



(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
26.05.2004 Bulletin 2004/22

(51) Int Cl.7: **B65D 33/25, B65D 33/16,
B31B 1/90, B31B 19/90**

(21) Application number: **03026447.7**

(22) Date of filing: **19.11.2003**

(84) Designated Contracting States:
**AT BE BG CH CY CZ DE DK EE ES FI FR GB GR
HU IE IT LI LU MC NL PT RO SE SI SK TR**
Designated Extension States:
AL LT LV MK

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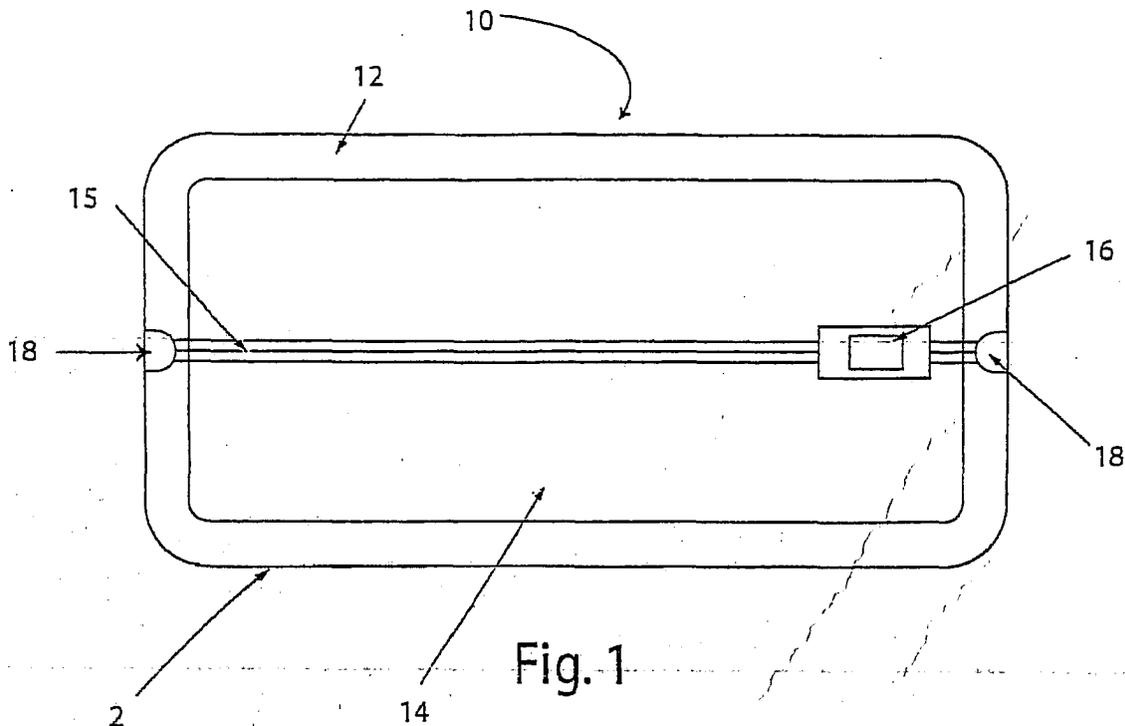
(30) Priority: **19.11.2002 US 427225 P**

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(54) **Resealable attachable patch**

(57) A method and apparatus are disclosed for providing resealable closing means for flexible package,

that may be applied to the package after the forming of the package by way of attaching the closing means on the outer face of the package.



Description**TECHNICAL FIELD**

[0001] The present invention relates to packages for products in general, and more particularly to device and method for applying resealable flexible patches to packages.

BACKGROUND

[0002] Resealable packages are widely used in a variety of fields such as food, sanitary products etc. Various methods and devices are used to allow for resealing of a package, yet most of these suffer of drawbacks such as poor sealing, short lifecycle, installation which is hard to made on soft packages and high manufacturing costs.

BRIEF DESCRIPTION OF THE DRAWINGS

[0003] The subject matter regarded as the invention is particularly pointed out and distinctly claimed in the concluding portion of the specification. The present invention will be better understood if read in conjunction with the following drawings, in which:

[0004] Figs. 1 and 2 are top and side view of a resealable attachable patch according to some embodiments of the present invention;

[0005] Figs. 3A and 3B are front and side cross sectional views of a package with a resealable attachable patch according to some embodiments of the present invention;

[0006] Figs. 4 is a schematic isometric view of a rollable sheet with replaceable resealable attachable patches according to some embodiments of the present invention;

[0007] Figs. 5A and 5B are top and cross sectional views of a package with a resealable attachable patch according to some embodiments of the present invention; and

[0008] Figs. 6A and 6B are three-dimensional isometric vies of a package with a resealable attachable patch according to some embodiments of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

[0009] In the following description, various aspects of the present invention will be described. For purposes of explanation, specific configurations and details are set forth in order to provide a thorough understanding of the present invention. However, it will also be apparent to one skilled in the art that the present invention may be practiced without the specific details presented herein. Furthermore, well-known features may be omitted or simplified in order not to obscure the present invention.

[0010] Reference is made now to Figs. 1 and 2. Fig.

1 illustrates an embodiment of a resealable attachable patch, usable for resealable packages. A patch 10 is disclosed in which a manually operable sealing means, such as a zipper, is included. Patch 10 may comprise of an attachable thin material 12 preferably flexible, a non-attachable portion 14 and sealing means 15 with engageable edges (not shown). Non-attachable portion 14 may be made of thin flexible material and may be placed over an opening in a package. Portion 14 may be cut along a line formed along sealing means 15 and sealing means 15 may be formed one at each of the edges of said cut in portion 14. Sealing means 15 may have any suitable form and design allowing the parts to engage or disengage from one another as desired. Sealing means 15 may also include a manually operable handle 16 for engaging and disengaging engageable edges of sealing means 15. Patch 10 may be attached to a wall of a package, onto a precut opening in said wall, in various ways such as manual sticking, automated sticking, heat bonding and the like. Patch 10 may also include strengthened areas 18 at each end of sealing means 15.

[0011] Fig. 2 is a side view of patch 10 in which layer 22 may be an attaching material, attachable by means of adhesive material by manual sticking, automated sticking, heat bonding and the like, that may connect sealing means 15 onto an outer face of a package over a pre-cut opening in a flexible package. Sheet 24 is part of a package onto which patch 10 may be attached by any of the aforementioned means.

[0012] Reference is made now to Figs. 3A and 3B, which are a front and a side cross sectional views respectively of package 30, having an opening cut 32 in one of its surfaces. Resealable attachable patch 34 may be attached to package 30 using attaching means such as an adhesive manual sticking, automated sticking, heat bonding and the like applied in layer 40, and may include a resealing closure 38 with engageable edges (not shown) and with operating means 36 usable for opening and closing said closure 38.

[0013] In one embodiment of the present invention a resealable attachable patch may be provided on a carrying rollable sheet. Reference is made now to Fig. 4 which is a schematic isometric view of sheet 50 having plurality of resealable attachable patches 52 of the type disclosed herein arranged on it. Sheet 50 may be stowed in a roll 54 and may be used in automated production setups for attaching patch 52 onto a package in any appropriate stage of an automated or semi-automated manufacturing process. The attaching of patch 52 may be carried out before the package has been formed, or afterwards, as desired.

[0014] Resealable attachable patch of the present invention may have various forms and embodiments. Reference is made now to Figs. 5A and 5B which are top and cross sectional views of a package 62 with a resealable attachable patch 64 and to Figs. 6A and 6B which are three-dimensional isometric vies of a package 62 with a resealable attachable patch 64 according to some

embodiments of the present invention.

[0015] Package 62 may comprise a resealable attachable patch 64 which may be attached so as to cover an opening 66 cut in one side of package 62. Package 62 may be made of soft and flexible material or of a non-flexible material. Resealable attachable patch 64 may comprise an attachable area 66 substantially flat for attaching it to package 62 and sealing walls 67 substantially parallel to each other. Sealing walls 67 may have sealing edges 68 at their outer ends made to engage with each other, such as in a zipper and operating means 69 made to seal or unseal resealable attachable patch 64 by engaging or disengaging sealing edges 68 from one another. Sealing walls 67 may be at a folded position, as illustrated in Figs. 5A, 5B and 6A or in an upright position, as illustrated in Fig. 6B. Folded position of sealing walls 67 may be used for stowing package 62 and for additional sealing while upright position of sealing walls 67 may be for allowing access to the content inside package 62.

[0016] It will be apparent to one skilled in the art that the resealing device may be of various embodiments, and patch 10 may be applied onto a package during a stage later than the preparing of the package, and even after the package has been filled with its content. It will also be apparent that patch 10 may be attached to a flexible package before or after being filled without damaging the package or its content. It will also be apparent to one of ordinary skill in the art that a resealable attachable patch according to the present invention may have various shapes and forms such but not limited to a round or ellipsoid shape, and may comprise any desired form of engagable / disengagable means.

[0017] While certain features of the invention have been illustrated and described herein, many modifications, substitutions, changes, and equivalents will now occur to those of ordinary skill in the art. It is, therefore, to be understood that the appended claims are intended to cover all such modifications and changes as fall within the true spirit of the invention.

Claims

1. An attachable closure comprising:
 - a thin flexible material having attachable area formed on at least part of its area and having a cut formed across at least part of its area; and
 - engagable edges connected to the edges of said cut so as to allow for engaging and disengaging said engagable edges from one another.
2. The attachable closure of claim 1, further comprising operating means for manually engaging and disengaging said engagable edges.
3. The attachable closure of claim 2, wherein said attachable area is attachable to a package by one of adhesive, heat bonding and chemical bonding.
4. The attachable closure of claim 1, wherein said thin flexible material comprises two parts each of said parts having a bend along a line substantially situated in the middle of said material and parallel to one edge of said part and separating each of said parts to a first and a second area, said parts are placed so that their bend lines are parallel and close to each other, their first areas are parallel and close to each other and their second parts are bent with respect to their first part; and
 - wherein said engagable edges are formed parallel to said bend lines at the free end of said first areas.
5. A method for sealing a package comprising:
 - providing an opening in one side of said package;
 - attaching a resealable closure substantially over said cut; and
 - providing activation means for sealing and unsealing said resealable closure.
6. The method of claim 5, wherein said step of attaching precedes full forming of said package.
7. The method of claim 5, wherein said step of attaching follows full forming of said package.
8. A resealable package comprising:
 - a package having an opening in one of its walls; and
 - a resealable patch, comprising:
 - a thin flexible material having attachable area formed on at least part of its area and having a cut formed across at least part of its area; and
 - engagable edges connected to the edges of said cut so as to allow for engaging and disengaging said engagable edges from one another.
9. The resealable package of claim 8, further comprising operating means for manually engaging and disengaging said engagable edges.
10. The resealable package of claim 9, wherein said attachable area is attachable to said package by one of adhesive, heat bonding and chemical bonding.
11. The resealable package of claim 8, wherein said thin flexible material comprises two parts each of

said parts having a bend along a line substantially situated in the middle of said material and parallel to one edge of said part and separating each of said parts to a first and a second area, said parts are placed so that their bend lines are parallel and close to each other, their first areas are parallel and close to each other and their second parts are bent with respect to their first part; and

wherein said engagable edges are formed parallel to said bend lines at the free end of said first areas.

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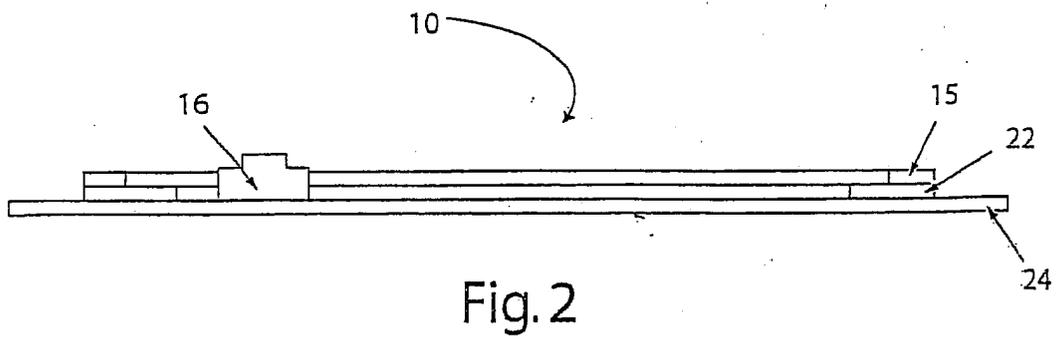
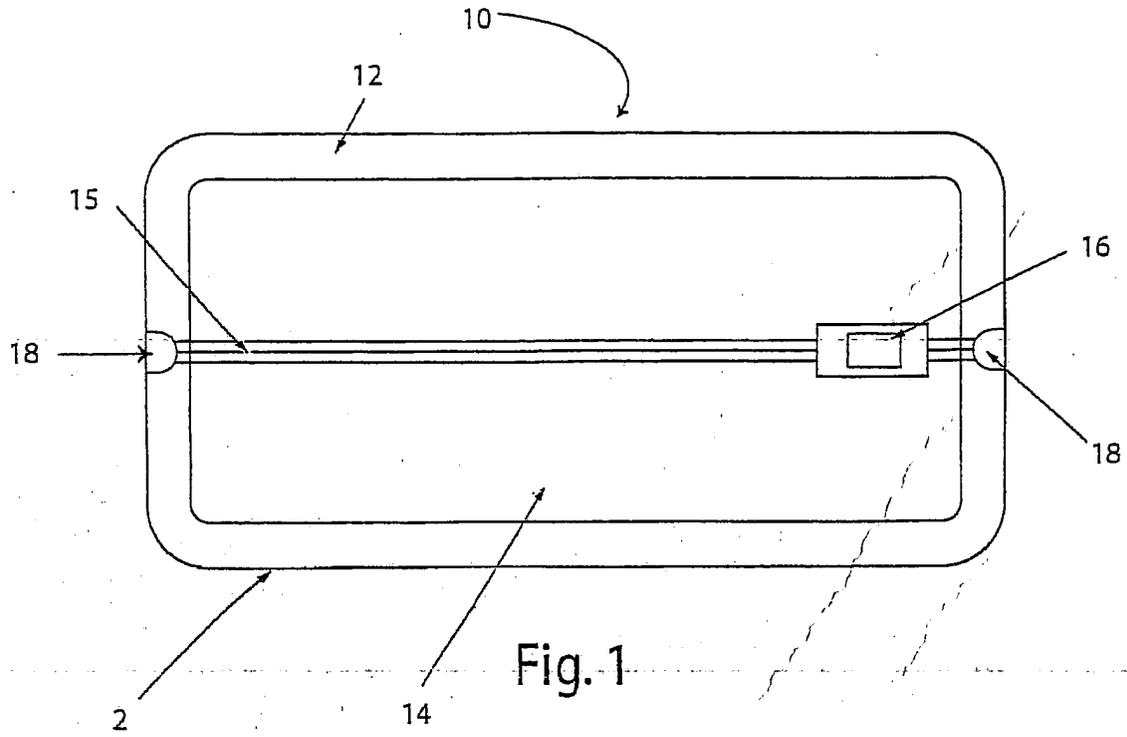
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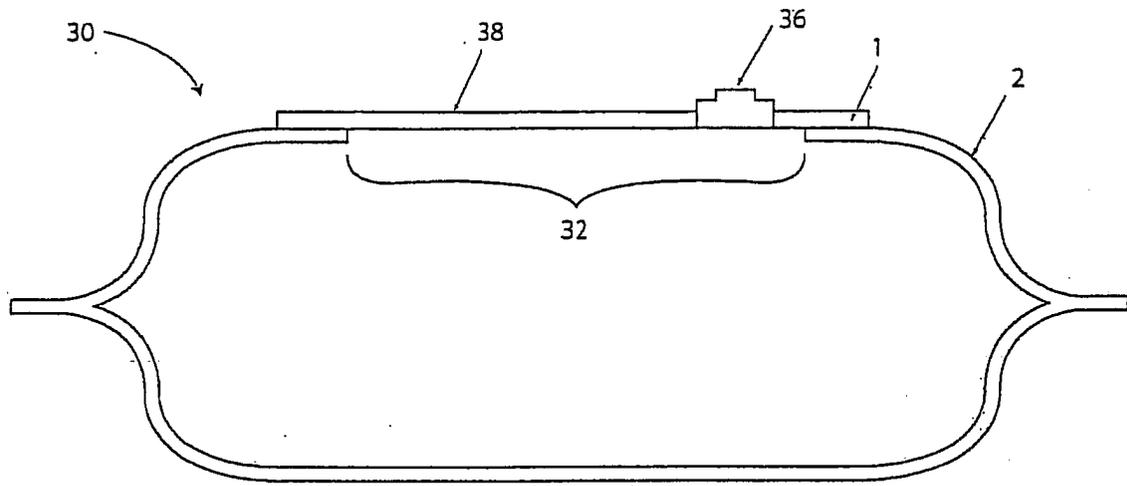


Fig. 3a

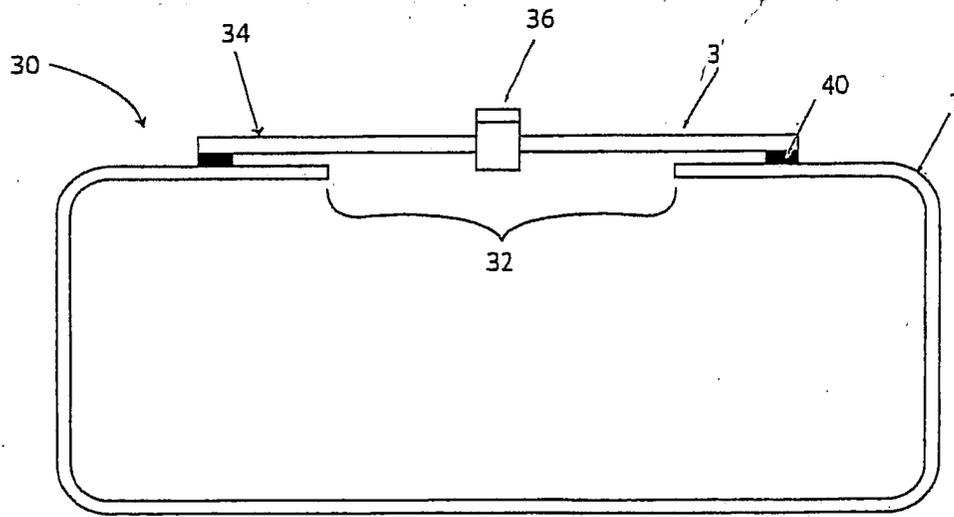


Fig. 3b

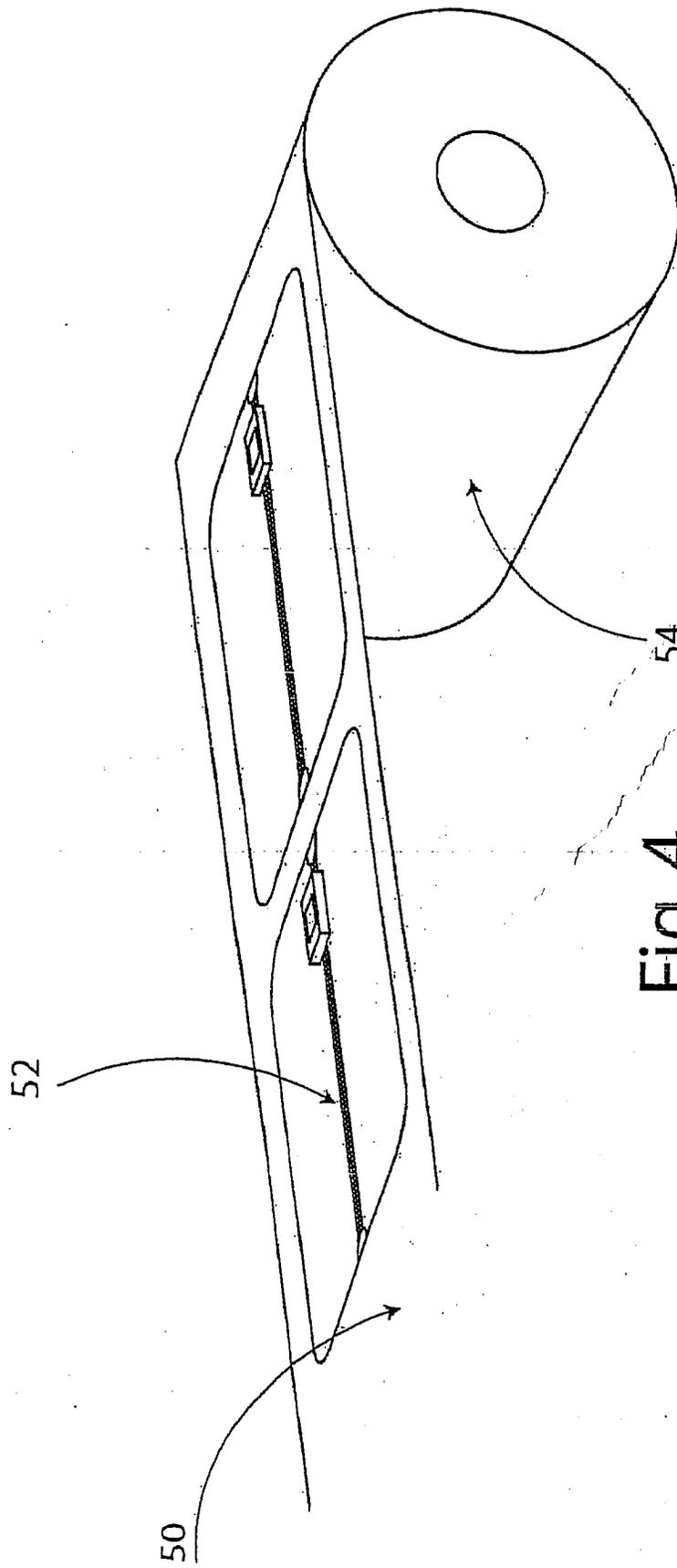


Fig. 4

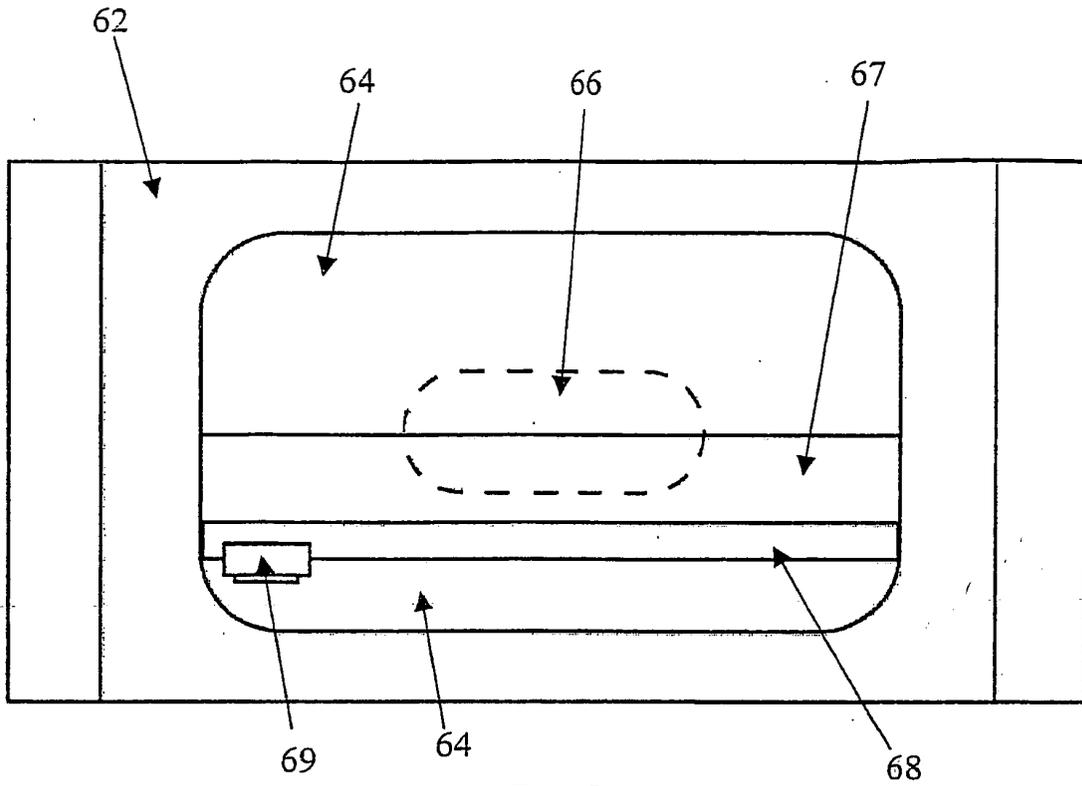


Fig. 5A

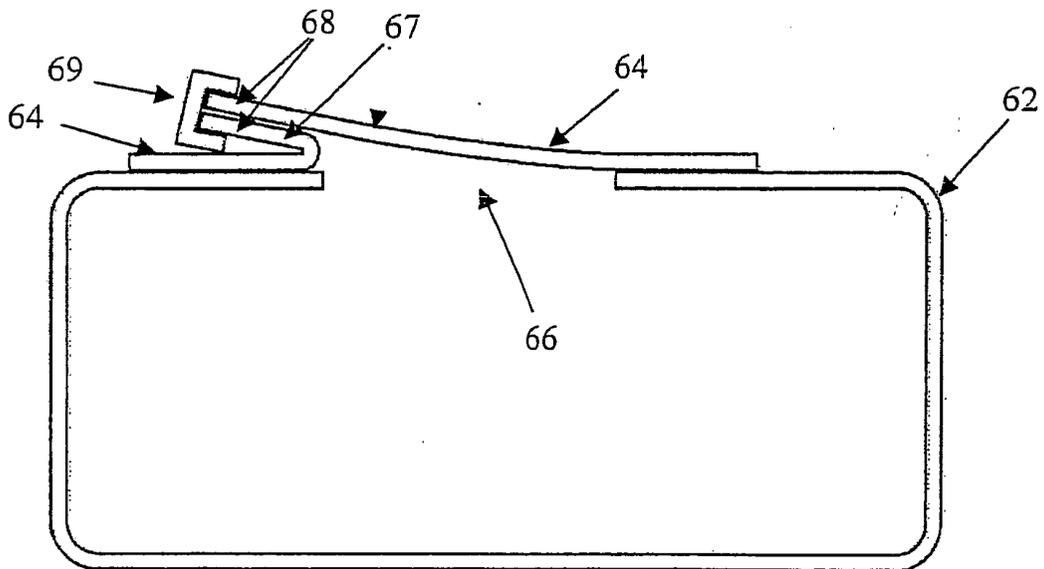
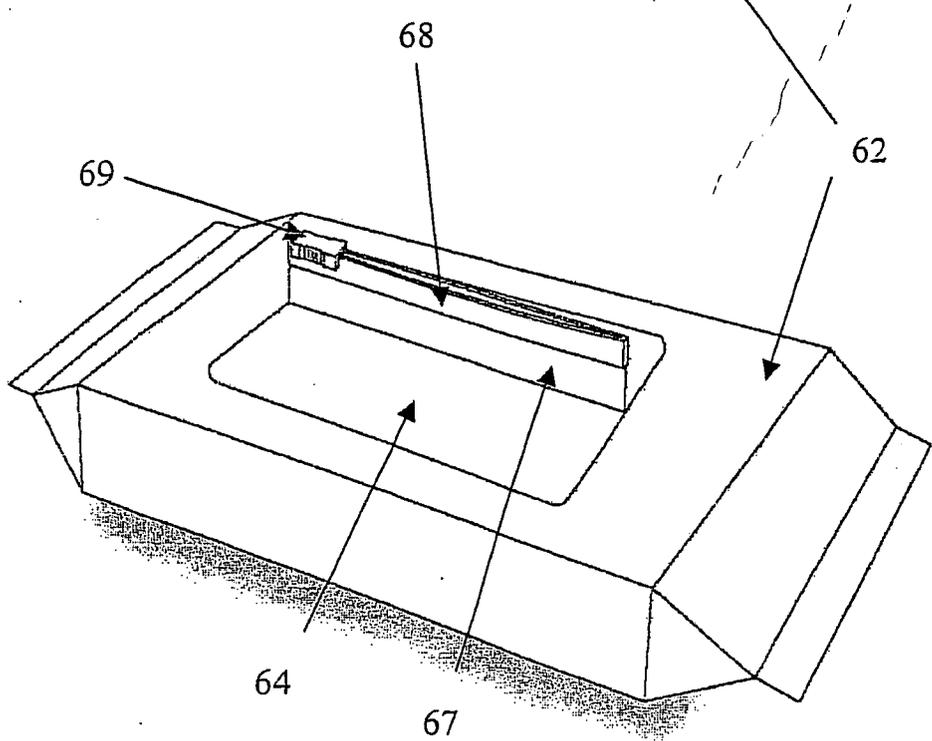
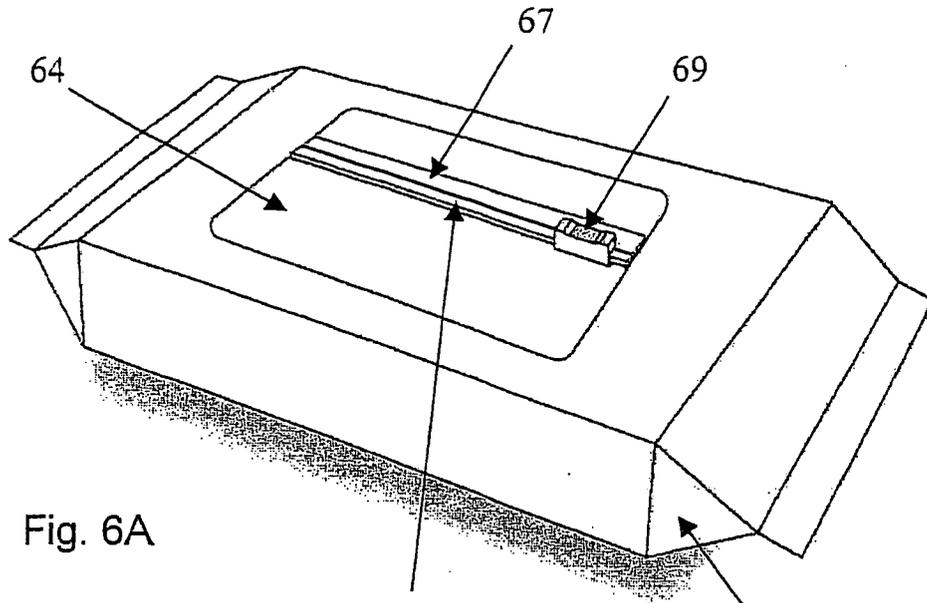


Fig. 5B





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EUROPEAN SEARCH REPORT

Application Number
EP 03 02 6447

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
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			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			B65D B31B B65B
The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
MUNICH		3 March 2004	Damiani, A
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

EPO FORM 1503 03.82 (P04C01)

ANNEX TO THE EUROPEAN SEARCH REPORT
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EP 03 02 6447

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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