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(54) **FOOD PACKAGE**

VERPACKUNG FÜR LEBENSMITTEL

EMBALLAGE POUR PRODUITS ALIMENTAIRES

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Description

TECHNICAL FIELD

The present invention relates to a food package of the kind set forth in the preamble of claim 1.

BACKGROUND ART

US patent publication No. 3,806,618 discloses a package of the kind referred to initially, in which the means for liberating vapours and gases are constituted by a meltable seal, melting when heated under water and allowing vapour to escape from the interior of the package. According to this publication, the mechanical connection between the two packaging elements should ensure that water does not penetrate into the package. This construction is relatively complicated, having several turned-in edges and flaps in mutual engagement, and it cannot be used in connection with relatively flexible packaging elements, with which the mechanical protection against water penetrating into the package will not be sufficiently reliable.

US patent publication No. 4,834,554 discloses a package of the kind referred to initially, in which the means for liberating vapours and gases are constituted by a normally closed valve. The valve can be sealed by means of a tape strip, to be removed prior to heating of the food product in the package. This publication refers solely to microwave heating. If this package is used for heating in hot or boiling water, the normally closed valve will require a certain excess pressure in the package before it opens, causing the package to be inflated and to float at a relatively high level in the surface of the water. This reduces substantially the contact surface for the transfer of heat from the water to the package with its contents.

DISCLOSURE OF THE INVENTION

It is on the background of this prior art the intention with the invention to provide a food package of the kind referred to initially, that - even in connection with relatively flexible packaging-element materials - ensures partly a liberation of vapours and gases from the interior of the package, partly an avoidance of liquid from the surroundings penetrating into the interior of the package. According to the invention, this is achieved by means of the measures set forth in the characterizing clause of claim 1.

The valve aperture, preferably being opened by tearing-open a first part of the joining seam, ensures that even a small increase in the pressure will cause gas/vapour from the interior of the package to escape. The buoyancy member ensures that the valve aperture will at all times be situated at a level above the liquid surface when the package with its contents is heated in hot or boiling water, so that liquid will not penetrate into

the interior of the package via the valve aperture.

By arranging the joining seam in a suitable manner it is possible to delimit the buoyancy member between the two packaging elements. This makes it possible to manufacture the package in a particularly simple manner, because the buoyancy member is produced at the same time as the joining seam, thus not requiring any separate process during the packaging of the food product.

The result of the measures set forth in the claim 3 is that the buoyancy member is inflated by the vapours produced by the heating, as these vapours have to pass through the buoyance member before escaping.

The measure set forth in claim 4 ensures that the preliminary tearing-open of the joining seam with a view to opening the valve aperture does not inadvertently become too great, because the opening is easily provided by means of a small force, and any further tearing-open requires a somewhat greater force to be exerted.

BRIEF DESCRIPTION OF THE DRAWING

The invention is explained in more detail below by means of an exemplary embodiment whilst referring to the drawing, in which:

Figure 1 shows a preferred embodiment of the package according to the invention.

DESCRIPTION OF THE PREFERRED EMBODIMENT

The food package shown in figure 1 comprises two packaging elements in the form of substantially identical foil sheets, assembled by hot welding along a tearable seam 1 extending substantially along the periphery of the two sheet elements so as to delimit in an air-tight manner an internal volume 2 for receiving the packaged food product. The seam 1 is in a conventional manner made in the form of a tearable joining seam, the two sheet elements having been welded to each other in a manner known per se. In the embodiment shown, the means for liberating vapours and gases are constituted by a valve aperture 3, at which the joining seam is made in the form of a specially weakened part of the latter comprising gripping flaps so as to make it easy to open this valve aperture 3. In order to avoid penetration of liquid from the surroundings, a buoyancy member 4 is arranged along one side edge of the package adjacent the valve aperture 3. In the embodiment shown, the buoyancy member 4 is in the form of a channel-shaped space extending along a side edge of the packaging elements and at one end communicating with the valve aperture 3, and at a location 5 at a distance from the latter communicating with the internal volume 2 of the package.

When the food package according to the invention is used, the food product is packaged in a conventional

manner in the packaging elements, the latter being joined around the food product along the joining seam 1. After this, and if necessary, the food product can be treated in an autoclave, and if so, ensuring an external pressure at least equal to the internal pressure in the internal volume 2 of the package will avoid the package bursting during this process. Then, the food product having been packaged in this food package is suited for long-term storage of the food product, and when the latter is to be used, it is heated in the following manner: The food package is opened at the valve aperture 3 by tearing the gripping flaps away from each other without opening the joining seam beyond the valve aperture 3 itself. The strengthened part of the joining seam beyond the valve aperture 3 contributes to this limited opening of the joining seam. After this, the food package containing the food product is placed in hot or boiling water in order to heat or cook respectively the food product in the package. With the food package constructed in the manner indicated, the buoyancy member 4 will ensure that the valve aperture 3 faces upwardly and thus will be above the surface of the hot or boiling water, so that the latter does not penetrate into the food package via the valve aperture 3. During the heating, vapours are liberated from the food product in the package, so that the pressure in the latter increases slightly, causing vapours and/or gases from the package to escape to the surroundings through the valve aperture 3. With a suitably arranged valve aperture 3, pressure above atmospheric in the package will tend to inflate the buoyancy member 4, thus further enhancing the function of the latter.

When the food product in the package has been heated/cooked, the food package with its contents is removed from the boiling/hot water, and the tearable seam 1 is torn open completely to enable the food product to be removed from the package.

The food package has been described above with reference to a preferred embodiment, but it should be obvious that e.g. the buoyancy member 4 may be in the form of a separate volume not communicating with the internal volume 2 of the food package and the valve aperture 3 respectively, but solely adjacent to this valve aperture 3, so that the buoyancy member 4 ensures that the valve aperture 3 is situated above the surface of the hot or boiling water being used for heating the food product.

Claims

1. Food package comprising two packaging elements joined, e.g. by hot welding, along a tearable joining seam (1) extending substantially along the periphery of said two packaging elements for delimiting in an airtight manner an internal volume (2) for receiving the packaged food product, said package primarily being intended for cooking or heating the food product in the package by placing the latter in hot or boiling water, said package in order to avoid

bursting at the excess pressure of vapours and/or gases in the package produced in connection with the heating being provided with a valve aperture (3) to be opened prior to heating of the food product in the package for liberating vapours and gases from the internal volume of the package to the surroundings, as well as means for avoiding liquid from the surroundings penetrating into the internal volume of the package via the valve aperture (3) for liberating vapours, **characterized** in that the means for avoiding liquid from the surroundings penetrating into the package comprise a buoyancy member (4) situated adjacent the valve aperture (3).

2. Food package according to claim 1, **characterized** in that the valve aperture (3) is opened by tearing open a first part (3) of the joining seam.
3. Food package according to claim 1 or 2, **characterized** in that the buoyancy member (4) is constituted by a space delimited between the two packaging elements by means of a suitable arrangement of the joining seam (1).
4. Food package according to any one of the preceding claims, **characterized** in that the buoyancy member (4) is constituted by a channel-shaped space extending along a side edge of the packaging elements and at one end communicating with the valve aperture (3), and at a location (5) at a distance from said aperture communicating with the internal volume (2) of the package.
5. Food package according to any one of the preceding claims, **characterized** in that the first part of the joining seam to be torn open in order to open the valve aperture (3) is constituted by a specially weakened part of the joining seam, in the direction of tearing open being followed by a specially strengthened part of the joining seam.

Patentansprüche

1. Lebensmittelpackung mit zwei entlang einer sich im wesentlichen entlang ihrer Peripherie erstreckenden Reißnaht (1) beispielsweise durch Heißschweißung miteinander verbundenen Packungselementen zur luftdichten Abgrenzung eines internen Volumens (2) für die Aufnahme des verpackten Lebensmittelprodukts, wobei die Packung in erster Linie zum Kochen oder Erhitzen des Lebensmittelprodukts innerhalb der Packung durch Einsetzen derselben in heißes oder kochendes Wasser bestimmt ist, und die Packung zur Vermeidung eines Berstens durch den Überdruck von Dämpfen und/oder Gasen in der Packung in Verbindung mit der Erhitzung mit einer Ventilöffnung (3) versehen ist, die vor dem Erhitzen des Lebensmittelprodukts

in der Packung zur Freisetzung von Dämpfen und Gasen aus dem inneren Volumen der Packung in die Umgebung zu öffnen ist, wie auch Mitteln zur Verhinderung, daß Flüssigkeit aus der Umgebung über die Ventilöffnung (3) zum Freisetzen der Dämpfe in das innere Volumen der Packung eintritt, dadurch **gekennzeichnet**, daß die Mittel zur Verhinderung, daß Flüssigkeit aus der Umgebung in die Packung eintritt, ein bei der Ventilöffnung (3) liegendes Schwimmerglied (4) aufweisen.

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2. Lebensmittelpackung nach Anspruch 1, dadurch **gekennzeichnet**, daß die Ventilöffnung (3) durch Aufreißen eines ersten Teils (3) der Naht zu öffnen ist.

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3. Lebensmittelpackung nach Anspruch 1 oder 2, dadurch **gekennzeichnet**, daß das Schwimmerglied (4) von einem zwischen den beiden Packungselementen mittels einer geeigneten Anordnung der Naht (1) abgegrenzten Raum gebildet wird.

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4. Lebensmittelpackung nach einem der vorhergehenden Ansprüche, dadurch **gekennzeichnet**, daß das Schwimmerglied (4) von einem sich entlang einer Seitenkante der Packungselemente erstreckenden kanalförmigen Raum gebildet wird, der an einem Ende mit der Ventilöffnung (3) kommuniziert und an einer Stelle (5) in einem Abstand von der Öffnung mit dem inneren Volumen (2) der Packung kommuniziert.

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5. Lebensmittelpackung nach einem der vorhergehenden Ansprüche, dadurch **gekennzeichnet**, daß der erste Teil der zum Öffnen der Ventilöffnung (3) aufzureißenden Naht von einem speziell erweichten Teil der Naht, in der Aufreißrichtung gefolgt von einem speziell verstärkten Teil der Naht, gebildet wird.

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Revendications

1. Emballage pour produits alimentaires constitué de deux éléments d'emballage reliés, par ex. par soudage à chaud, le long d'un joint déchirable (1) disposé substantiellement sur la périphérie desdits deux éléments d'emballage pour délimiter de manière étanche à l'air un volume intérieur (2) pour recevoir le produit alimentaire emballé, ledit emballage étant principalement prévu pour faire cuire ou réchauffer le produit alimentaire contenu dans l'emballage en plaçant ce dernier dans de l'eau chaude ou bouillante, ledit emballage étant muni, afin d'éviter l'éclatement dû à l'excès de pression de vapeurs et/ou de gaz produit dans l'emballage par suite du chauffage, d'une ouverture à valve (3) devant être ouverte avant le chauffage du produit

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alimentaire dans l'emballage afin de libérer les vapeurs et gaz du volume intérieur de l'emballage dans le milieu environnant, ainsi que d'un moyen pour empêcher le liquide du milieu environnant de pénétrer dans le volume intérieur de l'emballage par l'ouverture à valve (3) de libération des vapeurs, caractérisé en ce que le moyen pour éviter la pénétration du liquide du milieu environnant dans l'emballage comprend un élément de flottabilité (4) situé à proximité de l'ouverture à valve (3).

2. Emballage pour produits alimentaires selon la revendication 1, caractérisé en ce que l'ouverture de l'ouverture à valve (3) s'effectue en déchirant une première partie (3) du joint.

3. Emballage pour produits alimentaires selon la revendication 1 ou 2, caractérisé en ce que l'élément de flottabilité (4) est constitué d'un espace délimité entre les deux éléments d'emballage au moyen d'un agencement approprié du joint (1).

4. Emballage pour produits alimentaires selon l'une quelconque des revendications précédentes, caractérisé en ce que l'élément de flottabilité (4) est constitué d'un espace en forme de canal disposé le long d'un bord latéral des éléments d'emballages et communiquant à une extrémité avec l'ouverture à valve (3), et communiquant à un emplacement (5) éloigné de ladite ouverture avec le volume intérieur (2) de l'emballage.

5. Emballage pour produits alimentaires selon l'une quelconque des revendications précédentes, caractérisé en ce que la première partie du joint à déchirer pour ouvrir l'ouverture à valve (3) est constituée d'une partie spécialement affaiblie du joint, dans la direction de la déchirure, suivie d'une partie spécialement renforcée du joint.

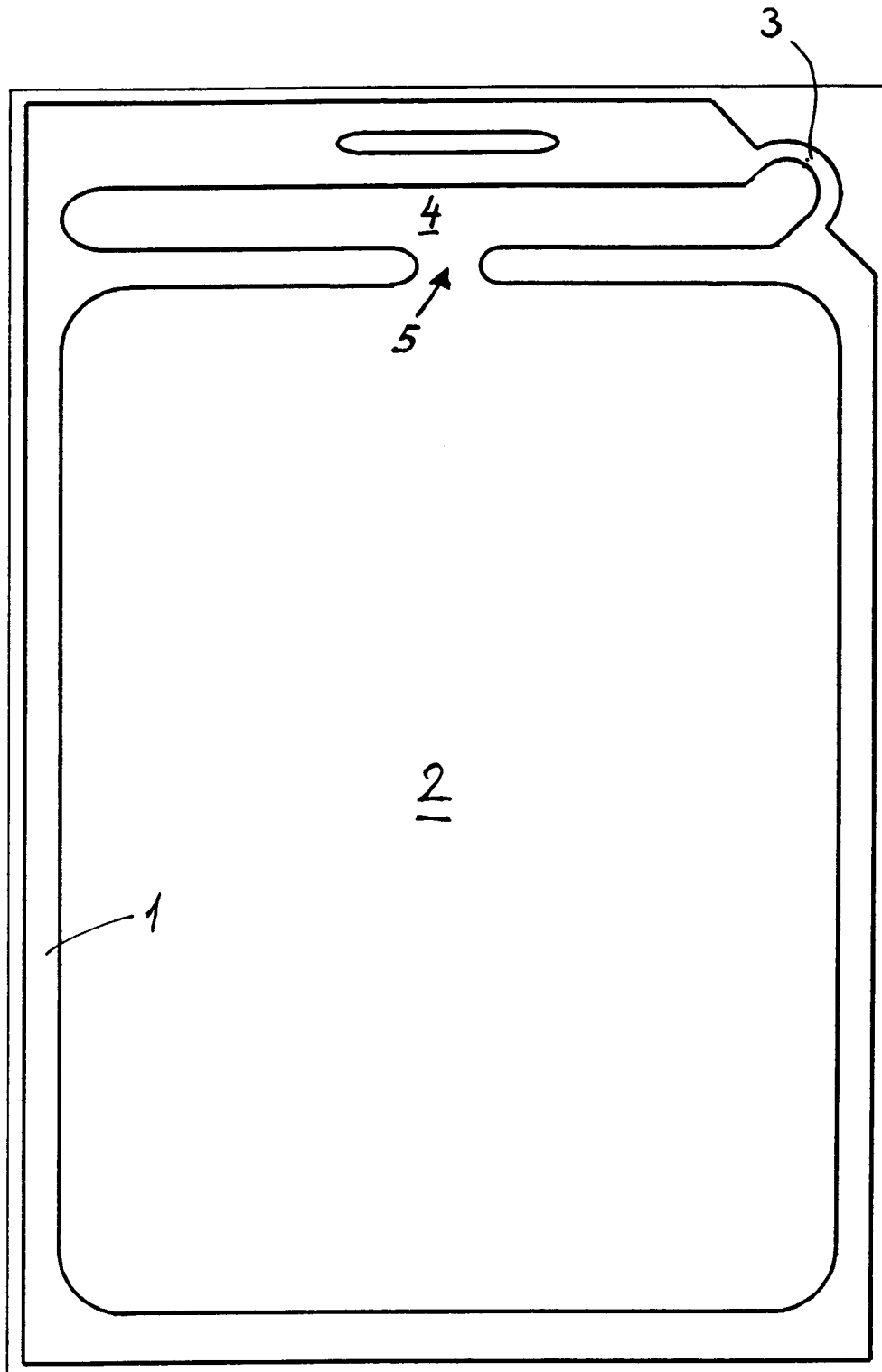


Fig. 1