open position exposing the storage space

15. The tray of claim 14 wherein the lid is comprised of a plurality of covers, each of the covers associated with one of the storage wells.

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