US 20030155365A1

(19) **United States**

(12) **Patent Application Publication** (10) **Pub. No.: US 2003/0155365 A1**

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(54) **RECEPTACLE**

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(21) Appl. No.: **10/160,018**

(22) Filed: **Jun. 4, 2002**

(30) **Foreign Application Priority Data**

Feb. 15, 2002 (ES) 200200366
Apr. 23, 2002 (ES) 200201035

Publication Classification

(51) **Int. Cl.**[7] **B65D 43/04**

(52) **U.S. Cl.** **220/802**

(57) **ABSTRACT**

It comprises a substantially elastic lid (**2**) of silicone and a substantially rigid base (**3**), and includes hermetic sealing means between the lid (**2**) and the base (**3**), characterized in that said hermetic sealing means include two sealing devices, an inner device with regard to the base (**3**), which performs the sealing when the lid (**2**) expands due to the heating of the receptacle and an outer device with regard to the base (**3**) which performs the sealing when the lid (**2**) shrinks due to the cooling of the receptacle. In this way, the hermeticity between the lid (**2**) and the base (**3**) inside a conventional or microwave oven and freezer or refrigerator is achieved.

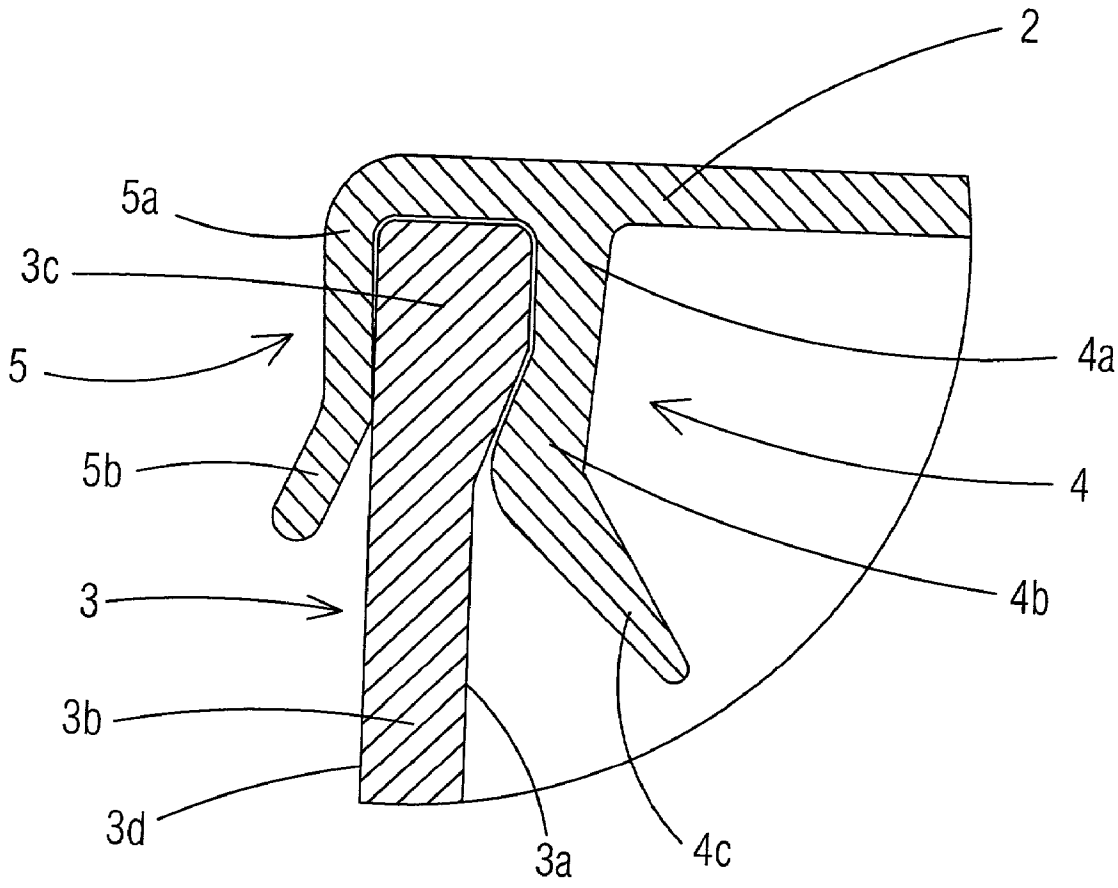


FIG. 1

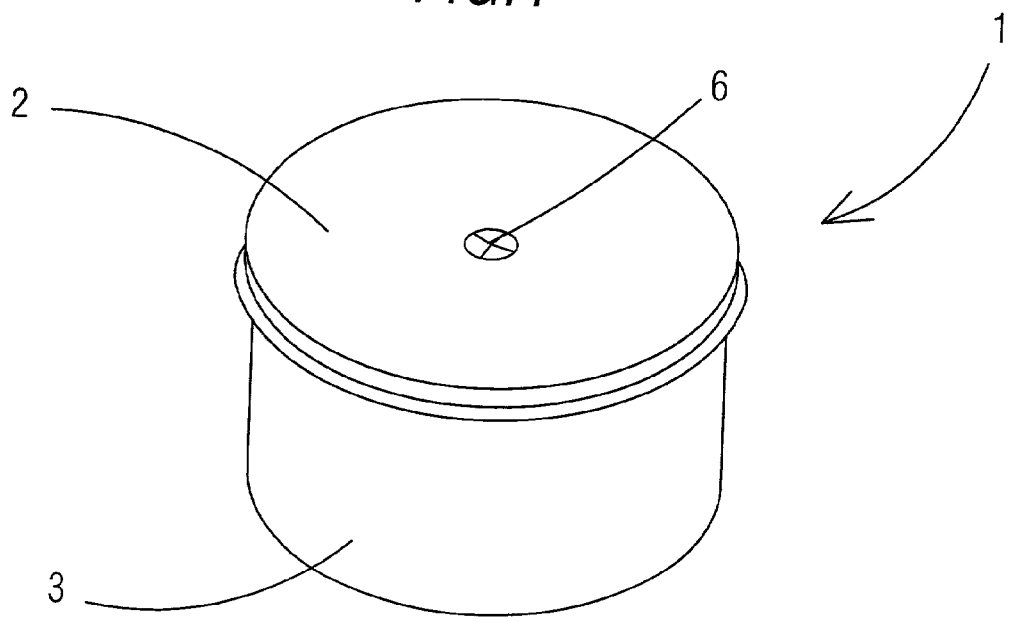


FIG. 2

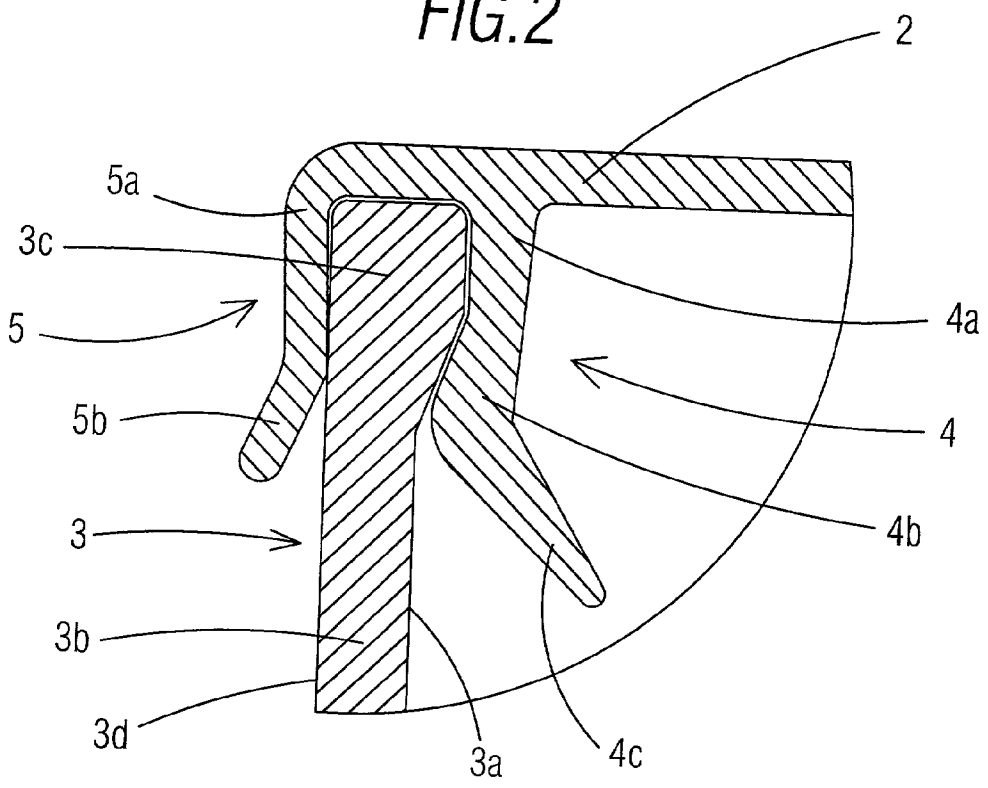
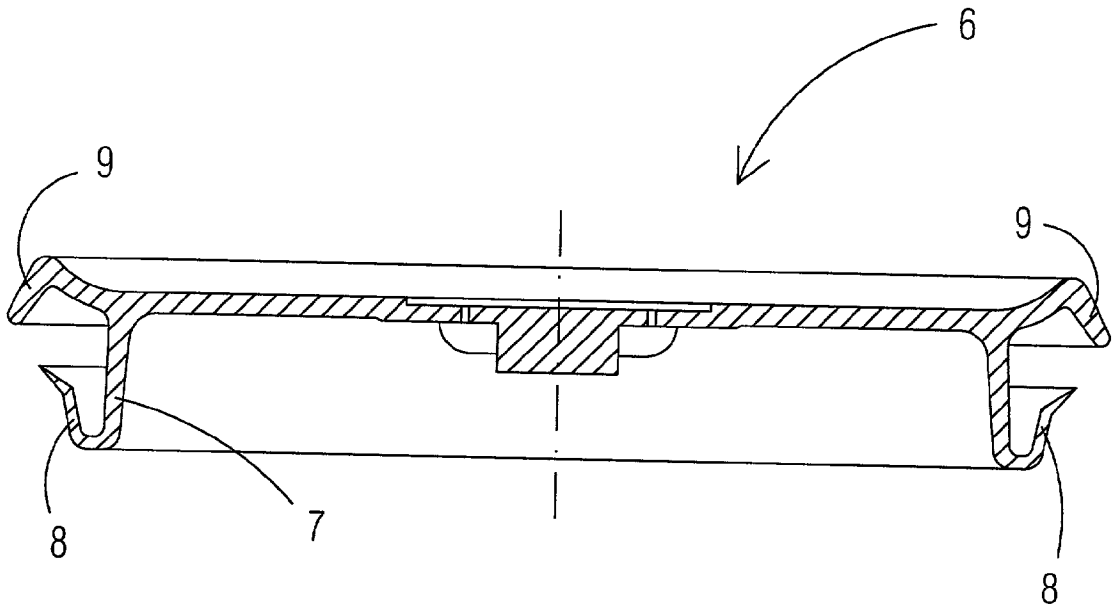


FIG.3



RECEPTACLE

[0001] This invention relates to a receptacle for cooking food capable of withstanding both the low temperatures of the freezers and the high temperatures of the ovens, such as microwave ovens or conventional ovens.

BACKGROUND OF THE INVENTION

[0002] Known in the art are receptacles for cooking food constituted by an upper lid and a base for containing the food, which can be manufactured in different materials, such as glass or ceramic materials that are capable of withstanding high cooking temperatures.

[0003] However, said receptacles do not feature a perfectly hermetic seal between the lid and the base since, when they are inside an oven during heating time, the gases given off by the food emerge from the receptacle, so that the food smell escapes and mixes with the atmosphere inside the oven. This lack of hermetic seal is due to the fact that the lid and the base do not feature a perfect fit.

[0004] Also known in the art are other receptacles for cooking which comprise a substantially elastic lid and a substantially rigid base. These receptacles include hermetic sealing means between the lid and the base, wherein the upper lid is made of a plastic material, such as polyethylene.

[0005] The aforesaid receptacles permit an hermetic seal, but they have a primary disadvantage insofar as they can not withstand the high cooking temperatures in conventional ovens.

[0006] On the other hand, it is known a receptacle for cooking food, object of German utility model no. 20019325. In said document, a receptacle is disclosed which comprises a substantially elastic lid of silicone and a substantially rigid base and includes hermetic sealing means between the lid and the base. Said receptacle is capable of withstanding both the high cooking temperatures in microwave and conventional ovens and the low temperatures in freezers.

[0007] In practice, it has been proved that in such a receptacle, the sealing effect of the lid is performed only by the outer side of the base. This may prove inconvenient for an hermetic seal in predetermined conditions, e.g. when the vapor pressure inside the receptacle is significant.

DESCRIPTION OF THE INVENTION

[0008] The object of the receptacle of the invention is to solve the disadvantages presented by the receptacles known in the art, while providing many other advantages that will be described below.

[0009] The receptacle of the invention is of the type which comprises a substantially elastic lid of silicone and a substantially rigid base and includes hermetic sealing means between the lid and the base, and is characterized in that said hermetic sealing means include two sealing devices, an inner device with regard to the base, which performs the sealing when the lid expands due to the heating of the receptacle and an outer device with regard to the base which performs the sealing when the lid shrinks due to the cooling of the receptacle, whereby the expansion and shrinkage coefficient of the base is inferior than that of the lid.

[0010] Thanks to these characteristics, an hermetic seal between the lid and the base is achieved, whereby the inner device performs the seal in conventional or microwave ovens and the outer device performs the seal in freezers or refrigerators. In this way, the food inside the receptacle can be maintained in the same receptacle, which can be transferred directly from the refrigerator or freezer into a conventional or microwave oven, while keeping the hermetic seal. Thus, the mixing of the food smell with the atmosphere from the freezer, oven or microwave oven is avoided, especially in food having a high fluidity.

[0011] According to another aspect of the invention, the inner hermetic sealing device comprises a flange which projects inwardly from the lid, said flange pressing against the inner side of the side wall of the base when the receptacle is heated. In this way, the expansion of the lid causes the flange to press against the side wall of the base, thus performing a tight hermetic seal. Said pressing of the flange against the wall is increased by the pressure inside the receptacle when the food is heated.

[0012] According to one embodiment of the receptacle of the invention, the flange comprises three portions, a first portion, slightly outwardly angled, a second portion more outwardly angled than the first portion and a third portion, inwardly angled, the base having an upper thicker section and an angled binding surface between the upper section and the rest of the base, the first portion of the flange being adapted to the upper section of the base and the second portion of the flange being adapted to the angled surface, the third portion functioning lever-like over the rest of the flange when the lid expands.

[0013] Preferably, the outer hermetic sealing device comprises a flange which projects inwardly from the lid, said flange pressing against the outer side of the side wall of the base when the receptacle is cooled. Thanks to these characteristics, the shrinkage of the lid causes the flange to press against the side wall of the base, thus performing a tight hermetic seal.

[0014] Advantageously, the flange of the lid comprises two portions, a substantially straight first portion and an outwardly angled second portion. In this way, the second portion facilitates the fitting of the lid onto the base.

[0015] According to another embodiment of the invention, the flange of the inner device of the lid, it projects outwardly at one of its ends to form a lip which presses against the inner face of the side wall of the base due to the heating of the receptacle.

[0016] Thanks to these characteristics, the hermetic seal of the receptacle is improved in case the base includes little irregularities in the contour of its upper edge, as it happens in receptacles made of clay or ceramic, whereby said irregularities may have little openings or passages between the base and the lid through which the air or fluid may escape. Said improvement is achieved thanks to the substantially elastic lip of the lid, whereby said lip covers the irregularities or strains in the contour of the upper edge of the base.

[0017] According to another aspect of the invention, the outer hermetic sealing device comprises a flange constituted by a downwardly angled portion which presses against the outer face of the side wall of the base due to the cooling of the receptacle.

BRIEF DESCRIPTION OF THE DRAWINGS

[0018] In order to facilitate the description of all that has been set out above, some drawings are attached in order to

show, schematically and solely by way of non-restrictive example, a pair of practical cases of embodiment of the receptacle of the invention, in which:

[0019] **FIG. 1** is a perspective view of the receptacle of the invention;

[0020] **FIG. 2** is a cross-section elevational view in detail of the zone at which the base of the receptacle fits with the lid of silicone and;

[0021] The **FIG. 3** is a cross-section elevational view in detail of the upper lid of the receptacle of the invention.

DESCRIPTION OF A PREFERRED EMBODIMENT

[0022] As shown in **FIG. 1**, the receptacle **1** for cooking food of the invention comprises a substantially elastic lid **2** of silicone and a substantially rigid base **3** which includes hermetic sealing means between the lid **2** and the base **3**. Said receptacle is capable of withstanding temperatures within the range of −40° C. and 260° C. and it can be used for cooking food, which can be transferred directly from the freezer or refrigerator into a conventional or microwave oven.

[0023] Making particular reference to **FIG. 2**, it can be appreciated that the hermetic sealing means are constituted by a first flange **4** which projects inwardly from the lid **2**, and said flange **4** pressing against the inner side **3***a* of the side wall **3***b* of the base **3** when the receptacle **1** is heated. Said flange **4** comprises three portions, a first portion **4***a*, slightly outwardly angled, a second portion **4***b*, more outwardly angled than the first portion **4***a*, and a third portion **4***c*, inwardly angled, which increases the action of the hermetic seal. The first portion **4***a* of the flange is adapted to the upper portion **3***c* of the base **3** and the second portion **4***b* of the flange **4** adapts to the angled surface.

[0024] Furthermore, the hermetic seal comprises a second flange **5** projecting inwardly from the lid **2**, which presses against the outer wall **3***d* of the side wall **3***b* of the base **3** when the receptacle **1** is cooled.

[0025] A valve **2** may be included on top of the lid **2**, said valve being constituted by blades which raise when the pressure inside the receptacle **1** is high. In this way, an excessive deformation of the lid **2** at high pressures is avoided, whereby the desired pressure inside the receptacle **1** is kept.

[0026] In the case where a lid **2** with a significant diameter is used, there exists the possibility of including ribs in said lid **2** to facilitate its removal by the user while guaranteeing an optimal hermetic seal.

[0027] In the **FIG. 3**, another embodiment of a lid **6** of the receptacle **1** of the invention is shown. In said figure, it can be appreciated that the inner device is constituted by a first flange **7** which projects inwardly from the lid **6**, said flange **7** projecting outwardly on one of its ends to form a lip **8** running upwardly, said lid pressing against the inner face of the side wall of the base when the receptacle is heated. In this way, a perfectly hermetic seal is achieved in receptacles of any material, even in case they include little irregularities in the upper edge of their base which may arise during the manufacturing.

[0028] On the other hand, the hermetic seal of the lid **6** also comprises the outer device constituted by a second flange **9** which projects inwardly from the lid **6**, said flange **9** pressing against the outer face of the side wall of the base when the receptacle is cooled. Said flange **9** is formed by a downwardly angled portion.

[0029] Independent of the object of this invention are the materials used for manufacturing the pieces that make up the receptacle described, and the shapes and dimensions of the same and all accessory details that might be included, which can be replaced by others that are technically equivalent as long as they do not affect its essential nature or depart from the sphere defined by the claims attached below.

1. Receptacle which comprises a substantially elastic lid of silicone and a substantially rigid base **(3)**, and includes hermetic sealing means between the lid **(2)** and the base, characterized in that said hermetic sealing means include two sealing devices, an inner device with regard to the base, which performs the sealing when the lid expands due to the heating of the receptacle and an outer device with regard to the base which performs the sealing when the lid shrinks due to the cooling of the receptacle, whereby the expansion and shrinkage coefficient of the base is inferior than that of the lid.

2. Receptacle as claimed in claim 1, characterized in that the inner hermetic sealing device comprises a flange which projects inwardly from the lid, said flange pressing against the inner side of the side wall of the base when the receptacle is heated.

3. Receptacle as claimed in claim 2, characterized in that the flange comprises three portions, a first portion, slightly outwardly angled, a second portion more outwardly angled than the first portion and a third portion, inwardly angled, the base having an upper thicker section and an angled binding surface between the upper section and the rest of the base, the first portion of the flange being adapted to the upper section of the base and the second portion of the flange being adapted to the angled surface, the third portion functioning lever-like over the rest of the flange when the lid expands.

4. Receptacle as claimed in claim 1, characterized in that the outer hermetic sealing device comprises a flange which projects inwardly from the lid, said flange pressing against the outer side of the side wall of the base when the receptacle is cooled.

5. Receptacle as claimed in claim 4, characterized in that the flange comprises two portions, a substantially straight first portion and an outwardly angled second portion.

6. Receptacle as claimed in claim 2, characterized in that said flange projects outwardly at one of its ends to form a lip which presses against the inner face of the side wall of the base due to the heating of the receptacle.

7. Receptacle as claimed in claim 6, characterized in that the outer hermetic sealing device comprises a flange constituted by a downwardly angled portion which presses against the outer face of the side wall of the base due to the cooling of the receptacle.

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