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DESCRIPTION

TECHNICAL FIELD

[0001] The present Invention relates to a Container for storing contents, and more particularly to a slidable container with a child lock intended to prevent accidents caused e.g. by child's mischief.

BACKGROUND ART

[0002] Slidable containers have been used to store contents such as solid medicine, capsules, etc. Such a slidable Container includes a lower container for storing contents, and a lid for closing the lower container and mounted slidably on the lower container.

[0003] There is a possibility that a child may open a slidable container and take contents, such as solid medicine or capsules, out of the container.

[0004] Several containers have been developed which are intended to prevent accidents caused e.g. by child's mischief, i.e. in Japanese Patent Laid-Open Publication No. 2003-261182 and published Japanese Translation No. 2011-516356 of PCT International Application. However, no container has yet been developed which, with a simple construction, can securely prevent accidents caused e.g. by child's mischief.

[0005] WO 01/55001 A1 discloses a container comprising a lower container having a bottom, a rear wall, a front wall, and a pair of sidewalls and a lid including a top, a rear plate, and opposed side plates. Pairs of bracket are formed on a front end and a rear end of each of the sidewalls, wherein the brackets extends outwards from the respective sidewall.

DISCLOSURE OF THE INVENTION

[0006] The present invention has been made in view of the above situation. It is therefore an object of the present invention to provide a slidable container with a child lock, which has a simple construction and is easy to handle, and yet can securely prevent accidents caused e.g. by child's mischief.

[0007] Thus, the present invention provides a slidable container with a child in accordance with appended claim 1.

[0008] In a preferred embodiment of the present invention, the engaging portion of each engaging piece of the lower container is comprised of an outwardly-projecting projection, and the locking portion of the side plate of the lid is comprised of a groove configured to receive the projection.

[0009] In a preferred embodiment of the present invention, an inwardly-projecting first top-plate projection is provided on the back surface of the top plate of the lid and, when sliding the lid on the lower container in the opening direction from the closing position, the first top-plate projection comes into contact with the rear plate of the lower container, which produces a resistance to the sliding movement of the lid.

[0010] In a preferred embodiment of the present invention, an inwardly-projecting second top-plate projection is provided on the back surface of the top plate of the lid and, when sliding the lid on the lower container in the opening direction from the closing position, the second top-plate projection comes into contact with the rear plate of the lower container, defining the degree of opening of the lid.

[0011] The slidable container with a child lock according to the present invention has a simple construction and is easy to handle, and yet can securely prevent accidents caused e.g. by child’s mischief.

BRIEF DESCRIPTION OF THE DRAWINGS
FIG. 1 is a perspective view of a slidable container with a child lock according to the present invention;

FIG. 2 is a plan view of a lower container;

FIG. 3 is a side view of the lower container;

FIG. 4 is a cross-sectional side view of the lower container;

FIG. 5 is a diagram showing the lower container as viewed from a rear plate;

FIG. 6 is a plan view of a lid;

FIG. 7 is a side view of the lid;

FIG. 8 is a cross-sectional side view of the lid; and

FIG. 9 is a backside view of the lid.

BEST MODE FOR CARRYING OUT THE INVENTION

A preferred embodiment of the present invention will now be described with reference to the drawings.

FIGS. 1 through 9 show a slidable container with a child lock according to an embodiment of the present invention.

As shown in FIGS. 1 through 9, the slidable container 1 with a child lock comprises: a rectangular open-top lower container 2 including a bottom plate 3, a front plate 4, a rear plate 5 and a pair of side plates 6, 6; and a lid 20 for closing or sealing the lower container 2 and mounted on the lower container 2 slidably in a direction from the rear plate 5 toward the front plate 4 of the lower container 2.

The lid 20 includes a top plate 21 that covers the opening of the lower container 2, a rear plate 22 and a pair of side plates 23, 23. The front side of the lid 20 is open; the lid 20 is mounted on the lower container 2 by moving the front-side opening from the rear plate 5 toward the front plate 4 of the lower container 2.

The lower container 2 and the lid 20 of the slidable container 1, having such a construction, are both made of a synthetic resin such as ABS, PP, PE, PS or PC, and can be produced by injection molding.

Examples of contents T to be stored in the slidable container 1 may include solid medicine and tobacco products such as capsule cigarettes, smokeless cigarettes, an oral tobacco product and cigarillos.

The components of the slidable container 1 with a child lock will now be described.

As described above, the rectangular lower container 2 includes the bottom plate 3, the front plate 4, the rear plate 5 and the pair of side plates 6, 6. Each side plate 6 has, on its front plate 4 side, an inner plate portion 7 through a step portion 16. A working plate 8, extending from the front plate 4 and lying outside and parallel to the inner plate portion 7, is provided at a predetermined distance from the inner plate portion 7.

An inner engaging piece 10 is provided through an engaging step portion 9 at the rear end (rear plate 5-side end) of each working plate 8. A projection (engaging portion) 11, projecting outward, is provided on the outer surface of the engaging piece 10. The projection 11 is to be received in and engaged with the below-described groove portion (locking portion) 26 provided in the inner surface of the side plate 23 of the lid 20.

By inwardly pressing on each working plate 8, the working plate 8 and the engaging piece 10 are bent inward, whereby the engagement between the projection 11 of the lower container 2 and the groove portion 26 of the lid 20 is released.

When the lid 20 is mounted on the lower container 2 and the lower container 2 is closed (sealed) with the lid 20, each side plate 23 of the lid 20 overlaps the corresponding side plate 6 and the corresponding engaging piece 10 of the lower container 2.
At the same time, the front end 23a of each side plate 23 of the lid 20 comes into contact with the engaging step portion 9 of the working plate 8 of the lower container 2, whereby the lid 20 is positioned with respect to the lower container 2 and the lower container 2 is completely closed (sealed) with the lid 20.

[0024] The lower container 2 has a peripheral projection 13 projecting outward from the lower ends of the pair of side plates 6, 6 and the lower end of the rear plate 5.

[0025] The peripheral projection 13 extends peripherally along the pair of side plates 6, 6 and the rear plate 5, and lies in the same plane as the bottom plate 3.

[0026] When the lid 20 is mounted and slid on the lower container 2, the lower ends of the side plates 23, 23 are guided along the peripheral projection 13.

[0027] A guide groove portion 15, extending linearly and horizontally over the peripheral projection 13, is provided in the outer surface of each side plate 6 of the lower container 2. On the other hand, a guide projection 25, which is to be fit into the guide groove of each side plate 6 of the lower container 2, extends linearly and horizontally on the inner surface of each side plate 23 of the lid 20.

[0028] When the lid 20 is mounted and slid on the lower container 2, the guide projections 25 of the lid 20 are guided along the guide groove portions 15 of the lower container 2.

[0029] As shown in FIGS. 8 and 9, a first top-plate projection 28 and a second top-plate projection 29, both projecting inward, are provided on the back surface of the top plate 21 of the lid 20.

[0030] The first top-plate projection 28 of the lid 20 is provided near the rear plate 22, and the second top-plate projection 29 is provided near the center of the back surface of the top plate 21.

[0031] When sliding the lid 20 on the lower container 2 in the opening direction from the closing position, the first top-plate projection 28 comes into contact with the rear plate 5 of the lower container 2, which produces a resistance to the sliding movement of the lid 20 in the opening direction. Therefore, even after the engagement between the projections 11 of the lower container 2 and the groove portions 26 of the lid 20 is released, the lid 20 does not slide easily on the lower container 2 in the opening direction upon the contact of the first top-plate projection 28 with the rear plate 5.

[0032] When further sliding the lid 20 on the lower container 2 in the opening direction, the second top-plate projection 29 comes into contact with the rear plate 5 of the lower container 2, thereby inhibiting the movement of the lid 20 and defining the degree of opening of the lid 20 with respect to the lower container 2.

[0033] As shown in FIG. 3, the slidable container 1 also has non-slip portions 6a on the outer surface of each working plate 8 of the lower container 2 so that a finger(s) will not slip upon the opening/closing operation.

[0034] The operation of the slidable container 1 of this embodiment having the above-described construction will now be described.

[0035] First, the lid 20 is mounted on the lower container 2 in which contents T are housed. The lid 20 can be mounted by sliding the lid 20 on the lower container 2 in a direction from the rear plate 5 toward the front plate 4. The lower container 2 can be closed (sealed) with the lid 20.

[0036] When the lower container 2 is closed (sealed) with the lid 20, the side plates 23, 23 of the lid 20 overlap the pair of side plates 6, 6 and the pair of engaging piece 10, 10 of the lower container 2. The front ends 23a, 23a of the side plates 23, 23 of the lid 20 come into contact with the engaging step portions 9 of the lower container 2, whereby the lid 20 is positioned in the closed position.

[0037] Further, the projections 11, 11 provided in the engaging pieces 10, 10 of the lower container 2 engage the groove portions 26, 26 provided in the side plates 23, 23 of the lid 20. This prevents the lid 20 from moving in the opening direction.

[0038] Therefore, it is not possible for a child to accidentally open the lid 20 and take the contents T, such as solid medicine or capsules, out of the lower container 2.
[0039] When opening the lid 20, the pair of working plates 8 of the lower container 2 is first pressed inward to bend the working plates 8 and the pair of engaging pieces 10 inward, thereby disengaging the projections 11, provided on the outer surfaces of the engaging pieces 10, from the groove portions 26 provided in the inner surfaces of the side plates 23 of the lid 20. The lid 20 is then slid on the lower plate 2 in the opening direction (the direction from the front plate 4 toward the rear plate 5 of the lower plate 2).

[0040] Immediately after the start of sliding of the lid 20 in the opening direction from the closed position, the first top-plate projection 28 comes into contact with the rear plate 5 of the lower container 2, which produces a resistance to the sliding movement of the lid 20. This can prevent the lid 20 from easily sliding on the lower container 2 in the opening direction after the engagement between the projections 11 of the lower container 2 and the groove portions 26 of the lid 20 is released.

[0041] Next, the lid 20 is further slid in the opening direction, whereupon the first top-plate projection 28 of the lid 20 moves across the upper end of the rear plate 5 of the lower container 2, and the lid 20 further slides in the opening direction.

[0042] The second top-plate projection 29 of the lid 20 then comes into contact with the upper end of the rear plate 5 of the lower container 2, whereby the movement of the lid 20 in the opening direction is inhibited. The degree of opening of the lid 20 with respect to the lower container 2 is thus defined.

[0043] The contents T can now be taken out of the lower container 2.

[0044] As described hereinabove, according to the slidable container of this embodiment, a child can be prevented from accidentally taking the contents T, such as solid medicine or capsules, out of the lower container 2.

[0045] When sliding the lid 20 on the lower container 2 in the opening direction, it is necessary to disengage the projections 11 of the lower container 2 from the groove portions 26 of the lid 20. The disengagement can be made by simply pressing inward the pair of working plates 8, 8 of the lower container 2, provided in front of the pair of side plates 6, 6. The working plates 8, 8 and the engaging pieces 10, 10 are bent directly, whereby the projections 11 provided on the engaging pieces 10, 10 can be disengaged from the groove portions 26 of the lid 20. The engagement between the projections 11 on the engaging pieces 10, 10 of the lower container 2 and the groove portions 26 of the lid 20 can thus be released by the very simple operation of pressing the pair of working plates 8, 8 inward. When closing or sealing the lower container 2 with the lid 20, the lower container 2 and the lid 20 can be locked by means of the very simple construction consisting of the projection 11 on each engaging piece 10 and the corresponding groove portion 26 of the lid 20.

[0046] Each of the working plates 8, 8 of the lower container 2 is provided outside and parallel to the corresponding inner plate portion 7 of the side plate 6 and located at a predetermined distance from the plate section 7. Therefore, when pressing on the working plates 8, 8 inward, the working plates 8, 8 and the engaging pieces 10, 10 can be bent to a large extent. This makes it possible to easily and securely release the engagement between the projections 11 of the lower container 2 and the groove portions 26 of the lid 20.

DESCRIPTION OF THE REFERENCE NUMERALS

1 container with a child lock  
2 lower container  
3 bottom plate  
4 front plate  
5 rear plate  
6 side plate
REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- JP2003261162A [0004]
- JP20111616356W [0004]
- WO20155061A1 [0005]
PATENT KRAV

1. Forskydelig beholder (1) med en børnesikring, som omfatter:
en en rekterangulær nedre beholder (2) med åben top, hvor beholderen (2) indbefatter en
bundplade (3), en frontplade (4), en bagplade (5) og et par sideplader (6); og
et låg (20) til at lukke den nedre beholder (2) og monteret på den nedre beholder (2), så
at låget (20) er forskydeligt i en retnings fra bagpladen (5) mod frontpladen (4) af den
nedre beholder (2), hvor låget (20) indbefatter en topplade (21), en bagplade (22) og et
par sideplader (23),

kendte tegn ved, at hver sideplade (6) af den nedre beholder (2) på sin ende
nærmest ved frontpladen (4) har en indre pladedel (7), som udstrækker sig indad fra den
respektive sideplade (6) gennem en trindest (16), og hvor den nedre beholder (2) har et
par arbejdsplader (8), der hver udstrækker sig fra frontpladen (4) af den nedre beholder
(2), og som ligger uden for og parallelt med en respektiv indre pladedel (7),

hvor et indgrebsstykke (10) er tilvejebragt, via en indgrebstrindest (9), ved enden, som
er modsat frontpladen (4), hvor hver arbejdsplade (8), hvor, når den nedre beholder (10)
er lukket med låget (20), hver sideplade (23) af låget (20) overlapper den tilsynende
sideplade (6) og det tilsynende indgrebsstykke (10) af den nedre beholder (2), og enden,
som er nærmest den forreste plade (4), af hver sideplade (23) af låget (20) er i kontakt
med indgrebstrindesten (9) af den nedre beholder (2), således at den nedre beholder (2)
er tæt net af låget,

og hvor en indgrebsdel (11) er tilvejebragt i hvert indgrebsstykke (10) af den nedre
beholder (2), og hvor en låsedel (26) til indgreb med indgrebsdelen (11) af
indgrebsstykket (10) er tilvejebragt i den tilsynende sideplade (23) af låget (20).

2. Forskydelig beholder (1) med en børnesikring ifølge krav 1, hvor hver arbejdsplade (8)
af den nedre beholder (2) udstrækker sig fra frontpladen (4), og ligger uden for og
parallelt med den indre pladedel (7) i en forudbestemt afstand fra den indre pladedel (7).

3. Forskydelig beholder (1) med en børnesikring ifølge krav 1 eller 2, hvor hver arbejdsplade
(8) af den nedre beholder (2) har samme højde som den for den indre pladedel (7) af
sidepladen (6).

4. Forskydelig beholder (1) med en børnesikring ifølge et hvidklet som helst af krav 1-3, hvor
indgrebsdelen (11) af hvert indgrebsstykke (10) af den nedre beholder (2) omfatter et
uddragende fremspring, og hvor låsedelen (26) af sidepladen (23) af låget (20) omfatter
en udsparring, der er indrettet til at møtte fremspringet.

5. Forskydelig beholder (1) med en børnesikring ifølge et hvidklet som helst af krav 1-4, hvor
et inddragende første toppladefremspring (28) er tilvejebragt på den bagvedliggende
overflade af toppladen (21) af låget (20), og når låget (20) forskydes på den nedre
beholder (2) i åbningsretningen fra lukkestillingen, kommer det første toppladefremspring
(28) i kontakt med bagpladen (5) af den nedre beholder (2), som frembringer en
modstand til skydebevægelsen af låget (20).
6. Forskydelig beholder (1) med en børnesikring ifølge et hvilket som helst af krav 1 til 5, hvor et indadragende andet toppladefremspring (29) er tilvejebragt på den bagvedliggende overflade af toppladen (21) af låget (20) og, når låget (20) forskydes på den nedre beholder (2) i åbningsretningen fra lukkepositionen, kommer det andet toppladefremspring (29) i kontakt med bagpladen (5) af den nedre beholder (2), som definerer graden af åbning af låget (20).
FIG. 1