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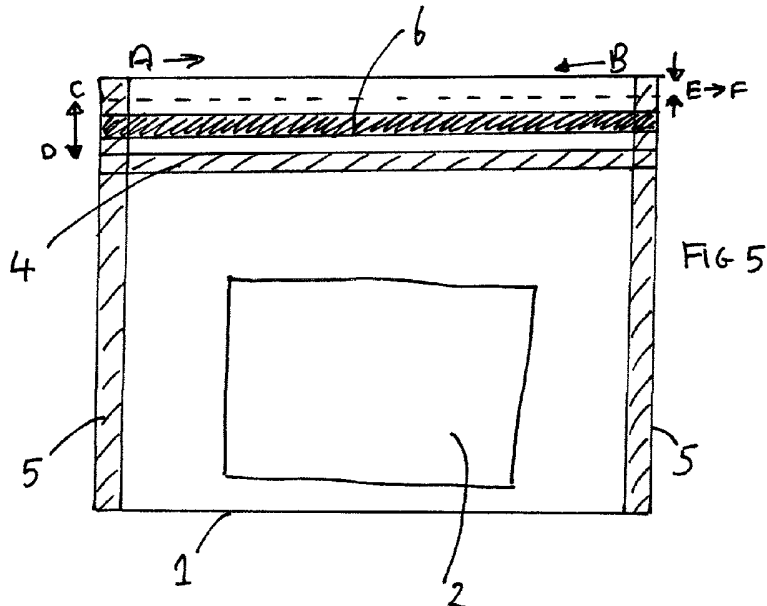
(52) UK CL (Edition X):
B8K KBA K2G1 K2K1

(56) Documents Cited:
EP 1391396 A1 **US 6467957 B2**
US 6461044 B1 **US 6398412 B2**
US 6319184 B1 **US 6149304 A**
US 5814382 A **US 4786190 A**
US 4572377 A

(58) Field of Search:
INT CL⁷ **B65D**
Other: **EPODOC, PAJ, WPI**

(54) Abstract Title: **Flexible packaging with reclosable seal**

(57) Flexible packaging such as a bag has a mouth provided with a cold seal 6 whereby it can be repeatedly sealed. The cold seal 6 may extend into side seals 5 as shown or stop short of the side seals, Figure 6. The cold seal may be disposed outwardly of a non-reclosable seal 4 as shown, or inwardly of such a seal, Figures 7 and 8. A series of such packages may be made by a form-fill-seal process.



GB 2411885 A continuation

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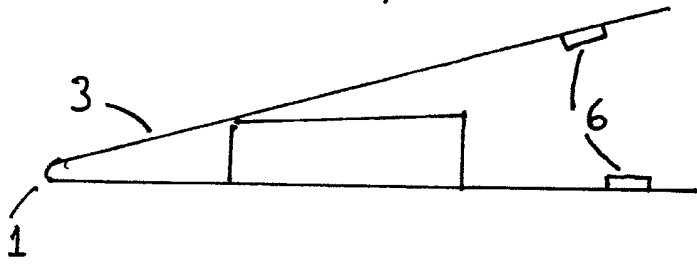


FIG 1

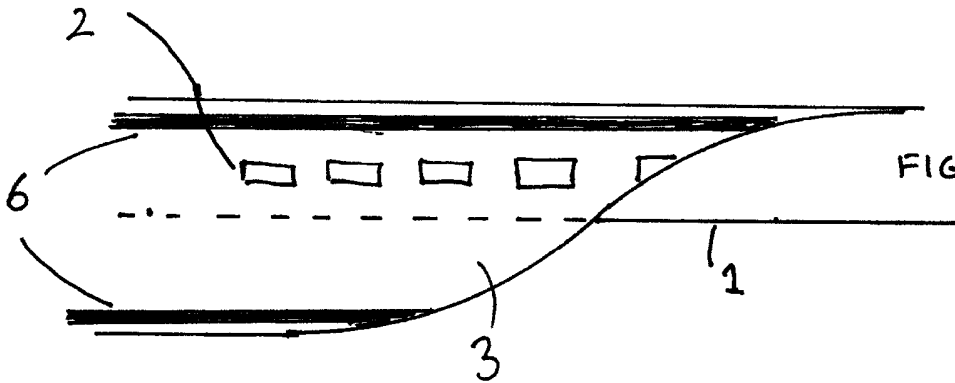


FIG 2

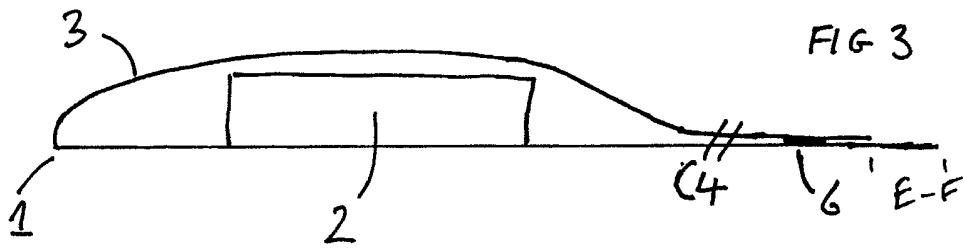


FIG 3

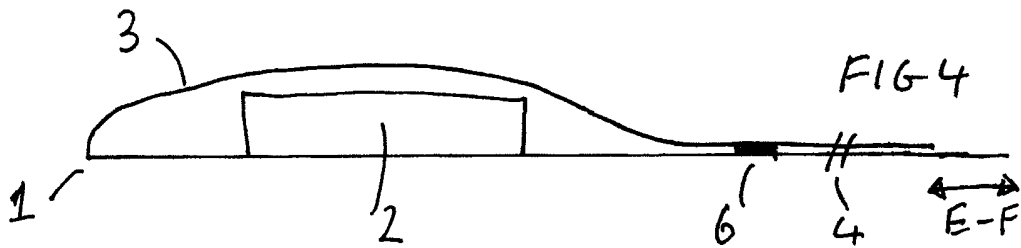
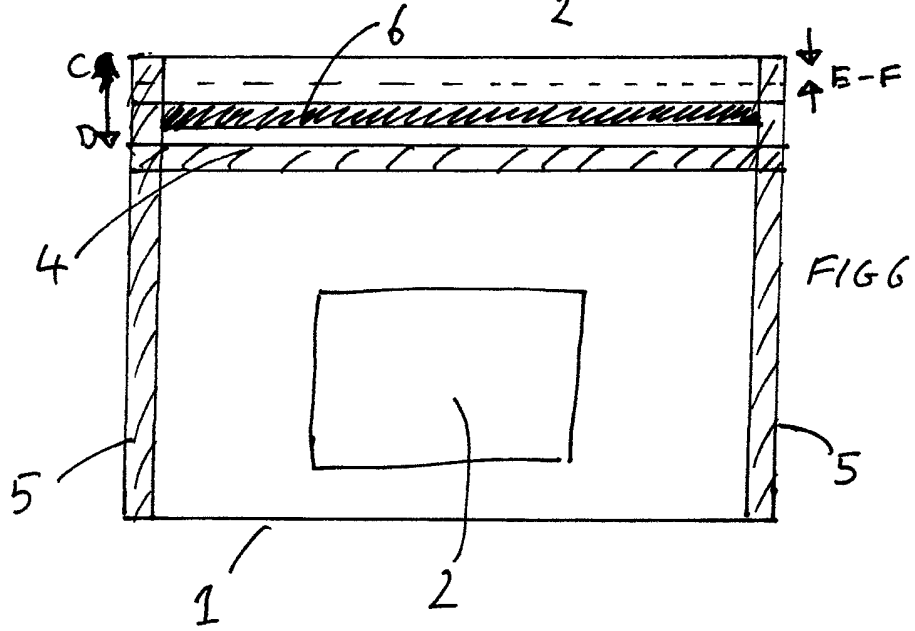
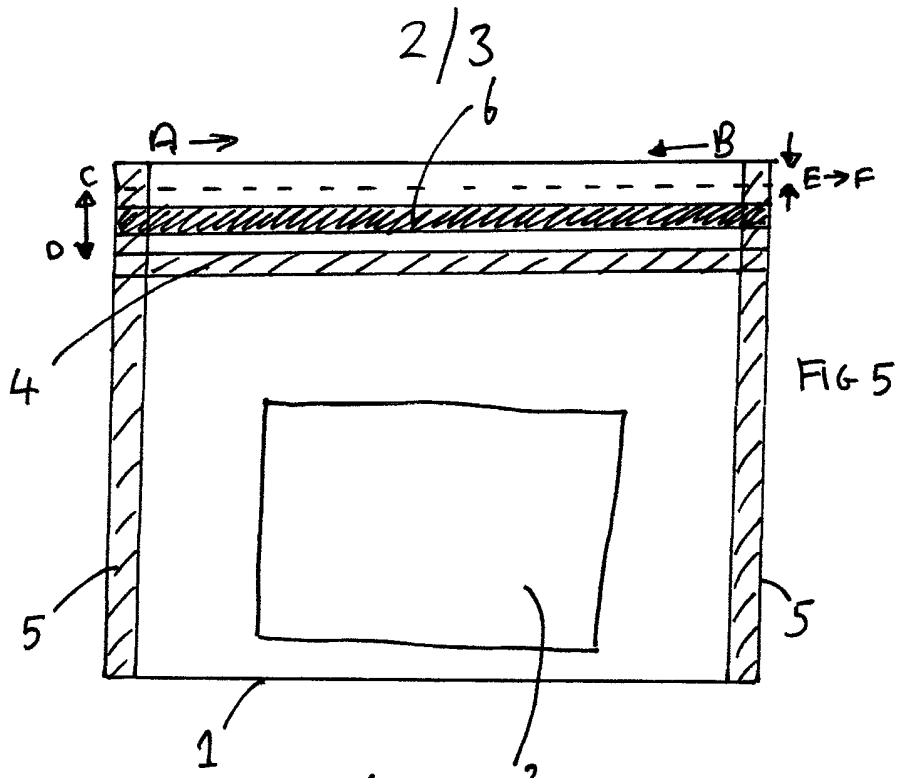
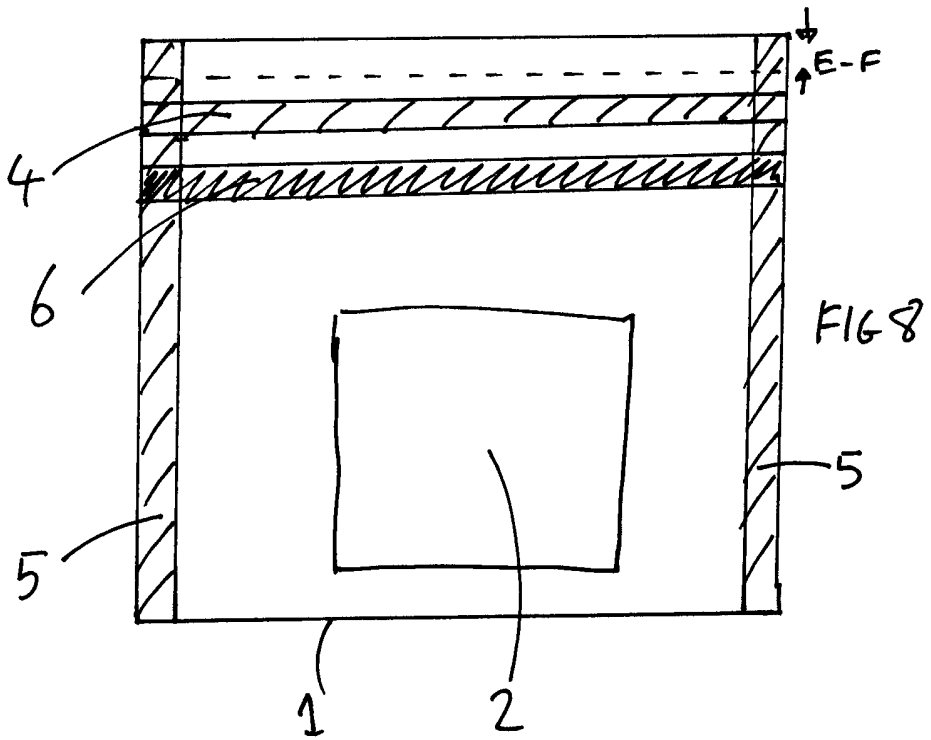
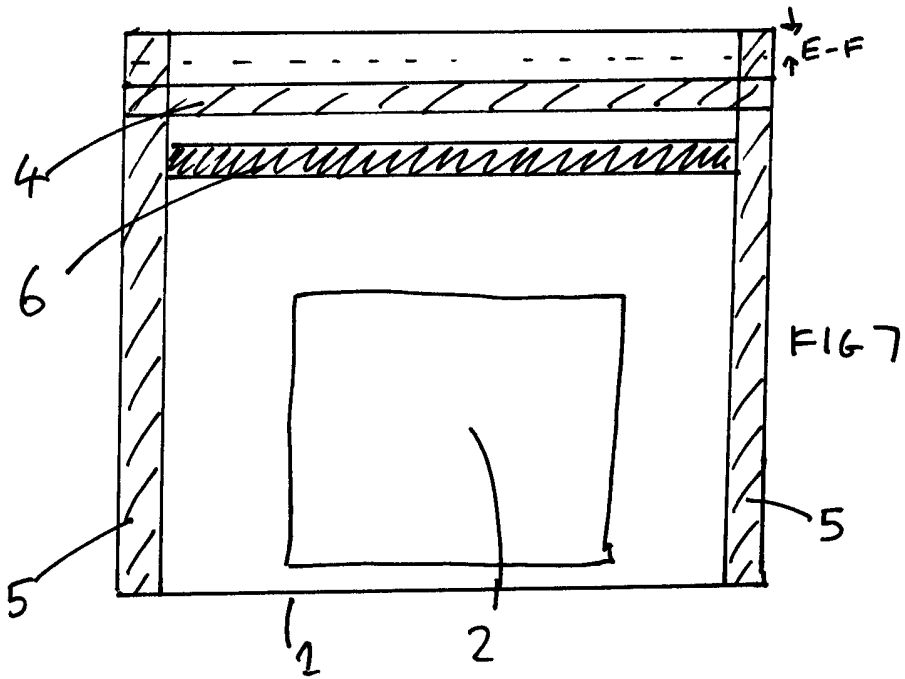


FIG 4



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Re-closure system for flexible film packaging

Description

If a flexible film pack is opened and the product inside is not fully consumed / used on that occasion it is advantageous for the product to be replaced back inside the original wrapper and the pack re-closed. There exist costly and complex methods of achieving a re-close which limits the availability of this functionality in the market place. Any re-close system must be reusable to that the re-close can be used on several occasions.

The following describes an invention that offers a simple , cheap yet effective method of making a reclose package.

A preferred embodiment of the invention will now be described with reference to the accompanying drawings in which :

Figure 1 shows a view down the longitudinal axis of the pack at the point where the film is folded over at point 1.

Figure 2 shows an aerial view if on a horizontal form fill packing line . This could be viewed at 90 degrees to show the application on a vertical form fill packing line.

Figure 3 shows a view down the longitudinal axis after the film has been sealed and the cold seal coatings brought together .In this instance the cold seal is between the seal and the edges of the pack.

Figure 4 shows a similar view to Figure 3 but here the cold seal is between the product and the seal.

Figures 5,6,7 and 8 show an aerial view of the fully closed pack with cold seal either side of the seal and either running into the transverse seals or placed between the transverse seals.

By taking a roll of wrapping film, unwinding it and then folding it in the longitudinal direction roughly in half (1) on either a horizontal or vertical form fill machine, then placing a product (2) inside the wrap and sealing on the remaining open three sides (one longitudinal seal (4) and 2 x transverse seals (5)) it is possible to contain a product.

If this pack is constructed so that

1 The cross seals (5) are non peel to discourage the consumer from opening these seals.

2 The longitudinal seal can be peeled open by pulling the film apart so making an opening (A-B) on the side opposite the longitudinal fold. It is from this opening that the product can be accessed and replaced into the pack.

3 There is a cold seal coating of sufficient coverage on one or both sides of the film either on the inner surface of the open side of the longitudinal seal (Fig 3) or on the inner surface of the inside of the longitudinal seal (Fig 4) so that when the opposing surfaces are brought together (6) they form a peelable joined area that can be reused as a closing device.

4 By placing the cold seal on the outside of the primary longitudinal seal (4) the cold seal stripes (6) can be placed in

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a continuous or non-continuous strip that runs through the transverse seals. When positioned on the outside of the primary seals the resultant reduction in seal integrity due to any cold seal being in the seal area is not critical to the pack integrity. In fact the reduction in seal strength is an advantage as it allows the transverse seals (C- D) to peel open to allow better access into the pack.

5 By placing the cold seal coating(s) on the outside of the primary transverse seal (4) it is unaffected by adverse conditions (e.g. moisture) within the sealed pack.

6 In some instances it might be advantageous to put the cold seal coating (6) inside the sealed pack and adjacent to the longitudinal seal (4). In this situation the cold seal can be registered to fall within and between the transverse seals so that the seal integrity of the transverse seals are not adversely effected.

7 Alternatively the cold seal coating(s) (6) can be placed into the transverse seals (5) in applications where seal integrity is not critical.

8 By folding the film at (1) a distance off center a lip of film (E- F) can be induced to make it easier for the consumer to take hold of both film edges. Once the edges have been grasped they can be pulled apart to separate both the primary seal and the cold seal.

9 The use of cold seal(s) for re-close can be used on any three side seal packaging independent of the need for hermetic seals or non hermetic seals.

Claims

1 The process described in the application uses cold seal coating(s) (a natural or synthetic latex product) to form a re-usable re-close system for any 3 side seal flexible film pack.

2 The non peel seal on the two transverse seals and the peel seal on the longitudinal seal form a pouch that is easy to open and is easy for the consumer to use and retain as a pouch.

3 By placing the cold seal coating(s) at the outside of the longitudinal seal it is possible to retain hermetic pack integrity.

4 The cold seal coating(s) at the inside of the longitudinal seal offers the same benefits of easy open / reclose but retain the cold seal within the pack.

5 Strength of peal / ease of opening is modified using less area of cold seal resulting in either variation in width of the stripes of cold seal or intermittent application.



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Application No: GB0405734.5

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Examiner: Stephen Smith

Claims searched: -

Date of search: 21 September 2004

Patents Act 1977: Search Report under Section 17

Documents considered to be relevant:

Category	Relevant to claims	Identity of document and passage or figure of particular relevance
	-	US 6467957 B2 (YEAGER) line 55 of column 1 to line 13 of column 2
	-	US 6461044 B1 (ANDERSON) lines 5-14 of column 3
	-	US 6398412 B2 (WEDI) lines 40-49 of column 2; lines 33-36 of column 3
	-	US 6319184 B1 (DEMATTEIS) line 56 of column 4 to line 15 of column 5
	-	US 6149304 A (HAMILTON) lines 3-14 of column 5; line 36 of column 6 to line 49 of column 7
	-	US 5814382 A (YANNUZZI) lines 53-62 of column 1
	-	US 4786190 A (VANERDEN) line 58 of column 1 to line 12 of column 2
	-	US 4572377 A (BECKETT) lines 41-63 of column 1
	-	EP 1391396 A1 (HUHTAMAKI) abstract; note cold seal 50

Categories:

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category	P	Document published on or after the declared priority date but before the filing date of this invention.



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& Member of the same patent family

E Patent document published on or after, but with priority date earlier than, the filing date of this application.

Field of Search:

Search of GB, EP, WO & US patent documents classified in the following areas of the UKC^W :

Worldwide search of patent documents classified in the following areas of the IPC⁰⁷

B65D

The following online and other databases have been used in the preparation of this search report

EPODOC, PAJ, WPI