(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 1 270 443 B1

(12) **EUROPEAN PATENT SPECIFICATION**

(45) Date of publication and mention of the grant of the patent:
**14.04.2004 Bulletin 2004/16**

(51) Int Cl.[7]: **B65D 75/58**, B65D 81/34

(21) Application number: **02077225.7**

(22) Date of filing: **07.06.2002**

(54) **Boil-in-bag pack and cooking process for foodstuffs**

Kochbeutel und Kochverfahren für Lebensmittel

Sachet de cuisson et procès de cuisson pour aliments

(84) Designated Contracting States:
**AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR**

(30) Priority: **22.06.2001 DE 10130261**

(43) Date of publication of application:
**02.01.2003 Bulletin 2003/01**

(73) Proprietors:
- **UNILEVER N.V.**
  **3013 AL Rotterdam (NL)**
  Designated Contracting States:
  **AT BE CH LI CY DE DK ES FI FR GR IT LU MC NL PT SE TR**
- **UNILEVER PLC**
  **London EC4P 4BQ (GB)**
  Designated Contracting States:
  **GB IE**

(72) Inventors:
- **Ott, Claudia**
  **70372 Stuttgart (DE)**
- **Ruhmez, Elke**
  **74074 Heilbronn (DE)**

(74) Representative: **Wurfbain, Gilles L. et al**
**Unilever N.V.,**
**Patent Department,**
**P.O. Box 137**
**3130 AC Vlaardingen (NL)**

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**US-A- 5 914 142**

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## Description

**[0001]** The invention relates to boil-in-bag packs for foodstuffs, in particular for dumplings.

**[0002]** EP 947444 which contains the features from the preamble of claim 1 discloses boil-in-bag sachets for e.g. cooking rice or pasta. Said boil-in-bag sachet is shaped to allow efficient draining of the water, and containing seals in such ways to reduce trapping of the food in corners when emptying its contents. The bag may be opened by cutting or tearing, and the bag may have lines of weakness defining a tear strip and optionally a fork slot for easy lifting of the bag.

**[0003]** US 4674128 discloses a carrying bag for cones with ice cream. The bag consists of two sheets joined at the bottom and part of the sides, and contains a plurality of spaced zones which taper diagonally downwards thus defining a plurality of quasi-conical pockets.

**[0004]** Boil-in-bag technology is used for cooking industrially pre-prepared foodstuffs immersed in water and is frequently used for rice, deep-frozen products, ready meals and, in particular, for dumplings. Boil-in-bag sheets which are resistant to boiling water and can accommodate the contents have been specially developed for this purpose. The technology is suitable for simply heating up the contents, in which case the sheets may be water-tight, or for cooking the contents, in which case, if a reaction with the boiling water is necessary, for example for the swelling of rice, the sheets have to be water-permeable. For producing ready-to-eat dumplings, it is also possible to use boil-in-bag technology in order to turn an incohesive mass into a dumpling by a pressing operation if an increase in volume as a result of a swelling operation, with use being made of a boil-in-bag pack which is stable under expansion, builds up a pressure which subjects the mass to pressing and forming pressure.

**[0005]** A problem with all such boil-in-bag packs which has not been solved to a sufficient extent until now is posed by the removal of the boil-in-bag pack from the hot water and the opening of the hot boil-in-bag pack in order to release the contents. It is important for the user to be able to remove the boil-in-bag pack easily from the boiling water, and to open the pack, without burning his/her fingers.

**[0006]** This problem is solved by a boil-in-bag as defined by claim 1 and a process as defined by claim 8.

**[0007]** In one embodiment this can be achieved according to an embodiment of the invention in that the contents are enclosed in the boil-in-bag pack and two grip holes are provided in one of the end sections and, when said grip holes are drawn apart from one another, the boil-in-bag pack can be opened along a tear-open line in order to release the contents.

**[0008]** In the case of a particularly preferred embodiment of the invention, the contents are enclosed eccentrically in the boil-in-bag pack and the grip holes are provided in the wider end section produced as a result.

**[0009]** The boil-in-bag pack is usually formed from two sheet blanks which lie one upon the other, are partially connected to one another and between which the contents are enclosed.

**[0010]** In a second embodiment, in case of the boil-in-bag is formed as in the above paragraph, the tear holes may also be arranged such that upon tearing, the bag opens in such a way that the two sheets are at least partially separated from eachother, to release the content. To achieve this, both sheets will have a grip hole, facilitating tearing the sheets from eachother. Preferably, the tear holes are formed by one (preferably circular) perforation extending through both sheets. This overcomes the difficult "peeling apart" of the two layers as is now often needed.

**[0011]** The subject matter of the invention is thus a boil-in-bag pack for foodstuffs, in particular for use for dumplings, comprising two boil-in-bag sheet blanks which lie one upon the other, are partially connected to one another and between which the contents are enclosed, the contents preferably being enclosed eccentrically in the boil-in-bag pack, and two grip holes being provided in one of the end sections, in the wider end section in the case of eccentric positioning, and, for the first embodiment as described above, when said grip holes are drawn apart from one another, it being possible for the boil-in-bag pack to be opened along a tear-open line in order to release the contents. For the second embodiment as described above, when said grip holes are drawn apart from one another, it being possible for the boil-in-bag pack to be opened along the seal area of the two sheets or a tear-open line in order to release the contents.

**[0012]** This design has the advantages

- that, on account of the grip holes, the boil-in-bag pack can easily be removed from the boiling water, for example, using a fork or possibly even just using one's fingers,

- on account of the eccentric positioning of the contents, the boil-in-bag pack tends to position itself in the boiling water with the grip holes upwards, with the result that the contents are surrounded by the boiling water over the entire surface area, whereas the end section which is free of contents and contains the grip holes stands upright and usually even projects out of the boiling water, with the result that the grip holes can easily be gripped even using one's fingers,

- that simply by virtue of the grip holes being drawn apart from one another, for example using two forks or using one's fingers, the boil-in-bag pack can be opened, with only a very small amount of force being applied, along a tear-open line (or along the seal area of the two sheets) without the dumpling being adversely affected or pieces of dumpling being left

behind in the bag,

- the grip holes making it possible for the boil-in-bag pack to be gripped securely without any risk of slipping.

**[0013]** The boil-in-bag pack is expediently formed from two sheets which are located one upon the other and are partially sealed to one another or connected to one another in some other way. An expedient configuration provides a bottom sheet in which mostly U-shape spaces for accommodating the contents are formed by thermoforming, the bottom sheet then being covered by a flat cover sheet.

**[0014]** It may be expedient to select sheets which retain a certain level of rigidity even at boiling temperature, in order to make full use of the advantages of the invention.

**[0015]** Production and trade of the boil-in-bag packs may be made easier by a plurality of boil-in-bag packs being combined to form a type of boil-in-bag-pack strip in which a plurality of boil-in-bag packs are arranged one behind the other with continuous sheets. Separating lines in the sheets make it possible for the user to separate the boil-in-bag packs before they are placed in the boiling water. A tear-open line may be formed by a weakening line or perforations in the cover sheet or in both sheets. In case of the intention of opening along the seal area of the sheets (i.e. opening by partly separating the two sheets) the seal area may feature areas with weaker or no seal to facilitate opening along the seal area.

**[0016]** The cover sheet and the bottom sheet are at least partially connected to one another, expediently by sealing. A sealing seam is preferably provided at least at the borders of the boil-in-bag pack and around the space intended for the contents.

**[0017]** The size of the boil-in-bag pack may be adapted for the respective purpose. An expedient boil-in-bag pack for use for dumplings has a length of approximately 10 cm and a width of approximately 7 cm. The spherical opening for the contents has a diameter of expediently 5-6 cm, with the result that approximately 2.5-4 cm remain for the wider end section. The grip holes may have a diameter of approximately 2-2.5 cm. The U-shape space in the bottom sheet for accommodating a dumpling may have a depth of approximately 5 cm, with the result that the dumpling possibly projects somewhat beyond the surface which is covered by the cover sheet, so that, rather than resting in a totally planar manner thereon, the cover sheet may bulge somewhat.

**[0018]** The grip holes may be in the form of true perforations in which part of the sheet matter is taken or left out, thus providing a hole, or there may be part of a perforation such that the sheet material is still present, but such that e.g. fingers or a fork can protrude such that the holes are formed, by pushing-away the sheet material.

**[0019]** The invention will be explained in more detail with reference to the following drawings.

**[0020]** Figure 1a shows a side view of a preferred boil-in-bag pack according to the invention. Rather than having to be precisely rectangular, the sheet sections may be designed to be, for example, concave and convex at the top and bottom, respectively. The contents (5) are arranged eccentrically, and this results in a wider top end section in which the grip holes (3) are arranged. The tear-open line (4) is located between the grip holes, not necessarily in the centre.

**[0021]** Figure 2a (cross-section of figure 1a) shows the U-shape space which is produced by virtue of the bottom sheet (2b) being thermoformed, is intended for accommodating the contents (5) and is covered by the cover sheet (2a).

**[0022]** Figure 1b shows a side view of an alternative boil-in-bag pack according to the invention. The sheet sections may be designed to be, for example, concave and convex at the top and bottom, respectively, as is shown, but they may also be rectangular. Although not essential, the contents (5) may be arranged eccentrically, and this results in a wider top end section in which the grip holes (9: two grip holes extending through both sheets) are arranged. Tearing-open will be along the joints or seals of the two sheets.

**[0023]** Figure 2b (cross-section of figure 1b) shows the U-shape space which is produced by virtue of the bottom sheet (8b) being thermoformed, is intended for accommodating the contents (5) and is covered by the cover sheet (8a). In section 7 two grip holes (9, in fig. 1b) may be arranged, extending through both sheets 8a and 8b.

**[0024]** Figure 3a shows a boil-in-bag-pack strip in the case of which a plurality of boil-in-bag packs (1) are arranged one behind the other with continuous sheets (2a) and (2b), separating lines (6) being provided in the sheets in order to separate the boil-in-bag packs. The tear-open lines (4) must always start from the separating line (6), and expediently extend to some way beyond the centre of the contents.

**[0025]** Figure 3b shows a boil-in-bag-pack strip in the case of which a plurality of boil-in-bag packs (1) are arranged one behind the other with continuous sheets (8a) and (8b), separating lines (6) being provided in the sheets in order to separate the boil-in-bag packs, and grip holes (9) extending through sheets 8a and 8b.

**[0026]** Figure 4a shows a single boil-in-bag pack during opening by virtue of the grip holes (3) being drawn apart from one another (in the arrow direction), this resulting in opening taking place along the tear-open line (4).

**[0027]** Figure 4b shows a single boil-in-bag pack during opening by virtue of the grip holes (9) being drawn apart from one another (in the arrow direction), this resulting in opening taking place along the seal.

**[0028]** It is expedient, in order to facilitate the opening, for a small tear, not necessarily a cut, to be provided beforehand on the tear-open line (4). Perforations pro-

vide a suitable tear-open line if water-tight packaging is not necessary.

## Claims

1. Boil-in-bag pack for cooking industrially pre-prepared foodstuffs (5) immersed in water, comprising two boil-in-bag sheet blanks (2a, 2b, 8a, 8b) which lie one upon the other, which sheet blanks (2a, 2b, 8a, 8b) are partially connected to one another and between which the industrially pre-prepared foodstuff (5) is enclosed, **characterized in that** two grip holes (3, 9) are provided in one end section and, when said grip holes (3, 9) are drawn apart from one another, the boil-in-bag pack can be opened in order to release the content.

2. Boil-in-bag pack according to claim 1, **characterized in that** the opening occurs along a tear-open line (4).

3. Boil-in-bag pack according to claim 1, **characterised in that** both sheets (2a, 2b, 8a, 8b) will have a grip hole (9), facilitating tearing the sheets from eachother.

4. Boil-in-bag pack according to claim 1-3, **characterized in that** the contents (5) are enclosed eccentrically in the boil-in-bag pack (1) and the grip holes (3, 9) are provided in the wider end section.

5. Boil-in-bag pack according to Claim 1-4, **characterized in that** a space for accommodating the contents (5) is formed in the bottom sheet (2b, 8b) by thermoforming, and the bottom sheet (2b, 8b) is covered by a flat cover sheet (2a, 8a).

6. Boil-in-bag pack according to claim 1-5, **characterized in that** a plurality of boil-in-bag packs (1) are arranged one behind the other with continuous sheets (2a, 2b, 8a, 8b), separating lines (6) being provided in the sheets (2a, 2b, 8a, 8b) in order to separate the boil-in-bag packs (1).

7. Boil-in-bag pack according to claim 1-6, in which the industrially pre-prepared foodstuff (5) is a dumpling.

8. Process for cooking industrially pre-prepared foodstuff (5) in a boil-in-bag pack, which boil-in-bag pack comprises two sheet blanks (2a, 2b, 8a, 8b) which lie one upon the other, which sheet blanks (2a, 2b, 8a, 8b) are partially connected to one another and between which the industrially pre-prepared foodstuff (5) is enclosed and wherein two grip holes (3, 9) are provided in the boil-in-bag pack, wherein said foodstuff (5) is cooked immersed in water, the boil-in-bag pack is removed from the hot water, and the hot boil-in-bag pack is opened to release its contents, wherein the pack is opened by drawing apart the two grip holes (3, 9).

9. Process according to claim 8, wherein the grip holes (3, 9) are drawn apart from one another to open the boil-in-bag pack along a tear-open line (4).

10. Process according to claim 8, wherein the grip holes (3, 9) are drawn apart from one another to open the boil-in-bag pack along the seal area of the two sheets (2a, 2b, 8a, 8b).

## Patentansprüche

1. Kochbeutel-Packung zum Kochen industriell vorgefertigter, in Wasser eingetauchter Nahrungsmittel (5), mit zwei aufeinander liegenden Kochbeutel-Folienzuschnitten (2a, 2b, 8a, 8b), welche Folienzuschnitte (2a, 2b, 8a, 8b) teilweise miteinander verbunden sind und zwischen welchen das industriell vorgefertigte Nahrungsmittel (5) eingeschlossen ist, **dadurch gekennzeichnet, dass** zwei Greiflöcher (3, 9) in einem Endabschnitt vorgesehen sind und, wenn diese Greiflöcher (3, 9) voneinander weg auseinandergezogen werden, die Kochbeutel-Pakkung geöffnet werden kann, um den Inhalt freizugeben.

2. Kochbeutel-Packung nach Anspruch 1, **dadurch gekennzeichnet, dass** das Öffnen entlang einer Aufreiß-Linie (4) erfolgt.

3. Kochbeutel-Packung nach Anspruch 1, **dadurch gekennzeichnet, dass** beide Folien (2a, 2b, 8a, 8b) ein Greifloch (9) haben, wodurch das voneinander Wegreißen der Folien erleichtert wird.

4. Kochbeutel-Packung nach Anspruch 1-3, **dadurch gekennzeichnet, dass** der Inhalt (5) exzentrisch in der Kochbeutel-Packung (1) eingeschlossen ist und die Greiflöcher (3, 9) im breiteren Endabschnitt vorgesehen sind.

5. Kochbeutel-Packung nach Anspruch 1-4, **dadurch gekennzeichnet, dass** ein Raum zur Aufnahme des Inhalts (5) in der unteren Folie (2b, 8b) durch Thermoformen geformt ist und die untere Folie (2b, 8b) durch eine flache Deckfolie (2a, 8a) bedeckt ist.

6. Kochbeutel-Packung nach Anspruch 1-5, **dadurch gekennzeichnet, dass** eine Mehrzahl von Kochbeutel-Packungen (1) hintereinander, mit kontinuierlichen Folien (2a, 2b, 8a, 8b), angeordnet sind, wobei Trennlinien (6) in den Folien (2a, 2b, 8a, 8b) vorgesehen sind, um die Kochbeutel-Packungen (1) voneinander zu trennen.

7. Kochbeutel-Packung nach Anspruch 1-6, wobei das industriell vorgefertigte Nahrungsmittel (5) ein Knödel ist.

8. Verfahren zum Kochen industriell vorgefertigter Nahrungsmittel (5) in einer Kochbeutel-Packung, welche Kochbeutel-Packung zwei Folienzuschnitte (2a, 2b, 8a, 8b) aufweist, die aufeinander liegen, welche Folienzuschnitte (2a, 2b, 8a, 8b) teilweise miteinander verbunden sind und zwischen welchen das industriell vorgefertigte Nahrungsmittel (5) eingeschlossen ist, und wobei zwei Greiflöcher (3, 9) in der Kochbeutel-Packung vorgesehen sind, wobei das Nahrungsmittel (5) eingetaucht in Wasser gekocht wird, die Kochbeutel-Packung aus dem heißen Wasser entfernt wird und die heiße Kochbeutel-Packung geöffnet wird, um ihren Inhalt freizugeben, wobei die Packung durch Auseinanderziehen der beiden Greiflöcher (3, 9) geöffnet wird.

9. Verfahren nach Anspruch 8, wobei die Greiflöcher (3, 9) voneinander weggezogen werden, um die Kochbeutel-Packung entlang einer Aufreißlinie (4) zu öffnen.

10. Verfahren nach Anspruch 8, wobei die Greiflöcher (3, 9) voneinander weggezogen werden, um die Kochbeutel-Packung entlang eines Siegelungsbereichs der beiden Folien (2a, 2b, 8a, 8b) zu öffnen.

**Revendications**

1. Sachet de cuisson pour la cuisson d'aliments (5) pré-préparés industriellement, par immersion dans l'eau, comprenant deux découpes en feuille de sachet de cuisson (2a, 2b, 8a, 8b) qui reposent l'une sur l'autre, lesquelles découpes en feuille (2a, 2b, 8a, 8b) sont en partie reliées l'une à l'autre et entre lesquelles les aliments (5) pré-préparés industriellement sont enfermés, **caractérisé en ce que** deux trous de saisie (3, 9) sont prévus à une section d'extrémité et, lorsque lesdits trous de saisie (3, 9) sont écartés l'un de l'autre, le sachet de cuisson peut être ouvert afin de libérer le contenu.

2. Sachet de cuisson selon la revendication 1, **caractérisé en ce que** l'ouverture se fait le long d'une ligne d'ouverture déchirable (4).

3. Sachet de cuisson selon la revendication 1, **caractérisé en ce que** les deux feuilles (2a, 2b, 8a, 8b) auront un trou de saisie (9) facilitant le déchirement des feuilles l'une à l'écart de l'autre.

4. Sachet de cuisson selon la revendication 1 à 3, **caractérisé en ce que** le contenu (5) est enfermé excentriquement dans le sachet de cuisson (1) et les trous de saisie (3, 9) sont prévus dans la section d'extrémité la plus large.

5. Sachet de cuisson selon la revendication 1 à 4, **caractérisé en ce qu'**un espace pour accommoder le contenu (5) est formé dans la feuille inférieure (2b, 8b) par thermoformage et la feuille inférieure (2b, 8b) est recouverte par une feuille de couverture plane (2a, 8a).

6. Sachet de cuisson selon la revendication 1 à 5, **caractérisé en ce qu'**une pluralité de sachets de cuisson (1) sont agencés l'un derrière l'autre avec des feuilles continues (2a, 2b, 8a, 8b), des lignes de séparation (6) étant prévues dans les feuilles (2a, 2b, 8a, 8b) afin de séparer les sachets de cuisson (1).

7. Sachet de cuisson selon la revendication 1 à 6, dans lequel l'aliment (5) pré-préparé industriellement est une quenelle.

8. Procédé de cuisson d'aliments (5) pré-préparés industriellement dans un sachet de cuisson, lequel sachet de cuisson comprend deux découpes en feuille (2a, 2b, 8a, 8b) qui reposent l'une sur l'autre, lesquelles découpes en feuille (2a, 2b, 8a, 8b) sont en partie reliées l'une à l'autre et entre lesquelles les aliments (5) pré-préparés industriellement sont enfermés, et dans lequel deux trous de saisie (3, 9) sont prévus dans le sachet de cuisson, dans lequel lesdits aliments (5) sont cuits immergés dans l'eau, le sachet de cuisson est retiré de l'eau chaude, et le sachet de cuisson chaud est ouvert pour libérer son contenu, dans lequel le sachet est ouvert en tirant les deux trous de saisie (3, 9) l'un à l'écart de l'autre.

9. Procédé selon la revendication 8, dans lequel les trous de saisie (3, 9) sont tirés l'un à l'écart de l'autre afin d'ouvrir le sachet de cuisson le long d'une ligne d'ouverture déchirable (4).

10. Procédé selon la revendication 8, dans lequel les trous de saisie (3, 9) sont tirés l'un à l'écart de l'autre afin d'ouvrir le sachet de cuisson le long de la surface d'étanchéité des deux feuilles (2a, 2b, 8a, 8b).

Fig.1b.

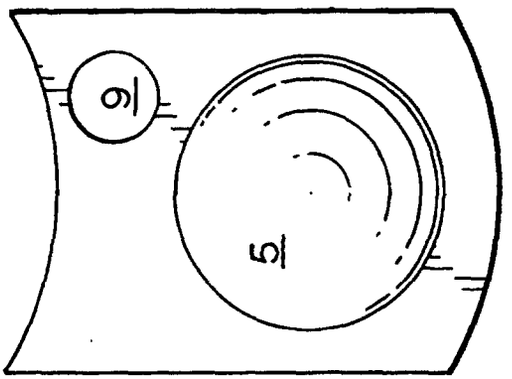


Fig.2b.

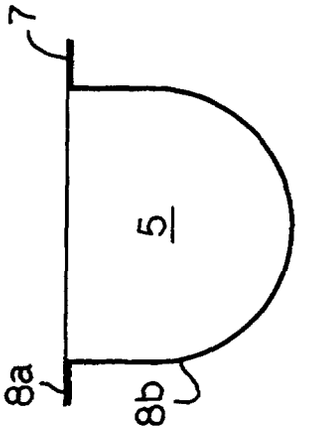


Fig.1a.

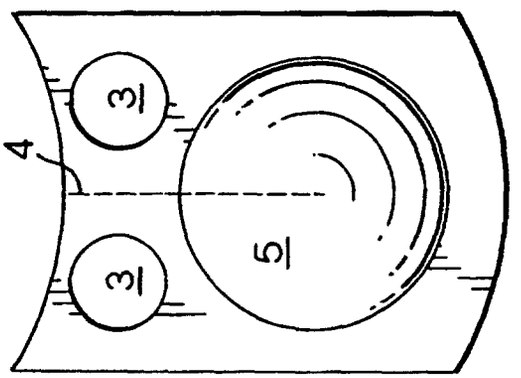


Fig.2a.

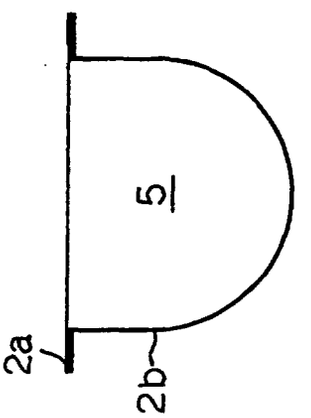

Fig.3a.

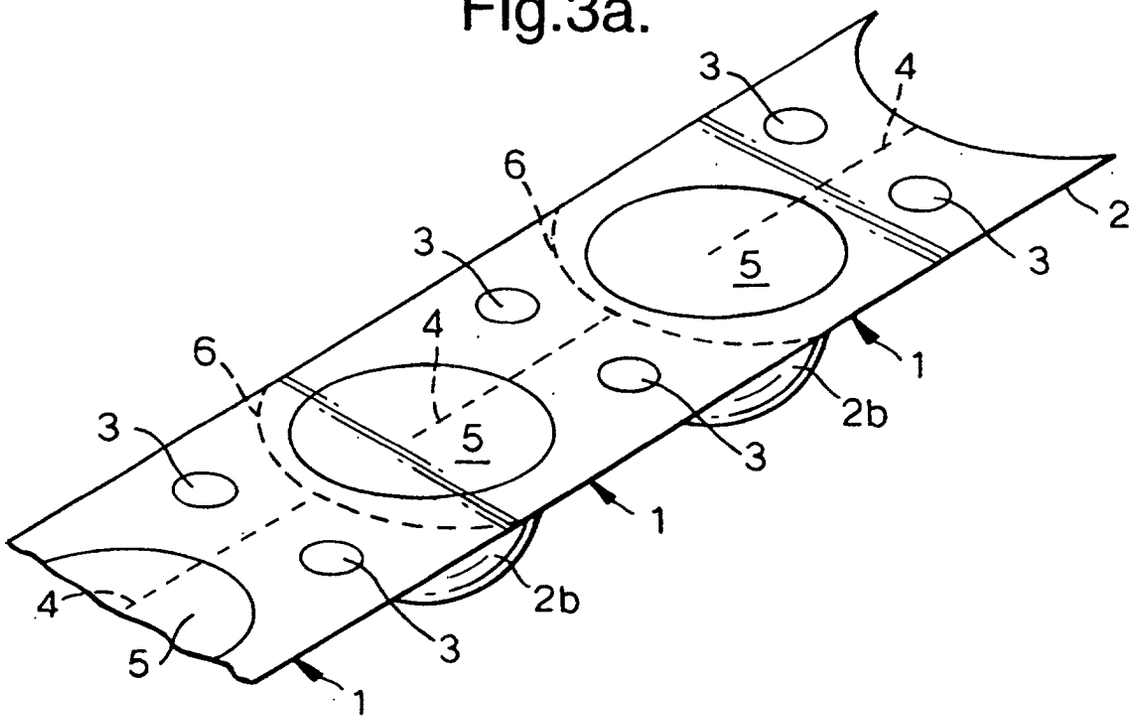


Fig.3b.

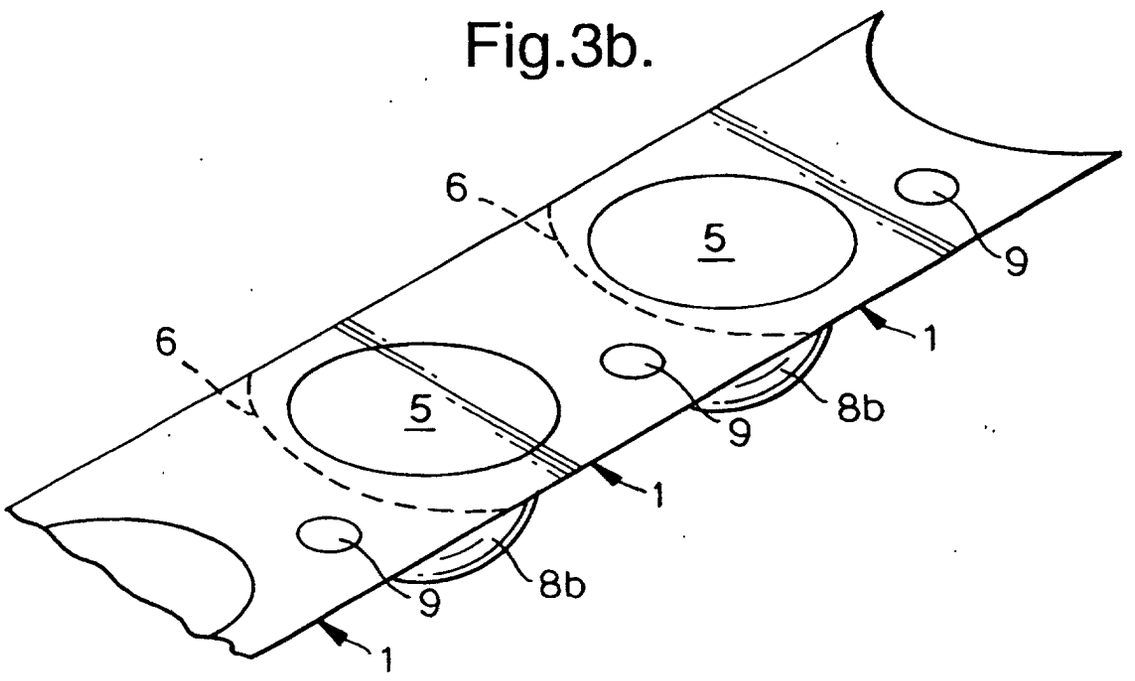

Fig.4 a.

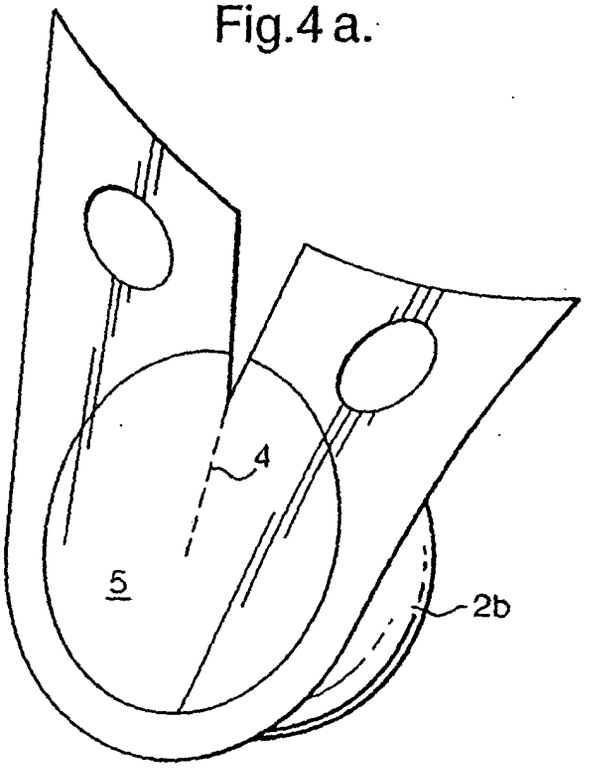


Fig.4 b.

