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(54) **PACKAGE FOR FROZEN PRODUCTS AND MANUFACTURING THEREOF**

VERPACKUNG FÜR GEFRORENE PRODUKTE UND VERFAHREN ZU IHRER HERSTELLUNG

EMBALLAGE POUR PRODUITS CONGELÉS ET SON PROCÉDÉ DE FABRICATION

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Description

BACKGROUND OF THE INVENTION

Field of the Invention

[0001] The invention relates to a package for a frozen product, such as a frozen liquid. Furthermore, the invention relates to a method for manufacturing such a package.

Description of the Related Art

[0002] Packages for a frozen products are well known, for instance in the shape of plastic bags holding ice cubes or cardboard containers holding blocks of frozen food, such as spinach or soup. Such packages are used to pack the frozen product after manufacturing.

[0003] Manufacturing of the frozen products is usually done in a mould as disclosed in Dutch patent publication 1034074. A liquid, usually water, is frozen in a mould comprising two parts, which mould parts comprise pairs of interconnected hollow spaces for forming ice blocks. Upon moving the mould parts away from each other after forming the ice blocks, the ice blocks can be released from the mould.

[0004] A package for frozen products with the features of the preamble of claim 1 is known from WO93/07427 A1.

[0005] The ice blocks resulting from such a mould have an interconnection that is broken upon release from the mould. The resulting individual blocks are then packed in a container or a bag.

[0006] A disadvantage of packing loose, individual ice blocks or blocks of frozen products in a container or a bag is that the volume of such a package is not used optimally. As it is, the cardboard containers used are usually larger than needed for the amount of frozen product inside, due to the random orientation, i.e. not ordered, of the blocks. This is also the case for the used bags. The volume needed for transport and storage is therefore larger than the actual transported or stored volume of product. To optimize the efficiency of transport and storage, the superfluous volume in these packages may be reduced.

[0007] It would therefore be desirable to provide a package for frozen product that overcomes the disadvantages of the known packages.

BRIEF SUMMARY OF THE INVENTION

[0008] According to the invention, there is provided a package for a frozen product with the features of claim 1, the package comprising:

a first mould element provided with at least one mould cavity having a base and a first peripheral wall extending from the base; and

a sealing element to seal the mould cavity,

wherein the sealing element is connected to at least part of an edge of the first peripheral wall, wherein the mould element further comprises at least one filling opening, such that the mould cavity is fillable with the food product in liquid state.

[0009] The package is formed of a mould element that has at least one mould cavity. The mould cavity comprises a filling space enclosed by a base, a first peripheral wall and the sealing element opposite the base and connected to at least part of the first peripheral wall. The filling opening is used to fill the mould cavity with the food product in liquid state. The food product can be water for the making of ice lumps, but soup or a paste are possible as well. The liquid food product will then be frozen within the mould cavity. The mould element and the sealing element may form a part of a package for the food product when in a solid or frozen state, thereby reducing the volume of the package of such a food product.

[0010] According to an embodiment, the filling opening is provided at a top end of the mould element. The filling opening is provided between the sealing element and the first peripheral wall, preferably at the top end of the moulding element. The filling opening comprises a first recessed portion in the first peripheral wall of the moulding element, extending from an exterior of the moulding element to an interior of the mould cavity, which first recessed portion forms an interruption in a connection between the sealing element and the peripheral wall. The filling opening is thereby enclosed by the first recessed portion and the sealing element. The first recessed portion can be shaped in various forms, such as U-shaped, V-shaped, or square-like or semi-circular.

[0011] In a further embodiment, the mould element is provided with at least two mould cavities, wherein the periphery of each mould cavity is provided with a first peripheral wall. It is preferred that the mould element is provided with a series of at least two mould cavities. The series of mould cavities can be arranged as a row, i.e. next to each other, or as a column, i.e. one above the other. Preferably, the mould cavities are adjacent to each other such that the adjacent mould cavities share a part of the first peripheral wall.

[0012] According to a further embodiment, the mould element is provided with at least four mould cavities, wherein the mould cavities are arranged in an n x n matrix or an m x n matrix, wherein n and m represent the number of columns and rows, respectively. When the mould element comprises a series of at least four mould cavities, the mould cavities can also be arranged in a matrix having n columns and m rows, wherein n and m are both higher than 1, such that a mould element with four mould cavities, a 2x2 matrix having 2 columns and 2 rows can be formed. For a mould element having nine mould cavities, a 3x3 matrix can be formed. For a mould element having 12 mould cavities, either a 3x4, a 4x3, a 2x6 or a 6x2 matrix could be formed. Of course, the mould cavities in

the mould element could also be formed as a single row or single column as described above. Preferably, the matrix is an n x n matrix, i.e. has an equal number of rows and columns, i.e. the matrix is a square matrix, i.e. m=n.

[0013] According to another embodiment, a part of the first peripheral wall located between the adjacent mould cavities is provided with a second recessed portion extending from a first mould cavity to a second mould cavity, such that the adjacent mould cavities are interconnected. Preferably, the sealing element extends over the recessed portion, thereby forming a connecting space enclosed between the second recessed portion and the sealing element, which connecting space extends from the first mould cavity to the second mould cavity.

[0014] According to another embodiment, the mould element comprises a second peripheral wall enclosing the at least one mould cavity, wherein the first peripheral wall located between adjacent mould cavities has a lower height relative to the second peripheral wall.

[0015] The mould cavities are delimited by a base, a first peripheral wall extending from the base and the sealing element connected to the first peripheral wall, thereby forming an interior of the mould cavity. The base of the mould cavity and the sealing element form opposite sides of the mould element. When in an upright position, the base of the mould cavity and the opposite sealing element form substantially parallel, vertical planes. The mould element is delimited by a second peripheral wall, enclosing the at least one mould cavity. In case the mould element comprises a series of mould cavities, the second peripheral wall encloses the series of mould cavities. The second peripheral wall is preferably higher than the part of the first peripheral wall located between adjacent mould cavities. The sealing element can then be connected to the relatively higher second peripheral wall at the ends of the mould element. It is preferred that the second peripheral wall and the first peripheral wall enclosing mould cavities adjacent to the second peripheral wall of the mould element coincide. Preferably, the second peripheral wall and the first peripheral wall enclosing mould cavities adjacent to the second peripheral wall of the mould element, coincide, wherein the sealing element is connected to the second peripheral wall of the mould element. The first peripheral wall enclosing mould cavities positioned at an end of the mould element forms a second peripheral wall of the mould element, surrounding the mould cavities provided in the mould element. The first peripheral wall located between adjacent mould cavities has a lower height relative to the second peripheral wall, and wherein the sealing element is connected to the second peripheral wall of the mould element.

[0016] According to another embodiment, the package comprises a second mould element connected to the first mould element. Preferably, the first and second mould element are connected at an end of each mould element through a pivoting connection, such that the sealing elements, such as a foil, of each mould element face each other upon pivoting of the first and second mould elements towards each other. In this way the package can contain double the amount of lumps of frozen products.

[0017] The sealing element is a foil material, such as a polyethylene (PE) or polyethylene terephthalate (PET) foil. Alternatively, the sealing element comprises a third mould element provided with at least one mould cavity having a base and a first peripheral wall extending therefrom, wherein the first and the third mould element are symmetrical with respect to each other and are connected along at least part of the peripheral edges of the respective first peripheral walls.

[0018] The package is preferably used when the mould cavity is filled with a frozen food product. The food product is entered into the mould cavities in a liquid state and frozen in a suitable device according to a suitable method. As the food product is frozen and remains frozen upon use, the filling openings may be left open, i.e. not closed. Alternatively, the filling openings can be sealed by a further sealing element or a sealing material such as a wax or suitably putty. Preferably, the package further comprises a container for containing the mould element comprising the frozen food product.

[0019] The invention also relates to a method for manufacturing a package for a food product with the features of claim 13, the method comprising:

providing a first mould element and a sealing element, the first mould element comprising at least one mould cavity having a base and a first peripheral wall extending therefrom, and at least one filling opening for filling the mould cavity; and
sealing the mould cavity of the first mould element by connecting the sealing element to at least part of a peripheral edge of the first peripheral wall.

[0020] The mould cavity is sealed with the sealing element such that a filling space between the first peripheral wall and the sealing element is provided.

[0021] The method can further comprise after sealing the mould cavity with the sealing opening at least partly filling the mould element with a liquid product through the filling opening. The mould cavity is at least partly filled after sealing the mould cavity and enclosing the filling space.

[0022] According to an embodiment, the method comprises after the step of filling the mould element:
freezing the liquid product in a suitable refrigerating device to form a frozen product in the mould element. It is preferred that the mould element is positioned such that the filling opening is located at a top end of the mould element during filling and/or refrigerating, such that the liquid product remains within the mould element. Alternatively, the filling opening can be closed or sealed with a further sealing element or a suitable material such as a wax or putty after filling.

[0023] According to a preferred embodiment, the method comprises inserting the mould element into a container. The frozen food product in the mould cavity

remains in the package during transport and storage and is only taken out upon use.

BRIEF DESCRIPTION OF THE DRAWINGS

[0024] The features and advantages of the invention will be further appreciated upon reference to the following drawings of a number of exemplary embodiments, in which:

Figure 1 shows a planar view of a first embodiment of the package according to the invention.
Figure 2 shows a perspective view of the package of Fig. 1.
Figure 3 shows a perspective view of the package of Figs. 1 and 2 from an opposite direction as Fig. 2.

DESCRIPTION OF ILLUSTRATIVE EMBODIMENTS

[0025] Figure 1 shows a planar view of a first embodiment of the package 1 according to the invention. The package 1 comprises a first and second mould element 2, 5 with a series of interconnected mould cavities 4 and a sealing element 3 to close the mould cavities 4. Each mould cavity 4 comprises a base 6, see Figure 3, and a first peripheral wall 7 extending from the base 6. The mould element 2 is surrounded by a second peripheral wall 8, that coincides with the first peripheral wall 7 of the mould cavities 4' positioned at one of the ends of the mould element 2, i.e. at the ends of the mould element the first peripheral wall 7 forms the second peripheral wall 8 of the mould element 2, 5. Pairs of mould cavities 4, 4' that are adjacent to each other share a first peripheral wall 7. The sealing element 3, here shown as a foil, is connected to the first peripheral wall 7 of the mould cavities 4 and to the second peripheral wall 8 of the mould element. The second peripheral wall 8 is on one side provided with a series of filling openings 9 to fill the sealed mould cavities 4, 4' with a suitable substance. The filling opening 9 is a first recessed portion of the peripheral wall 7, as shown in Figure 2. To allow flowing of the substance into mould cavities 4 that do not have such a filling opening 9, the first peripheral wall 7 is provided with a second recessed portion 10 extending from a first mould cavity 4' to a second mould cavity 4, such that the adjacent mould cavities 4, 4' are interconnected. The sealing element or foil 3 extends over the second recessed portion 10, thereby forming a connecting space 11 enclosed between the second recessed portion 10 of the first peripheral wall 7 and foil 3, which connecting space 11 extends from the first mould cavity 4' to the second mould cavity 4. Similar connecting spaces 11 are provided between pairs of adjacent mould cavities 4, 4'.

[0026] The second mould element 5 is shaped in a similar way as the first mould element 2 and is connected to the first mould element 2 by means of a pivotable connection piece 12. In such a way the first and second mould elements 2, 5 can be pivoted towards each other such that the sides provided with the foil 3 are either facing each other, as shown in Figure 3, or are facing away from each other. The package 1 can also contain only one mould element 2 as described here.

[0027] The package 1 is manufactured by sealing the mould cavities 4, 4' of the mould element 2, 5 with the foil 3 by connecting the foil to the edges of the first peripheral wall 7 surrounding the mould cavities 4, 4' and the second peripheral wall 8 surrounding the mould element 2, 5. Then the mould cavities 4, 4' are filled through the filling openings 9 provided at an end of the mould element as a first recessed portion of the second peripheral wall 8. The mould cavities adjacent to the mould cavities at the end of the mould element provided with the filling openings 9 are filled with a liquid food product via the connecting spaces 11 that interconnect the adjacent mould cavities. After filling the mould cavities 4, 4', the package 1 is put in a refrigerating device to freeze the food product. The food product can be a liquid, such as water, a drink or a soup, but can also be a paste or emulsion, such a spinach paste.

[0028] As the food product is frozen, the mould element 2, 5 is only partially filled to allow expansion of the food product while being frozen and to prevent the package from bursting and subsequent leakage. The filling openings 9 serve as air outlets during the freeze process.

[0029] Thus, the invention has been described by reference to certain embodiments discussed above. It will be recognized that many modifications in addition to those described above may be made to the structures and techniques described herein without departing from the spirit and scope of the invention. Accordingly, although specific embodiments have been described, these are examples only and are not limiting upon the scope of the invention as defined by the appended claims.

LIST OF PARTS

[0030]

1. Package
2. First mould element
3. Sealing element/foil
4. Mould cavity
4'. Mould cavity at an end of the mould element
5. Second mould element
6. Base of mould element
7. First peripheral wall of mould cavity
8. Second peripheral wall of mould element
9. Filling opening
10. Second recessed portion
11. Connecting space
12. Pivotable connection piece

Claims

1. Package (1) for a frozen food product, the package comprising:

   a first mould element (2) provided with at least one mould cavity (4, 4') having a base (6) and a first peripheral wall (7) extending from the base (6); and
   a sealing element (3) comprising a foil material to seal the mould cavity (4, 4'), wherein the sealing element (3) is connected to at least part of an edge of the first peripheral wall (7), wherein the mould element further comprises at least one filling opening (9), such that the mould cavity is fillable with the fluid food product, wherein the filling opening (9) comprises a recessed portion in the first peripheral wall (7) of the moulding element (2), extending from an exterior of the moulding element (2) to an interior of the mould cavity (4, 4') **characterised in that** said recessed portion forms an interruption in a connection between the sealing element (3) and the peripheral wall (7).

2. Package (1) according to claim 1, wherein the filling opening (9) is provided between the sealing element (3) and the first peripheral wall (7) at the top end of the moulding element.

3. Package (1) according to any of the preceding claims, wherein the mould element (2) is provided with at least two mould cavities (4, 4'), wherein the periphery of each mould cavity is provided with a first peripheral wall (7) and wherein the mould cavities are adjacent to each other such that the adjacent mould cavities share a part of the first peripheral wall.

4. Package (1) according to claim 3, wherein the first peripheral wall (7) between the adjacent mould cavities (4, 4') is provided with a recessed portion (10) extending from a first mould cavity to a second mould cavity, such that the adjacent mould cavities are interconnected.

5. Package (1) according to claim 4, wherein the sealing element (3) extends over the recessed portion (10), thereby forming a connecting space (11) enclosed between the recessed portion of the first peripheral wall (7) and the sealing element (3), which connecting space (11) extends from the first mould cavity to the second mould cavity.

6. Package (1) according to any of the claims 3-5, wherein the first peripheral wall (7) enclosing mould cavities (4, 4') positioned at an end of the mould element forms a second peripheral wall (8) of the mould element, surrounding the mould cavities provided in the mould element.

7. Package (1) according to claim 6, wherein the first peripheral wall (7) located between adjacent mould cavities (4, 4') has a lower height relative to the second peripheral wall (8), and wherein the sealing element (3) is connected to the second peripheral wall (8) of the mould element (2).

8. Package (1) according to any of the preceding claims, comprising a second mould element (5) connected to the first mould element (2) and wherein the first and second mould elements are connected at an end of each mould element through a pivoting connection (12), such that the sealing elements (3) of each mould element face each other upon pivoting of the first and second mould elements towards each other.

9. Package (1) according to any of the claims 1-7, wherein the sealing element (3) comprises a third mould element provided with at least one mould cavity having a base and a first peripheral wall extending therefrom, wherein the first and the third mould element are symmetrical with respect to each other and are connected along at least part of the peripheral edges of the respective first peripheral walls (7).

10. Package (1) according to any of the preceding claims, wherein the mould cavity (4, 4') is filled with a frozen food product.

11. Package (1) according to claim 10, further comprising a container for containing the mould element comprising the frozen food product.

12. Method for manufacturing a package (1) for a food product according to any of the preceding claims, the method comprising:

    providing a first mould element (2) and a sealing element (3), the first mould element (2) comprising at least one mould cavity (4, 4') having a base and a first peripheral wall (7) extending therefrom, and at least one filling opening (9) for filling the mould cavity;
    sealing the mould cavity (4, 4') of the first mould element (2) by connecting the sealing element (3) to at least part of a peripheral edge of the first peripheral wall (7); and
    at least partly filling the mould element (2) with a liquid product.

13. Method according to claim 12, comprising after the step of filling the mould element (2):
    freezing the liquid product in a suitable refrigerating device to form a frozen product in the mould element (2).

Patentansprüche

1. Verpackung (1) für ein gefrorenes Lebensmittelprodukt, wobei die Verpackung aufweist:

   ein erstes Formelement (2), das mit mindestens einem Formhohlraum (4, 4') mit einem Unterteil (6) und einer sich von dem Unterteil (6) erstreckenden ersten Umfangswand (7) ausgestattet ist; und
   ein Abdichtungselement (3) mit einem Folienmaterial zum Abdichten des Formhohlraums (4, 4'), wobei das Abdichtungselement (3) mit mindestens einem Teil einer Kante der ersten Umfangswand (7) verbunden ist, wobei das Formelement ferner mindestens eine Füllöffnung (9) so aufweist, dass der Formhohlraum mit dem flüssigen Lebensmittelprodukt füllbar ist, wobei die Füllöffnung (9) einen vertieften Abschnitt in der ersten Umfangswand (7) des Formelements (2) aufweist, der sich von einer Außenseite des Formelements (2) zu einer Innenseite des Formhohlraums (4, 4') erstreckt, **dadurch gekennzeichnet, dass**
   der vertiefte Abschnitt eine Unterbrechung in einer Verbindung zwischen dem Abdichtungselement (3) und der Umfangswand (7) bildet.

2. Verpackung (1) nach Anspruch 1, wobei die Füllöffnung (9) zwischen dem Abdichtungselement (3) und der ersten Umfangswand (7) an dem oberen Ende des Formelements vorgesehen ist.

3. Verpackung (1) nach einem beliebigen der vorhergehenden Ansprüche, wobei das Formelement (2) mit mindestens zwei Formhohlräumen (4, 4') ausgestattet ist, wobei der Umfang jedes Formhohlraums mit einer ersten Umfangswand (7) ausgestattet ist und wobei die Formhohlräume so aneinander angrenzen, dass die angrenzenden Formhohlräume einen Teil der ersten Umfangswand gemeinsam haben.

4. Verpackung (1) nach Anspruch 3, wobei die erste Umfangswand (7) zwischen den angrenzenden Formhohlräumen (4, 4') mit einem vertieften Abschnitt (10) ausgestattet ist, der sich so von einem ersten Formhohlraum zu einem zweiten Formhohlraum erstreckt, dass die angrenzenden Formhohlräume miteinander verbunden sind.

5. Verpackung (1) nach Anspruch 4, wobei sich das Abdichtungselement (3) über den vertieften Abschnitt (10) hinweg erstreckt, wodurch es einen Verbindungsraum (11) bildet, der zwischen dem vertieften Abschnitt der ersten Umfangswand (7) und dem Abdichtungselement (3) umschlossen ist, wobei sich der Verbindungsraum (11) von dem ersten Formhohlraum zu dem zweiten Formhohlraum erstreckt.

6. Verpackung (1) nach einem beliebigen der Ansprüche 3 bis 5, wobei die die Formhohlräume (4, 4') umschließende erste Umfangswand (7), die an einem Ende des Formelements positioniert ist, eine zweite Umfangswand (8) des Formelements bildet, die die in dem Formelement vorgesehenen Formhohlräume umgibt.

7. Verpackung (1) nach Anspruch 6, wobei die erste Umfangswand (7), die sich zwischen angrenzenden Formhohlräumen (4, 4') befindet, im Verhältnis zu der zweiten Umfangswand (8) eine geringere Höhe aufweist und wobei das Abdichtungselement (3) mit der zweiten Umfangswand (8) des Formelements (2) verbunden ist.

8. Verpackung (1) nach einem beliebigen der vorhergehenden Ansprüche, die ein zweites Formelement (5) aufweist, das mit dem ersten Formelement (2) verbunden ist, und wobei das erste und das zweite Formelement an einem Ende jedes Formelements durch eine Schwenkverbindung (12) so verbunden sind, dass die Abdichtungselemente (3) jedes Formelements einander zugewandt sind, wenn das erste und das zweite Formelement zueinander geschwenkt werden.

9. Verpackung (1) nach einem beliebigen der vorhergehenden Ansprüche 1 bis 7, wobei das Abdichtungselement (3) ein drittes Formelement aufweist, das mit mindestens einem Formhohlraum mit einem Unterteil und einer sich davon erstreckenden ersten Umfangswand ausgestattet ist, wobei das erste und das dritte Formelement im Hinblick aufeinander symmetrisch sind und mindestens entlang eines Teils der Umfangskanten der jeweiligen ersten Umfangswände (7) verbunden sind.

10. Verpackung (1) nach einem beliebigen der vorhergehenden Ansprüche, wobei der Formhohlraum (4, 4') mit einem gefrorenen Lebensmittelprodukt gefüllt ist.

11. Verpackung (1) nach Anspruch 10, die ferner einen Behälter zum Aufnehmen des Formelements aufweist, das das gefrorene Lebensmittelprodukt umfasst.

12. Verfahren zum Herstellen einer Verpackung (1) für ein Lebensmittelprodukt nach einem beliebigen der vorhergehenden Ansprüche, wobei das Verfahren aufweist:

    Vorsehen eines ersten Formelements (2) und eines Abdichtungselements (3), wobei das erste Formelement (2) mindestens einen Formhohl-

raum (4, 4') mit einem Unterteil und einer sich davon erstreckenden ersten Umfangswand (7) und mindestens eine Füllöffnung (9) zum Füllen des Formhohlraums aufweist;
Abdichten des Formhohlraums (4, 4') des ersten Formelements (2) durch Verbinden des Abdichtungselements (3) mit mindestens einem Teil einer Umfangskante der ersten Umfangswand (7); und
mindestens teilweises Füllen des Formelements (2) mit einem flüssigen Produkt.

13. Verfahren nach Anspruch 12, das nach dem Schritt des Füllens des Formelements (2) aufweist:
Gefrieren des flüssigen Produkts in einer geeigneten Gefriervorrichtung zum Ausbilden eines gefrorenen Produkts in dem Formelement (2).

Revendications

1. Emballage (1) pour un produit alimentaire congelé, l'emballage comprenant :

un premier élément de moule (2) prévu avec au moins une cavité de moule (4, 4') ayant une base (6) et une première paroi périphérique (7) s'étendant à partir de la base (6) ; et
un élément d'étanchéité (3) comprenant un matériau de feuille pour sceller la cavité de moule (4, 4'), dans lequel l'élément d'étanchéité (3) est raccordé à au moins une partie d'un bord de la première paroi périphérique (7), dans lequel l'élément de moule comprend en outre au moins une ouverture de remplissage (9), de sorte que la cavité de moule peut être remplie avec le produit alimentaire fluide, dans lequel l'ouverture de remplissage (9) comprend une partie évidée dans la première paroi périphérique (7) de l'élément de moulage (2), s'étendant à partir d'un extérieur de l'élément de moulage (2) jusqu'à un intérieur de la cavité de moule (4, 4'), **caractérisé en ce que** ladite partie évidée forme un interruption dans un raccordement entre l'élément d'étanchéité (3) et la paroi périphérique (7).

2. Emballage (1) selon la revendication 1, dans lequel l'ouverture de remplissage (9) est prévue entre l'élément d'étanchéité (3) et la première paroi périphérique (7) au niveau de l'extrémité supérieure de l'élément de moulage.

3. Emballage (1) selon l'une quelconque des revendications précédentes, dans lequel l'élément de moule (2) est prévu avec au moins deux cavités de moule (4, 4'), dans lequel la périphérique de chaque cavité de moule est prévue avec une première paroi périphérique (7) et dans lequel les cavités de moule sont adjacentes entre elles de sorte que les cavités de moule adjacentes partagent une partie de la première paroi périphérique.

4. Emballage (1) selon la revendication 3, dans lequel la première paroi périphérique (7) entre les cavités de moule (4, 4') adjacentes, est prévue avec une partie évidée (10) s'étendant à partir d'une première cavité de moule jusqu'à une seconde cavité de moule, de sorte que les cavités de moule adjacentes sont interconnectées.

5. Emballage (1) selon la revendication 4, dans lequel l'élément d'étanchéité (3) s'étend sur la partie évidée (10), formant ainsi un espace de raccordement (11) enfermé entre la partie évidée de la première paroi périphérique (7) et l'élément d'étanchéité (3), lequel espace de raccordement (11) s'étend à partir de la première cavité de moule jusqu'à la seconde cavité de moule.

6. Emballage (1) selon l'une quelconque des revendications 3 à 5, dans lequel la première paroi périphérique (7) enfermant des cavités de moule (4, 4') positionnées au niveau d'une extrémité de l'élément de moule, forme une seconde paroi périphérique (8) de l'élément de moule, entourant les cavités de moule prévues dans l'élément de moule.

7. Emballage (1) selon la revendication 6, dans lequel la première paroi périphérique (7) positionnée entre les cavités de moule (4, 4') adjacentes a une hauteur inférieure par rapport à la seconde paroi périphérique (8), et dans lequel l'élément d'étanchéité (3) est raccordé à la seconde paroi périphérique (8) de l'élément de moule (2).

8. Emballage (1) selon l'une quelconque des revendications précédentes, comprenant un deuxième élément de moule (5) raccordé au premier élément de moule (2) et dans lequel les premier et deuxième éléments de moule sont raccordés au niveau d'une extrémité de chaque élément de moule par le biais d'un raccordement pivotant (12) de sorte que les éléments d'étanchéité (3) de chaque élément de moule se font face suite au pivotement des premier et deuxième éléments de moule l'un vers l'autre.

9. Emballage (1) selon l'une quelconque des revendications 1 à 7, dans lequel l'élément d'étanchéité (3) comprend un troisième élément de moule prévu avec au moins une cavité de moule ayant une base et une première paroi périphérique s'étendant à partir de cette dernière, dans lequel le premier et le troisième élément de moule sont symétriques l'un par rapport à l'autre et sont raccordés le long d'au moins une partie des bords périphériques des premières

parois périphériques (7) respectives.

10. Emballage (1) selon l'une quelconque des revendications précédentes, dans lequel la cavité de moule (4, 4') est remplie avec un produit alimentaire congelé.

11. Emballage (1) selon la revendication 10, comprenant en outre un récipient pour contenir l'élément de moule comprenant le produit alimentaire congelé.

12. Procédé pour fabriquer un emballage (1) pour un produit alimentaire selon l'une quelconque des revendications précédentes, le procédé comprenant les étapes consistant à :

prévoir un premier élément de moule (2) et un élément d'étanchéité (3), le premier élément de moule (2) comprenant au moins une cavité de moule (4, 4') ayant une base et une première paroi périphérique (7) s'étendant à partir de cette dernière, et au moins une ouverture de remplissage (9) pour remplir la cavité de moule ;
sceller la cavité de moule (4, 4') du premier élément de moule (2) en raccordant l'élément d'étanchéité (3) à au moins une partie d'un bord périphérique de la première paroi périphérique (7) ; et
remplir au moins partiellement l'élément de moule (2) avec un produit liquide.

13. Procédé selon la revendication 12, comprenant, après l'étape consistant à remplir l'élément de moule (2), l'étape consistant à :
congeler le produit liquide dans un dispositif de réfrigération approprié afin de former un produit congelé dans l'élément de moule (2).

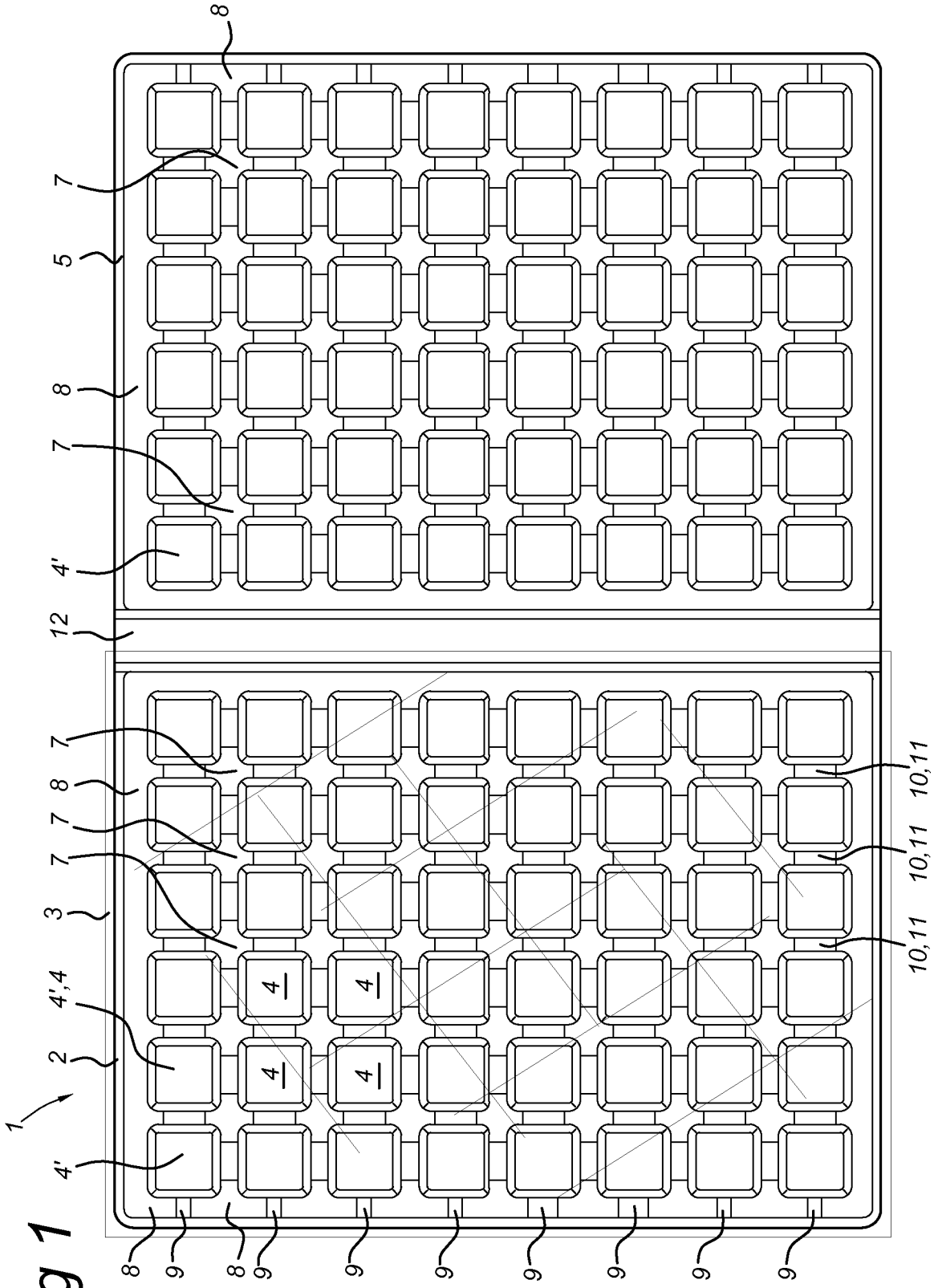

Fig 1

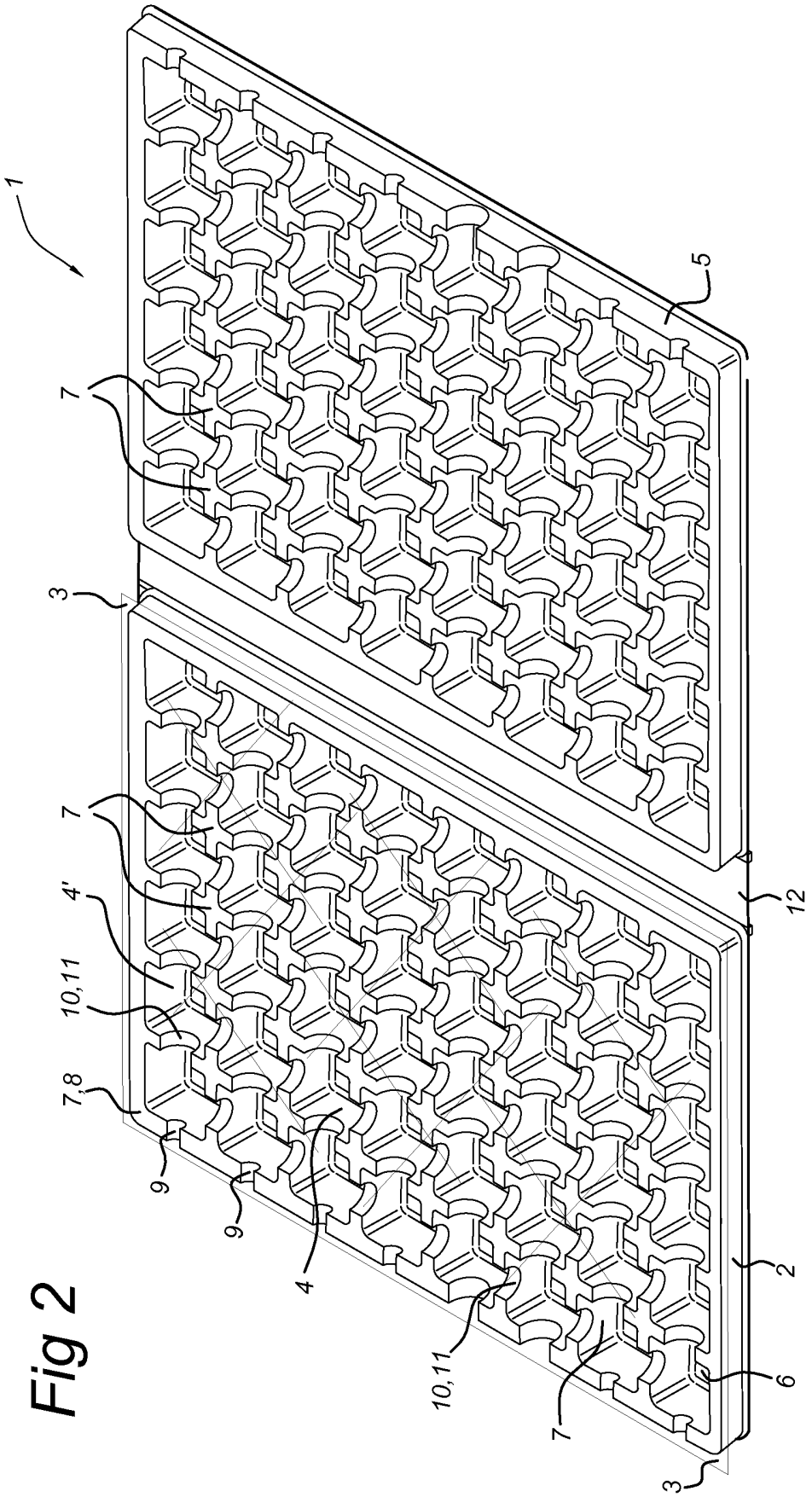

Fig 2

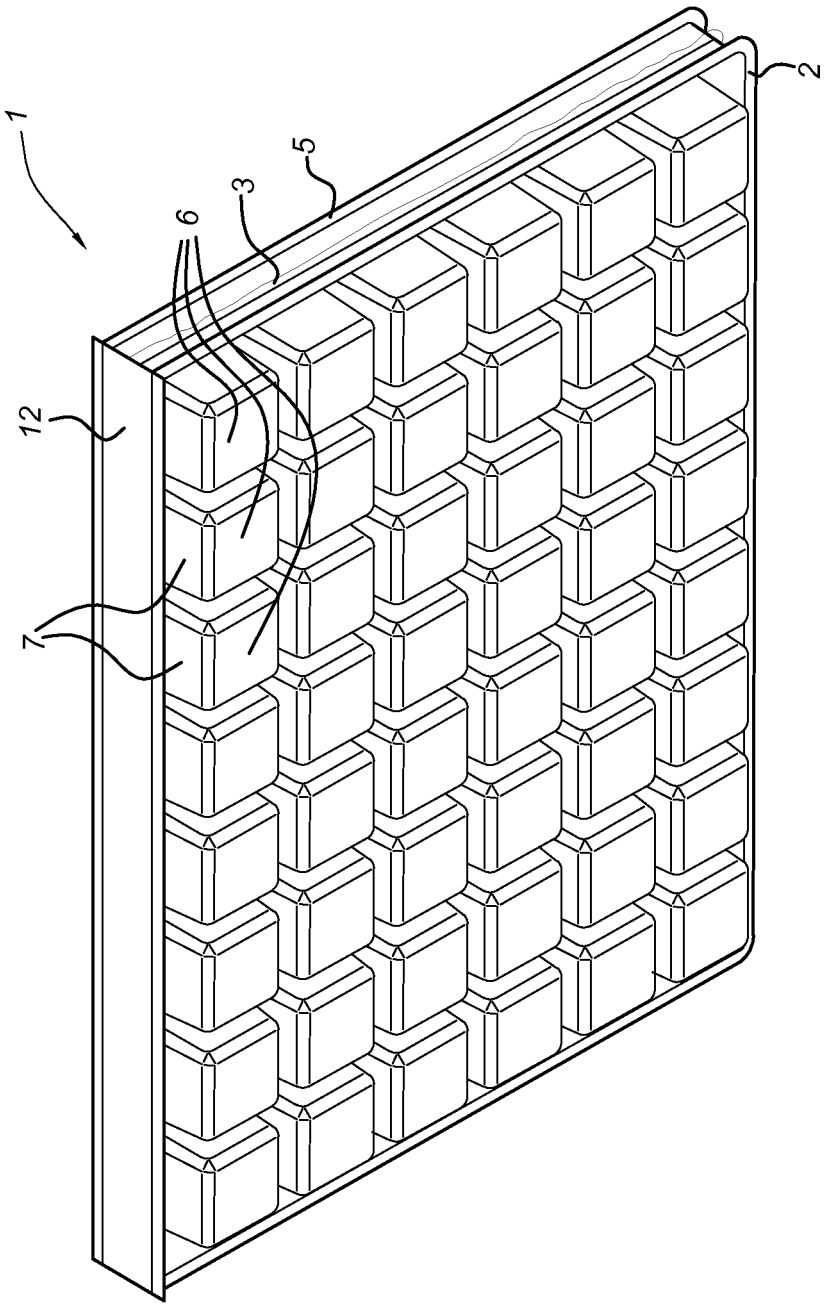

Fig 3

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

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- WO 9307427 A1 **[0004]**