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(54) **Packaging pouch**

(57) The invention relates to a pouch (1) for containing a product (2) which may be a medicament. The pouch (1) comprises a first wall (4) and a second wall (6) and the pouch has at least a gripping portion (8) and a compartment portion (10). The compartment portion includes a compartment (12) for containing a product (2). The first wall (4) and second wall (6) are peelably sealed together. The compartment portion includes a peripheral seal (14) extending along the periphery of the pouch (1) and a dividing seal (16) extending transversely across the pouch. The seals are arranged such that the dividing seal (16) cooperates with the peripheral seal (14) to substantially enclose and define the compartment (2). The grip-

ping portion (8) extends from the dividing seal (16) away from the compartment portion (10) and includes a peel initiation portion (18) in which the first and second walls (4,6) are substantially not sealed together. The gripping portion includes a retaining seal (20) at a periphery which hinders separation of the first and second walls (4,6) in the peel initiation portion (18). At least a portion of the retaining seal (20) is removable by a user thereby facilitating separation of the first and second walls (4,6) in the peel initiation portion (18) such that a separation force can be applied to initiate peeling of at least one of the dividing seal (16) and peripheral seal (14).

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Description

[0001] The present invention relates to a packaging pouch for containing a product, particularly a pouch for containing a medicament product and more particularly to a pouch for containing a medicament which pouch includes child resistant opening features.

[0002] Pouches can be used for containing products, particularly medicaments such as tablets, capsules, patches or powders, in order to prevent or limit exposure to contaminants such as dirt or moisture, or to provide a predetermined quantity of product that may, for example, constitute a single 'dose'. The pouch can act as external packaging within which a product is contained in inner packaging and/or the pouch can be contained within additional external packaging.

[0003] To obtain access to an interior compartment of a pouch containing the product users typically have to tear off a portion of a pouch. The tearing off of a portion of the pouch provides an opening through which the content of the pouch can be dispensed from the interior compartment.

[0004] The invention provides a pouch for containing a product, the pouch comprising a first wall and a second wall, regions of the first wall and second wall being sealed together, the pouch having at least a gripping portion and a compartment portion, the compartment portion including a peripheral seal extending along the periphery of the pouch and a dividing seal extending transversely across the pouch such that the dividing seal cooperates with the peripheral seal to substantially enclose and define a compartment for containing a product, the gripping portion extending from the dividing seal away from the compartment portion and including an initiation portion in which the first and second walls are substantially not sealed together, the gripping portion including a retaining seal at a periphery which hinders separation of the first and second walls in the initiation portion, at least a portion of the retaining seal being removable by a user thereby facilitating separation of the first and second walls in the peel initiation portion

[0005] The separation of the walls facilitates the application of a separation force to the first and second walls.

[0006] The first and second walls can be fabricated from any suitable material and need not be of the same material. The first and second walls may be fabricated from a flexible film material which may be a laminate or composite material. The film may be a plastics laminate and may include a moisture barrier layer.

[0007] The pouch may be substantially rectangular in shape. However, it should be understood that the pouch could be formed in any suitable shape, for example substantially triangular, substantially circular or an irregular shape if desired. The first and second walls may be fabricated by folding a single strip of film substantially in half.

[0008] The first and second walls are sealed together and are preferably peelably sealed together. The term "peelably sealed" should be understood to understood

to mean that the first and second walls can be peeled apart by a user by applying a separation force to the first and second walls.

[0009] The sealing of the first and second walls together can be achieved in a variety of ways, for example a peelable adhesive could be located between the walls as required such that the walls are held together by the adhesive, but can be separated if the retaining force of the adhesive is exceeded by a separation force such that neither wall is damaged. A peelable adhesive should therefore have a lower adhesion force than the tearing or de-laminating force of the material forming the walls. The peelable adhesive may be a heat activated adhesive.

[0010] If, for example, a laminated film is used to form at least one of the walls, then the separation force could cause the tearing of at least one of the layers of laminate forming one of the walls such that the portions of the tearable layer or layers removed from said wall remain attached to the other wall when the walls are separated. The separation force required to open the pouch would therefore be the force required to tear the layer or layers from one of the walls.

[0011] Overcoming an adhesive force and tearing at least one layer from one wall are both caused by a similar action and by a user and this action will be referred to herein as a peeling action.

[0012] The peripheral seals extend along the periphery of the pouch and preferably substantially hinder a user from applying a separation force to the first and second walls at the adjacent edge of the pouch. Preferably the seal extends to the edge of the pouch such that there is substantially no unsealed region of first and second wall around the compartment as this provides the greatest hindrance to peeling.

[0013] The dividing seal may extend substantially straight, or may be shaped, angled or curved such that it extends away from the compartment for at least some of its length such that a user applying a separation force to initiation portion is likely to initiate peeling or separation of the walls along only a portion of the seal rather than its entire length thereby reducing the force required to initiate the peel. The dividing seal may be shaped such that a central portion of the dividing seal extends towards the peel initiation region such that a peel initiated from the peel initiation region is initiated in the substantially central portion of the dividing seal and then spreads outwards to the peripheral seal.

[0014] The dividing seal separates the compartment from the gripping portion and means that the compartment remains sealed even after some or all of the retaining seal has been removed. This means that there are two distinct actions required for opening the pouch. There is an initial action to remove at least some of the retaining seal, for example by tearing or cutting and a second action to peel open the pouch by applying a separation force to the first and second walls. This two stage action should be simple for an adult to carry out, but the coordination of performing two actions in sequence to open the pouch

may be more difficult for a child and therefore provide some child resistance to the pouch.

[0015] Within the compartment the first and second walls are not sealed together so the walls and seals co-operate to enclose a volume within which a product such as a medicament can be stored.

[0016] At least a portion of the retaining seal can be removed by a user before peeling open the pouch. The pouch may include indicia indicating where a user should tear or cut in order to remove the retaining seal. In order to further hinder child access to the compartment at least one, and possibly both, of the walls of the pouch may be tear resistant so that the pouch can not be simply torn open by a child. A tear initiation weakness can be provided in the gripping region from which a user can initiate a tear to remove some or all of the retaining seal. The weakness may be at an edge of the pouch, or may be located away from an edge of the pouch such that the pouch can be folded across the weakness such that the weakness is located at an edge of the fold and can therefore be used by a user to initiate a tear to remove at least some of the retaining seal. The weakness may be provided by a tear notch, perforation or stress concentrating feature, or by a preformed weakness such as a score line. The pouch could also include a perforated tear line along which a user can initiate and propagate a tear.

[0017] The pouch may include indicia indicating a fold line along which a user should fold the pouch. The indicated fold line would pass passing through the pre-formed weakness and thereby allow a user to initiate a tear from the pre-formed weakness after folding of the pouch.

[0018] The retaining seal may extend along the periphery of the gripping portion such that the peripheral seal and the retaining seal co-operate extend substantially entirely around the pouch. This would increase the difficulty in opening the pouch without first removing at least some of the retaining seal as there would be substantially no unsealed or free edges of the first and second walls to which a user could apply a separation force to initiate peeling.

[0019] It should be understood that the dividing and peripheral seals may be peelable, but the retaining seal need not be peelable in the same way if it is to be substantially entirely removed.

[0020] The compartment of the pouch described can contain a medicament, for example one or more tablets or capsules, powdered medicament or other medicament forms such as patches or films.

[0021] It should be understood that throughout this specification and in the claims that follow, unless the context requires otherwise, the word "comprise", or variations such as "comprises" or "comprising", implies the inclusion of the stated integer or step, or group of integers or steps.

[0022] The invention will now be further described, by way of example only, with reference to the following drawings in which:

Figure 1 shows a first pouch in plan view;

Figure 2 shows the pouch of Figure 1 in perspective view;

Figure 3 shows the pouch of Figure 1 with the retaining seal removed;

Figure 4 shows the pouch of Figure 1 with the first and second wall peeled apart;

Figure 5 shows a second pouch;

Figure 6 shows a third pouch;

Figure 7 shows a forth pouch; and

Figure 8 shows a fifth pouch.

[0023] Figure 1 shows a first pouch 1 in plan view. The pouch contains product 2, in this case tablets. The pouch 1 comprising a first wall 4 and a second wall 6 which are sealed together to form the pouch. The pouch has a gripping portion 8 and a compartment portion 10. The compartment portion includes a compartment 12 which contains the product 2. The first wall 4 and second wall 6 are peelably sealed together with a peelable adhesive along a periphery of the pouch 1 in the compartment portion 10 by a peripheral seal 14 and across the pouch by a dividing seal 16 which extends transversely across the pouch 1 such that the dividing seal 16 cooperates with the peripheral seal 14 to substantially enclose and define the compartment 12.

[0024] The gripping portion 8 extends from the dividing seal 16 away from the compartment portion 10 and includes a peel initiation region 18 a in a substantially central portion of the gripping region 8 in which the first and second walls are substantially not sealed together. The gripping portion 8 including a retaining seal 20 at a periphery which hinders separation of the first and second walls 4,6 in the peel initiation portion 18 by a user. The pouch 1 includes pre-formed weaknesses 22,24 at edges of the gripping portion such that a user can initiate a tear in those location to remove at least a portion of the retaining seal 20. The removal of at least some of the retaining seal 20 facilitates separation by a user of the first and second walls 4,6 in the peel initiation portion 18 and therefore allows a user to apply separation force to initiate peeling of at least one of the dividing seal 16 and peripheral seal 14 thereby opening the compartment 2.

[0025] The retaining seal 20 substantially prevents, or at least hinders, a user applying a separating force to the first and second walls 4,6 as the pouch 1 is sealed around substantially its entire periphery. In this case there are regions 26 of the periphery that are unsealed, by a user is likely to find difficulty in separating the first and second walls 4,6 sufficiently to apply a separation force in those regions.

[0026] Figures 2 to 4 show in sequence the opening of the pouch 1 of Figure 1. Figure 2 shows a perspective view of the pouch 1 including the retaining seal 20 that hinders separation of the first and second walls 4,6.

[0027] To open the pouch 1 a user initiates a tear at one of the preformed weaknesses 22 and removes at least some of the retaining seal 20.

[0028] Figure 3 shows the pouch with the retaining seal 20 removed. The removal of the retaining seal 20 facilitates separation of the first and second walls 4,6 by a user as free edges are created along the tear in the initiation portion 18. A user can then separate the first and second walls and apply a separation force by pulling the first and second walls away from each other 28. The separation force is sufficient to initiate peeling of at least one of the dividing 16 or peripheral 14 seals. The peeling can then be propagated to open the compartment 12.

[0029] Figure 4 shows the pouch 1 when it has been peeled such that the compartment 12 is opened and the product 2 exposed for use.

[0030] Figure 5 shows a second pouch 101. The pouch 101 has a similar construction, but with a different arrangement of seals. The retaining seal 120 now extends around substantially the entire periphery of the pouch 1 in the gripping portion 8. This hinders separation of the first and second walls 4,6 to a greater extent than the retaining seal 20 of pouch 1.

[0031] There is again pre-formed weakness 126 at an edge of the pouch in the gripping region at which a user can initiate a tear to remove at least some of the retaining seal 120. The pouch 101 further includes a cutout 30 in at least one of the walls 4,6 to facilitate tear guiding and to facilitate separation of the walls 4,6 by a user after removal of the retaining seal 120. The cutout 30 includes a pre-formed weakness 32 at a side opposite the pre-formed weakness 126 at the edge of the pouch 101 to facilitate tear propagation away from the cutout 30.

[0032] Figure 6 shows a third pouch 201. The pouch 201 is similar to that of Figure 5, but a pre-formed weakness 226 is formed adjacent an edge of the pouch 201 in the gripping portion 8 rather than at an edge. This means that a user cannot simply initiate a tear from the edge of the pouch, but must first fold the pouch along a fold line 34, in this case by folding a corner 36 of the pouch 201 towards the centre of the pouch 201. The fold line 34 passes through the pre-formed weakness 226 and the weakness 226 is therefore at an edge of the fold and a user can therefore initiate a tear to remove at least some of the retaining seal 120.

[0033] Figures 7 and 8 show pouches 301 and 401 that are similar to the pouch 201 in that folding of the pouch along a fold line is required to expose a pre-formed weakness from which a user can initiate a tear to remove at least some of the retaining seal. However, pouches 301 and 401 are arranged such that the fold line 134 extends substantially parallel with an edge of the pouch 301,401. This can be achieved by allowing the fold line to extend through the compartment 12 or, if this is not

acceptable for any reason, the width of a peripheral, or other, seal could be increased perpendicular to the fold line such that the fold line extends along a seal line adjacent the compartment as is the case in pouches 301,401. The increased width seal can be referred to as fold seal 38, which in this case is part of the peripheral seal 114. The pre-formed weakness 226 is located away from, but adjacent to, an edge of the pouch 301,401.

[0034] Pouch 401 differs from pouch 301 in that pouch 401 includes a cutout 30 in the gripping portion 8 to facilitate separation of the first and second walls 4,6 after removal of at least some of the retaining seal 120.

[0035] It should be understood that the invention has been described above by way of example only and modifications in detail can be made without moving outside the scope of the invention as defined in the claims.

Claims

1. A pouch for containing a product, the pouch comprising a first wall and a second wall, regions of the first wall and second wall being sealed together, the pouch having at least a gripping portion and a compartment portion, the compartment portion including a peripheral seal extending along the periphery of the pouch and a dividing seal extending transversely across the pouch such that the dividing seal cooperates with the peripheral seal to substantially enclose and define a compartment for containing a product, the gripping portion extending from the dividing seal away from the compartment portion and including an initiation portion in which the first and second walls are substantially not sealed together, the gripping portion including a retaining seal at a periphery which hinders separation of the first and second walls in the initiation portion, at least a portion of the retaining seal being removable by a user thereby facilitating separation of the first and second walls in the peel initiation portion..
2. A pouch as claimed in claim 1, in which the pouch includes a pre-formed weakness from which a user can initiate a tear to remove at least a portion of the retaining seal.
3. A pouch as claimed in claim 2, in which the pre-formed weakness does not extend to an edge of the pouch.
4. A pouch as claimed in claim 3, in which the pouch further includes indicia indicating a fold line along which a user should fold the pouch, the fold line passing through the pre-formed weakness to allow a user to initiate a tear from the pre-formed weakness after folding of the pouch.
5. A pouch as claimed in any preceding claim, in which

the retaining seal extends along the periphery of the gripping portion such that the peripheral seal and the retaining seal co-operate extend substantially entirely around the pouch.

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6. A pouch as claimed in any preceding claim, in which the dividing seal is shaped such that a central portion of the dividing seal extends towards the peel initiation region such that a separation force applied to the first and second walls in the peel initiation region is substantially concentrated on the central portion of the dividing seal. 10
7. A pouch as claimed in any preceding claim, in which at least one of the first and second walls are fabricated from a tear resistant material. 15
8. A pouch as claimed in any preceding claim, in which the peripheral seal extends from the compartment to the edge of the pouch such that, in the compartment portion, there is substantially no unsealed region adjacent the edge of the pouch. 20
9. A pouch as claimed in any preceding claim, in which the first and second walls are sealed to one another using a peelable adhesive. 25
10. A pouch as claimed in any preceding claim, in which the compartment contains a medicament. 30

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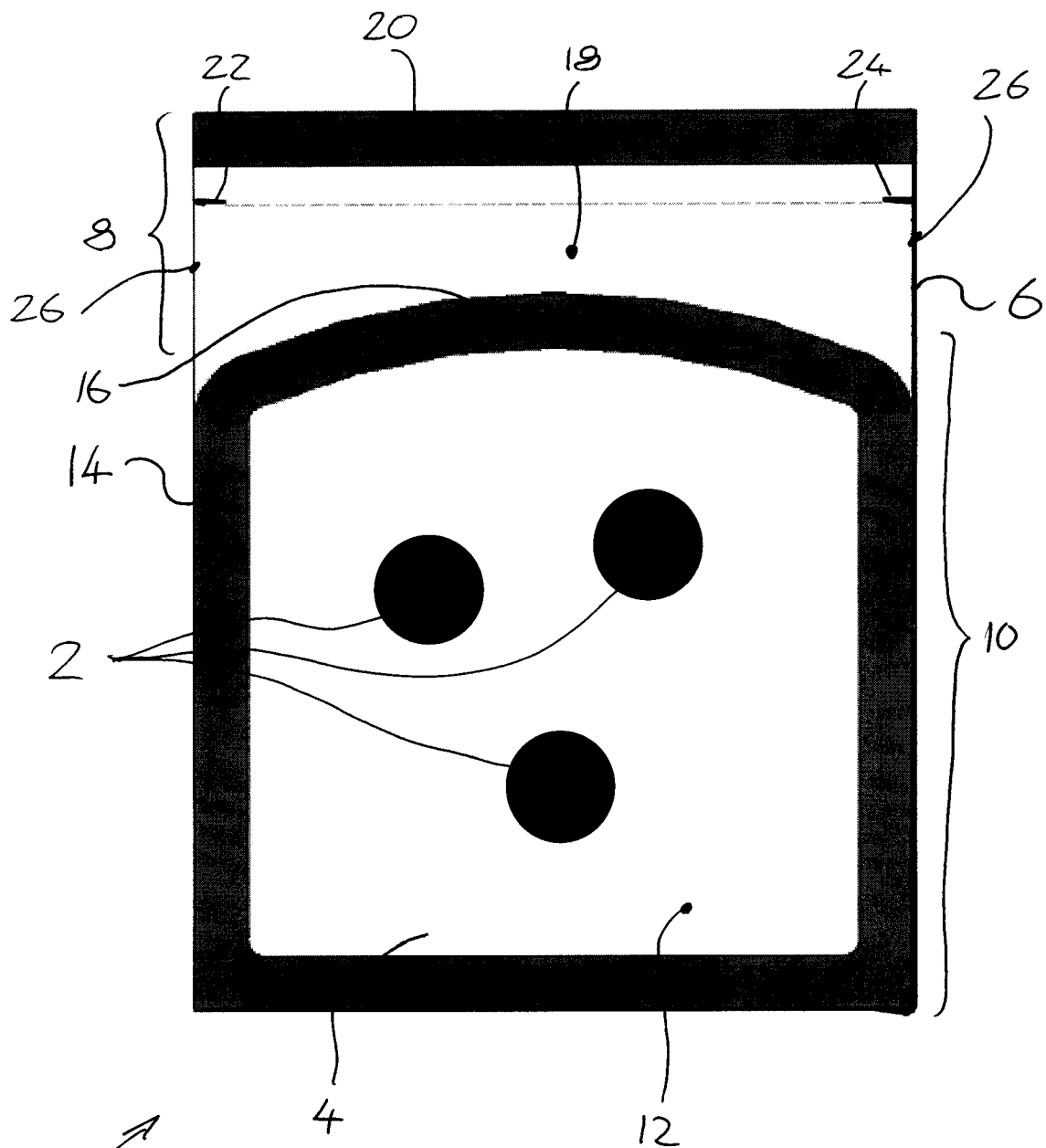
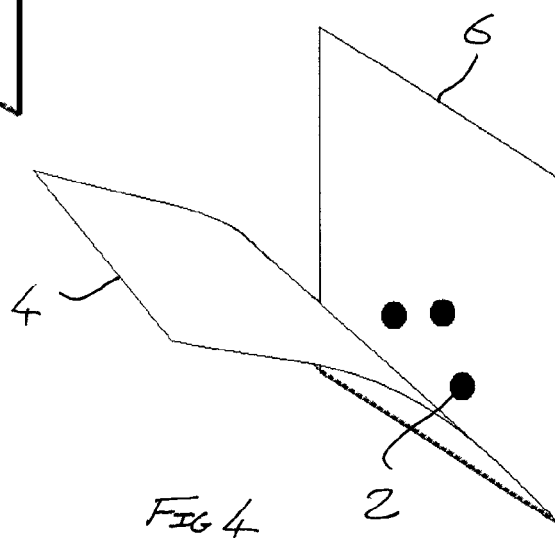
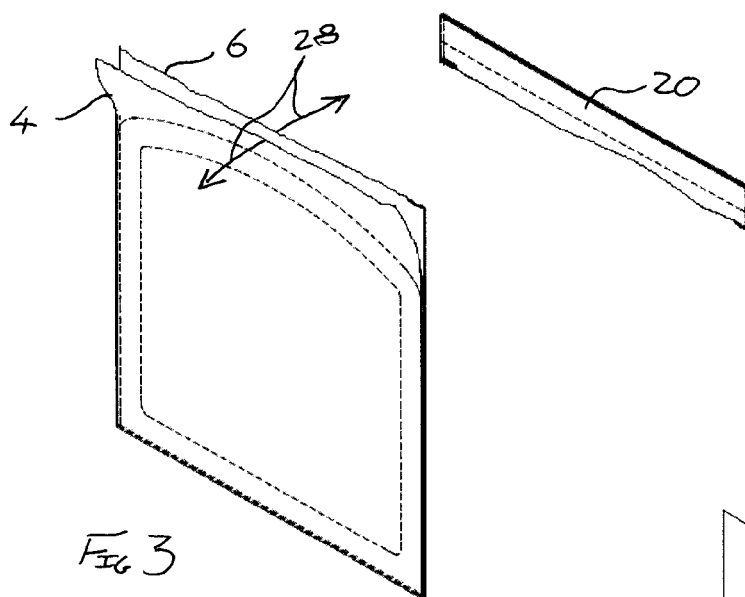
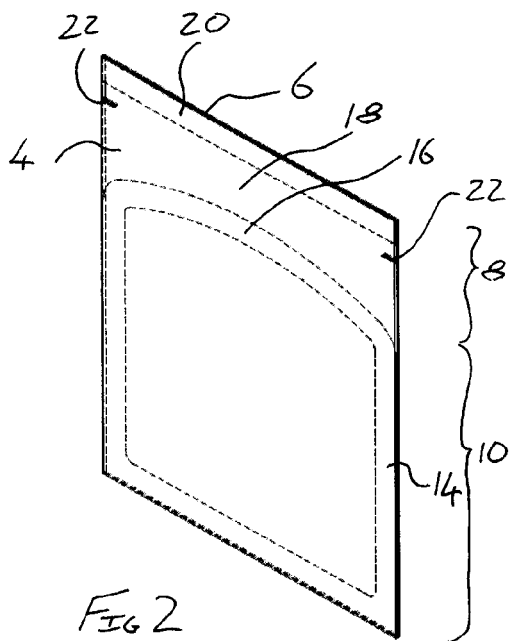


FIG 1



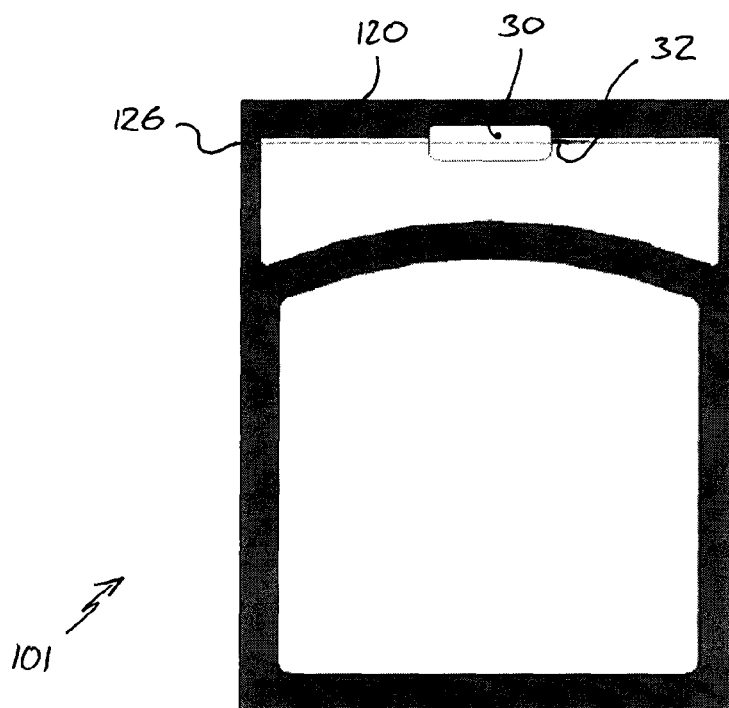


Fig 5

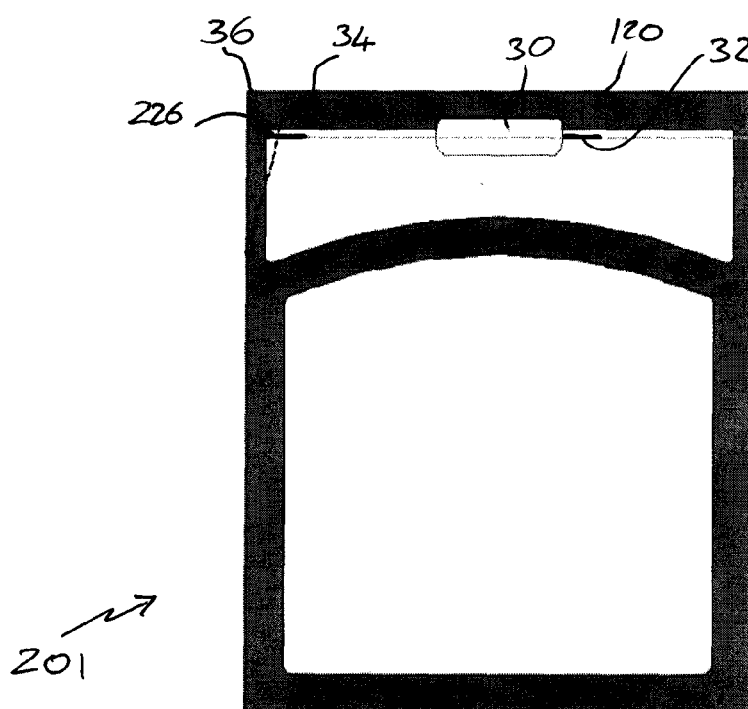
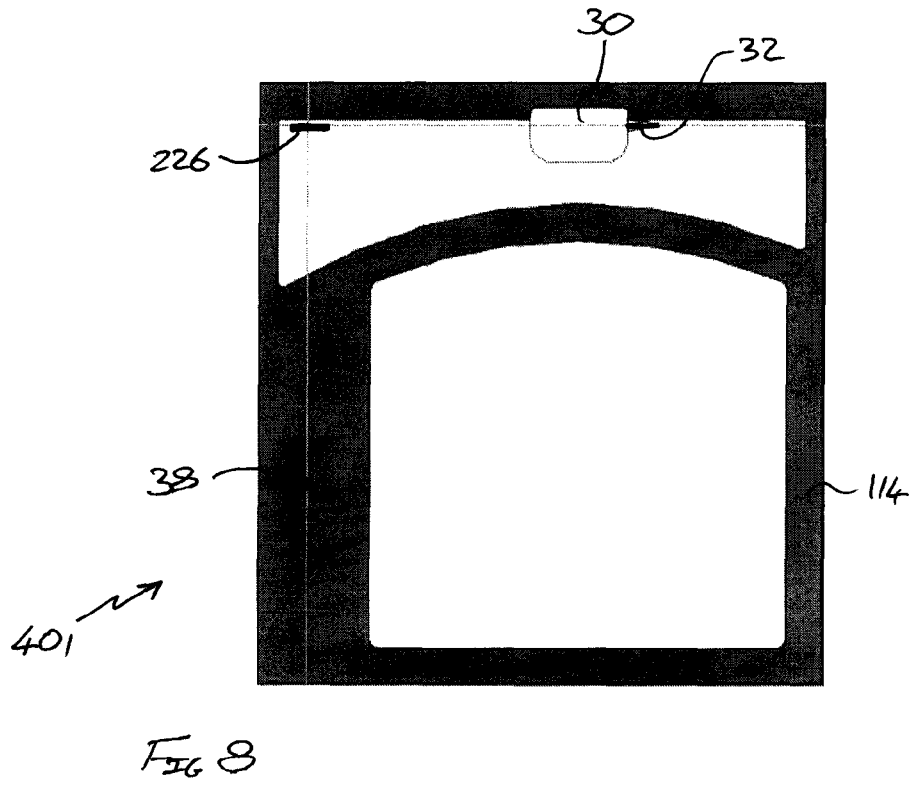
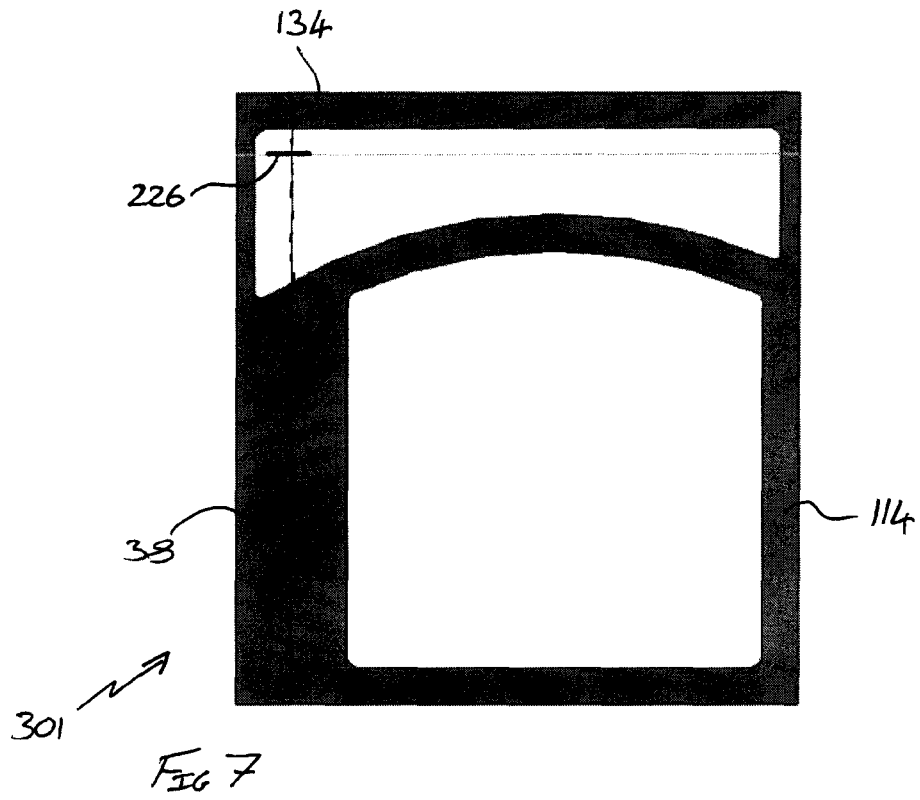


Fig 6





European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 07 10 6898

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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			TECHNICAL FIELDS SEARCHED (IPC)
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The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 25 September 2007	Examiner Fitterer, Johann
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	

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**ANNEX TO THE EUROPEAN SEARCH REPORT
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EP 07 10 6898

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
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