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(54) Food tray

(57) A food tray (1) comprising a receptacle (2) that has a perimetric raised portion (3) that defines a substantially flat region (4) delimited by an inner rim (4b) and an outer rim (4a), and a lid (5) that comprises a first face (5a) that has a substantially peripheral portion that is designed to be fixed to a portion of the substantially flat region and is formed internally by a first score (7) and is connected to a grip tab (9); the lid (5) comprises a second face (5b), which lies opposite the first face (5a) and has at least one second score (8) that protrudes at a region designed to be comprised between the inner rim (4b) and the outer rim (4a).

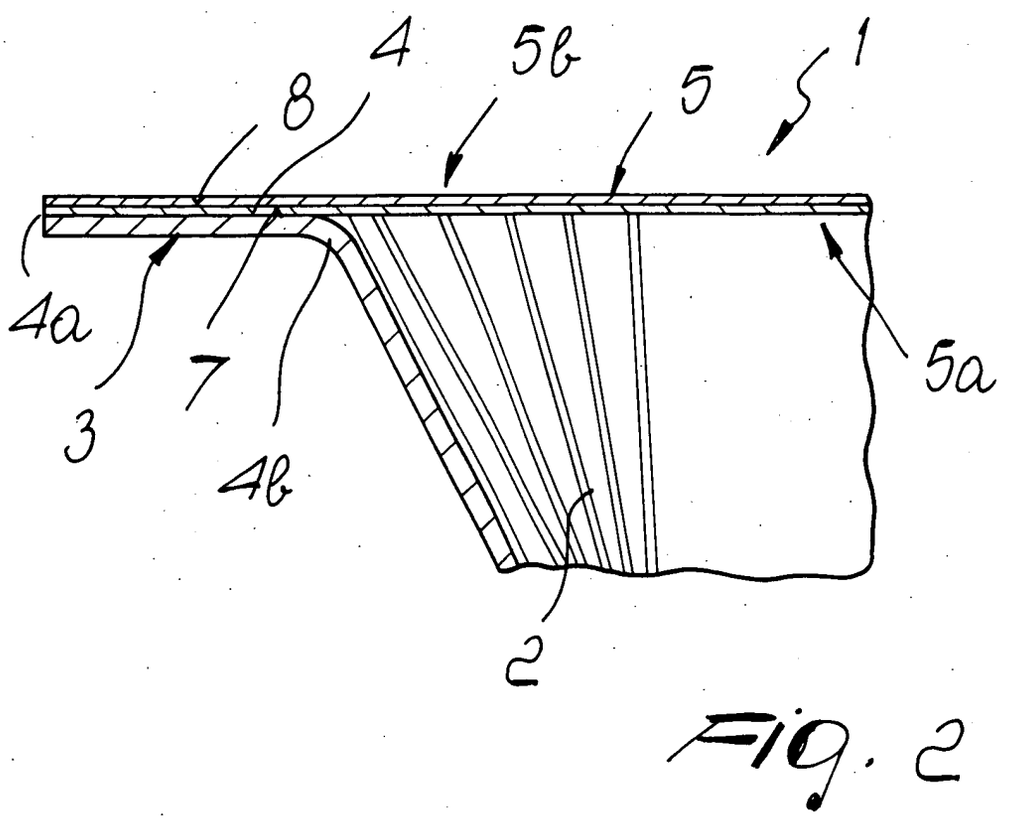

Fig. 2

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Description

[0001] The present invention relates to a food tray, useful particularly but not exclusively as a container for packaging food, for example for cooking in microwave or conventional ovens.

[0002] Food trays are currently used which are made of cardboard or plastics and in which generally precooked food (pasta, meat or vegetables) to be heated in ovens shortly before being eaten are placed.

[0003] Generally, these trays have a receptacle in which the food is placed and a lid, usually made of laminated cardboard, which is heat-sealed to a perimetric raised portion of the receptacle, after the food has been placed inside said receptacle during the packaging process.

[0004] Such lid is generally constituted by a cardboard sheet which has, on its face directed toward the inside of the tray, at a region designed to be fixed to the perimetric raised portion, a peripheral portion that is formed internally by a first notch, which during the opening of the lid is designed to limit the delamination of the lid to the region that is heat-sealed to the perimetric raised portion.

[0005] In greater detail, the lid is opened by acting generally on a grip tab, which protrudes from the perimetric raised portion; such grip tab also has, on the face directed toward the peripheral portion, a separation notch, which by applying a force that is directed away from the receptacle allows to start the delamination of the lid at the heat-sealed region.

[0006] Although these trays are currently widely used, they are not free from drawbacks.

[0007] First of all, when using trays of this type there is a certain difficulty in opening the lid, since delamination must occur along the entire perimetric raised portion (and accordingly along the entire heat-sealed region), which in some cases has rather significant dimensions in order to allow optimum closure.

[0008] Moreover, if multiportion containers are used, the lids currently used force the user to uncover all the compartments from the very start or, for example if one wishes to keep covered the receptacle that contains the main course or the side dish, one encounters highly problematic conditions of use, since the part of the lid that has separated from the rim of the container is a hindrance.

[0009] The aim of the present invention is to eliminate or at least drastically reduce the drawbacks described above in known types of food tray.

[0010] Within this aim, an object of the invention is to provide a food tray that allows simpler and more practical opening of the lid than those currently being produced.

[0011] Another object of the present invention is to provide a food tray that can be produced by using conventional closing machines without having to modify the equipment.

[0012] Another object of the present invention is to provide a food tray that can be used to obtain multiportion containers that allow the independent uncovering of each individual portion, thus allowing different cooking times and characteristics for the various courses.

[0013] Another object of the invention is to allow the tray, once uncovered, to have a definitely better aesthetic appearance by reducing the visible part of the delaminated cardboard.

[0014] Another object of the present invention is to provide a food tray that has a very simple structure, so that it is particularly competitive also from the economical standpoint.

[0015] This aim and these and other objects that will become better apparent hereinafter are achieved by a food tray according to the invention, which comprises a receptacle that has a perimetric raised portion that defines a substantially flat region delimited by an inner rim and an outer rim, and a lid that comprises a first face that has a substantially peripheral portion that is designed to be fixed to a portion of the substantially flat region and is formed internally by a first score and is connected to a grip tab, characterized in that the lid comprises a second face, which lies opposite the first face and has at least one second score that protrudes at a region designed to be comprised between the inner rim and the outer rim.

[0016] Advantageously, a food tray according to the invention is characterized in that the lid comprises a grip tab that protrudes outside the outer rim and is connected to the second score at the first face.

[0017] Further characteristics and advantages of the invention will become better apparent from the description of a preferred but not exclusive embodiment of a food tray, particularly for microwave ovens, according to the invention, illustrated by way of non-limitative example in the accompanying drawings, wherein:

Figure 1 is a perspective view of a food tray according to the invention, with the lid partially open;
Figure 2 is a partial sectional view of the tray according to the invention, taken along the line II-II of Figure 1;
Figure 3 is a top plan view of a food tray with the lid completely closed; and
Figure 4 is an enlarged-scale sectional view of the folded profile shown in Figure 2.

[0018] With reference to the figures, a food tray particularly for microwave ovens, according to the invention, generally designated by the reference numeral 1, comprises a receptacle 2, which is provided with a perimetric raised portion 3.

[0019] The perimetric raised portion 3 generally defines a substantially flat region 4, which is delimited by an outer rim 4a and an inner rim 4b that lie for example along the upper fold of the receptacle 2.

[0020] A tray 1 is associated, in use, with a lid 5, which

has a first face 5a, which is designed to be directed toward the concave portion of the receptacle 2 and has a substantially peripheral portion that is designed to be fixed to at least one part of the substantially flat region 4.

[0021] In greater detail, the substantially peripheral portion is formed internally by a first score 7, which is designed substantially to coincide, during the application of the lid, with the inner rim 4a of the substantially flat region 4. According to the invention, the lid 5 has, at the second face 5b that lies opposite the first face 5a, a second score 8, which lies at a region that faces the substantially peripheral portion of the first face 5a.

[0022] In practice, the second score 8 lies between the inner rim 4b and the outer rim 4a and therefore within the heat-sealed region.

[0023] Conveniently, the lid 5 is provided with a grip tab 9, which lies outside the outer rim 4b; the second score 8 is connected to the grip tab 9, which can be shaped in various manners, in the example of embodiment shown in the figures cited above, by way of two connecting portions 9a that are constituted by a respective curved incision.

[0024] Advantageously, at the first face 5a the cover is provided with a score for separating the substantially flat region (and particularly the outer rim 4a) and the grip tab 9.

[0025] Advantageously, the lid 5 may have, at the second face 5b, a third score (not shown) at the inner rim 4b.

[0026] Conveniently, the first score or incision 7, the second score or incision 8 and the third score are obtained for example by way of a die-cutting process.

[0027] The operation of the food tray particularly for microwave ovens according to the invention is clearly evident from what has been described above.

[0028] In particular, the user, by lifting the grip tab, allows the lid, at the outer rim 4a and at the separation score, to start the delamination of the cardboard.

[0029] In an upward region, i.e., at the second face 5b, the portion that is subjected to delamination is determined by the second score 8 and accordingly a part of said second face that lies between the outer rim 5a and the second score 8 remains rigidly coupled to the perimetric raised portion.

[0030] In particular, this allows, when using a lid that is decorated or colored at the second face 5b, to obtain a "frame" that is also decorated or colored on the outer part of the folded rim, to the full benefit of the final appearance of the open tray.

[0031] The provision of the first score 7 on the first face 5a allows to interrupt delamination, as actually occurs also in currently commercially available trays, at the inner rim 4b of the substantially flat region 4.

[0032] The invention thus conceived is susceptible of numerous modifications and variations, all of which are within the scope of the appended claims.

[0033] In practice it has been found that the invention has achieved the intended aim and objects.

[0034] In particular, the trays can be obtained by using the production lines that are currently already in use and, with reference to the lid, by using current closing machines without having to perform modifications.

[0035] In this regard, it has also been noted that the centering of the lid, which is very problematic in current lid application processes, is facilitated.

[0036] It is evident that the use of food trays according to the invention allows to provide multiportion containers constituted by two or more trays having common perimetric raised portions, providing lids that can be detached individually from each individual tray.

[0037] In practice, the materials used, so long as they are compatible with the contingent use, as well as the dimensions and shapes, may be any according to requirements.

[0038] All the details may further be replaced with other technically equivalent elements.

[0039] The disclosures in Italian Utility Model Application No. VR2002U000047 from which this application claims priority are incorporated herein by reference.

[0040] Where technical features mentioned in any claim are followed by reference signs, those reference signs have been included for the sole purpose of increasing the intelligibility of the claims and accordingly, such reference signs do not have any limiting effect on the interpretation of each element identified by way of example by such reference signs.

Claims

1. A food tray (1) comprising a receptacle (2), which has a perimetric raised portion (3) that defines a substantially flat region (4) delimited by an inner (4b) rim and an outer rim (4a), and a lid (5), which comprises a first face (5a) that has a substantially peripheral portion that is designed to be fixed to a portion of said substantially flat region (4) and is formed internally by a first score (7) and is connected to a grip tab (9), **characterized in that** said lid (5) comprises a second face (5b), which lies opposite said first face (5a) and has at least one second score (8) that protrudes at a region designed to be comprised between said inner rim (4b) and said outer rim (4a).

2. The food tray according to claim 1, **characterized in that** said lid (5) comprises a grip tab (9), which extends outside said outer rim (4a) and is connected to said second score (8) at said first face (5a).

3. The food tray according to one or more of the preceding claims, **characterized in that** said lid (5) comprises, at said first face (5a), a score for separating said grip tab (9) substantially at said outer rim (4b).

4. The food tray according to one or more of the pre-

ceding claims, **characterized in that** said lid (5) has, at said second face (5b), a third score at said inner rim.

5. The food tray according to one or more of the preceding claims, **characterized in that** said second face (5b) is associated with a laminated layer.

6. The food tray according to one or more of the preceding claims, **characterized in that** said second score (8) is obtained by die-cutting.

7. The food tray according to one or more of the preceding claims, **characterized in that** said first score (7) is provided by die-cutting.

8. The food tray according to one or more of the preceding claims, **characterized in that** said third score is provided by die-cutting.

9. The food tray according to one or more of the preceding claims, **characterized in that** said substantially peripheral portion is heat-sealed to said portion of said substantially flat region (4).

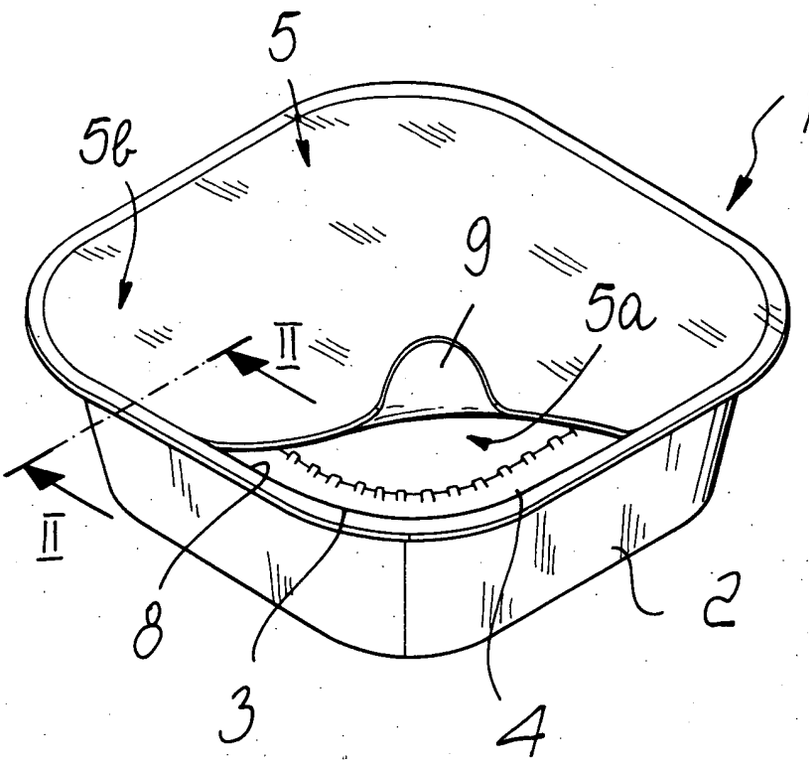

Fig. 1

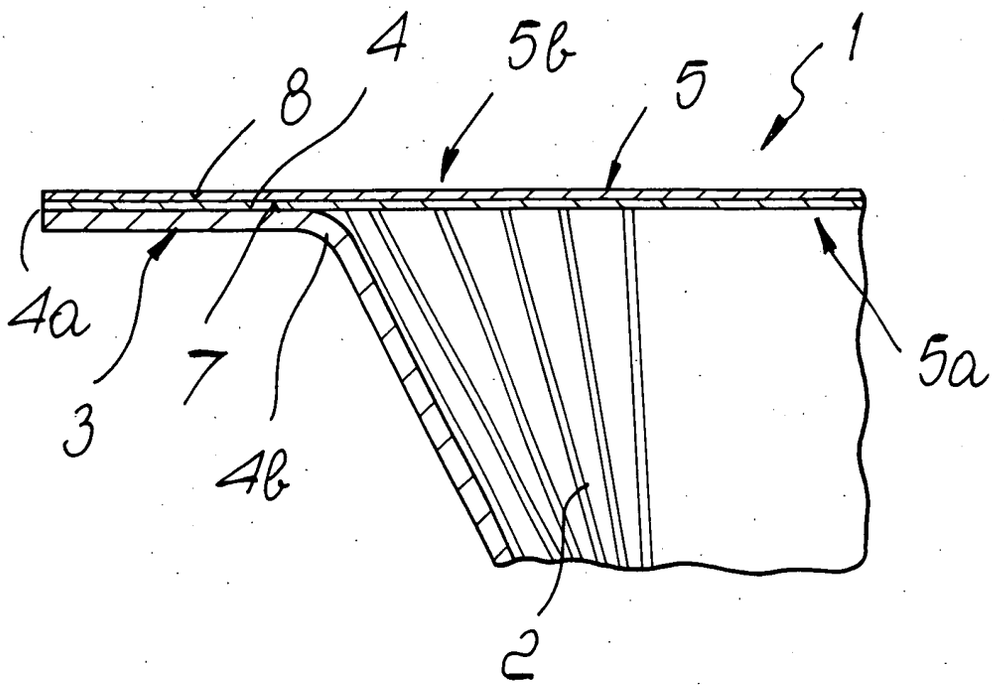

Fig. 2

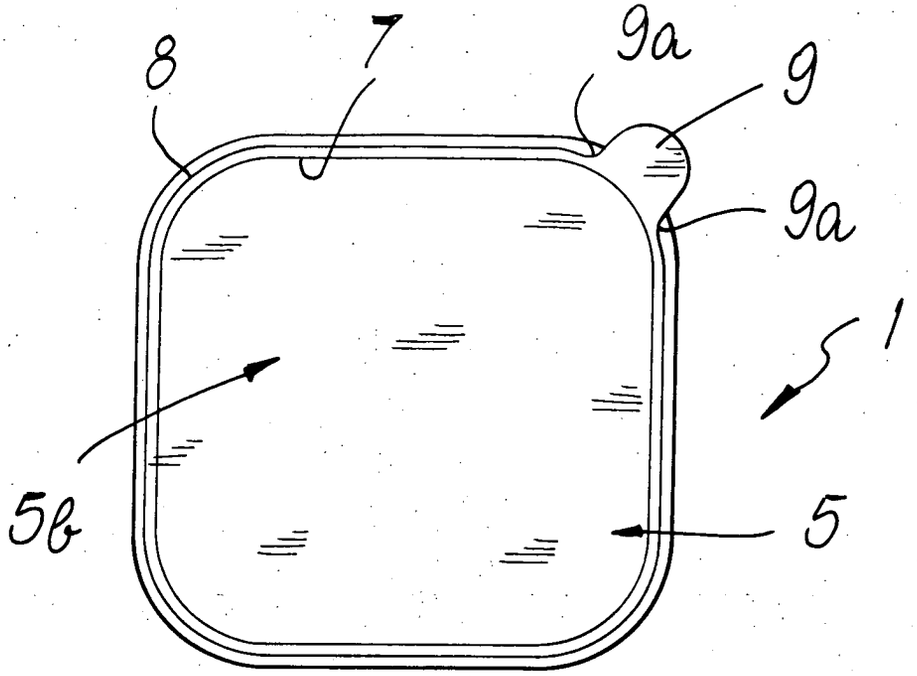

Fig. 3

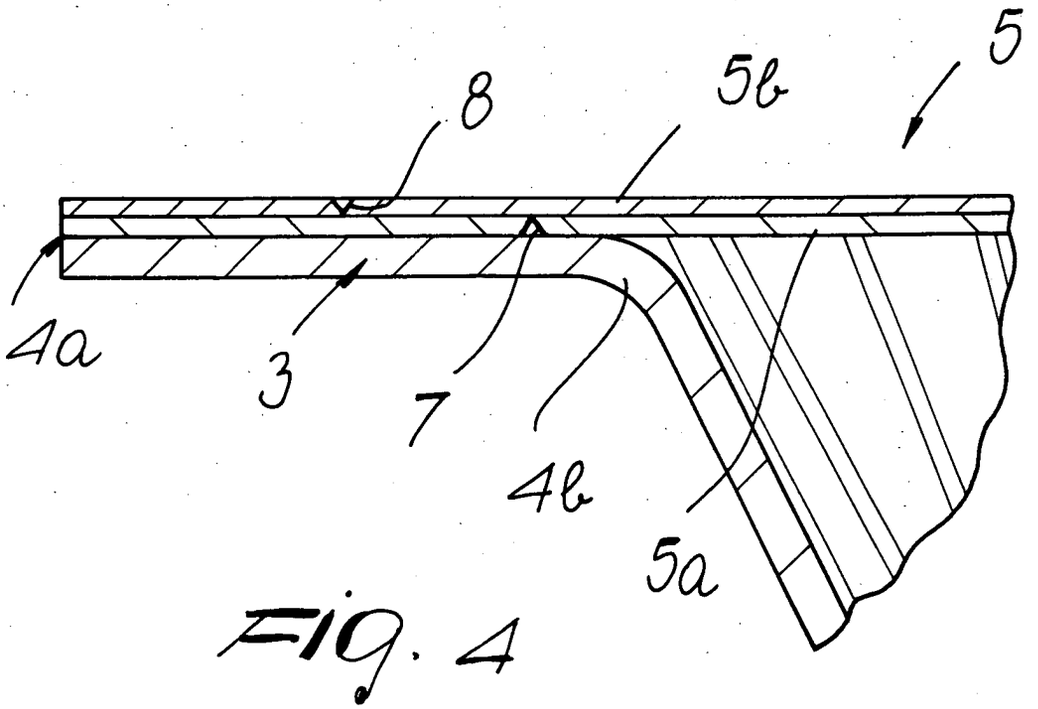

Fig. 4

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EUROPEAN SEARCH REPORT

Application Number
EP 03 01 5536

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.7)
X	US 4 351 473 A (MANIZZA GUELFO A) 28 September 1982 (1982-09-28) * column 5, line 1 - line 37; figures 5,6 * ---	1-3,5-7, 9	B65D77/20
X	US 3 391 852 A (WALDROP ROBERT L) 9 July 1968 (1968-07-09) * column 3, line 7 - line 33; figures 6-8 * ---	1-3,5-7, 9	
X	US 3 185 578 A (SCHARRE EDWARD W) 25 May 1965 (1965-05-25) * column 3, line 31 - line 46; figures 1-4 * ---	1-3,5-7, 9	
X	US 5 011 006 A (ANDERSON DAVID S) 30 April 1991 (1991-04-30) * column 4, line 56 - column 7, line 2; figure 7 * ---	1-3,6,7, 9	
X	US 3 054 680 A (MENNEN FREDERICK C) 18 September 1962 (1962-09-18) * column 3, line 1 - line 35; figures 1,3 * ---	1,3,4, 6-8	TECHNICAL FIELDS SEARCHED (Int.Cl.7) B65D
X Y	US 4 211 360 A (SCOTT RAYMOND G ET AL) 8 July 1980 (1980-07-08) * column 2, line 60 - column 3, line 12; figures 1-4 * ---	1,3,6,7 4,8	
Y	US 5 353 943 A (HAYWARD DONALD W) 11 October 1994 (1994-10-11) * figures 1-14 * -----	4,8	

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
MUNICH	14 August 2003	Appelt, L

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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14-08-2003

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 4351473 A	28-09-1982	AT 12033 T	15-03-1985
		AU 7022481 A	19-11-1981
		CA 1153216 A1	06-09-1983
		CA 1157673 A2	29-11-1983
		DE 3169162 D1	11-04-1985
		DK 208881 A	13-11-1981
		EP 0039939 A1	18-11-1981
		SE 8102873 A	13-11-1981
US 3391852 A	09-07-1968	NONE	
US 3185578 A	25-05-1965	NONE	
US 5011006 A	30-04-1991	US 4962849 A	16-10-1990
US 3054680 A	18-09-1962	CH 383805 A	31-10-1964
		DE 1168824 B	23-04-1964
		FR 1279093 A	15-12-1961
		GB 917992 A	13-02-1963
		NL 128148 C	
		NL 261194 A	
		NL 6907599 A	25-07-1969
US 4211360 A	08-07-1980	NONE	
US 5353943 A	11-10-1994	CA 2158016 A1	29-09-1994
		WO 9421532 A1	29-09-1994

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82