

[54] SAFETY CONTAINER

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229/44 R; 206/540; 220/DIG. 20; 206/807

[51] Int. Cl. **B65d 43/16; B65d 55/02**

[58] Field of Search 206/1.5, 42; 220/60 A,
220/315; 229/44 R; 215/9

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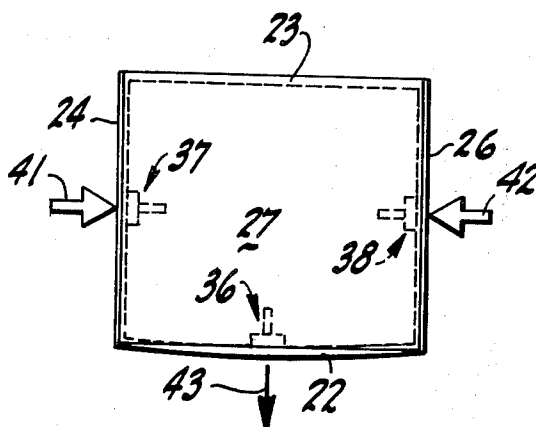
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[57]

ABSTRACT

A rectangular safety container having a hinged lid and latches which are released by squeezing the walls of the container. The latches are concealed when the container is closed, and they must be released in a predetermined sequence to open the container.

8 Claims, 9 Drawing Figures



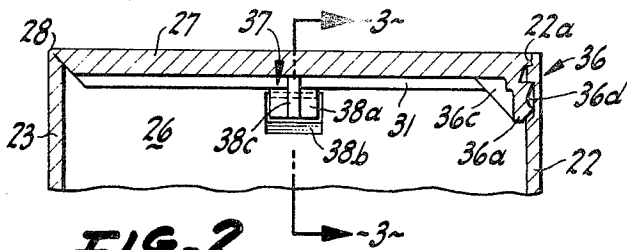


FIG. 2

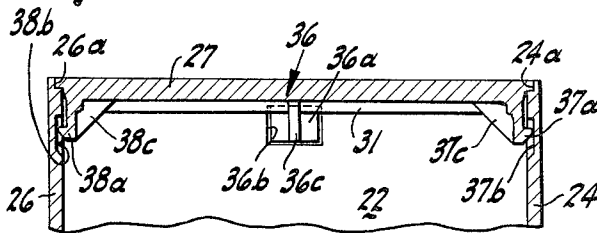


FIG. 3

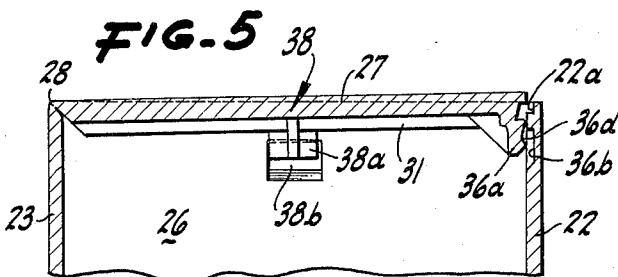


FIG. 5

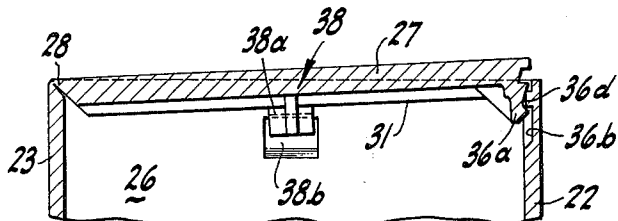


FIG. 8

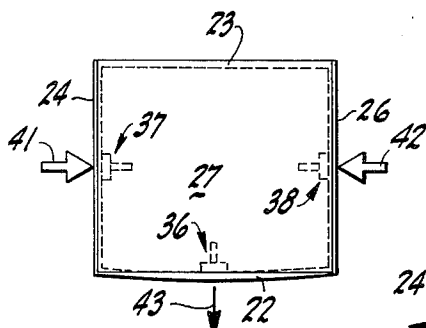


FIG. 4

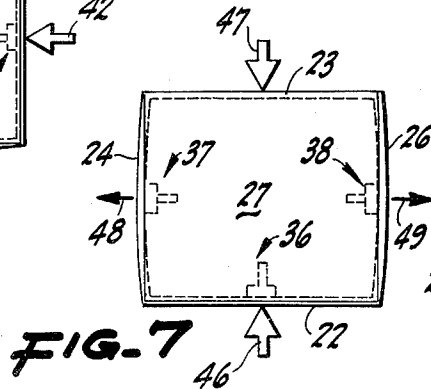


FIG. 7

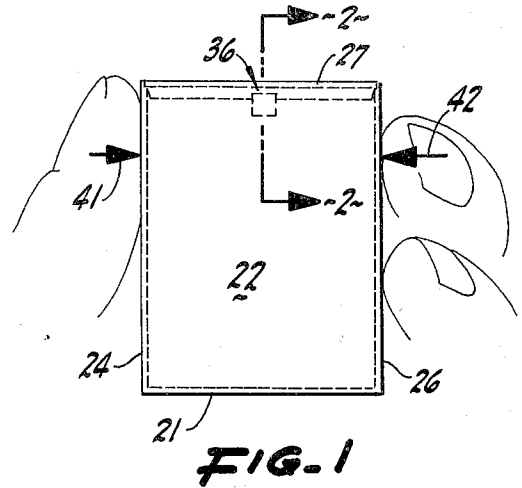


FIG. 1

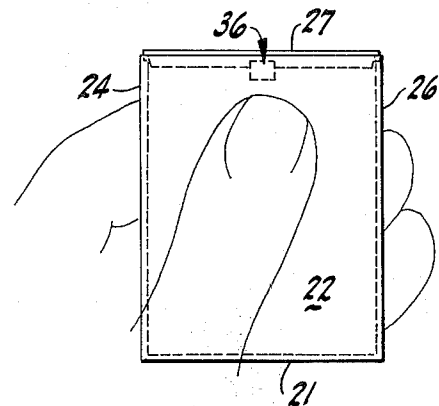


FIG. 6

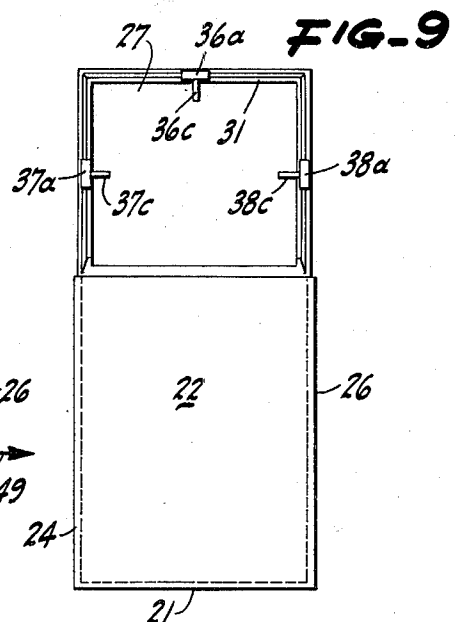


FIG. 9

SAFETY CONTAINER

BACKGROUND OF THE INVENTION

This invention pertains generally to containers and boxes and more particularly to a safety container which requires a particular technique for opening and cannot be readily opened by children and other persons not familiar with the technique.

It is often necessary to store pharmaceutical and other potentially dangerous materials. In order to keep these materials away from children and other persons who might be harmed by them, various types of safety containers have been provided. Some prior safety containers have been unsatisfactory in that they are too easy to open, while others are so complex that even persons who are familiar with them have difficulty opening them. Some containers have removable caps which can be lost, and some have safety features which can be omitted or otherwise defeated. Some of the prior art containers require two hands to operate, and some cannot be opened or closed in the dark.

SUMMARY AND OBJECTS OF THE INVENTION

The safety container of the present invention has a hinged lid and primary and secondary latches which must be released in a predetermined sequence to release the lid. The latches are concealed when the lid is in its closed position, and they are released by applying pressure to the walls of the container. The walls are fabricated of a pliant material, and they bow outwardly to release the latches when the adjoining walls are squeezed together. The lid is urged toward its open position by the hinge when the latches are released.

It is in general an object of the invention to provide a new and improved safety container.

Another object of the invention is to provide a safety container of the above character having primary and secondary latches which must be released in a predetermined sequence to open the container.

Another object of the invention is to provide a safety container of the above character which can be opened and closed with one hand.

Another object of the invention is to provide a container of the above character which can be opened and closed with minimum visual observation.

Additional objects and features of the invention will be apparent from the following description in which the preferred embodiment is set forth in conjunction with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a front elevational view of one embodiment of a safety container incorporating the invention, illustrating the application of pressure to release the lid from its closed position.

FIG. 2 is a fragmentary cross-sectional view taken along line 2—2 in FIG. 1, illustrating the lid in its closed position.

FIG. 3 is a fragmentary cross-sectional view taken along line 3—3 in FIG. 2.

FIG. 4 is a top plan view of the container, illustrating the manner in which the application of pressure to the side walls causes the front wall to bow outwardly.

FIG. 5 is a fragmentary cross-sectional view of the container, illustrating the lid in its first partially open position.

FIG. 6 is a front elevational view of the container, illustrating the application of pressure to release the lid from its first partially open position.

FIG. 7 is a top plan view of the container, illustrating the manner in which the application of pressure to the front and back walls causes the side walls to bow outwardly.

FIG. 8 is a fragmentary cross-sectional view of the container, illustrating the lid in its second partially open position.

FIG. 9 is a front elevational view of the container, illustrating the lid in its open position.

DESCRIPTION OF THE PREFERRED EMBODIMENT

The container includes a receptacle portion defined by a bottom wall 21, a front wall 22, a rear wall 23, and side walls 24 and 26. A hinged lid 27 forms a closure for the receptacle portion and is movable between a closed position, first and second partially open positions, and an open position. The lid is attached to the upper margin of the rear wall by a flexible hinge 28 which urges the lid toward its open position.

In the preferred embodiment, the container is molded of a pliant material, such as polypropylene, and hinge 28 is formed as a web of reduced thickness between the rear wall and lid.

Recessed areas 22a, 24a, and 26a are provided along the upper inside edges of the front and side walls. When the lid is in its closed position, as best seen in FIGS. 2 and 3, the front and side margins of the lid are disposed in the recessed areas, and the upper surface of the lid is generally level with the upper edges of the front and side walls. The lid is provided with a depending skirt 31, the outer edge of which is bevelled, and the lid is thicker and more rigid than the remainder of the container.

Means is provided for releasably holding the lid in its closed and partially opened positions. This means includes a primary latch 36 and secondary latches 37 and 38. Latch 36 includes a latch hook 36a carried by the skirt portion of the lid and an inwardly facing notch 36b formed in the inner portion of front wall 22. Latches 37 and 38 include latch hooks 37a and 38a carried by the skirt portion of the lid and inwardly facing notches 37b and 38b formed in the inner portion of side walls 24 and 26, respectively. The lengths of the hooks and spacing of the notches below the top of the container are arranged such that latch 36 is released before the other latches as the lid moves between its closed and opened positions. The lid is held in its closed position by hook 36a engaging the upper wall of notch 36b, and it is held in its first partially opened position by hooks 37a and 38a engaging the upper walls of notches 37b and 38b, respectively. The arrangement of the hooks and notches is preferably such that the front edge of the lid travels a distance less than the depth of recessed area 22a as the lid moves from its closed position to its first partially opened position so that the lower portion of the lid is below the top of front wall 22 when the lid is in its first partially opened position. Gussets 36c, 37c and 38c extend between the latch hooks and the lid to make the hooks more rigid.

Latch 36 also includes a detent 36d which is formed in the outer face of latch hook 36a below the primary latching surface. The detent is positioned to engage the

upper wall of notch 36b when the lid is in its second partially open position.

As indicated previously, the walls of the container are fabricated of a pliant material. They are normally planar, and when the lid is in its closed position, the latch hooks extend into the notches. The walls can be flexed or bowed outwardly to disengage the hooks from the notches by applying inwardly directed pressure to the adjoining walls.

Operation and use of the invention can now be described. Initially, let it be assumed that the lid is in its closed position, with all of the latch hooks engaged in their respective notches. Hook 36a engages the upper wall of notch 36b and holds the lid in the closed position, while hooks 37a and 38a are spaced below the upper walls of their respective notches by a distance corresponding to the difference in the location of the notches.

To open the container, primary latch 36 must first be released. This is done by squeezing side walls 24 and 26 inwardly with the thumb and fingers of one hand, as illustrated in FIG. 1. This inwardly directed pressure, indicated by arrows 41 and 42, causes front wall 22 to flex or bow outwardly, as indicated by arrow 43, disengaging latch hook 36a from notch 36b. With primary latch 36 thus released, hinge 28 moves the lid to its first partially opened position where it is retained by secondary latches 37 and 38.

The appearance of the container with the lid in its first partially opened position is illustrated in FIG. 5. Hook 36a rests against the inner surface of wall 22 above notch 36b, holding the wall in its bowed condition. Hooks 37a and 38a engage the upper walls of notches 37b and 38b, holding the lid in its partially opened position. The lid protrudes slightly above the tops of the front and side walls, but this protrusion is so slight that it is almost imperceptible.

To release latches 37 and 38, inwardly directed pressure is applied to the front and rear walls by squeezing them together with the thumb and fingers, as indicated by arrows 46 and 47. This pressure causes the side walls to bow outwardly, as indicated by arrows 48 and 49, disengaging hooks 37a and 38a from their respective notches. The lid then moves to its second partially open position, with detent 36d engaging the top wall of notch 36b.

With the lid in its second partially open position, the front margin of the lid is spaced somewhat above the top of front wall 22, as illustrated in FIG. 8. The lid can then be lifted to its open position by means of this exposed margin.

Alternatively, the lid can be moved to its open position by squeezing side walls 24 and 26 inwardly again to disengage the top wall of notch 36b from the detent.

The container is closed and latched by pressing the lid back to its closed position, and this is easily done with the thumb and fingers of one hand.

The container has a number of important features and advantages. A person familiar with the technique for opening it can do so easily. The container can be opened with one hand and, if necessary, in the dark. There is no detachable lid to be lost or discarded by the user, and the safety features cannot be omitted by a careless pharmacist or user. The outer contour of the container is smooth, and there are no indentations or protuberances to accumulate dirt or other foreign matter. Being rectangular, the container can be packaged,

stored and shipped more economically than cylindrical containers, and it has several large flat surfaces on which labels can be applied.

A child or other person not familiar with the proper technique for opening the container will have difficulty in doing so. The latches are all enclosed within the container and inaccessible from the outside when the lid is in its closed and partially open positions. The primary latch must be released before the secondary latches can be released. If pressure is applied to the front and rear walls before the primary latch is released, it will hold the lid in the closed position and prevent the secondary latches from being released. Being recessed below the tops of the front and side walls, the lid cannot readily be pried open, even in the partially open position.

Although the invention has been described with specific reference to an embodiment having one primary latch and a pair of secondary latches, it will be understood that a different number of latches can be provided if desired. An additional latch can, for example, be added to the front of the container at a location such that it must be released after the secondary latches.

It is apparent from the foregoing that a new and improved safety container has been provided. While only the presently preferred embodiment has been described, as it will be apparent to those familiar with the art, certain changes and modifications can be made without departing from the scope of the invention as defined by the following claims.

I claim:

1. In a safety container, a generally rectangular bottom wall; upstanding front, rear and side walls encompassing the bottom wall and cooperating therewith to form a receptacle; a lid forming a closure for the receptacle, said lid being movable between closed, partially open, and open positions; hinge means mounting the lid to the rear wall and urging the lid toward its open position; first releasable latch means carried by the lid and a first one of the upstanding walls for holding the lid in its closed position; and a second releasable latch means carried by the lid and a second one of the upstanding walls for holding the lid in its partially open position; said first and second latch means being enclosed within the container and inaccessible from outside the container when the lid is in its closed position; said first and second walls being fabricated of a pliant material and adapted for bowing outwardly to release the respective latch means when inwardly directed pressure is applied to the walls adjacent thereto.

2. A safety container as in claim 1 wherein the first latch means includes a first latch hook carried by the lid and an inwardly facing notch formed in the front wall and the second latch means includes a second latch hook carried by the lid and a notch formed in one of the side walls.

3. A safety container as in claim 2 further including detent means carried by the first latch hook for engaging the upper wall of the notch in the front wall to hold the lid in a predetermined position intermediate the partially open and open positions.

4. A safety container as in claim 1 wherein the lid is recessed below the upper edges of the front and side walls when in its closed position.

5. In a safety container, a receptacle portion having a plurality of upstanding walls, a lid movable between open and closed positions forming a closure for the receptacle portion, hinge means attaching the lid to one

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of the walls and urging the lid toward its open position, releasable latch means carried by the lid and the inner portion of one wall for holding the lid in its closed position, said one wall being fabricated of a flexible material and adapted for bowing outwardly to release the latch means when inwardly directed pressure is applied to the adjoining walls, and additional latch means carried by the lid and at least one of the adjoining walls for holding the lid in a position intermediate its open and closed positions, said at least one of the adjoining walls also being fabricated of a flexible material and adapted for bowing outwardly to release the additional latch means when inwardly directed pressure is applied to

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the walls adjacent thereto.

6. A safety container as in claim 5 wherein each latch means includes a latch hook carried by the lid and an inwardly facing notch formed in the corresponding wall.

7. A safety container as in claim 6 wherein the notches are located at different heights relative to the tops of the walls in which they are formed.

8. A safety container as in claim 5 together with means for holding the lid in a second position intermediate its open and closed positions.

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