LID AND A PACKAGE FOR INTERMEDIATE PREPARATIONS FOR USE IN MAKING A PASTRY

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Abstract

The invention relates to a lid (1) for covering a pastry-making pan in a leaktight manner, in particular, a pie pan (2), the lid being characterized in that it includes at its periphery, means (8) enabling said pan to be covered in leaktight manner when applied thereagainst, and on its inside surface for facing said pan, a plurality of projections (3). The invention also provides a complete package for a frozen or deep-frozen preparation constituted by a pastry-making pan (2) closed by means of a lid (1) and/or by means of a membrane including the imprint of the lid. The invention also provides the use of the lid and/or of the package for freezing an intermediate preparation for use in preparing a pastry.
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[0001] The present invention relates to a lid and to a package for intermediate preparations for use in making a pastry, in particular a pie, and also to the use thereof for freezing said intermediate preparation and for preparing the final product from the frozen intermediate preparation.

[0002] The invention relates to an improvement in packaging intermediate preparations that are not completely solid and that are to be frozen prior to subsequent use in preparing a pastry, and in particular a pie.

[0003] It is common practice to make a cooked dish, in particular a pastry, by proceeding in a plurality of successive steps. For example, when making a sweet or savoury pie, pastry is initially prepared for making the pie shell, and separately from making the pastry, a mixture is prepared that might possibly comprise a filling. These different items are often frozen or deep-frozen in full or in part over an intermediate period, and subsequently combined when preparing the final dish.

[0004] The invention applies to all intermediate culinary preparations that it is desired to freeze, prior to using them in final preparation of a pastry and including a portion that is non-solid or fluid at its top surface. This applies in particular to preparations used in making a sweet or savoury pie that includes a fluid mixture, such as a custard, a cream, or a quiche mixture.

[0005] It can be desired to freeze or deep-freeze said intermediate preparation in which a large portion is fluid for use subsequently in preparing a final cooked dish.

[0006] Slabs made of foodstuffs are already known. International patent application WO 97/49292 describes slabs made of foodstuffs for constituting a layer in a dish comprising a plurality of layers of foodstuffs, those slabs having the feature of including on at least one of their main surfaces cavities that are intended, amongst other things, to receive additional ingredients with correct measurement thereof being determined by the number and volume of the cavities and with uniform distribution thereof being guaranteed by the distribution of the cavities.

[0007] Such slabs may be in frozen form, in particular.

[0008] Industrial installations for deep-freezing or freezing generally make use of freezing towers through which preparations for freezing or deep-freezing move up progressively by means of a sloping conveyor belt.

[0009] It will readily be understood that the presence of a fluid portion at the surface of the preparation for freezing raises an important problem for freezing preparations of that type while they are being conveyed inside the freezing tower and prior to the preparation gelling completely, with this being due to the angle of inclination to which the preparation is subjected while it is being conveyed through the freezing tower. Such an inclination runs the risk of causing some of the preparation to be lost or to causing a preparation to be formed that is less attractive in appearance, with thickness that is not constant because of the slope.

[0010] The solution of putting a lid on the preparation before freezing it could constitute a solution to that type of problem.

[0011] The inventor of the present invention has now discovered that a particular kind of lid makes it possible simultaneously to solve the problems of transporting the preparation before it has finished freezing and of contributing to preparing a preparation that presents cavities in its surface having the advantages of the preparations already described in international patent application WO 97/49292.

[0012] More precisely, the inventor of the present invention has found that it is particularly advantageous to have recourse to a lid of that type that presents projections on its surface facing the preparation for freezing, which projections, once the lid has been closed by force, become imprinted in the surface of the preparation while it is freezing, thereby creating cavities or cells that present the various advantages already described in the prior art.

[0013] More precisely, the presence of cells in the surface of the frozen preparation presents advantages that are particularly appropriate to subsequent steps in preparing the final pastry, and for various reasons: the cells can receive various fillings, in particular fresh produce such as whole fruit or pieces of fruit, or pieces of fish or meat, optionally after previous cooking.

[0014] The presence of cells makes it possible to establish a kind of pre-localization for the positions of the ingredients that are added at the time of the last step in preparing the dish, and they also serve to provide better protection for such elements that are often sensitive to the heat of the oven, by creating around them a kind of wall that establishes a barrier against the heat of the oven.

[0015] This effect is particularly marked in a forced-air oven.

[0016] Thus, the invention provides a novel type of device enabling the drawbacks of the prior art to be avoided while enabling an improved product to be obtained.

[0017] More precisely, in a first aspect, the invention provides a lid for covering a pastry-making pan in leaktight manner, and in particular for covering a pie pan, the pan containing an intermediate culinary preparation comprising at least a portion that is fluid, in which said lid imprints cells during the freezing step.

[0018] In a second aspect, the invention relates to a package for a frozen preparation, the package comprising a pastry-making pan and the lid of the first aspect of the present invention and/or a membrane including the imprint of the lid.

[0019] In a third aspect, the invention provides a method of preparing a frozen intermediate preparation for use in making a pastry, in which said intermediate preparation is packaged by means of the device constituting the first and/or the second aspect of the invention.

[0020] In a fourth aspect, the invention provides a method of preparing a pastry from the preparation obtained by implementing the method constituting the third aspect of the invention.

[0021] Thus, according to its essential characteristic, the first aspect of the invention provides a lid for covering a pastry-making pan in leaktight manner, in particular for covering a pie pan, the lid being characterized in that it includes, at its periphery, means enabling said pan to be
covered in leaktight manner on being pressed thereagainst, and it includes a plurality of projections on its inside surface for coming into register with said pan.

[0022] According to its essential characteristic, the second aspect of the invention provides a package for frozen or deep-frozen pastries the package being constituted by a pastry-making pan provided with a lid as defined above and/or with a membrane including the imprint of the lid.

[0023] According to its essential characteristic, the third aspect of the invention relates to a method of freezing an intermediate preparation for use in baking a pastry, said intermediate preparation presenting in its top surface at least one fluid or viscous portion suitable for hardening during the freezing step. The preparation is made in a package according to the second aspect of the invention, including a lid according to the first aspect of the invention.

[0024] Other characteristics and advantages of the invention appear from the following detailed description given in particular with reference to FIGS. 1 to 5 in which, respectively:

[0025] FIG. 1 is an exploded perspective view of a receptacle and its lid of the invention, the content of the pie pan not yet being subjected to the freezing step;

[0026] FIG. 2 is an exploded perspective view of the same package of the invention, after its content has frozen;

[0027] FIG. 3 is an exploded perspective view of another package of the invention;

[0028] FIG. 4 is a section view showing a detail of the packaged preparation of the invention as shown in FIG. 3, after the pie pan and the lid have been assembled together; and

[0029] FIG. 5 is a section view showing a detail of an analogous packaged preparation in a slightly different variant.

[0030] The lid of the invention is characterized by the simultaneous presence of means for providing leaktight covering of the pan when the lid is applied thereon, so as to avoid losing any fluid matter contained in the pan in the event of the receptacle being tilted, and of projections that become imprinted in the fluid portion of the content of the pan when said lid is applied thereto. These projections serve to imprint cells in the content of the receptacle once said content has gelled completely during freezing or deep-freezing of said content.

[0031] In an advantageous variant of the lid of the invention, the closure means are means enabling the pan to be covered in non-final manner. Consequently, the lid is removable.

[0032] The leaktight nature of the closure is advantageously obtained by pressing the lid forcibly onto the pan.

[0033] Under such conditions, leaktight covering is advantageously obtained under elastic deformation of at least a portion of the lid. Leaktight closure is advantageously obtained under such conditions because of complementary shapes between the lid and the pan, such that the elastic deformation that enables leaktight closure to be achieved by the complementary shapes of the lid and the pan serves to provide a kind of snap-fastening between those two elements.

[0034] It will readily be understood that the function of the lid is both to provide leaktight closure of the pan, and to imprint cells into the surface of a fluid preparation constituting the top portion of the preparation contained in said pan during a freezing step to which said fluid preparation is subsequently subjected, the lid being used either to imprint directly the indentations it carries into the surface of the fluid preparation, or to imprint these indentations into a membrane that is placed directly on the surface of said fluid preparation.

[0035] It is thus possible to envisage covering the surface of the fluid preparation with a film and removing the lid as soon as the freezing operation has terminated.

[0036] It can thus be understood that the material from which the lid is made depends to a large extent on whether or not it is intended to be held in place at least temporarily after the freezing step, since the function of providing temporary protection to the surface of the preparation after it has frozen and prior to subsequent treatment, in particular in a subsequent step of cooking in an oven, can be provided by the film acting as a membrane that is optionally placed between the surface of the preparation and the lid prior to the freezing step.

[0037] The distribution of the projections and their sizes are adapted as a function of the sizes and the distribution of cells that are to be imprinted in the preparation once it has frozen.

[0038] As can be seen from the explanation below, different materials can be used for making the lid of the invention.

[0039] Depending on the material used for making the lid, it is possible to make the projections in said lid either by thermoforming or by sticking portions that form the projections onto one of the surfaces forming the lid.

[0040] The complete package of the invention is constituted by a pan and a lid as defined above.

[0041] The material selected for making the pan onto which the lid is fitted is advantageously a material that is capable of withstanding the temperatures to which the intermediate preparation will be subjected as the method proceeds, in particular a material that can withstand the temperature of the oven into which the intermediate preparation will subsequently be placed in order to finish off preparing the final pastry.

[0042] Since the frozen preparation is generally intended to be subjected subsequently to an operation of cooking in an oven, the receptacle is advantageously made of a material that can withstand such an operation. In particular, the pan can be made of aluminum, of card, of terra cotta, or of any other material that withstands the temperature to which the frozen preparation will subsequently be subjected in order to finish off preparing the final cooked dish.

[0043] In an advantageous variant of the invention, the pastry-making pan used in the complete package of the invention is a pie pan.

[0044] As appears from the description below, such a package presents the advantage of being suitable for use in preparing a pie shell which can be precooked to an intermediate degree and into which the fluid mixture is subsequently introduced that is to have cells formed therein during the freezing step.
Under such circumstances, the overall leaktightness of the system can be improved by preventing any portion of the liquid fraction of the preparation running between the pie shell and the pan during transport of the preparation prior to freezing. Such additional leaktightness can be achieved by acting on the shape of the pan which can be provided with means for avoiding any overflow, e.g. a tongue having the function of avoiding any of the liquid preparation flowing between the pastry and the pan, or by making the pie shell so that it presents a portion that forms a rim likewise having the function of avoiding any unwanted passage of the fluid portion between the pie shell and the pan.

The method of freezing of the invention is essentially characterized by the fact that it is performed in a package as defined above including a lid, likewise as defined above.

In the method, an initial step is to cover in leaktight manner the pan containing the pastry-making intermediate preparation that is to be frozen and in particular that presents at its surface a portion that is fluid, with this being done preferably by closing the pan by force using the lid, so as to ensure that the assembly is leaktight.

While closure is taking place, the projections are pressed into the fluid that is to be found at the surface of the preparation for freezing, thus forming cells in the surface of the preparation after the freezing step.

Naturally, in order to implement the freezing method of the invention, it is necessary to match the level to which the pan is filled so that when the projections from the lid penetrate into the fluid, the fluid does not overflow while the lid is being closed.

It is also necessary to adapt the distribution and the sizes of the projections as a function of the distribution and the sizes of the cells that are to be finally imprinted in the frozen preparation.

For example, if it is desired to prepare a quiche based on a mixture, the pan used could be a pastry-making pan in which the pie shell has been prepared. The pie shell may previously be cooked completely or in part, and thereafter a more or less fluid mixture can be added in which the cells are to be made. Under such conditions, it is possible to use a lid that fits directly onto the pastry-making pan in which the pie shell has been made, by selecting the dimensions and the distributions of the projections in such a manner as to form the desired cells in the quiche mixture placed on the pie shell.

The intermediate frozen preparation can then be used directly in a baking step. However, prior to cooking in an oven it may also have added thereto various ingredients, in particular by inserting fresh produce into the cells.

FIGS. 1 to 5 show the invention in non-limiting manner.

Thus, FIG. 1 is an exploded perspective view of a lid 1 of the invention co-operating with the pan 2 to form a package of the invention. In this figure, the projections 3 of the lid are non-uniform in size and distribution. Naturally, it would also be possible to make projections presenting size and/or distribution that are uniform. As explained above, that depends on the size and the distribution of the cells that are to be made in the preparation once frozen.

In FIG. 1, the fluid preparation contained in the pan is constituted by a solid portion 5 lining the pan (pie shell) covered in a fluid portion 6 (mixture).

The section as shown in FIG. 1 shows that under such circumstances the lid presents a profiled shape, e.g. as obtained by thermoforming.

FIG. 2 is an exploded perspective view of the same receptacle and of the same preparation after the freezing step, and the initially fluid portion 5 thereof has become solid with the projections being imprinted therein so as to form cells 4.

By comparing FIGS. 1 and 2, it can be seen that the maximum level of the preparation 5 has risen within the receptacle so as to come up to the level of the top portion of the receptacle, but without overflowing, after the step of imprinting the projections and freezing.

FIG. 3 shows another example of a package of the invention in which the projections of the lid are no longer obtained by thermoforming as in the above example, but for example by being stuck onto the inside surface of the lid.

Furthermore, as in FIG. 2, there can be seen both a solid portion 7 directly in contact with the walls of the pan and an initially fluid portion 6 thereon. It is in this initially fluid portion that the projections 2 of the lid are imprinted during the freezing step, thereby forming the cells 4.

In the example shown in FIG. 3, the receptacle 2 is a pastry-making pan containing a pie shell 6 as the solid portion and an initially fluid portion constituted by a quiche mixture.

In FIG. 3, there can be seen the presence of a rim 10 of pastry projecting from the top of the pie pan, which rim serves to improve the extent to which the fluid portion is prevented from penetrating between the pastry and the pan.

As explained above, this improvement in preventing leaks can also be achieved by having a tongue-forming portion at the top of the pan.

FIG. 4 is a section view through a portion of the package and its content as shown in FIG. 3 when the lid 1 is put into place on the pie pan 2. It can be seen that on closing the lid, the leaktight closure means 8 of the lid engage by matching shapes with the corresponding portion 9 of the receptacle, and that the projections 3 become imprinted in the fluid portion contained inside the receptacle.

FIG. 5 shows a variant of the same detail when the improvement in preventing the quiche mixture for penetrating between the pan 1 and the pie shell is achieved by the presence of a tongue-forming portion 11 at the top of the pan.

1. A lid for covering a pastry-making pan in leaktight manner, in particular for covering a pie pan, the lid being characterized in that it includes, at its periphery, means enabling said pan to be covered in leaktight manner on being pressed thereagainst, and that it includes a plurality of projections on its inside surface for coming into register with said pan.
2. A lid according to claim 1, characterized in that said means enabling said pan to be covered are means that provide non-final closure, making the lid removable.

3. A lid according to claim 1, characterized in that said means enabling the pan to be covered in airtight manner are such as to provide said airtightness by pressing said lid by force onto said pan.

4. A lid according to claim 1, characterized in that said means enabling airtight covering are means that are elastically deformable.

5. A package for frozen or deep-frozen pastry, the package being characterized in that it is constituted by a pastry-making pan closed by means of a lid as defined in claim 1, and/or a membrane including an imprint of a lid as defined in claim 1.

6. A package according to claim 5, characterized in that said pastry-making pan is a pie pan.

7. A package according to claim 6, characterized in that said pie pan presents means for providing sealing relative to the pastry that it is to contain.

8. A method of freezing an intermediate preparation for use in cooking a pastry in an oven, said intermediate preparation presenting at its top surface a fluid or viscous portion suitable for hardening during the freezing step, the method being characterized in that it is implemented in a package as defined in claim 5, said package comprising a lid as defined in claim 1, and a pastry-making pan.

9. A method according to claim 8, characterized in that said pastry is a pie and said pastry-making pan is a pie pan.

10. A method according to claim 8, characterized in that a membrane is interposed between the top surface of said intermediate preparation and said lid, the projections of said lid being imprinted therein during the freezing step.

11. A method according to claim 8, characterized in that it is preceded by closing said pastry-making pan by forcing on said lid.

12. A method according to claim 8, characterized in that, while closing said package by means of the lid, the projections become imprinted in the fluid preparation before it is cooled so as to form cells in the surface of the preparation after the freezing step.

13. A method according to claim 8, characterized in that said pastry-making pan is filled to a level that is determined in such a manner that the projections of the lid penetrate into the fluid or viscous portion without causing any overflow.

14. A method according to claim 8, characterized in that the distribution and the dimensions of the projections are adapted as a function of the distribution and the dimensions of the cells that are to be imprinted.

15. A method according to claim 8, characterized in that said intermediate culinary preparation comprises a pie shell and a fluid mixture into which said projections become imprinted during the cooling step that leads to freezing.

16. A method according to claim 15, characterized in that the fluid mixture is prevented from flowing prior to freezing between said pie shell and said pan by providing a rim of pastry at the top of said pie shell or by providing said pan with means for improving airtightness.

17. The use of the preparation obtained by the freezing method according to claim 8 for preparing a pastry by cooking in an oven.

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