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<p>(21) International Application Number: PCT/US95/02333</p> <p>(22) International Filing Date: 24 February 1995 (24.02.95)</p> <p>(30) Priority Data: 203,199 28 February 1994 (28.02.94) US</p> <p>(60) Parent Application or Grant (63) Related by Continuation US 203,199 (CON) Filed on 28 February 1994 (28.02.94)</p> <p>(71) Applicant (for all designated States except US): MERCK & CO., INC. [US/US]; 126 East Lincoln Avenue, Rahway, NJ 07065 (US).</p> <p>(72) Inventor; and (75) Inventor/Applicant (for US only): LATAIX, Gilbert [FR/FR]; Boîte postale 127, Château de Mirabel, F-63203 Riom (FR).</p> <p>(74) Common Representative: MERCK & CO., INC.; Patent Dept., 126 East Lincoln Avenue, Rahway, NJ 07065 (US).</p>		<p>(81) Designated States: AM, AU, BB, BG, BR, BY, CA, CN, CZ, EE, FI, GE, HU, JP, KG, KR, KZ, LK, LR, LT, LV, MD, MG, MN, MX, NO, NZ, PL, RO, RU, SG, SI, SK, TJ, TT, UA, US, UZ, European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG), ARIPO patent (KE, MW, SD, SZ, UG).</p> <p>Published <i>With international search report.</i></p>
<p>(54) Title: CHILD-RESISTANT BLISTER PACKAGE</p>		
<p>(57) Abstract</p> <p>There is disclosed a child-resistant blister package (10) comprising a conventional blister package having cavities (12) for containing unit doses of medication. The blister package is adapted to receive three locking keys (15) which engage three holes (19) in the blister package so that only by simultaneously disengaging all the keys can the blister package be opened. The package effectively prevents children from accessing medication therein and yet the keys are readily removed from the blister package by an adult to access medication.</p>		

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TITLE OF THE INVENTION
CHILD RESISTANT BLISTER PACKAGE

BACKGROUND OF THE INVENTION

5 This invention is directed toward a child resistant blister
package of the type commonly used to package multiple units of
medication in tablet or pill form. Such blister packages typically
comprise a plastic laminate film having a plurality of cavities formed
10 therein in which units of medication in pill or tablet form are placed
and an aluminum cover sheet which overlies the cavities and is adapted
to be sealed to the plastic laminate. To remove a pill or tablet, one
manually pushed the pill or tablet through the aluminum cover sheet. In
other types of commercial blister packages, the aluminum cover sheet is
15 adapted to be peelably sealed to the plastic laminate so that a pill or
tablet can be accessed by peeling the aluminum cover sheet off of the
plastic laminate.

 Due to the relative ease with which the cover sheet of these
commercial blister packages can be peeled off or punctured, their
20 medication contents can be readily accessed by children who, imitating
their elders, can accidentally ingest medication that may be harmful to
them.

SUMMARY OF THE INVENTION

25 It has now been found that these commercial blister
packages can be made to be effectively child resistant by the child
resistant blister package of this invention.

 The child resistant blister package of the invention
generally comprises a typical blister package adapted to receive three
locking keys or hooks which engage three holes in the blister package.
30 Two holes are on one side, and one hole is on the opposite side, so that a
child cannot reach the keys and synchronize the needed movement to
unlock and open the package. These keys must be simultaneously
disengaged before the blister package can be removed. The locking

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keys prevent access to the unit doses of medication but upon being removed, the medication is readily accessible.

In summary, the child resistant blister package of the invention comprises a blister package having a plurality of cavities containing units of medication in wafer or tablet form. The cavities can also be shaped to accommodate a device, such as a nasal device, or capsules. The blister package is adapted to have opposed, extended sides in which are formed three spaced holes, or notches.

The locking keys for the blister package is generally "U-shaped" and are preferably fabricated or molded from a suitable plastic material such as polypropylene. Polypropylene is preferable because it is inexpensive and allows built-in hinges. These U-shaped keys can be pressed to disengage their hook attachment from the cavities in the blister pack.

In assembly, the blister package is folded so that the three cavities in its extended sides are respectively in superimposed alignment with each other in an alternative embodiment, a one-sided blister can be used. The locking keys are then pressed and secured through the cavities on the extended sides of the blister package so that each key is received by and contained within a cavity on the extended sides of the blister package. The projecting flanges on the keys are mated with and engage the cavities in the blister pack.

To remove the locking keys from the blister package and access the units of medication, the three keys are pressed, or manually flexed, to disengage the inwardly projecting flanges from the cavities, thus enabling the blister pack to be slidably removed.

DETAILED DESCRIPTION OF THE INVENTION

The child resistant blister package of the invention will become more apparent from the ensuing description when considered together with the accompanying drawing wherein like reference numerals denote like parts and wherein:

Fig. 1 is a perspective view of the child resistant blister package of the invention in its closed, locked position;

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Fig. 2 is a perspective view of the blister package of Fig. 1 as it is being opened;

Figs. 3A and 3B are side elevation views showing further details of the locking keys points A and B of Figure 2.

5 As shown in Figs. 1 and 2, a conventional blister package, generally identified by reference numeral 10, typically comprises a plastic laminate film 11 in which a plurality of cavities 12 have been formed to contain units of medication in wafer, device, capsule, or tablet form (not shown). An aluminum cover sheet 13 overlies the
10 cavities 12 and is bonded to the plastic laminate film 11 to complete the blister package.

To provide the child resistant blister package of the invention, the blister package 10 is adapted to have three holes or notches 19 on the sides which are folded together to form edge 14.
15 Three key elements, 15 fit through the holes or notches. These are placed through the holes or notches so that the middle key of the three is press opened in the direction opposed to other two keys, as indicated by arrows (a) and (b) on Figure 2.

20 As shown in Figs. 3A, and 3B, the locking key of the invention, identified by reference numeral 15, is generally U-shaped and has opposed top and bottom walls 16, 17, one of which has a projecting flange 18 which fits through cavity 19. These are individual
25 pressed in the direction of the arrow to push the flange 18 out of cavity 19 to disengage each key. Only when all keys are disengaged can one blister be opened.

30 While the child resistant blister package of the invention has been described with particularity and in some detail, it should be understood and will be apparent to those skilled in the art that variations and modifications can be made therein without departing from the scope of the invention recited in the claims.

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WHAT IS CLAIMED IS:

1. A child resistant blister package comprising:
- 5
- (i) a blister package formed from a film having a cavity formed therein in which units of medication or devices are placed and a cover sheet which overlies said cavities and which is bonded to said film, said blister package adapted to have:
- 10
- (a) optionally, extended sides;
- (b) one, two, or three spaced holes formed in said extended sides; and
- 15
- (ii) a generally U-shaped locking member having opposed top and bottom walls, one of which has a projecting flange;
- 20
- (iii) which is assembled so that one, two, or three locking members are inserted through the three spaced holes in a configuration so that one can be opened by pressing in the opposite direction from the other two locking numbers.
- 25
2. The blister package of Claim 1 which has three locking members.
- 30
3. The blister package of Claim 2 in which the middle of the three locking members is opposably opened from the two on either side.

FIG-1

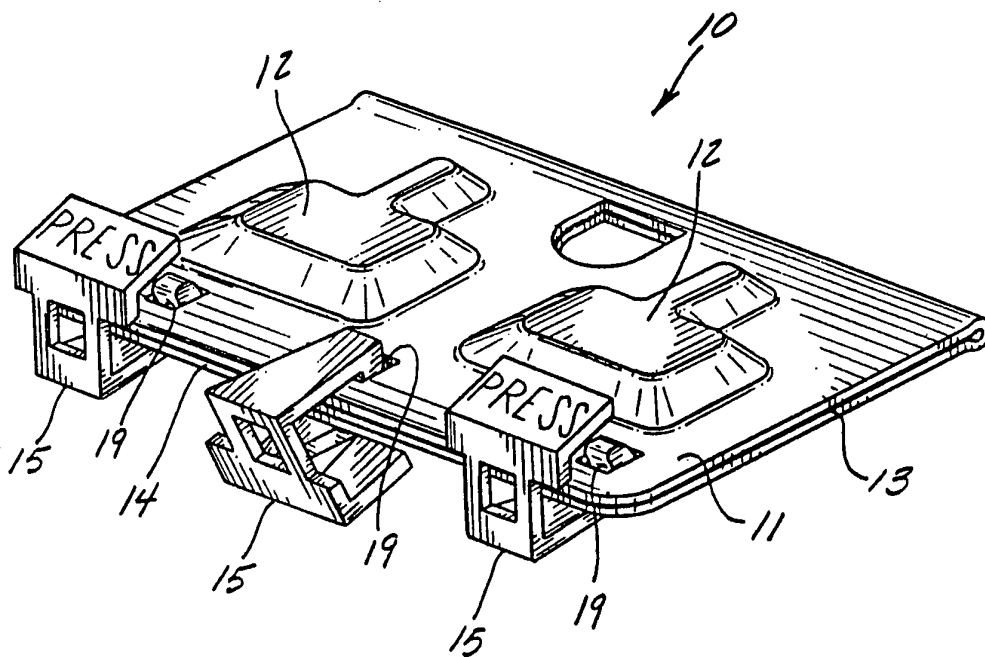


FIG-2

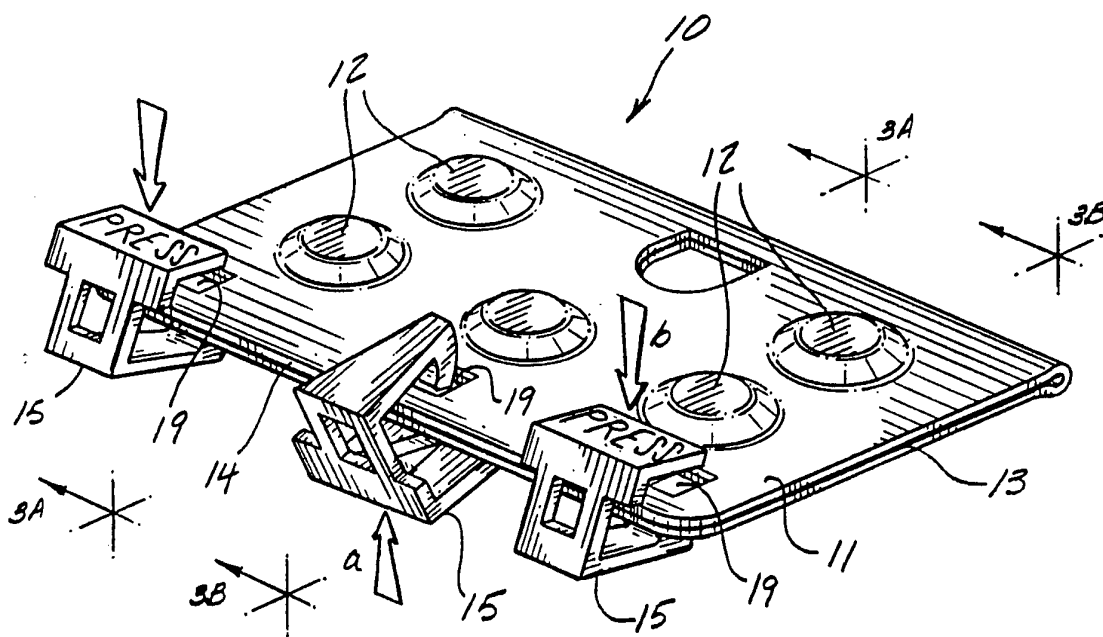


FIG-3A

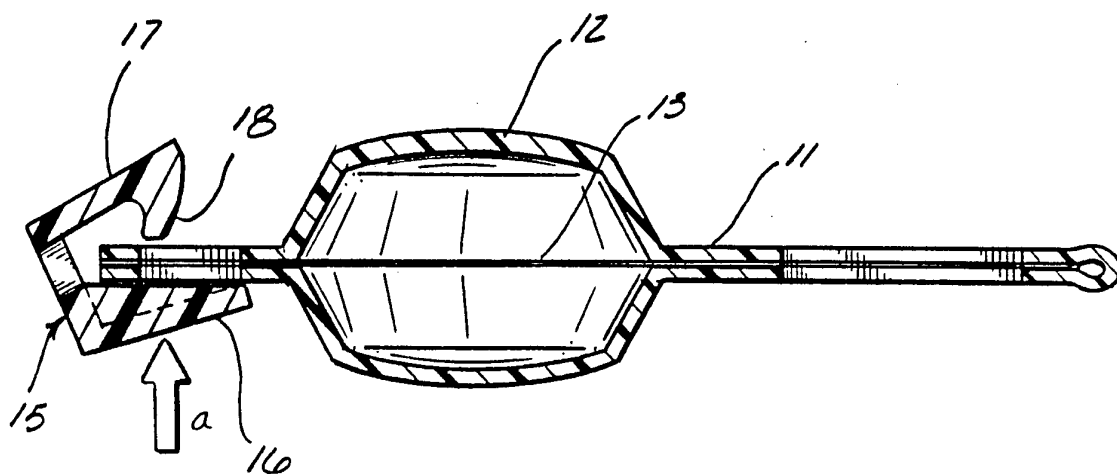
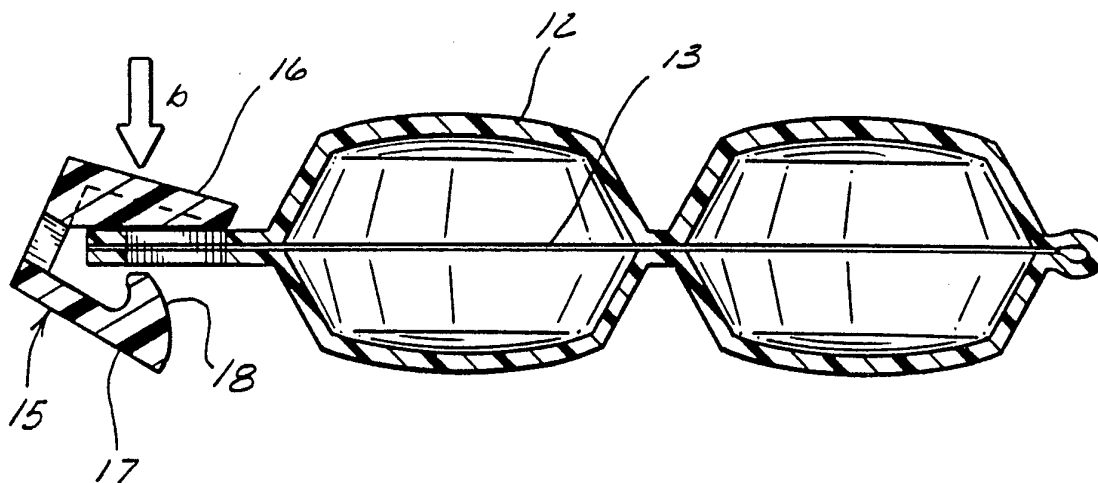


FIG-3B



INTERNATIONAL SEARCH REPORT

International application No.
PCT/US95/02333

A. CLASSIFICATION OF SUBJECT MATTER

IPC(6) : Please See Extra Sheet.

US CL : Please See Extra Sheet.

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 206/1.5, 468, 470, 528, 538, 539

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X ---- Y	US, A, 5,129,527 (LATAIX) 14 July 1992, col. 3, line 13 through col. 4, line 9.	1-3 ---- 1-3
Y	US, A, 4,779,734 (KYDONIEUS) 25 October 1988, col. 2, lines 26-51.	1-3
A	US, A, 5,244,091 (TANNENBAUM) 14 September 1993.	
A	US, A, 4,921,102 (VAN ERDEN) 01 May 1990.	
A	US, A, 4,730,731 (ALLISON) 15 March 1988.	

Further documents are listed in the continuation of Box C. See patent family annex.

* Special categories of cited documents:	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
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Date of the actual completion of the international search

19 APRIL 1995

Date of mailing of the international search report

28 APR 1995

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Authorized officer

FT BRYON GEHMAN

Telephone No. (703) 308-1148

Stephen H. Veney
Patent Specialist
Group 2900
3700

INTERNATIONAL SEARCH REPORTInternational application No.
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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US, A, 4,485,915 (BERGHAHN) 04 December 1984.	
A	US, A, 4,120,400 (KOTYUK) 17 October 1978.	

INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER:
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A. CLASSIFICATION OF SUBJECT MATTER:
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