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(54) Ovenable container.

(57) During reheating of pre-cooked, pre-packaged foodstuffs drying out may occur at the edges of the foodstuffs in the package and good presentation of the reheated foodstuffs is difficult to achieve upon removal from the package and transfer to a plate.

An ovenable container (4) is provided for foodstuffs and comprises a base portion (1) and an inwardly-directed lateral flange (9) sealed to the base portion (1) or an integral part thereof, at or in the vicinity of the mouth of the container (4). The lateral flange (9) extends inwardly by an amount sufficient to inhibit loss of liquid from the container during heating of the foodstuffs (5) in the container when inverted over a plate (6), and is sufficiently flexible after the heating to permit removal of the container (4) from the plate (6) without substantial disturbance of the foodstuffs (5).

Fig.4.

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OVENABLE CONTAINER

The present invention relates to an ovenable container for foodstuffs which facilitates the serving of foodstuffs such as frozen or chilled ready meals.

Convenience foods such as pre-cooked ready meals are becoming increasingly popular, particularly with the rapid reheating times that are available using microwave or conventional thermal ovens. Such foods are usually sold in pre-packaged form. However, reheating of the foodstuffs tends to result in drying out occurring at the edges of the foodstuffs in the package. Furthermore, good presentation of the reheated foodstuffs is difficult to achieve upon removal from the package and transfer to a plate.

The present invention provides an ovenable container for foodstuffs comprising a base portion and an inwardly-directed lateral flange sealed to the base portion or an integral part thereof, at or in the vicinity of the mouth of the container, wherein the lateral flange extends inwardly by an amount sufficient to inhibit loss of liquid from the container during heating of the foodstuffs in the container when inverted over a plate, the lateral flange being sufficiently flexible after the heating to permit removal of the container from the plate without substantial disturbance of the foodstuffs.

The lateral flange should extend inwardly by an amount sufficient to inhibit loss of liquid from the foodstuffs during the heating of the container in its inverted position without extending so far as to trap some of the footstuffs when the container is removed from the plate. The width of the flange will depend on the size of the container and on the type of foodstuffs present in the container. For example, the larger the container the further inwardly the flange may extend. Similarly, a substantially liquid foodstuff may be packed in a container having a large flange whereas a more solid foodstuff would require a smaller flange. Generally the containers will range from say 10 cm to 30 cm in width with a depth in the region of 3 cm. Preferably, the lateral flange extends inwardly by at least 5 mm, more preferably by 8 to 20 mm. The lateral flange may run substantially continuously around the periphery of the container. Alternatively, part of the lateral flange may be interrupted, for example by slits provided that at least about 10 mm of the flange extending inwardly runs substantially continuously around the periphery of the container. Preferably, it is formed by an endless strip of material sealed to the base portion.

The loss of liquid is thought to occur by a combination of vapourisation and seepage. When the foodstuffs are heated, some of the liquid present will be vapourised and will escape by venting out from between the container and the plate. Additionally, some liquid will escape by seepage from between the container and the plate. Thus, a function of the lateral flange is to provide a barrier between the foodstuffs and the plate so as to inhibit such loss of liquid. The presence of the barrier tends to produce a degree of sealing between the container and the plate. This may also reduce heat loss from the foodstuffs and, as a consequence, may increase efficiency of heating and reduce the time required for cooking. Advantageously, the presence of the lateral flange may also impart to the base portion additional rigidity or stability.

The container may be of any conventional shape. For example, in horizontal cross-section it could be square, rectangular, elliptical or circular. Preferably the container is substantially circular in horizontal cross-section and preferably has an annular flange around the periphery. Whatever the horizontal cross-sectional shape of the container, the base portion may comprise a single compartment or it may comprise a plurality of compartments, the purpose of which is to keep separate different types of foodstuffs.

The container should be constructed from a suitable food grade material. The base portion may be flexible or semi-rigid whereas the lateral flange is preferably flexible at room temperature. The choice of materials depends upon the use to which the container is put. For microwave cooking, metallic materials should not be used. A temperature resistance of 130 °C is preferred for microwave cooking whereas temperature resistance of 210 °C is preferred for thermal oven cooking. Preferably, the base portion is made of a plastics material such as a polyester or polycarbonate. The method of forming the base portion is chosen according to the material from which it is made. For example, where polycarbonate is used the base portion may be thermoformed. The lateral flange may also be made of a plastics material, preferably a polyester.

Once foodstuffs have been placed in the container, the container may be overwrapped. Among the types of overwrapping which may be used are conventional plastics wrapping or cartoning. Preferably a removable lid is used, more preferably a peelable lid sealed to the flange so as to form a peelable seal. Because the overwrapping or lid is removed prior to cooking, there is no need for this to be constructed from an ovenable material. However, it is preferable for the container and, where applicable, the lid, to be stable to, for example, -30 °C for frozen food applications and to 0 °C for chilled foods. The lid is preferably made from a

polyester.

In the case of microwave heating the plate is preferably a serving plate from which the meal is to be eaten. In the case of thermal oven heating the plate may be a heat-resistant serving plate or an oven baking tray or sheet from which the food would have to be transferred to a serving plate before eating.

Means for holding the container may also be present on the base portion for the purpose of aiding lifting of the container from the plate after cooking. For example, the base portion may have holding tabs and these tabs may extend laterally from the base portion.

The invention will now be further described, by way of example only, with reference to the drawings in which:

Figure 1 is a vertical sectional view of one embodiment of the base portion of the container;

Figure 2 is a plan view of an annular ring which is sealable to the base portion shown in Figure 1;

Figure 3 is a plan view of a lid for use with the annular ring of Figure 2;

Figure 4 shows a vertical sectional view of a schematic representation of this embodiment of the assembled container in which foodstuffs are placed; and

Figure 5 shows a further embodiment of the container lifted from the foodstuffs after cooking.

The drawings relate to embodiments of the container having a circular cross-section. The container is manufactured by forming base portion 1 to a thickness of at least 12 microns from a polyester (Melinex-ICI) by drawing the material into a suitably-sized pocket. This is then filled with the foodstuffs. The diameter of base portion 1 at the periphery of rim 7 is the same as that of annular ring 2, typically 190 mm. The annular ring 2 is made from a polyester (Mylar 100 XM963 - Du Pont) and forms a 20mm wide strip. This is weld sealed to the rim 7, which is typically 10 mm wide so as to form an inwardly-directed lateral flange of 10 mm. The depth of the container is 30 mm. Lid 3 is also made from a polyester (Mylar 100 OL - Du Pont). This is sealed to the upper surface of annular ring 2 and is shown in Figure 3 with a tab portion 8. In the further embodiment illustrated in Figure 5, the base portion 1 has holding taps 10 extending laterally therefrom. The finished product may be frozen or chilled as is appropriate.

For the purpose of microwave heating, the lid is peeled off and the ready meal placed on a serving plate 6. Where the ready meal is frozen, simple inversion of the container onto the plate 6 is sufficient. However, where the ready meal is chilled, the plate 6 should preferably be placed upside-down over the mouth of the container and then the container and plate inverted together to prevent spillage of the foodstuffs 5. During heating of the filled container in a microwave oven, inwardly-directed lateral flange 9 inhibits loss of liquid from the container by acting as a barrier between the plate 6 and the foodstuffs 5. Once heating has finished, the container 1 is simply lifted from the plate 6 preferably by the holding tabs. Because the lateral flange 9 is flexible, the foodstuffs remain on the plate 6 virtually undisturbed thereby improving their presentation. Similarly, the container may be heated in a conventional thermal oven instead of a microwave oven.

Claims

1. An ovenable container (4) for foodstuffs (5) comprising a base portion (1) and an inwardly-directed lateral flange (9) sealed to the base portion or an integral part thereof, at or in the vicinity of the mouth of the container (4), wherein the lateral flange (9) extends inwardly by an amount sufficient to inhibit loss of liquid from the container (4) during heating of the foodstuffs (5) in the container (4) when inverted over a plate (6), the lateral flange (9) being sufficiently flexible after the heating to permit removal of the container (4) from the plate (6) without substantial disturbance of the foodstuffs (5).

2. An ovenable container as claimed in claim 1, wherein the lateral flange (9) extends inwardly by at least 5 mm.

3. An ovenable container as claimed in claim 2, wherein the lateral flange (9) extends inwardly by 8 to 20 mm.

4. An ovenable container as claimed in any of the preceding claims, wherein the lateral flange (9) forms a substantially continuous strip around the mouth of the container (4).

5. An ovenable container as claimed in any of the preceding claims wherein the lateral flange (9) is made of a plastics material.

6. An ovenable container as claimed in claim 5 wherein the plastics material of the lateral flange (9) is a polyester.

7. An ovenable container as claimed in any of the preceding claims wherein the lateral flange (9) is formed by an endless strip of material (2) sealed to the base portion (1).

8. An ovenable container as claimed in any of the preceding claims, wherein the container (4) is substantially circular in horizontal cross-section.

9. An ovenable container as claimed in any one of the preceding claims, wherein the base portion (1) is made of a plastics material.

10. An ovenable container as claimed in claim 9, wherein the plastics material of the base portion (1) is a polyester or polycarbonate.

11. An ovenable container as claimed in any one of the preceding claims which further comprises a removable lid (3).

12. An ovenable container as claimed in claim 11, wherein the lid (3) is a peelable lid which is sealed to the flange (9).

13. An ovenable container as claimed in any of the preceding claims wherein the base portion (1) has holding tabs (10) for facilitating removal of the container (4) from the plate (5).

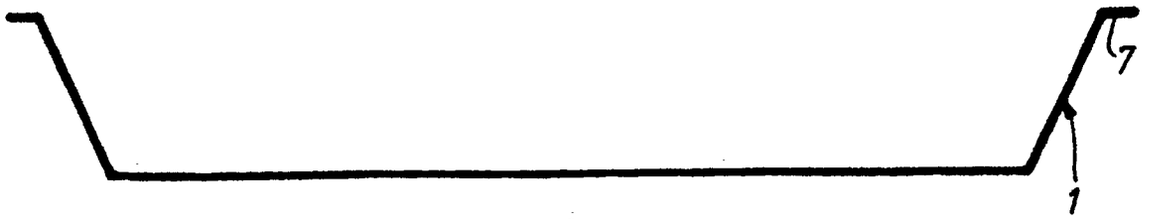

Fig.1.

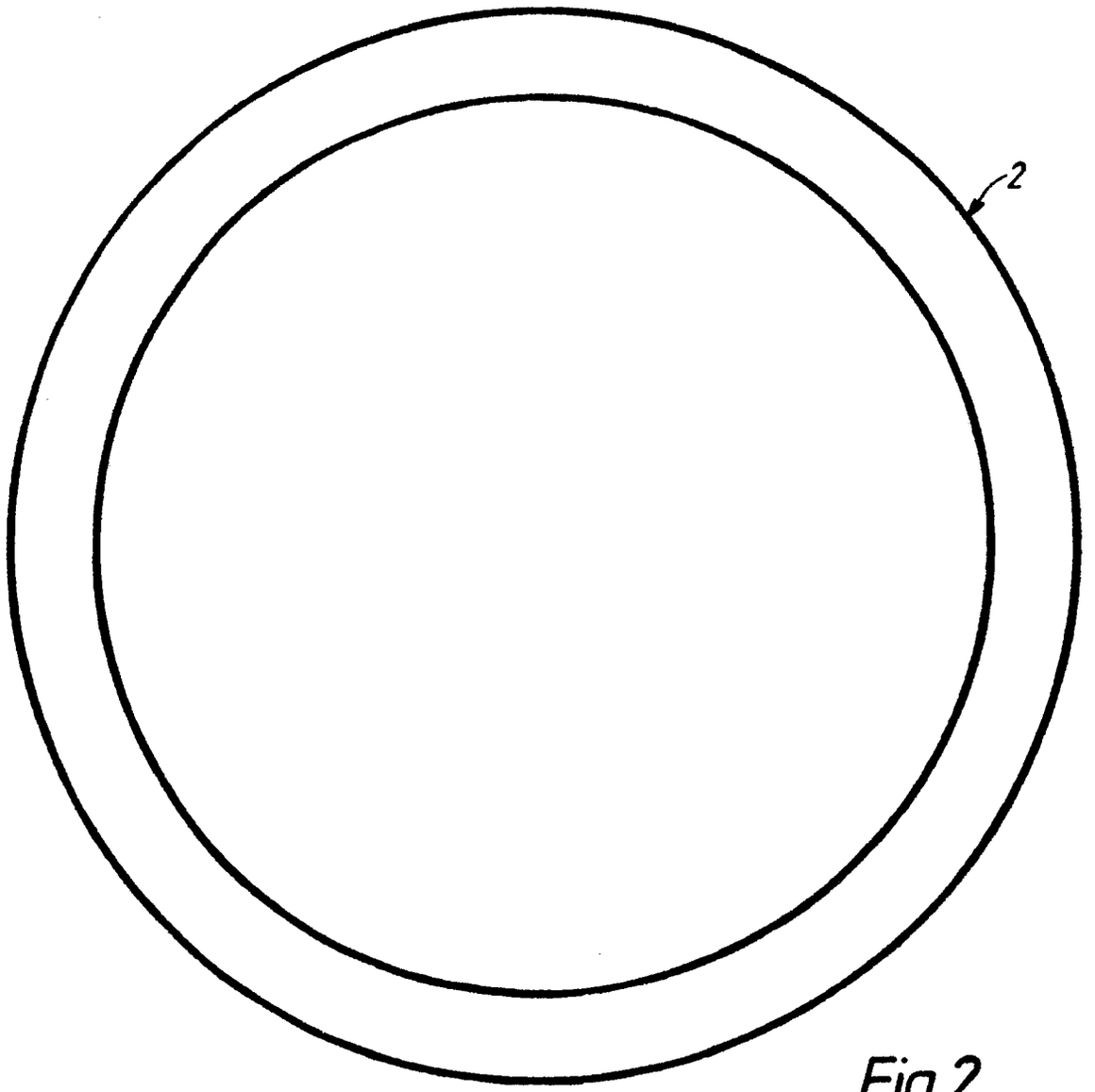

Fig.2.

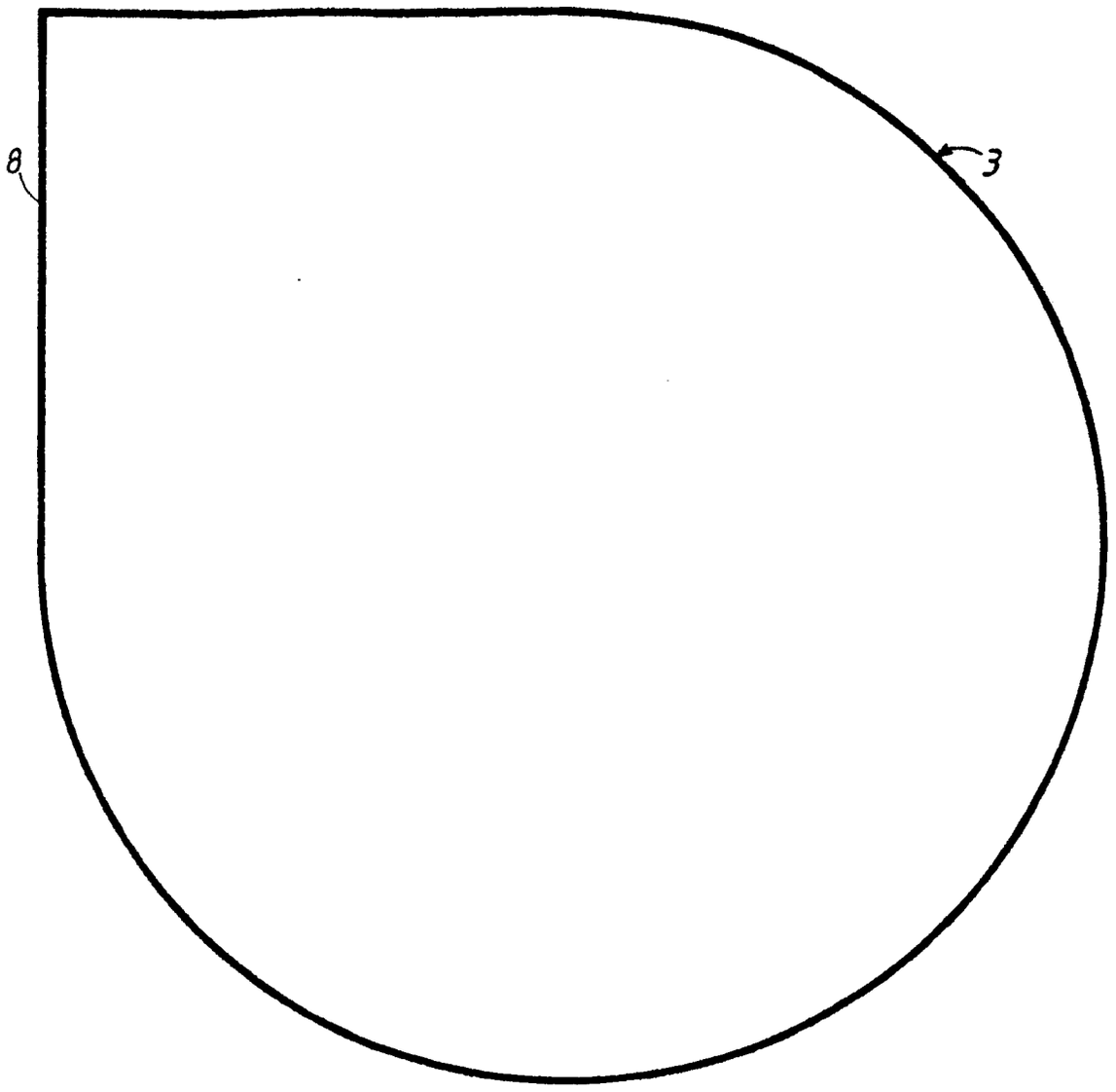

Fig.3.

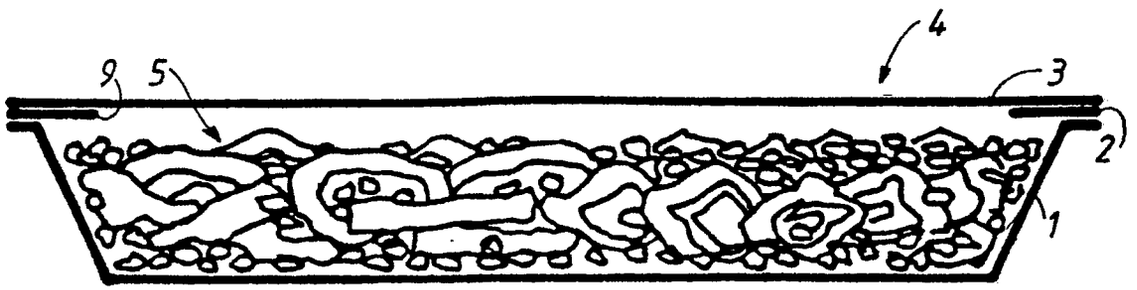

Fig.4.

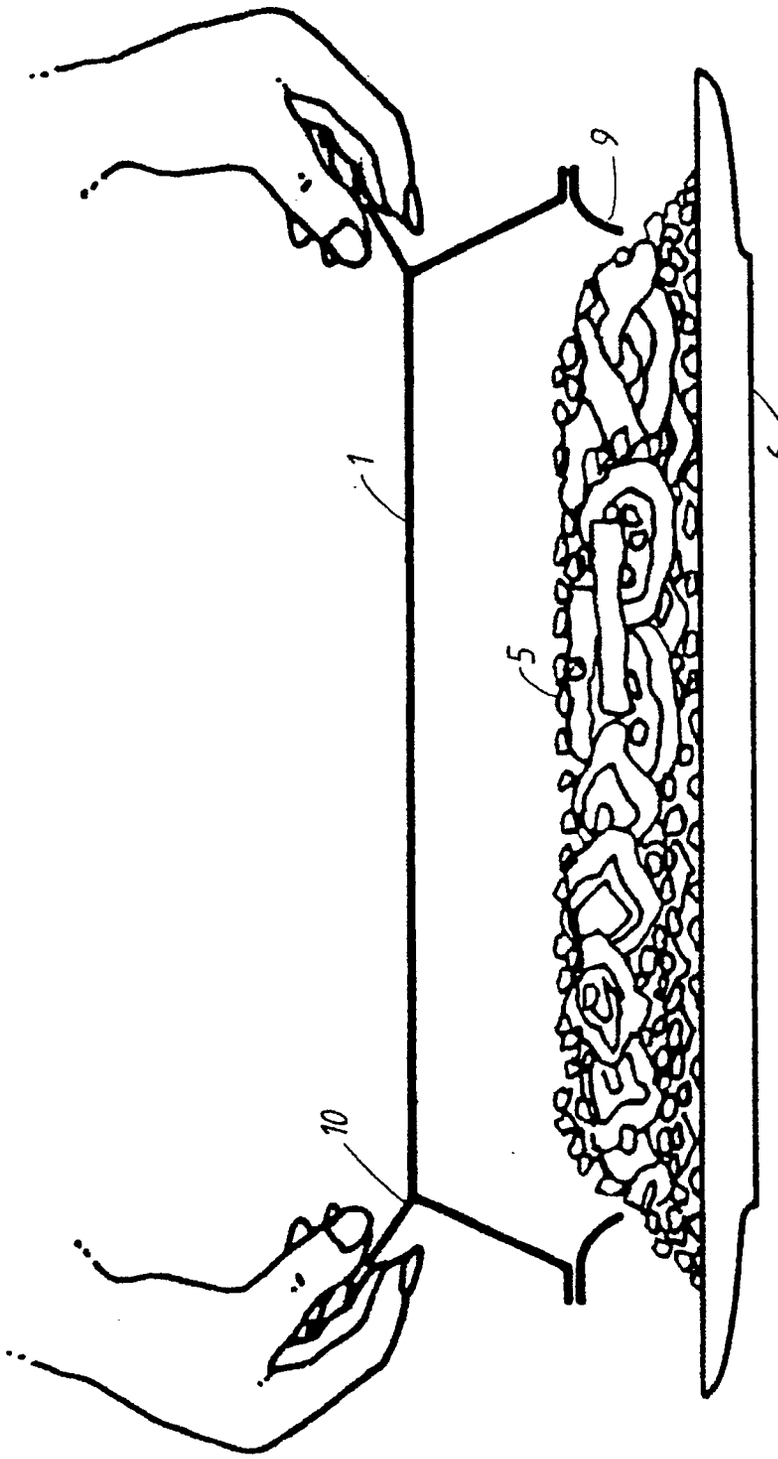

Fig.5.

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EUROPEAN SEARCH REPORT

Application Number

EP 90 31 4119

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
A	WO-A-8 809 292 (TOYO SEIKAN KAISHA) * Abstract; figure 1 *	1	B 65 D 1/34 B 65 D 81/34
A	FR-A-2 607 114 (GLINEL)		

TECHNICAL FIELDS SEARCHED (Int. Cl.5)
B 65 D A 47 G

The present search report has been drawn up for all claims

Place of search	Date of completion of search	Examiner
The Hague	02 April 91	LEONG C.Y.

CATEGORY OF CITED DOCUMENTS

X: particularly relevant if taken alone
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