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(56) Documents Cited

WO 93/19991 A2 WO 92/12064 A1 US 5052613 A

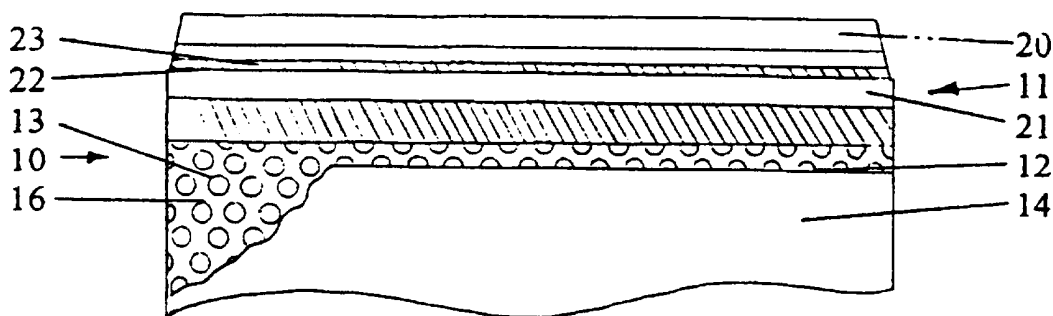
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(54) Sealing envelopes and packages

(57) An enclosure 10 for articles comprises a flap 11 with two adhesive strips at 20 and 21 separated by a weakened opening line with an adjacent opening pull string 23. The enclosure is first sealed by means of the strip at 20, opened by pulling string 23 to detach the upper portion of flap 11, and sealed again for re-use by means of the strip at 21. Before use the adhesive strips are covered by respective protective strips, and the string 23 may have a cover strip (31, Figs. 2 - 4 not shown) to hold it firmly in position. The string may be of plastics material and heat-sealed in place.

**FIG 1**

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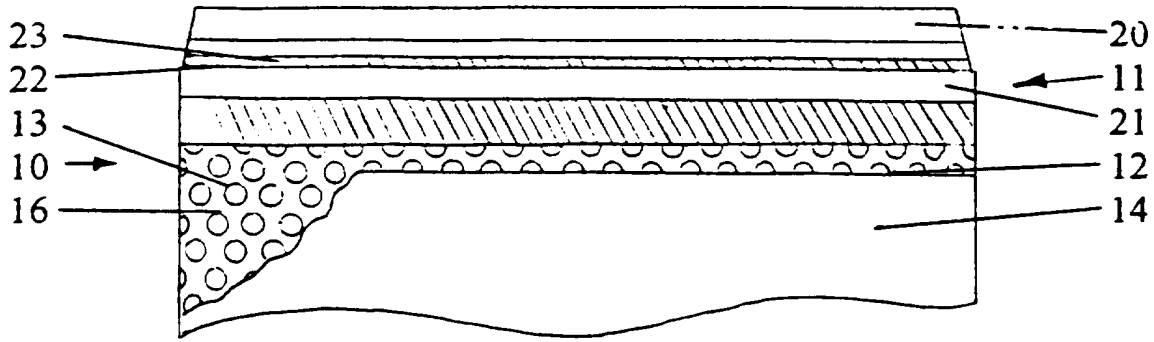


FIG 1

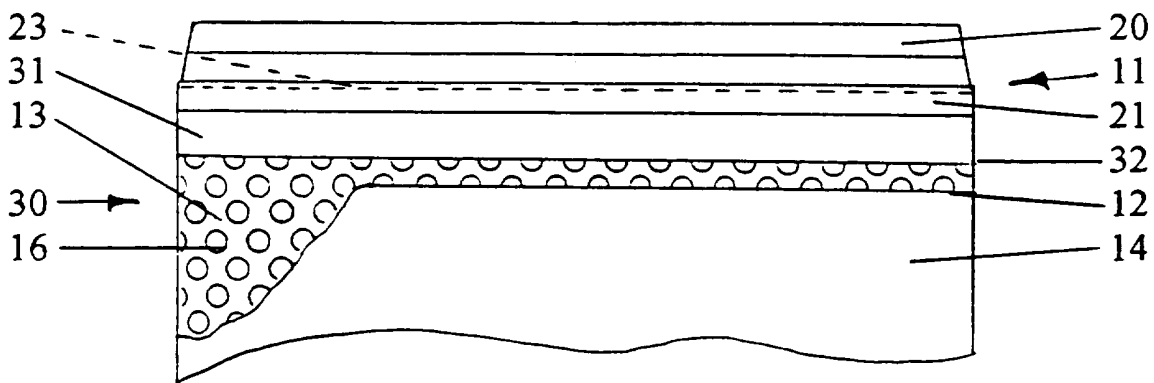


FIG 2

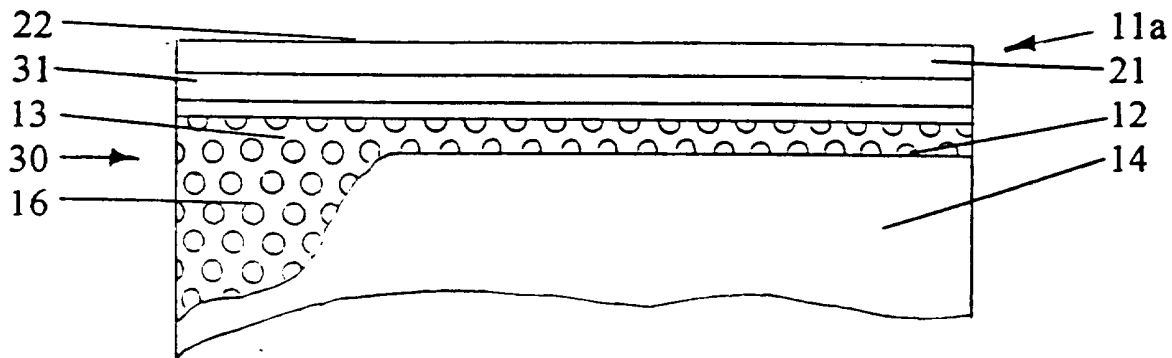


FIG 3

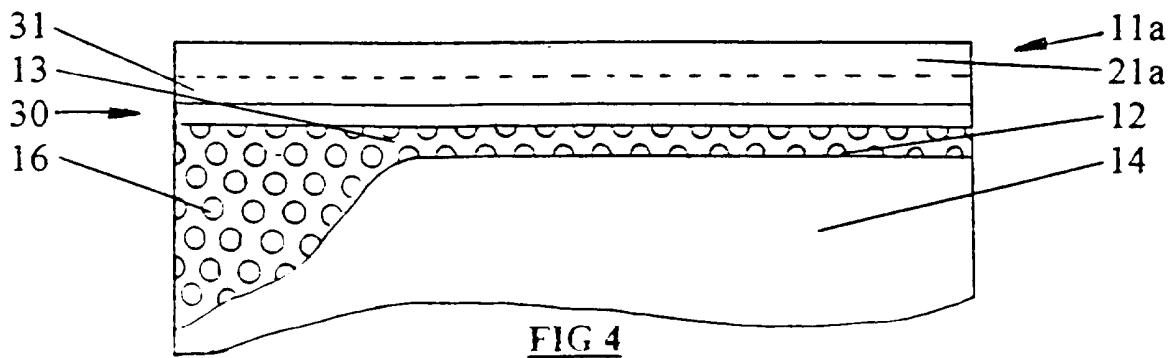


FIG 4

Sealing Envelopes and Packages

The present invention relates to improvements in sealing envelopes and packaging and in particular to re-usable enclosures.

Enclosures are known which have closure flaps with two self-seal strips. When first used, a first of the strips is used, but upon opening by the recipient, the second strip is frequently damaged so that the enclosure becomes unsuitable for re-use.

The present invention seeks to overcome or reduce the above problem.

According to a first aspect of the present invention there is provided an enclosure member having a closure portion with at least two areas for adhesion to a surface of the enclosure member with an opening line between the two areas and an opening pull element overlapping or extending adjacent to the opening line.

The enclosure member may be an envelope, bag or other suitable packaging member and can be of any size.

The closure portion is preferably a flap extending from one edge of an opening of the enclosure member and arranged to be adhered to the external surface of the enclosure member adjacent to the other edge of the opening.

The areas of adhesion preferably comprise strips of self-adhesive material extending across the width of the enclosure member, and before use the strips are preferably covered by protective, readily-releasable strips. Alternatively, one or more of the strips may be gummed, thus requiring the application of water before being

adhered. In a further modification the strips may be plain, and the user of the enclosure member applies adhesive to them before use.

The opening line is preferably a line of perforations in the material of the enclosure member. Alternatively, it may be constituted by a fold line.

The opening pull element preferably comprises a string adhered across the width of the enclosure member. The string preferably comprises plastics material. Alternatively a tape element may be employed.

Accordingly to a second aspect of the present invention there is provided a method of manufacturing an enclosure member according to the first aspect wherein the opening pull element is heat-sealed to the enclosure member.

Preferred embodiments of the present invention will now be described, by way of example only, with reference to the accompanying drawings, of which

Fig. 1 shows a partially-sectioned view of the opening end of a bag in accordance with a first embodiment of the present invention for the transportation of articles such as telephones;

Fig. 2 shows a view similar to Fig. 1 of a second embodiment of the present invention;

Fig. 3 shows the second embodiment after a first use; and Fig. 4 shows the second embodiment prepared for a second use.

Referring to the drawings, Fig. 1 shows an envelope or bag 10 having closure flap 11 attached along one edge of the envelope opening to one side 13 of the envelope and arranged to fold generally over the top edge 12 of the opposite side 14 of the envelope. To protect articles

being transported in the envelope, the internal surfaces of sides 13 and 14 are covered with plastics bubble material 16.

The top edge of flap 11 has a self-seal strip of adhesive material applied thereto, which, before sealing is covered by a readily-releasable protective paper strip 20. A second self-seal strip of adhesive material, spaced from the first strip, is covered by a similar protective strip 21.

Immediately above the top edge 22 of strip 21, the material of the flap is perforated from edge to edge. Immediately above the line of perforations, a plastics string or ripcord 23, e.g. polypropylene twine, is secured across the flap. The flap 11 is conveniently provided with a thin layer of polythene, and string 23 is conveniently heat-sealed to this layer.

In use, an article is inserted in the envelope, strip 20 is removed and flap 11 is folded about edge 12 and secured to the exterior of side 14 of the envelope by means of the self-seal strip exposed by removal of strip 20. Upon receipt, the recipient pulls at the top edge of flap 11 and the string 23 is revealed (if not already visible). Pulling of string 23 then creates a tidy removal of the top part of the flap 11 (including the string itself) along the line of perforations. The article can then be removed.

To re-use the envelope, the same or another article is inserted in the envelope and strip 21 is removed to expose the underlying self-seal strip of adhesive material. The remaining portion of flap 11 is then folded about edge 12 and secured to the exterior of side 14 by means of the exposed self-seal strip. Upon receipt, the envelope may be opened conventionally.

The above-described envelope has a number of advantages. In particular it is immediately re-usable, and the arrangement ensures that upon first opening it is not damaged to prevent the intended re-use. The heat-sealing process enables a robust opening pull element to be securely attached to the flap. Since manufacture of this type of envelope frequently involves a heat-sealing step (e.g. to assist the provision of the self-seal strips and/or the plastic bubble material), there is no substantial addition to manufacturing costs.

Various modifications can be made to the above-described embodiment. For example, the envelope could be arranged to be re-used more than once by the addition of one or more further combinations of a string 23, an underlying line of perforations and an adjacent strip of adhesive.

The envelope or bag 10 can be of any size, shape and materials depending upon the nature of the article(s) to be transported.

The nature of the closure portion may be other than a single flap 11. For example, each edge of the opening could have a respective flap, the flaps being pressed against each other to close the enclosure member. Only one of the flaps needs to be provided with adhesive strips and an opening pull element, but both could have these if desired. The flaps could be omitted, in which case the adhesive strips and opening pull element would be provided on the internal face of one of the sides of the enclosure member adjacent to the opening.

The upper self-seal strip of material need not be covered by a protective strip 20. In other arrangements one or both self-seal strips are replaced by strips of adhesive gum etc which require the application of water by the user, or by plain surfaces of the enclosure member which

require the application of an adhesive by the user.

The line of perforations constituting the line of weakening may be replaced or supplemented by a fold in the material of the enclosure member and/or by a scored line.

The ripcord 23 may be of any suitable material and may be attached to the material of the enclosure member by any appropriate method, e.g. the application of an adhesive. Instead of string, the opening pull element may have other forms, such as plastics tape or relatively stiff paper. The opening pull element may be provided on the exterior of the enclosure member if desired.

The relative disposition of the opening line, the opening pull element and the second strip of adhesive under strip 21 may vary from that shown. Provided that pulling of the openings pull element 23 is effective to tear open the material of the enclosure member along the opening line, the element 23 may be directly over, or within a short distance either side of, the opening line. The protective strip 21 may overlies the opening line and/or the opening pull element without damaging the performance thereof.

Instead of having plastics bubble material 16, the interior of the enclosure member may be plain or the walls may have another padding or insulating material.

Figures 2 to 4 show a second embodiment of a package 30 in accordance with the present invention. The construction is similar to package 10 except that the pull element 23 is covered by a broad strip 31 of oystercraft paper (125 gsm, grams per square metre) coated with 20 gsm of low density polyethylene, which is adhered to the flap 11 by heat fusing the polythene on the inside of the flap. Protective strip 21 overlies the upper region of

the outer surface of strip 31 and covers the self-seal strip thereon employed in the second use of the package. The strip 31 extends to a line 32 adjacent to but spaced from bubble material 16.

Figure 3 shows the package after it has been opened after its first use; ripcord 23 and the upper region of the flap have already been removed. To prepare the package 30 for its second use, the strip 21 is removed from strip 31 to reveal the underlying self-seal strip 21a, which is then used to secure the remaining portion 11a and the flap to the outer side 14 of the package.

An advantage of strip 31 is that it reinforces the flap 11 and gives it extra stability. In addition it serves to secure ripcord 23 in position. During manufacture, the ripcord 23 is relatively weakly secured to the flap 11, and then strip 31 is laid over it to firmly attach it in a fixed position. This ensures reliable opening of the package along the opening line.

The same modifications may be made to the second embodiment as disclosed in connection with the first embodiment.

CLAIMS

1. An enclosure member having a closure portion with at least two areas for adhesion to a surface of the enclosure member with an opening line between the two areas and an opening pull element overlapping or extending adjacent to the opening line.
2. An enclosure member according to claim 1, wherein the closure portion is a flap extending from one edge of an opening of the enclosure member and arranged to be adhered to the external surface of the enclosure member adjacent to the other edge of the opening.
3. An enclosure member according to claim 1 or 2, wherein the areas of adhesion comprise strips of self-adhesive material extending across the width of the enclosure member.
4. An enclosure member according to claim 3, wherein, before use, the strips are covered by protective, readily-releasable strips.
5. An enclosure member according to any preceding claim, wherein the opening pull element comprises a string.
6. An enclosure member according to any preceding claim, wherein the opening pull element is attached across the width of the enclosure member.
7. An enclosure member according to any preceding claim, wherein the opening pull element is heat-sealed to the enclosure member.
8. An enclosure member according to any preceding claim, wherein the opening pull element is of plastics

material.

9. An enclosure member according to any preceding claim, wherein the opening line comprises a line of perforations in the enclosure member.

10. An enclosure member according to any preceding claim, wherein the opening pull element is overlaid by a cover strip attached to the enclosure member.

11. An enclosure member according to claim 10, and to claim 3 or 4, wherein the outer surface of the cover strip carries at least one of said strips of self-adhesive material.

12. An enclosure member substantially as herein defined with reference to Fig. 1 or Figs. 2 to 4 of the accompanying drawings.

13. A method of manufacturing an enclosure member according to any preceding claim, wherein the opening pull element is heat-sealed to the enclosure member.

14. A method according to claim 13 when appended to claim 10, wherein the cover strip is attached in a subsequent step to firmly hold the opening pull element in position.

15. A method of manufacturing an enclosure member substantially as herein defined with reference to Fig. 1 or Figs. 2 to 4 of the accompanying drawings.



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Claims searched: 1 to 15

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Date of search: 30 March 1995

Patents Act 1977 Search Report under Section 17

Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK Cl (Ed.N): B8K (KBA KBC KCA KCB)

Int Cl (Ed.6): B65D 27/06 27/14 27/16 27/18 27/32 27/38

Other:

Documents considered to be relevant:

Category	Identity of document and relevant passage	Relevant to claims
X	WO 93/19991 A2 (HUSNU) Whole document	1 to 3
X	WO 92/12064 A1 (KENT) See especially Figures 5 and 6	1 to 6, 8 and 9
X	US 5052613 (LIN) See especially Figures 1 to 7	1 to 6

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.
&	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.