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(54) Container for takeaway food

(57) A stackable takeaway food container composed of long-fiber pure cellulose cardboard lacking recycled material, comprising the upper plate (100u) and the lower plate (100d), mutually joined on one side by means of the junction line (101), constituted by a horizontal peripheral edge (110) internally connected to a centrally-arranged circular concave sector (150) reinforced by circular ribs (200) and radial ribs (300), comprising the joints (400) near the corners of the regular quadrangular plates (100) and comprising the vapor emission holes (500u) and (500d) on the aforesaid regular quadrangular plates (100).

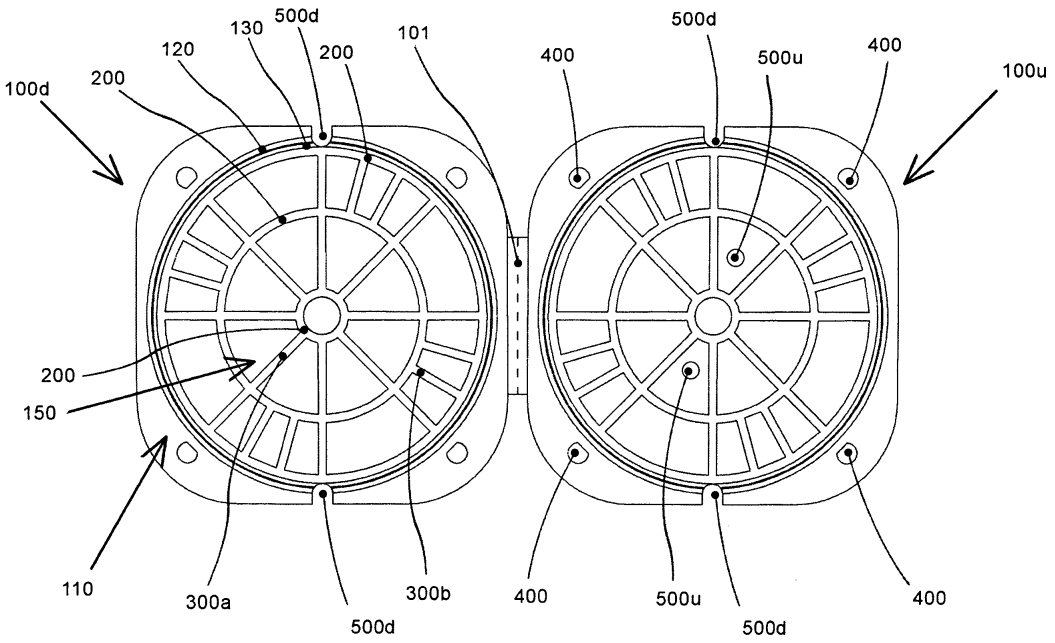

Fig. 1

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Description

Field of the art

[0001] The present patent application generally refers to the field of food containers, and more particularly the invention regards a container for takeaway food.

[0002] The invention is applicable to any field where one such device type can be advantageously used, but preferably it regards the pizza field.

State of the art

[0003] The pizza is the Italian symbol *par excellence* and represents an integral part of the Italian diet. Indeed, some five million pizzas are baked each day in Italy. Of these, about two million are not consumed directly in the pizzeria, but are placed within a suitable cardboard container, ready to be brought home. The pizzas remain within such containers for a good length of time (a number of minutes), during which they are transported to the destination, where they are eaten. A collective pleasure and custom for many families, but according to some this is also a source of food risk that should not be underestimated.

[0004] The risk, in this case, is tied to the non-regulation containers that are used, which release a considerable quantity of undesired substances - greatly alarming for consumer health, i.e. molecules such as benzene, phenols, naphthalenes and even particularly harmful substances such as diisobutyl phthalate. These are glues and bleaching substances, i.e. solvents used in paper recycling for solubilizing inks and colorants and used for conferring virgin paper characteristics to recycled paper. Such molecules can migrate onto the food, altering not only odor and taste but also its healthiness. It is necessary in fact to consider that the baked pizza produces a temperature inside the takeaway container of about sixty degrees, and also creates a vapor current such to easily extract the aforesaid toxic substances from the cardboard. In addition, as already mentioned, such containers are often used as trays for serving food, or even worse, are placed in the oven in order to subsequently heat the food itself.

[0005] A further problem related to food containers in the prior art consists of the fact that during assembly said boxes are characterized by a flat surface; subsequently, therefore, they will have to be manipulated, by the chef or by the assistant, in order to give it the typical takeaway container conformation. Specifically, each of said boxes will have to be subjected to manual folding, along the pre-marked edges, and thus this will constitute an undeniable loss of time. Moreover, the hygienic aspect of such prior art containers cannot be ignored - for the manual folding, the containers will be exposed to a considerable factor of contamination by the personnel themselves, who repeatedly handle the cartons in order to obtain the final shape.

[0006] Therefore, the object of the present invention is that of solving or at least minimizing all of the above-mentioned problems, at the same time respecting the improved use characteristics already present in the preceding techniques.

Description of the invention

[0007] The innovative concept underlying the present invention generally consists of making an innovative container for takeaway food capable of being in accordance with all the strict regulations regarding materials used in the scope of food-type containers, providing containers already completely packaged and thus ready to be used as such and not least important making containers capable of keeping the food contained inside in a completely non-toxic manner, best respecting the nutritional and organoleptic characteristics even for (on average) long periods.

[0008] A further objective of the present invention is that of proposing an innovative takeaway food container which can be made on industrial scale whose components are of standard type, directly available on the market, and whose production is fully sustainable from an economical and environmental standpoint.

[0009] In addition, the technical characteristics of the inventive container, in particular the constituent structure equipped with suitable ribs and the materials used, render the container particularly resistant to outside pressures and safe from problems regarding the softening of the constituent material caused by natural or contingent factors.

Brief description of the drawings

[0010] The previous advantages as well as other advantages and characteristics of the present invention will be illustrated by making reference to the attached figures, which nevertheless should be considered as merely illustrative and non-limiting or non-binding for the purposes of the present patent application, in which:

FIGURE 1 is a plan view of the takeaway food container completely open and ready for use according to the present invention;

FIGURE 2 is a front view of a longitudinal section of the takeaway food container of Figure 1.

Description of the preferred embodiments of the invention

[0011] The present invention will now be described in detail with reference to the figures and to one or more of the preferred embodiments shown therein, in which identical reference numbers have been used for the same components.

[0012] With reference to the different figures, these

show an innovative container for takeaway food. As shown in Figure 1, such container comprises two regular quadrangular plates 100 with identical shape, i.e. the upper plate 100u and the lower plate 100d, both preferably with the respective corners rounded and mutually joined on one side by means of the junction line 101. The constituent characteristics of aforesaid junction line 101, i.e. the intrinsic foldability achieved by means of a dashed line perforation, ensure that this represents the hinge on which the rotation (equal to an angle of 180 degrees) of the two regular quadrangular plates 100 occurs. In such a manner, the plates attain the final shape of the inventive container when they are placed in mutual contact with each other.

[0013] As can be specifically observed in Fig. 2, one section of the aforesaid regular quadrangular plates 100 specifically shows the constituent portions of the same, i.e. a horizontal peripheral edge 110 internally connected to the centrally-arranged circular concave sector 150. In particular, the section profile of said circular concave sector 150 is constituted, starting from the sector of junction with the aforesaid horizontal peripheral edge 110, respectively by the circular portion 120 directed obliquely inwardly, the further intermediate circular portion 130, it too directed obliquely inwardly, and finally the circular horizontal portion 140.

[0014] With particular reference to Fig. 1, it is possible to observe that the two regular quadrangular plates 100 and more specifically the circular concave sectors 150 are reinforced by circular ribs 200 and by radial ribs 300. Specifically, at least three circular ribs 200 are situated in a concentric manner on the circular horizontal portion 140 while the radial ribs 300 comprise at least eight radial ribs 300a equidistant and extending at least over the entire surface area of the circular horizontal portion 140, i.e. comprised and joined with all of the circular ribs 200, and eight further radial ribs 300b partially extending over the surface area of the aforesaid circular horizontal portion 140, i.e. comprised and joined with only the two more peripheral circular ribs 200.

[0015] The inventive structure is provided with joints 400, preferably near the rounded corners of the regular quadrangular plates 100, i.e. preferably one joint 400 for each rounded corner, so that once the aforesaid rotation of the two regular quadrangular plates 100 is actuated with respect to the rotation axis of the aforesaid junction line 101, such joints 400, respectively situated in symmetric position on the aforesaid upper plate 100u and on the aforesaid lower plate 100d, come into contact and stabilize the closure of the inventive container.

[0016] A further characteristic observable in Fig. 1 is that in order to maintain the physical and organoleptic properties of the food contained in the inventive container as unaltered as possible, the two aforesaid regular quadrangular plates 100 have suitably situated vapor emission holes. Specifically, the upper plate 100u has at least two separate vapor emission holes 500u of variable size and shape situated on the horizontal circular portion 140 of the circular concave sector 150. The lower plate 100d and the upper plate 100u have two further separate vapor emission holes 500d of variable size and shape, obtainable upon container closure, preferably situated on transverse points of the same plates, i.e. partially on the respective circular portions 120 and on the entire horizontal peripheral edges 110.

[0017] The particular constituent characteristics of the aforesaid container for takeaway food renders the storage of the same particularly advantageous from a bulk standpoint, since such open container, i.e. with the upper plate 100u and the lower plate 100d situated co-planar, is easily stackable due to the intrinsic conformation, forming stacks that are commercially-available with up to a maximum number of 50 pieces each. In reality, such stackability characteristic fully meets the requirements of the present invention, i.e. the time savings and the exclusive hygienic characteristics, since the pizza chef will have to simply lay the just-baked pizza on the lower plate 100d of the first inventive container of the stack and then easily close the container itself by actuating the aforesaid rotation of the upper plate 100u. Such conduct on the one hand will allow considerably shortening the operating times and the personnel used, since a previous folding in order to create the final shape of the container of the prior art is not required, and on the other hand the perfect hygiene of the baked food will be ensured, since no handling of the container will be necessary for the creation of the aforesaid shape.

[0018] Another innovative characteristic of the present invention is obtained from the fact that the materials composing said inventive container are noble, entirely non-toxic materials, i.e. the container is entirely composed of long-fiber pure cellulose cardboard, hence lacking recycled material inevitably treated with the harmful solvent and bleaching substances. In addition, the possible logo or other item printable on the package will be entirely made by means of dry printing, thus further implementing the non-toxic concept set forth above. Such constituent characteristics will allow the food contained in the inventive container to be subsequently reheated with total safety, in other words such container can be placed in an oven up to a temperature of 180°C and for a period of 10 minutes without there being any transfer of contaminants to the food itself.

[0019] With regard to the size of said inventive container, it should be noted that this is merely indicative and non-limiting of the invention. Nevertheless, they can be summarized as follows: the diameter of the circular concave sector 150 is in the range of 20 cm - 70 cm and more preferably is 40 cm, while the depth of the same is in the range of 2 cm - 6 cm and more preferably is 3 cm and the thickness of the constituent cardboard is in the range of 12 mm - 4 mm and more preferably is 8 mm. Finally, the container according to the present invention will be extremely versatile, since the constituent characteristics of the aforesaid junction line 101 render it suitable not only for allowing the aforesaid closure rotation,

but also for allowing an easy breakage of the same by means of only the force exerted by the user's hands, allowing the use of the lower plate 100d also as a serving dish.

[0020] In addition, the considerable internal volume of the closed container, comprised between the circular concave sector 150 of the upper plate 100u and the circular concave sector 150 of the lower plate 100d, in addition to maintaining the upper surface of the pizza, kept therein, separated from the circular horizontal portion 140 of the aforesaid upper plate 100u, will also allow easily receiving any takeaway food that is different from pizza itself.

[0021] It is clear from the above that the inventive concept is adaptable to the particular needs of every single case, and that therefore different modifications can be made to the preceding description without departing from its protective scope.

Claims

1. A container for takeaway food comprising two structurally identical, regular quadrangular plates (100), i.e. the upper plate (100u) and the lower plate (100d), both with the respective corners rounded and mutually joined on one side by means of the junction line (101), **characterized in that** the portions comprising said regular quadrangular plates (100) comprise the horizontal peripheral edge (110) internally connected to the centrally-arranged circular concave sector (150), **in that** the section profile of said circular concave sector (150) comprises, starting from the sector of junction with the aforesaid horizontal peripheral edge (110), respectively the circular portion (120) directed obliquely inwardly, the further intermediate circular portion (130), it too directed obliquely inwardly, and finally the circular horizontal portion (140), **in that** the circular concave sectors (150) are reinforced by at least three circular ribs (200) and by further radial ribs (300), wherein said circular ribs (200) are situated in a concentric manner on the circular horizontal portion (140) and wherein said radial ribs (300) comprise at least eight radial ribs (300a), equidistant and extending over the entire surface area of the circular horizontal portion (140), i.e. comprised and joined with all of the aforesaid circular ribs (200) and eight further radial ribs (300b) partially extending over the surface area of the circular horizontal portion (140), i.e. comprised and joined with only the two more peripheral aforesaid circular ribs (200), **in that** the composition material is represented by long-fiber pure cellulose cardboard lacking recycled material, **in that** joints (400) are present near the rounded corners of the regular quadrangular plates (100), i.e. preferably one joint (400) for each rounded corner, respectively situated in symmetric position on the aforesaid upper plate (100u) and on the aforesaid lower plate (100d), so that once the rotation of the two regular quadrangular plates (100) is actuated with respect to the rotation axis of the aforesaid junction line (101), such joints (400) come into contact, stabilizing the closure of the container, **in that** the upper plate (100u) has situated, on the circular horizontal portion (140) of the circular concave sector (150), at least two separate vapor emission holes (500u) of variable size and shape and finally **in that** the lower plate (100d) and the upper plate (100u) have two further separate vapor emission holes (500d) of variable size and shape, preferably situated on transverse points of the same plates, i.e. partially on the circular portions (120) and over the entire horizontal peripheral edges (110), such holes attainable upon container closure.

2. A container for food according to claim 1, **characterized in that** the junction line (101) has an intrinsic foldability, achieved by means of a dashed line perforation, which represents the hinge on which the closure rotation (equal to an angle of 180 degrees) of the two regular quadrangular plates (100) occurs and **in that** said junction line (101) permits an easy breakage of the same by means of only the force exerted by the user's hands, allowing the use of the lower plate (100d) also as a serving dish.

3. A container for food according to any one of the preceding claims, **characterized in that** the composition material allows the container itself to be heated in the oven up to a temperature of 180°C and for a period of 10 minutes.

4. A container for food according to any one of the preceding claims, **characterized in that** the possible logo or anything else imprintable on the package is fully made by means of dry printing.

5. A container for food according to any one of the preceding claims, **characterized in that** the size, with regard to the diameter of the circular concave sector (150), is in the range of 20 cm - 70 cm and more preferably is 40 cm, while the depth of the same is in the range of 2 cm - 6 cm and more preferably is 3 cm, and **in that** the thickness of the constituent cardboard is in the range of 12 mm - 4 mm and more preferably is 8 mm.

6. A container for food according to any one of the preceding claims, **characterized in that** the particular composition characteristics allow such container in open phase, i.e. with the upper plate (100u) and the lower plate (100d) situated co-planar, to be stackable, forming stacks that are commercially available with up to a maximum number of 50 pieces each.

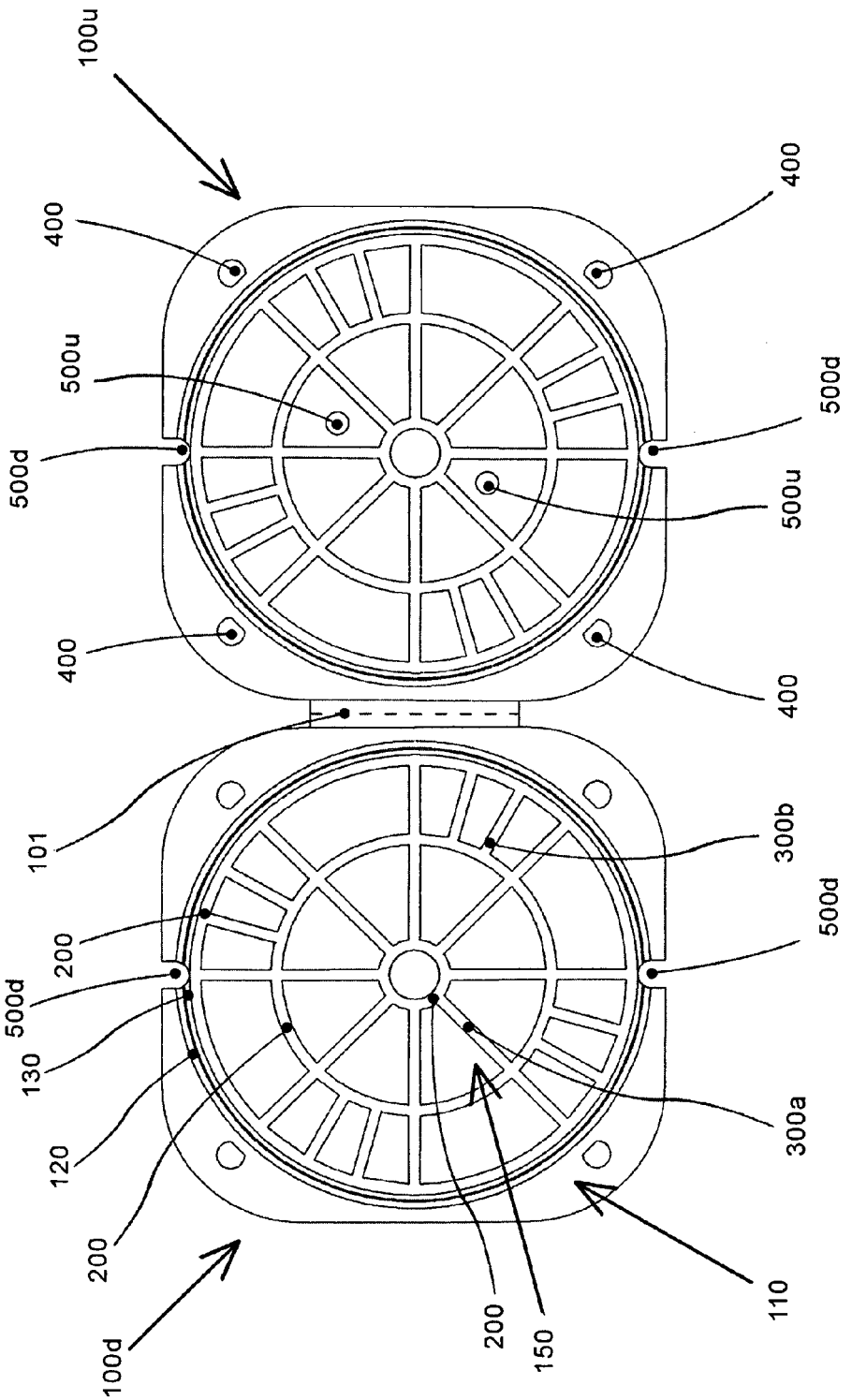
100u
400
400
500u
500d
500d
500u
400
400
101
300b
200
500d
500d
130
120
200
300a
100d
200
150
110

Fig. 1

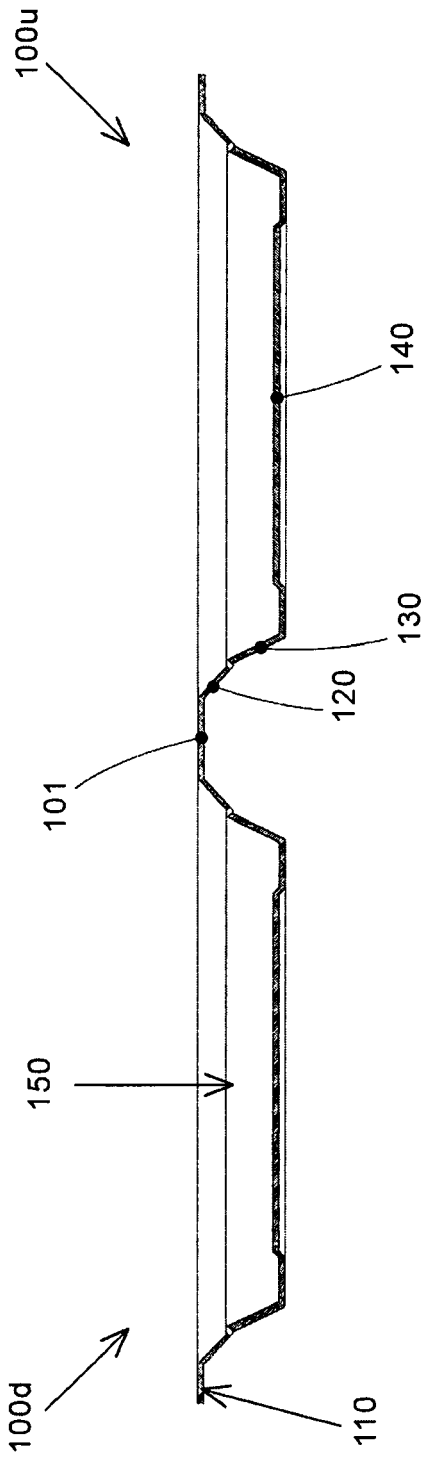

Fig. 2

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EUROPEAN SEARCH REPORT

Application Number
EP 10 42 5047

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	US 6 257 434 B1 (LIZZIO FILIPPO [IT]) 10 July 2001 (2001-07-10) * figures *	1-6	INV. B65D85/36 B65D43/16
A	WO 94/12397 A (FIORI MARK VICTOR KEEFE [AU]) 9 June 1994 (1994-06-09) * the whole document *	1-6	
A	EP 1 623 929 A (BEFA GMBH HANDELSGESELLSCHAFT [CH]) 8 February 2006 (2006-02-08) * the whole document *	1-6	
			TECHNICAL FIELDS SEARCHED (IPC)
			B65D

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	21 June 2010	Vigilante, Marco

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 6257434 B1	10-07-2001	AU 766553 B2	16-10-2003
		AU 4515000 A	18-01-2001
		BR 0002923 A	03-04-2001
		CA 2313883 A1	16-01-2001
		CN 1280946 A	24-01-2001
		JP 2001063761 A	13-03-2001
		KR 20010015351 A	26-02-2001
		TW 581087 Y	21-03-2004
WO 9412397 A	09-06-1994	CA 2150145 A1	09-06-1994
EP 1623929 A	08-02-2006	NONE	

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