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(54) Lockable container.

(57) A matchbox (1) comprising a sleeve (2) and a tray (3), which is slidable within the sleeve, can be in an unlocked state in which the tray is freely slidable within the tray, or in a locked state, in which the tray is prevented from moving within the sleeve, thus preventing access to the contents of the matchbox. The matchbox is put into the locked state by pushing centre sections (6, 16) of the tray and sleeve inwards when the matchbox is closed so that the sleeve centre section overlaps the outer sections (5, 7) of the tray such that the centre sections are permanently displaced in this way and provide stop surfaces which prevent the tray from sliding freely within the sleeve. The sleeve outer sections (17, 18) are pushed to release the deflected centre sections and return the matchbox to its unlocked state.

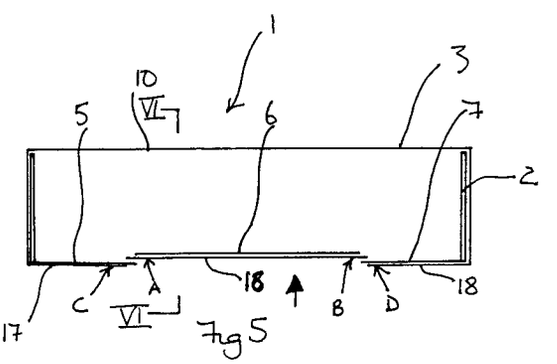

Fig 5

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This invention relates to a lockable container, for example, a matchbox used for storing matches.

Known matchboxes comprise a cardboard tray in which the matches are stored, and an outer sleeve into which the tray is slidably received. Normally the sleeve encloses the tray to keep the matches in the matchbox, but when a match is needed, the tray is slid within the sleeve to partially or wholly expose the interior of the tray to allow a match to be removed. Typically, the tray and the sleeve are made from cardboard, the sleeve having one or two areas on its sides for lighting the match when the match head is struck against these areas.

A well known problem with these matchboxes is that they can be a safety hazard for children who can easily open the box, remove a match and strike it against the sleeve, thus lighting the match - with the obvious dangerous, and often fatal consequences.

Known child-resistant matchboxes may not be robust enough to withstand attempts by a child to open them, or, conversely, they are too difficult to open even for an adult. Also, the manufacturing process and the filling process is too complicated and expensive, and the childproof mechanism may interfere with the presentation designs on the outer sleeve.

An aim of the present invention is to provide a child-resistant container which can be readily converted to a locked and unlocked state by an adult who can read the operating instructions.

According to the present invention, there is provided a container comprising an inner receptacle for holding contents of the container therein, and an outer sleeve for slidably receiving the inner receptacle therein such that it encloses the inner receptacle when the container is closed to retain the contents therein, the inner receptacle being slidable lengthways within the outer sleeve to an open position to allow access to the contents, characterised in that the container has an unlocked state in which the inner receptacle is freely movable within the outer sleeve to move between open and closed positions, and a locked state in which the inner receptacle is retained in the closed position, the container being switchable between a locked state and the unlocked state.

This has the advantage of providing a container, for example a matchbox, which has an easy to operate lock for deterring children from opening the matchbox, and yet is not significantly more expensive to manufacture than the known containers. Additionally, presentation designs can still be printed on the sleeve.

The invention will now be described, by way of example only, with reference to the accompanying drawings, in which:

Fig. 1 is an exploded perspective view of a matchbox in accordance with the invention with the tray removed from the sleeve;

Fig. 2 is an underside view of the matchbox sleeve;

Fig. 3 is a plan view of the matchbox tray;

Fig. 4 is a vertical cross-section taken along the line IV-IV of Fig. 7 along the length of the matchbox of Fig. 1 with the matchbox closed, but unlocked;

Fig. 5 is a vertical cross-section of Fig. 3 with the matchbox locked;

Fig. 6 is a vertical cross-section taken along the line VI-VI of Fig. 5; and

Fig. 7 is an underside view of the matchbox in the locked state.

As with known matchboxes, a matchbox 1 in accordance with the invention comprises a rectangular-shaped tray 2 which is slidable within an outer sleeve 3.

Matches (or indeeed any other object) are placed in the tray 2 and the sleeve 3 slid over the tray 2 so that the tray 2 is completely enveloped thus closing the matchbox 1 and preventing the matches from falling out. To open the matchbox, the tray is pushed at one of its ends so that it slides longitudinally in either direction as indicated by the double arrow of Fig. 1, to expose the interior of the tray 2 so that a match can be taken from the matchbox 1. Both the tray 2 and the sleeve 3 may be made of, for example, cardboard or stiff paper.

The base 4 of the tray 2 is divided into three sections (see Fig. 3), namely a centre section 6, and two outer sections 5, 7 by two substantially parallel incisions 8, 9 made widthwise across the base 4 so that the centre section 6 is able to flex in a direction substantially perpendicularly to the plane of the base 4, as illustrated in Figs. 5 and 6.

Similarly, the sleeve 3, which comprises an upper surface 10, a lower surface 11, and two side surfaces 12, 13 has two widthwise incisions 14, 15 on its lower surface 11. These incisions 14, 15, while essentially parallel in that the distances between adjacent end points are the same, are slightly curved away from each other, so that, as their centre points the two incisions 14, 15 are at a slightly greater distance from each other than at their ends. This is illustrated clearly in Fig. 2. These two incisions 14, 15 similarly divide the lower surface 11 into a centre section 16, and two outer sections 17, 18, and are located on the lower surface 11 such that, when the matchbox is closed, i.e. when the sleeve 3 is enclosing the tray 2, the sleeve incisions 14, 15 are substantially coincident with the tray incisions 8, 9 at the end points, but slightly displaced laterally from each other at their centre points as illustrated in Figs. 4 and 5.

When the matchbox 1 is closed, it can be either in an unlocked state, in which it is possible to slide the tray 2 within the sleeve 3 to gain access thereto, or it can be in a locked state in which it is not possible to slide the tray 2 within the sleeve 3, and, therefore, the interior of the tray 2 is not accessible.

Fig. 4 illustrates the matchbox in the unlocked state. In this case, both the centre sections 6, 16 and the outer sections 5, 7; 17, 18 of the tray 2 and sleeve 3 respectively are coplanar, thus allowing the tray 2 to slide freely within the sleeve 3 as indicated by the double-headed arrow of Fig. 4.

To lock the matchbox 1, the tray and sleeve centre sections 6, 16 are flexed inwardly towards the interior of the matchbox 1 as indicated by the arrow of Fig. 5 so that the sleeve and tray centre sections 6, 16 are simultaneously displaced vertically with respect to the tray and sleeve outer sections 5, 7, 17, 18. The displacement can be effected, for example, manually, by pushing the two centre sections 6, 16 near the incisions 14, 15 at points A and B as illustrated in Figs. 2 and 5. In the locked state, the displaced centre sections 6, 16 are displaced such that the sleeve centre section 16 extends for part of its width above the tray outer sections 5, 7 as shown in Fig. 6. At this point, the sleeve centre section 16 is longer than the distance between the tray incisions 8, 9 because of the curved nature of the sleeve incisions 14, 15 so that a portion of the edges of the tray centre section 6 overlaps the edges of the tray outer sections 5, 7 thus retaining the displaced tray and sleeve centre sections 6, 16 in the displaced position. In this displaced position, stop surfaces are therefore provided which prevent the tray 2 from being slid within the sleeve 3 in either direction, i.e. the matchbox 1 is locked. Because the tray and sleeve centre sections 6, 16 are retained in this displaced position, the matchbox is in a permanently locked state. This can be seen in Fig. 7.

To unlock the matchbox 1, pressure is simultaneously applied to both the tray and sleeve outer sections 5, 7; 17, 18 to return to the unlocked state by pushing the edges of the two tray outer sections 5, 7 over the overlapping edges of the sleeve centre section 16 so that the outer sections 5, 7; 17, 18 and the centre sections 6, 16 are once more coplanar as described above. This can be done by simultaneously manually pressing the sleeve and tray outer sections 5, 7, 17, 18 near the incisions 14, 15 at the points C and D indicated in Figs. 2 and 5.

Presentation designs can be printed on the sleeve 3 and areas for striking the match can still be placed on the sleeve as with known matchboxes. The user will be advised on how to lock and unlock the matchbox 1 by suitable instructions printed on the lower surface 11.

It will be understood to a person skilled in the art that various modifications are possible within the scope of the present invention. For example, the present invention can be applied to any container, not just to matchboxes, which can be of other constructions and configurations and of any material which allows the displacement of the surfaces to provide the locking and unlocking of the container.

Claims

1. A container comprising an inner receptacle (2) for holding the contents of the container therein and an outer sleeve (3) for slidably receiving the receptacle therein such that it encloses the inner receptacle when the container is closed to retain the contents therein, the inner receptacle being slidable lengthways within the outer sleeve to an open position to allow access to the contents, characterised in that the container has an unlocked state in which the inner receptacle (2) is freely movable within the sleeve (3) to move between the open and closed positions, and a locked state in which the inner receptacle (2) is held in the closed position, the container being switchable between the locked state and the unlocked state.

2. A container as claimed in Claim 1, characterised in that the outer sleeve (3) comprises upper and lower surfaces (10, 11) and two sides (12, 13) and the inner receptacle (2) comprises a tray having a base (4), whereby, in the unlocked state, the lower surface (11) and the base (4) are arranged to slide across one another to allow the free lengthways movement, and in the locked state, a portion (16, 6) of the lower surface (11) and the base (4) are displaced inwardly to provide a stop surface such that the lengthways movement of the tray (2) within the outer sleeve (3) is prevented.

3. A container as claimed in Claim 2, characterised in that the portions (16, 6) of the base (4) and lower surface (11) are formed by two incisions made in the base (4) and lower surface (11) to divide both the base (4) and the lower surface (11) into a centre section (16) and two outer sections (17, 18) the outer sections and the centre section of the base (4) and the tray (2) respectively being flexible with respect to each other.

4. A container as claimed in Claim 3, characterised in that the incisions (14, 15) are ar-

ranged such that, in the locked state, a portion of the edges of the lower surface centre section (16) overlap a portion of the edges of the two base outer sections (17, 18) thus maintaining the base and lower surface centre sections (16, 6) in the displaced position, thus providing the permanently locked state.

5. A container as claimed in any preceding claim, characterised in that the container is a matchbox (1).

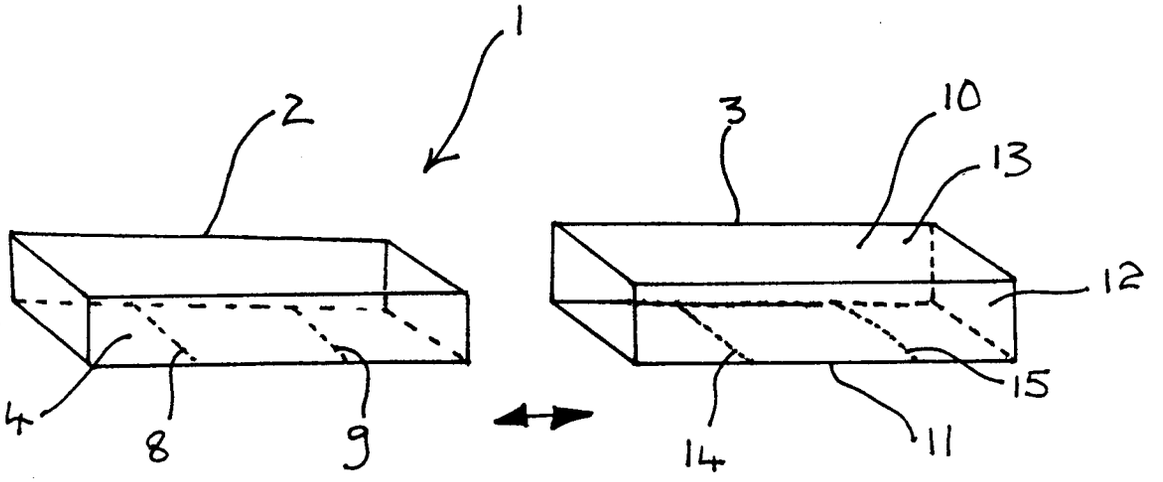

Fig 1

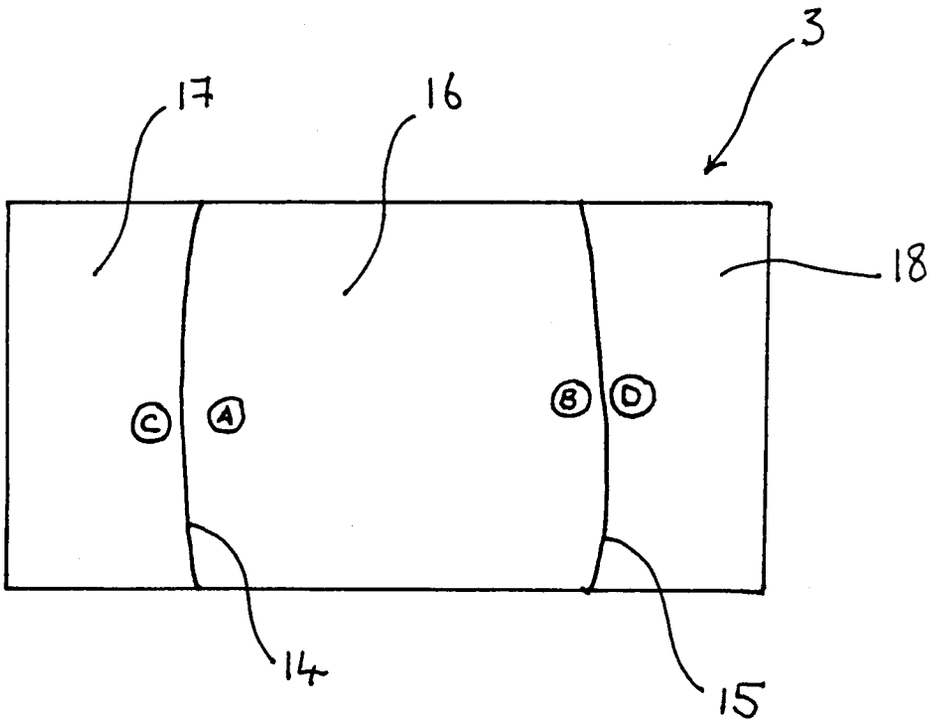

Fig 2

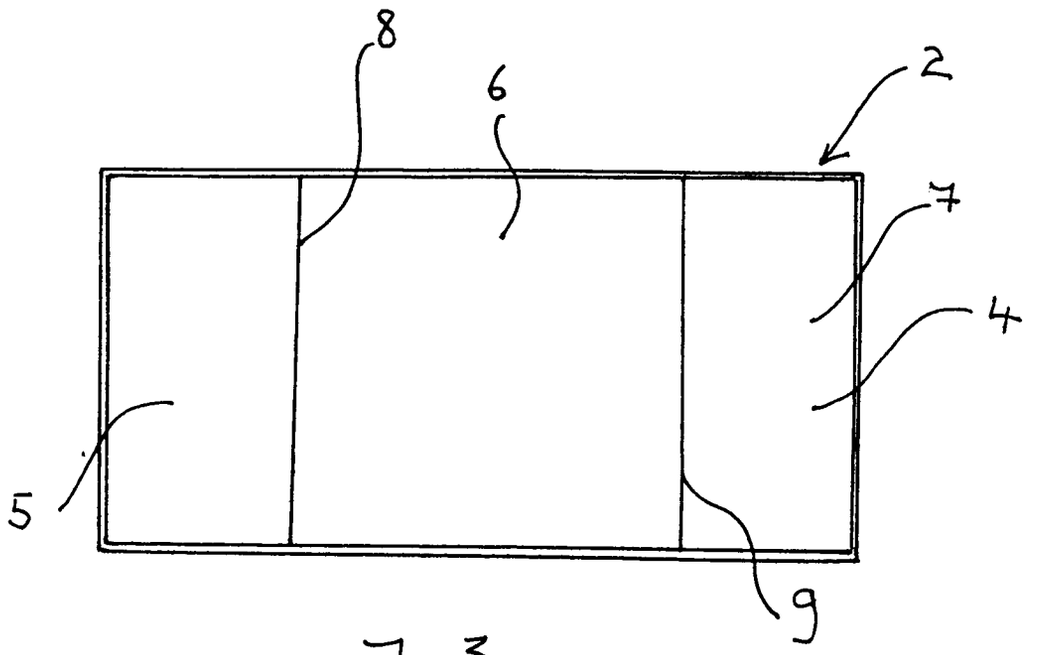

Fig 3

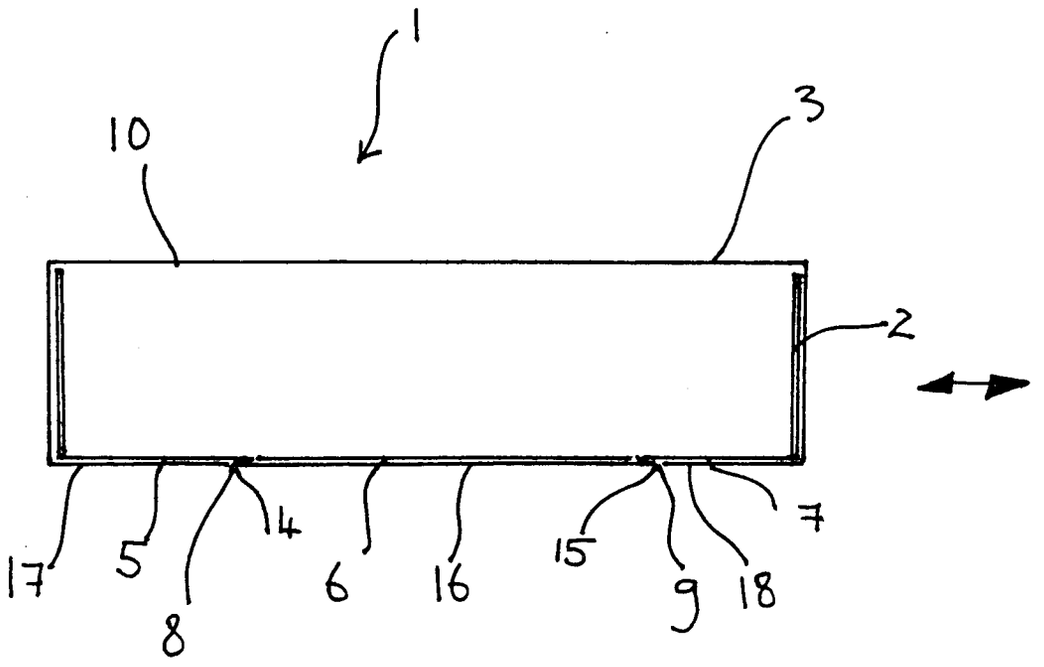

Fig 4

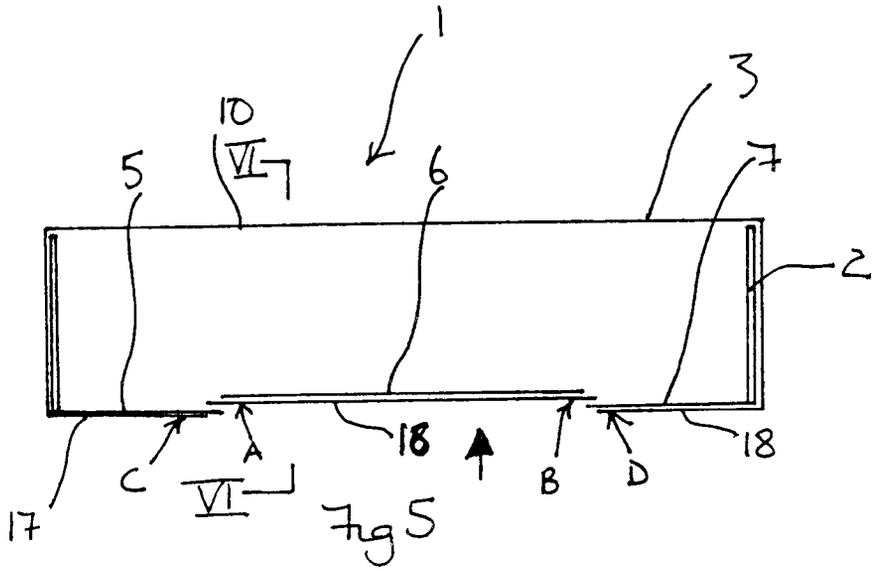

Fig 5

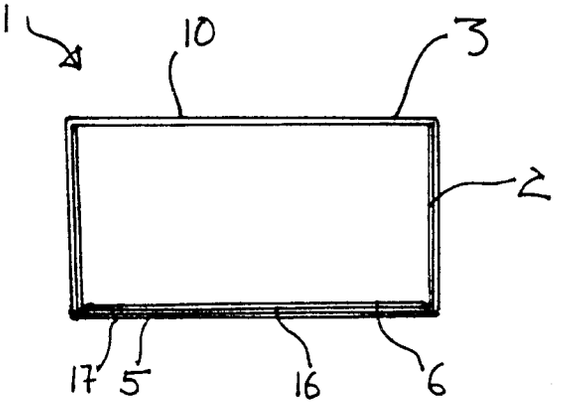

Fig 6

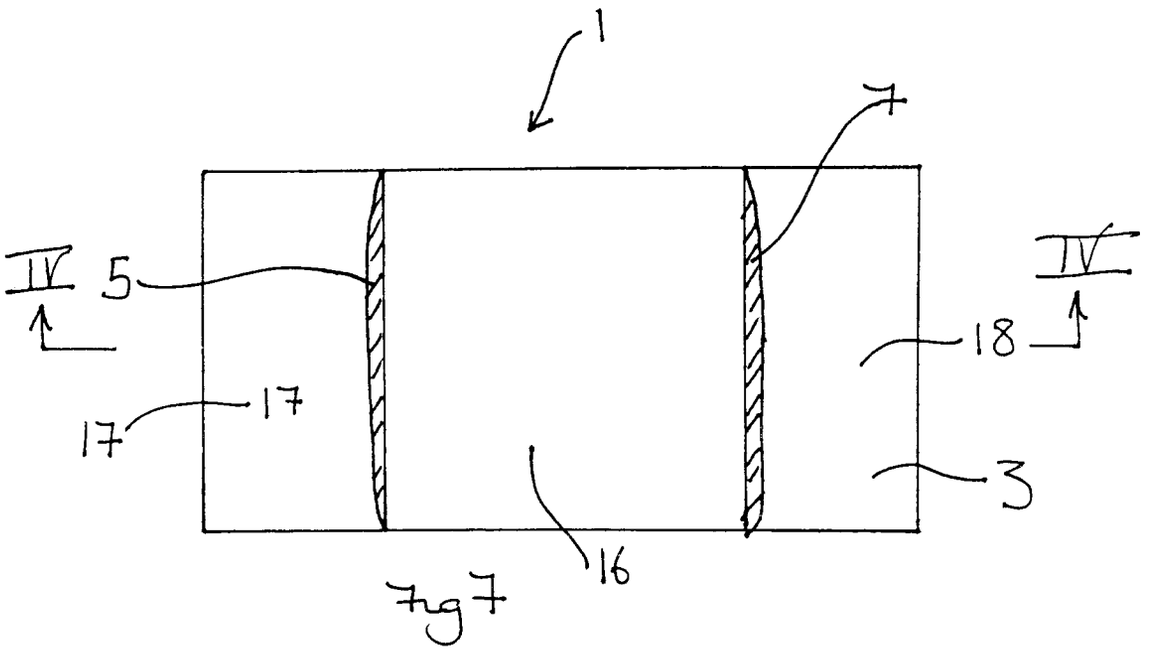

Fig 7