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(54) **PLASTIC CONTAINER WITH FASTENER**

Kunststoff-Behälter mit Verschluss

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Description

5 [0001] The present invention relates to a plastic package with a fastener applicable to common packing material such as foods and drinks, pharmaceuticals, stationery, mechanical parts, electronic parts or the like, and in particular to a plastic package with a fastener having excellent filling, opening and resealing characteristics even if the content is liquid, and excellent pressure resistance that enables a large volume of contents to be filled, as well as excellent transportation stability and shelf-life.

10 [0002] In filling a content, for example a liquid, into a conventional plastic package with a fastener by using an automatic plugger, an inlet portion of the package is heat-sealed leaving a bottom portion of the package open, the content is filled from the bottom portion and the bottom portion is heat-sealed to ensure complete sealing of the packing and protect the fastener. For easy opening, a notch for cutting with scissors, perforation, or tape for tearing is provided at an upper portion of the heat-sealed inlet portion.

15 [0003] As described above, the content has to be filled from the bottom portion of the conventional plastic package with the fastener to prevent the content from attaching to the fastener and catching in groove of the fastener, and to keep the package quality from being degraded by the contents which are tacky or putrescent and colored.

20 [0004] On the other hand, a large volume plastic package such as a gusseted bag, a standing pouch, a laminated paper pack, a thermoplastic resin and the like are rarely used as a plastic package with a fastener because the contents cannot be filled from a bottom portion in view of the structure thereof and have to be filled from an inlet side of the package, and the fastener becomes contaminated. Accordingly, most conventional plastic packages with a fastener are flat bags having a small volume.

25 [0005] Japanese patent no. JP-B-6031097 discloses a bag in which an opening and closing device is bent into a U-shape to have a male groove and a female groove engaged, and one of the lower ends of this opening and closing device is sealed onto one of the upper ends of the bag. This leaves an aperture that can be filled and subsequently heat sealed.

[0006] An easy to open package without a fastener has problems in terms of its transportation stability, shelf-life or the like because an inlet portion thereof is easily opened by internal pressure, thus limiting its usage. This phenomenon is especially apparent in a large volume package having a large ratio of content volume/packing material area. Yet, durability against internal pressure and easy to open characteristic cannot be compromised.

30 [0007] Consequently, there is a need for a large volume plastic package with a fastener having a large ratio of content volume/packing material area such as a gusseted bag, a standing pouch, a paper pack or the like, while being easy to open, capable of being resealed and not easily opened at the inlet portion by internal pressure.

[0008] An object of the present invention is to provide a plastic package with a fastener having excellent filling, opening and resealing characteristics even if the content is liquid and excellent pressure resistance that enables filling a large volume of contents, as well as excellent transportation stability and shelf-life.

35 [0009] Through the intensive research of the present inventors, the above-described conventional problems have been solved.

40 [0010] According to the present invention, a plastic package for contents comprises a flexible package body having a first side and a second side and a sealing sheet disposed at an inlet portion of the package body and lying at least partially between the first side and the second side, characterised in that the first side of the package body and the sealing sheet are:-

- i) capable of being opened and closed by a fastener made of plastic; and
- ii) bonded by a peelable bonding portion,

45 the second side of the package body and the sealing sheet being sealed at a portion that is at least 2 mm above an end of the contents side of the peelable bonding portion.

[0011] The invention further provides a plastic package comprising a flexible package body having a first side and a second side and a sealing sheet disposed at an inlet portion of the package body and lying at least partially between the first side and the second side, characterised in that the first side of the package body and the sealing sheet are:-

- 50 i) capable of being opened and closed by a fastener made of plastic; and
- ii) bonded by a peelable bonding portion,

55 the second side of the package body and the sealing sheet being capable of being sealed at a portion that is at least 2 mm above an end of the contents side of the peelable bonding portion to form a plastic package. The invention further provides a method for filling contents into such a plastic package with a fastener, comprising the steps of filling the contents from an inlet side of such a plastic package and sealing the second side of the package body and a sealing sheet.

[0012] Further features of the invention are apparent from the claims in the light of the following illustrative description.

[0013] Fig. 1 is an enlarged cross-sectional view of an inlet portion of a package (standing pouch) according to one embodiment of the present invention.

[0014] Fig. 2 is a cross-sectional view of the standing pouch of Fig. 1.

[0015] Fig. 3 is a cross-sectional view of the standing pouch provided with a tear line according to the present invention.

[0016] Fig. 4 is a cross-sectional view of another standing pouch provided with a tear line according to the present invention.

[0017] Fig. 5 is a cross-sectional view of a conventional standing pouch.

Best Mode for Carrying Out the Invention

[0018] As a material used in the package of the present invention, a substance identical to a plastic fastener (hereinafter referred to simply as "fastener") or a plastic sheet which exhibits good adhesion with the fastener is generally used. Although not limited thereto, thermoplastic resins such as low density polyethylenes, high density polyethylenes, polypropylenes, polyesters, polyamides, polyvinyl chlorides and the like are commonly used. Depending on the size and intended use of the package, these plastic sheets are laminated, the sheets are laminated with paper or aluminum foil, or metal or metallic oxide is vapor deposited on the sheets.

[0019] As for the shape of the package, one having a large volume and a large ratio of content volume/packing area, for example, a gusseted bag, a standing pouch, a flat bag, a paper pack of a resin laminated onto paper and the like is preferably used in the present invention.

[0020] The thickness of the package body or the sealing sheet is selected freely depending on the size and intended use of the package of the present invention.

[0021] Referring to the figures, an embodiment of the present invention will be described.

[0022] Fig. 1 is an enlarged cross-sectional view of an inlet portion of a package (standing pouch) according to one embodiment of the present invention. Fig. 2 is a cross-sectional view of the standing pouch of Fig. 1.

[0023] In Figs. 1 and 2, a package body 21 is composed of a flexible first sheet 11-b and a second sheet 11-a, a tongue in a fastener 15 is disposed along the entire width of the package on the first sheet 11-b of the package body and a corresponding groove is disposed on a sealing sheet 12. Conversely, the groove may be disposed on the first sheet 11-b and the tongue may be disposed at the sealing sheet 12. The sealing sheet 12 is disposed between the sheets 11-a and 11-b of the package body, extending internally into the package (the content side in the package). A peelable bonding portion 14 is formed at a lower side (internal side of the package) of the fastener 15 between the first sheet 11-b of the package body and the sealing sheet 12. Preferably, the peelable bonding portion 14 is formed parallel to the fastener. A peelable bonding portion 13 can be formed at an upper side (external side of the package) of the fastener 15, which is also a preferred embodiment. The peelable bonding portion 13 alone may be formed at the upper side of the fastener 15 without forming the bonding portion 14, although such an embodiment is not shown. The peelable bonding portion 13 or 14, or portions 13 and 14 can be formed at a desired place by part coating or co-extruding, for example, a heat seal resin. As the heat seal resin, any known type of resin can be used unless the adhesion strength thereof is too high, and an interface peeling type, cohesive failure type or the like may be used singly or in combination.

[0024] Examples of the heat seal resin include ethylene-vinyl acetate copolymers, vinylidene chloride resins, modified polypropylene resins, modified polyethylene resins and the like.

[0025] The peelable bonding portion 13 or 14, or portions 13 and 14, are disposed 0.5 mm or more, preferably 1 mm or more apart from the fastener. With a distance of less than 0.5 mm, the fastener may be thermally affected and deformed. The width of the peelable bonding portion 13 or 14, or portions 13 and 14, is preferably 2 mm or more.

[0026] After the contents are filled into the package, an upper portion A of the sheet 11-a and an upper portion B of the sealing sheet 12 are sealed at least 2 mm above (upper outlet side) an end (lower) of the contents side of the peelable bonding portion 14 to obtain durability against internal pressure. In the case of disposing the peelable bonding portion 13 only and not disposing the bonding portion 14, the portions A and B are sealed at least 2 mm above (upper outlet side) an end (lower) of the content side of the bonding portion 13.

[0027] Thus, according to the package of the present invention, the contents can be filled between the upper portion A of the sheet 11-a and the upper portion B of the sealing sheet 12. Therefore, even if the content is an adhesive and tacky liquid, the fastener is kept closed so that the fastener portion is not contaminated. Moreover, the case when a contents side (lower) of the fastener 15 is protected by the peelable bonding portion 14, the contents never directly contacts the fastener 15 after sealing. Consequently, a package having excellent transportation stability, shelf-life and the like, as well as durability against internal pressure is realized. The types of sealing between the upper portion A of the sheet 11-a and the upper portion B of the sealing sheet 12 are not especially limited, but a heat seal is efficient. Industrially, the sealing can be performed in an automatic packing line.

[0028] The sealed package can be opened easily by peeling the fastener 15 between the sheet 11-b of the package body and the sealing sheet 12, and the peelable bonding portions 13 and/or 14, without requiring a device such as scissors. According to the present invention, a flap 16 or the like can be formed above the peelable bonding portion 13

as required.

[0029] Another embodiment of the present invention is shown in Fig. 3. Fig. 3 is a cross-sectional view of the standing pouch provided with a tear line according to the present invention. In Fig. 3, a bonding portion 13' which is, or is not, difficult to be peeled is utilized at the upper side instead of the peelable bonding portion 13. The bonding portion 13' can be formed by a known means such as a heat seal. In this embodiment, a tear line 17 can be disposed between the fastener 15 and the bonding portion 13'. When the tear line 17 is disposed, the sheet 11-b of the package body is stretched uniaxially, imparting an orientation such that the sheet can be torn easily. Moreover, various means such as a tearing notch, perforation or a tearing tape can also be applied.

[0030] Still another embodiment of the present invention is shown in Fig. 4. Fig. 4 is a cross-sectional view of another standing pouch provided with a tear line according to the present invention. In Fig. 4, the sealing sheet 12 is replaced by folding the sheet 11-b of the package body. In this case, the tear line 17 can be formed above the fastener 15.

[0031] In the embodiments of the package shown in Figs. 3 and 4, an inlet portion of the package body which is sealed after filling the contents has to be disposed merely above the tear line. In sealing, three sheets, the sheets 11-a, 11-b of the package body and the sealing sheet 12, can be heat sealed together resulting in efficient sealing.

[0032] In the case of a conventional large volume simple plastic package, for example, a gusseted bag, a standing pouch, a laminated paper pack and the like, a bottom of the package has a complex structure and the contents cannot be filled therefrom. Accordingly, in the conventional large volume plastic package, the contents have to be filled from an inlet side of the package. Therefore, in practice, a plastic package with a resealable fastener is rarely used due to fastener contamination.

[0033] According to the present invention, the sealing sheet 12 is utilized, and the fastener is kept engaged or the peelable bonding portion 14 is further formed at the content side of the fastener 15, thereby ensuring protection of the fastener 15. As a result, the contents can be filled from the inlet side of the package.

[0034] Also, it was found that durability against the internal pressure of the package further increases when the portion A of the sheet 11-a and the portion B of the sealing sheet 12 are sealed at least 2 mm above the end of the content side of the peelable bonding portion 14 or 13. The reason for this is not apparent, but it is assumed that the internal pressure may directly affect the peelable bonding portion 13 or 14 when the distance is less than 2 mm, while the internal pressure may be directly applied to the sealed portion between A and B, thereby significantly reducing stress on the peelable bonding portion 13 or 14, when the distance is 2 mm or more.

Description of the Preferred Embodiments

[0035] An Embodiment of the present invention and a Comparative Embodiment are given below by way of illustration.

(Embodiment)

[0036] A plastic package with a fastener shown in Fig. 1 was fabricated.

[0037] The package was a standing pouch having a width of 140 mm and a height of 150 mm, and a plastic fastener was formed at an inlet side as shown in Fig. 1. The material of a sheet 11-a and 11-b of a package body was a lamination of a polyester film having a thickness of 12 μm , a polyamide film having a thickness of 15 μm and a non-stretched polypropylene film having a thickness of 60 μm in that order from the outside in, and the respective layers were adhered by using a retort two component curing urethane type dry laminate adhesive therebetween. A sealing sheet was a lamination of a non-stretched polypropylene film having a thickness of 60 μm , a polyester film having a thickness of 12 μm , a polyamide film having a thickness of 15 μm and a non-stretched polypropylene film having a thickness of 60 μm , and the respective layers were dry-laminated by using a two component curing urethane type dry laminate adhesive therebetween.

[0038] On the sheet 11-b of the package body and the sealing sheet 12, a fastener made of non-stretched polypropylene was formed over the entire width of the package. At both sides of the fastener, a polyethylene modified polypropylene resin was part coated parallel to and 1mm apart from the fastener in 5 mm a width. The fastener was then engaged and a bonding portion of a peelable resin and a bottom portion were bonded using a package making machine to fabricate a standing pouch.

[0039] The standing pouch was filled with 390 g of water from the inlet portion between the sheet 11-a and the sealing sheet 12. The sheet 11-a and the sealing sheet 12 were then heat sealed in a width of 5 mm at 3 mm above the bonding portion of the peelable resin of an upper portion of the fastener. The pouch was retorted by heating in hot water (100°C) for 10 minutes. A heat seal strength between the sheet 11-a and the sealing sheet 12 and a heat seal strength of the peelable resin at a contents side were measured in accordance with the method in JIS Z-0238. The results were 2.1 kgf/15 mm and 0.4 kgf/15 mm, respectively. Further in accordance with the JIS Z-0238 method, a leak test was conducted after applying a compression load of 40 kgf. The test results are given in Table 1.

(Comparative Embodiment)

[0040] As a comparative embodiment, the standing pouch shown in Fig. 5 was fabricated.

5 [0041] The standing pouch had a width of 140 mm and a height of 150 mm, and a plastic fastener 15 and a peelable bonding portion 13 were formed at an inlet side as shown in Fig. 5. No peelable bonding portion was formed at the contents side lower than the fastener unlike the above-described Embodiment. No sealing sheet was used. The material of the package was identical to the above-described Embodiment.

10 [0042] On the inside of sheets 11-a and 11-b of the package, a fastener made of non-stretched polypropylene was formed. At an inlet side of the fastener, a peelable polyethylene modified polypropylene resin was part coated parallel to and 1 mm apart from the fastener in a 5 mm width. A bottom portion was bonded to fabricate the standing pouch. The standing pouch was filled with 390 g of water from the inlet portion between the sheets 11-a and 11-b. The fastener was engaged and the peelable resin was heat sealed. The pouch was retorted by heating at 100°C for 10 minutes. The heat seal strength of the peelable resin was measured. The result was 0.4 kgf/15 mm.

15 [0043] Further in accordance with the JIS Z-0238 method, a leak test was conducted by applying a compression load of 40 kgf. The test results are given in Table 1.

Table 1

	Times Repeated	Embodiment	Comparative Embodiment
20	1	no leak	outburst from the peelable heat-sealed portion
	2	no leak	outburst from the peelable heat-sealed portion
25	3	no leak	outburst from the peelable heat-sealed portion
	4	no leak	outburst from the peelable heat-sealed portion
	5	no leak	outburst from the peelable heat-sealed portion
30	6	no leak	outburst from the peelable heat-sealed portion
	7	no leak	outburst from the peelable heat-sealed portion
35	8	no leak	outburst from the peelable heat-sealed portion
	9	no leak	outburst from the peelable heat-sealed portion
40	10	no leak	outburst from the peelable heat-sealed portion

45 [0044] As is apparent from the above, the plastic package of the present invention has excellent durability against internal pressure and is opened easily. In contrast, the plastic package with the fastener having merely the peelable bonding portion shows poor results and is difficult to be used in a large package such as a gusseted bag and standing pouch.

Industrial Applicability

50 [0045] The plastic package with the fastener of the present invention has excellent filling, opening and resealing characteristics even if the contents are liquid, and excellent pressure resistance that allows a large volume of contents to be filled, as well as excellent transportation stability and shelf-life. In addition, the package of the present invention is light-weight and cheap, and the contents can be filled from the inlet side regardless of the fastener and can be used in large packages such as gusseted bags and standing pouches.

55

Claims

- 5
1. A plastic package for contents, comprising a flexible package body (21) having a first side (11-b) and a second side (11-a) and a sealing sheet (12) disposed at an inlet portion of the package body and lying at least partially between the first side (11-b) and the second side (11-a),
characterised in that the first side (11-b) of the package body (21) and the sealing sheet (12) are:-
- 10
 i) capable of being opened and closed by a fastener (15) made of plastic; and
 ii) bonded by a peelable bonding portion (13,14),
- the second side of the package body (21) and the sealing sheet (12) being sealed at a portion that is at least 2 mm above an end of the contents side of the peelable bonding portion (13,14).
- 15
2. A plastic package as claimed in claim 1 in which the peelable bonding portion (14) is disposed at a side of the package internal of the plastic fastener (15).
3. A plastic package as claimed in claim 1 in which the peelable bonding portion (13) is disposed at a side of the package external of the plastic fastener (15).
- 20
4. A plastic package as claimed in claim 1 in which peelable bonding portions (13,14) are disposed both external and internal of the plastic fastener (15).
5. A plastic package as claimed in any one of claims 1 to 4, wherein the peelable bonding portion (13,14) is disposed parallel to the plastic fastener (15).
- 25
6. A plastic package as claimed in any one of claims 1 to 5, wherein a tear line (17) is disposed between the plastic fastener (15) and a seal between the first side (11-b) of the package body (21) and the sealing sheet (12).
7. A plastic package as claimed in claim 6 in which the sealing sheet (12) comprises a folded over end of the first side (11-b) of the package body (21).
- 30
8. A plastic package as claimed in any preceding claim, in which a distance between the plastic fastener (15) and the peelable bonding portions (13,14), which are disposed at sides of the package internal or external of the plastic fastener, is at least 0.5 mm.
- 35
9. A plastic package as claimed in any preceding claim, wherein the plastic package with the fastener is a gusseted bag, a standing pouch or a laminated paper pack.
- 40
10. A plastic package comprising a flexible package body (21) having a first side (11-b) and a second side (11-a) and a sealing sheet (12) disposed at an inlet portion of the package body and lying at least partially between the first side (11-b) and the second side (11-a),
characterised in that the first side (11-b) of the package body (21) and the sealing sheet (12) are:-
- 45
 i) capable of being opened and closed by a fastener (15) made of plastic; and
 ii) bonded by a peelable bonding portion (13,14),
- the second side of the package body (21) and the sealing sheet (12) being capable of being sealed at a portion that is at least 2 mm above an end of the contents side of the peelable bonding portion (13,14) to form a plastic package as claimed in any preceding claim..
- 50
11. A method for filling contents into a plastic package with a fastener, comprising the steps of filling the contents from an inlet side of a plastic package as claimed in claim 10, and sealing the second side (11-a) of the package body (21) and a sealing sheet (12).
- 55

Patentansprüche

1. Kunststoffbehälter für Inhalte, der einen flexiblen Behälterkörper (21) mit einer ersten Seite (11-b) und einer zweiten

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Seite (11-a) und eine Dichtungslage (12), die an einem Einlassbereich des Behälterkörpers angeordnet ist und wenigstens teilweise zwischen der ersten Seite (11-b) und der zweiten Seite (11-a) positioniert ist, aufweist, **dadurch gekennzeichnet, dass** die erste Seite (11-b) des Behälterkörpers (21) und die Dichtungslage (12)

- 5
- i) dazu geeignet sind, mit Hilfe eines Verschlusses (15), der aus Kunststoff hergestellt ist, geöffnet und geschlossen zu werden; und
 - ii) mit Hilfe eines abziehbaren Verbindungsbereichs (13, 14) verbunden sind,

10 wobei die zweite Seite des Behälterkörpers (21) und die Dichtungslage (12) an einem Bereich abgedichtet sind, der wenigstens 2 mm oberhalb eines Endes der Inhaltsseite des abziehbaren Verbindungsbereichs (13, 14) vorgehen ist.

15 **2.** Kunststoffbehälter nach Anspruch 1, bei dem der abziehbare Verbindungsbereich (14) an einer Seite des Behälterinneren des Kunststoffverschlusses (15) angeordnet ist.

3. Kunststoffbehälter nach Anspruch 1, bei dem der abziehbare Verbindungsbereich (13) an einer Seite des Behälteräußeren des Kunststoffverschlusses (15) angeordnet ist.

20 **4.** Kunststoffbehälter nach Anspruch 1, bei dem abziehbare Verbindungsbereiche (13, 14) sowohl auswärts als auch einwärts des Kunststoffverschlusses (15) angeordnet sind.

5. Kunststoffbehälter nach einem der Ansprüche 1 bis 4, wobei der abziehbare Verbindungsbereich (13, 14) parallel zu dem Kunststoffverschluss (15) angeordnet ist.

25 **6.** Kunststoffbehälter nach einem der Ansprüche 1 bis 5, wobei eine Abrisslinie (17) zwischen dem Kunststoffverschluss (15) und einer Dichtung zwischen der ersten Seite (11-b) des Behälterkörpers (21) und der Dichtungslage (12) angeordnet ist.

30 **7.** Kunststoffbehälter nach Anspruch 6, wobei die Dichtungslage (12) ein übergefaltetes Ende der ersten Seite (11-b) des Behälterkörpers (21) umfasst.

8. Kunststoffbehälter nach einem der vorhergehenden Ansprüche, bei dem ein Abstand zwischen dem Kunststoffverschluss (15) und den abziehbaren Verbindungsbereichen (13, 14), die an Seiten des Behälterinneren oder Behälteräußeren des Kunststoffverschlusses angeordnet sind, wenigstens 0,5 mm beträgt.

35 **9.** Kunststoffbehälter nach einem der vorhergehenden Ansprüche, wobei der Kunststoffbehälter mit dem Verschluss eine Seitenfaltentüte, ein stehender Beutel oder eine laminierte Papiertasche ist.

40 **10.** Kunststoffbehälter, der einen flexiblen Behälterkörper (21) mit einer ersten Seite (11-b) und einer zweiten Seite (11-a) und eine Dichtungslage (12), die an einem Einlassbereich des Behälterkörpers angeordnet ist und zumindest teilweise zwischen der ersten Seite (11-b) und der zweiten Seite (11-a) positioniert ist, aufweist, **dadurch gekennzeichnet, dass** die erste Seite (11-b) des Behälterkörpers (21) und die Dichtungslage (12)

- 45
- i) dazu geeignet sind, mit Hilfe eines Verschlusses (15), der aus Kunststoff hergestellt ist, geöffnet und geschlossen zu werden; und
 - ii) mit Hilfe eines abziehbaren Verbindungsbereichs (13, 14) verbunden sind,

50 wobei die zweite Seite des Behälterkörpers (21) und die Dichtungslage (12) dazu geeignet sind, an einem Bereich, der wenigstens 2 mm oberhalb eines Endes der Inhaltsseite des abziehbaren Verbindungsbereichs (13, 14) positioniert ist, abgedichtet zu werden, um einen Kunststoffbehälter nach einem der vorhergehenden Ansprüche zu erzeugen.

55 **11.** Verfahren zum Füllen von Inhalten in einen Kunststoffbehälter mit einem Verschluss, das die Schritte des Füllens von Inhalten von einer Einlassseite eines Kunststoffbehälters nach Anspruch 10 und des Abdichtens der zweiten Seite (11-a) des Behälterkörpers (21) und einer Dichtungslage (12) umfasst.

Revendications

- 5 1. Emballage plastique pour des contenus, comprenant un corps d'emballage flexible (21) avec un premier côté (11-b) et un deuxième côté (11-a) et une feuille de scellement (12) disposée à une portion d'entrée du corps d'emballage et se situant au moins partiellement entre le premier côté (11-b) et le deuxième côté (11-a),
10 **caractérisé en ce que** le premier côté (11-b) du corps d'emballage (21) et la feuille de scellement (12) sont:
- i) aptes à être ouverts et fermés par une attache (15) réalisée en plastique; et
 - ii) reliés par une portion de liaison pelable (13,14),
- le second côté du corps d'emballage (21) et la feuille de scellement (12) étant scellés à une portion qui se situe au moins 2 mm au-dessus d'une extrémité côté contenu de la portion de liaison pelable (13,14).
- 15 2. Emballage plastique selon la revendication 1, où la portion de liaison pelable (14) est disposée à un côté de l'emballage à l'intérieur de l'attache plastique (15).
3. Emballage plastique selon la revendication 1, où la portion de liaison pelable (13) est disposée à un côté de l'emballage à l'extérieur de l'attache plastique (15).
- 20 4. Emballage plastique selon la revendication 1, où les portions de liaison pelables (13,14) sont disposées à la fois à l'extérieur et à l'intérieur de l'attache plastique (15).
5. Emballage plastique selon l'une des revendications 1 à 4, où la portion de liaison pelable (13,14) est disposée
25 parallèlement à l'attache plastique (15).
6. Emballage plastique selon l'une des revendications 1 à 5, où une ligne de déchirement (17) est disposée entre l'attache en plastique (15) et un scellement entre le premier côté (11-b) du corps d'emballage (21) et la feuille de scellement (12).
- 30 7. Emballage plastique selon la revendication 6, où la feuille de scellement (12) comprend une extrémité repliée du premier côté (11-b) du corps d'emballage (21).
8. Emballage plastique selon l'une des revendications précédentes, où une distance entre l'attache plastique (15) et les portions de liaison pelables (13,14), qui sont disposées aux côtés de l'emballage à l'intérieur ou à l'extérieur de
35 l'attache plastique, est au moins de 0,5 mm.
9. Emballage plastique selon l'une des revendications précédentes, où l'emballage plastique avec l'attache est un sac à soufflets, un sac tenant debout ou un pack en papier laminé.
- 40 10. Emballage plastique comprenant un corps d'emballage flexible (21) ayant un premier côté (11-b) et un deuxième côté (11-a) et une feuille de scellement (12) disposée à une portion d'entrée du corps d'emballage et se situant au moins partiellement entre le premier côté (11-b) et le deuxième côté (11-a),
45 **caractérisé en ce que** le premier côté (11-b) du corps d'emballage (21) et la feuille de scellement (12) sont:
- i) aptes à être ouverts et fermés par une attache (15) réalisée en plastique; et
 - ii) reliés par une portion de liaison pelable (13,14),
- le second côté du corps d'emballage (21) et la feuille de scellement (12) étant aptes à être scellés à une portion qui se situe au moins 2 mm au-dessus d'une extrémité côté contenu de la portion de liaison pelable (13,14) pour
50 former un emballage plastique tel que revendiqué dans l'une des revendications précédentes.
- 55 11. Procédé pour introduire des contenus dans un emballage plastique avec une attache, comprenant les étapes consistant à introduire les contenus depuis un côté d'entrée d'un emballage plastique tel que revendiqué dans la revendication 10, et le scellement du second côté (11-a) du corps d'emballage (21) et d'une feuille de scellement (12).

FIG. 1

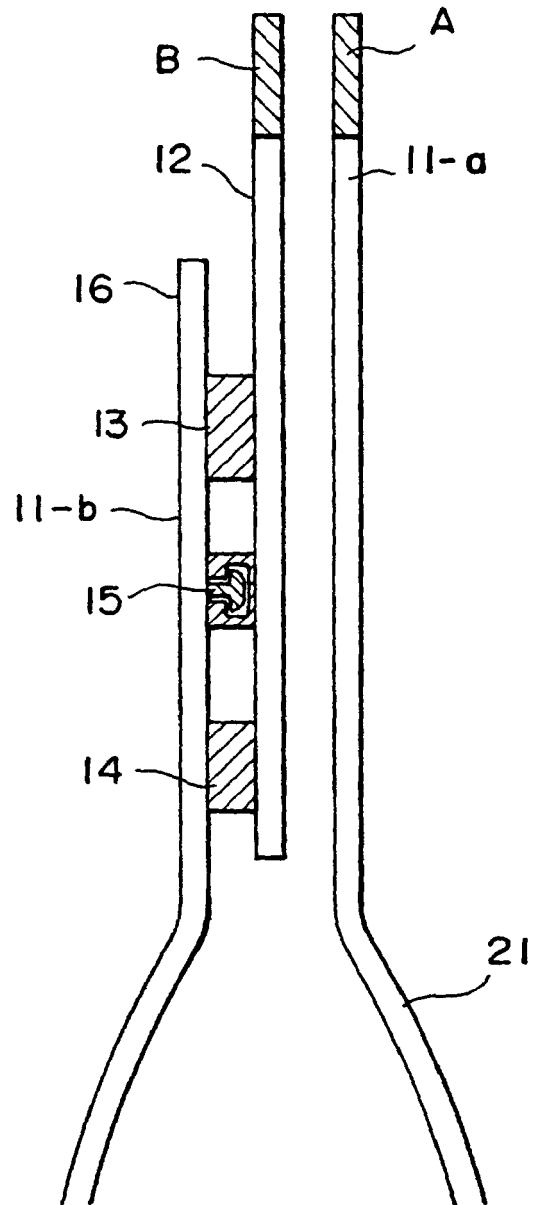


FIG. 2

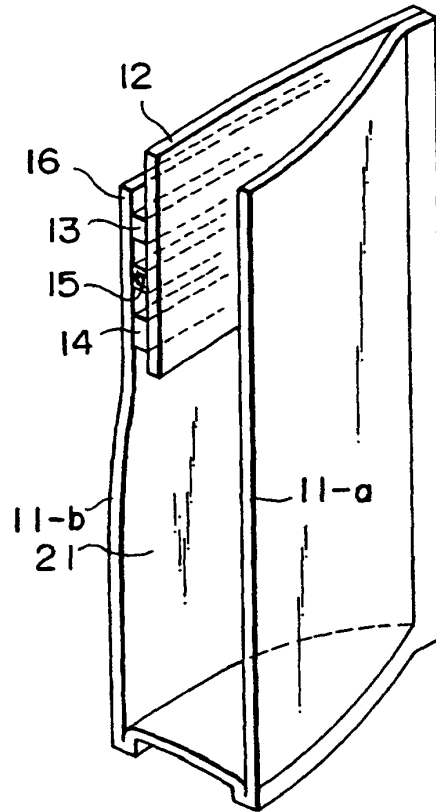


FIG. 3

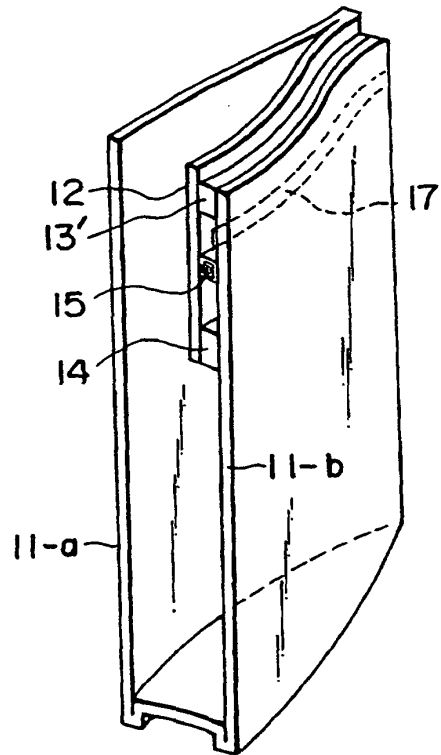


FIG. 4

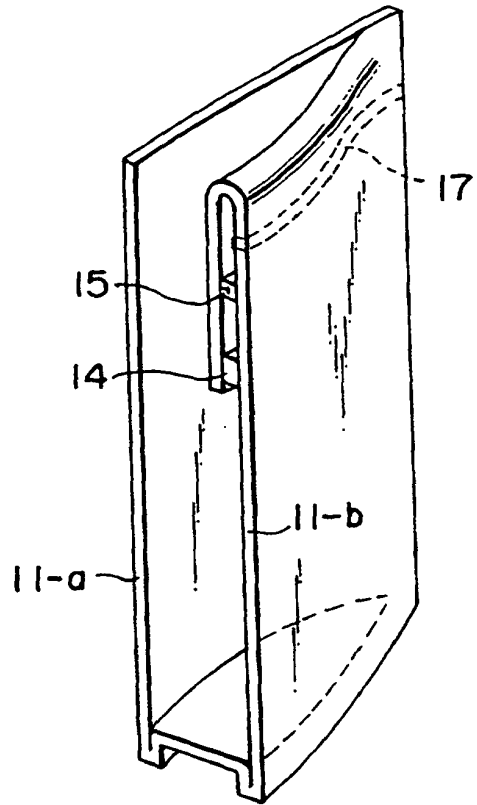


FIG. 5

