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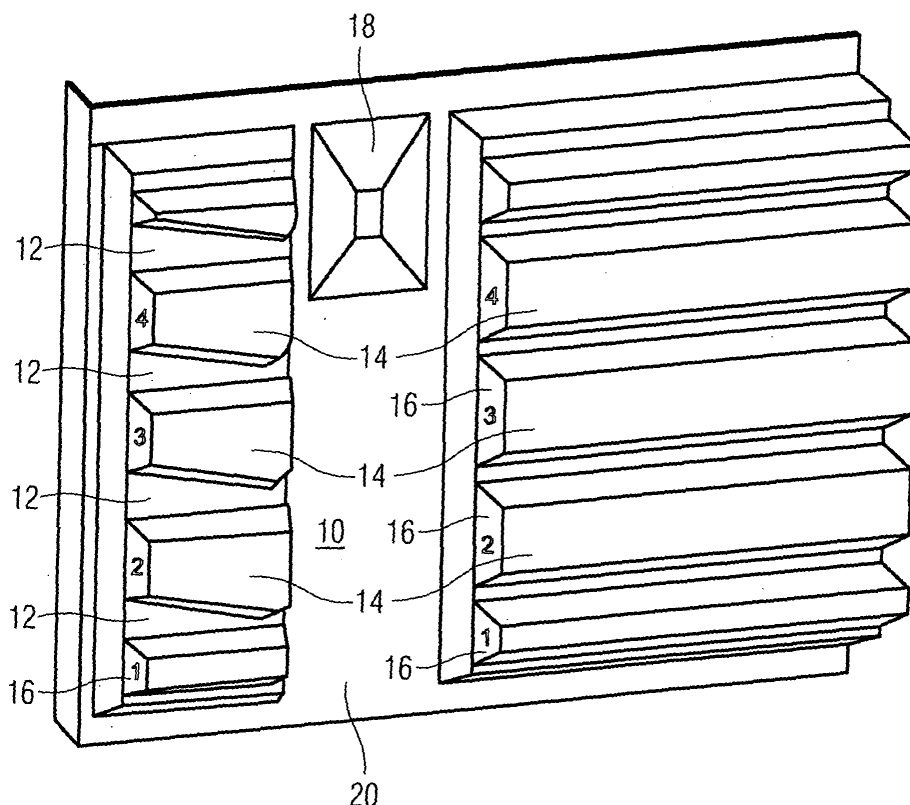
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(54) **A cooking oven with at least one cooking chamber**

(57) The present invention relates to a cooking oven, in particular to a household cooking oven, with at least one cooking chamber comprising a number of inserting devices on different levels and an opening at its front side. Said inserting device is provided for receiving a sheet, tray or grid supporting food stuff. Each inserting device is labelled by at least one identification marking

(16) in order to identify the level by a user. The identification markings (16) are embossed in at least one side wall (10) of the cooking chamber and the identification marking (16) is arranged within a surface section of the side wall (10), wherein said surface section is inclined to the front side, so that the identification marking (14) is visible from the opening by the user.



Description

[0001] The present invention relates to a cooking oven, in particular a household cooking oven, with at least one cooking chamber according to the preamble of claim 1.

[0002] In the cooking chamber the inserting devices for receiving a sheet, tray and/or grid are arranged on different levels, so that the food stuff can be prepared in a suitable position within the cooking chamber. On the different levels there are different temperatures and air flow conditions. A typical cooking chamber of a household cooking oven comprises about four or five inserting devices on different levels.

[0003] For a certain kind of food stuff the best result of the cooking process can be obtained on a preferred level. The instruction manuals of cooking ovens and the cook-books provide an indication of the ideal level for the sheet, tray or grid within the cooking chamber. However, in the most cooking chambers the levels of the inserting devices are not labelled. Thus, it is not exactly clear to the user, on which level the sheet, tray or grid should be inserted into the cooking chamber. For example, the expression "on the first level" may be understood as the lowest or as the highest level of the cooking chamber. It is not clear, if the levels of the inserting devices are enumerated top down or from the bottom up. A clear correlation is not given in the most cases.

[0004] The DE 10 2006 012 502 A1 describes a cooking oven with a cooking chamber. The different levels of the cooking chamber are labelled by identification markings at the oven door, so that the identification markings are visible from both sides of said oven door. The user can clearly recognize the denotations of the levels, if the oven door is closed. However, if the oven door is opened, then the correlation between the levels on the one hand and the identification markings at the inner side of the oven door on the other hand is not quite clear.

[0005] The DE 101 25 247 C1 shows a cooking oven with a cooking chamber. The different levels of the cooking chamber are labelled by electrically controlled identification markings at the inner side of the cooking chamber. However, these identification markings deliver useable information only in combination with additional information from a display.

[0006] It is the object of the present invention to provide a cooking oven with at least one cooking chamber, wherein the user can clearly recognize the designation of the levels of the inserting devices and the complexity of the cooking oven is relative small.

[0007] According to the present invention the identification markings are embossed in at least one side wall of the cooking chamber and the identification marking is arranged within a surface section of the side wall, wherein said surface section is inclined to the front side, so that the identification marking is visible from the opening by the user.

[0008] The core of the present invention is the embossed identification markings in the side wall on the one

hand and the inclined surface sections with said identification markings on the other hand. The embossed identification markings can be easily produced and are robust against heat. If the side wall is made by extrusion, then the identification markings can be embossed within the same production step.

[0009] For example, the side wall of the cooking chamber comprises at least one projection including at least one surface section with the identification marking. The side wall with projections allows a compact form of the cooking chamber. The side wall of the cooking chamber may additionally comprise projections without identification marking.

[0010] Preferably, the inserting device is formed by two guiding rails, arranged at the left inner side wall and at the right inner side wall, respectively, on the same level. Two guiding rails allow a robust support of the sheet, tray or grid with food stuff.

[0011] According to the preferred embodiment of the present invention the guiding rail is designed as an open channel formed between at least two projections lying upon each other. Thus, the side wall can be easily produced by extrusion.

[0012] Further, at least one of the side walls comprises at least one vertical channel interrupting at least a part of the guiding rails. Said vertical channel may include at least one lamp. The vertical channel with the lamp allows an illumination of several levels.

[0013] In the preferred embodiment of the present invention at least one surface section with an identification marking is arranged between the opening and the vertical channel and at least one further surface section with an identification marking is arranged between the vertical channel and a rear panel of the cooking chamber. This allows the identification of the levels from several positions in front of the cooking chamber.

[0014] Further, the cooking oven may comprise an oven door with at least one window, so that the identification markings are visible from the outside of the cooking chamber through said window. Thereby the positions of the window and the identification markings may be adapted to each other.

[0015] In the preferred embodiment of the present invention the identification markings are represented by natural numbers, in particular by Arabic numbers. Further, roman numbers can also be used.

[0016] In an alternative embodiment of the present invention the identification markings may be represented by letters. Further, the identification markings may be represented by symbols.

[0017] The invention will be explained in more detail below by means of an exemplary embodiment. Reference is thereby made to the drawing, wherein

FIG 1 shows a perspective view of an inner side wall of a cooking chamber in a cooking oven according to a preferred embodiment of the present invention.

[0018] FIG. 1 shows a perspective view of a left inner side wall 10 of a cooking chamber in a cooking oven according to a preferred embodiment of the present invention. The left inner side wall 10 comprises four horizontal guiding rails 12. Each guiding rail 12 at the left inner side 10 and a corresponding guiding rail at a right inner side wall form together an inserting device. Said four inserting devices are provided to receive a sheet, tray and/or grid. The sheet, tray and/or grid are provided for supporting food stuff.

[0019] The guiding rails 12 are formed as open channels within the inner side wall 10. The open side of a said channel is directed to the interior of the cooking chamber. Between the guiding rails 12 there are projections 14 on the inner side wall 10. Said projections 14 define the open channels forming the guiding rails 12.

[0020] In this preferred embodiment the guiding rails 12 as well as the projections 14 are interrupted by a vertical channel 20. The vertical channel 20 extends from the top to the bottom of the inner side wall 10. Thus, the height of the vertical channel 20 corresponds with the heights of the inner side wall 10 and the cooking chamber.

[0021] In this example, the width of the vertical channel 20 is about the fourth or the fifth of the depth of the inner side wall 10. The vertical channel 20 subdivides the inner side wall 10 into a front portion and a rear portion of said inner side wall 10. The width of the front portion is about a fourth of the width of the inner side wall 10. The width of the rear portion is about a half of the width of the inner side wall 10.

[0022] In the upper portion of the vertical channel 20 a lamp 18 is arranged. The lamp 18 inside the vertical channel 20 allows that the whole cooking chamber can also be illuminated, when one or more sheets or trays with food stuff are inserted between the guiding rails 12.

[0023] In FIG 1 the left inner side wall 10 comprises four guiding rails 12 formed as horizontal channels and one vertical channel 20, so that the left inner side wall 10 includes ten projections 14 overall. That side of each projection 14, which is the closest the opening, is denoted as front side of the projection 14. The front side of the projection 14 comprises a surface section straightened in such a way, so that said surface section is visible from the opening.

[0024] In each surface section, which is arranged below a guiding rail 12, an identification marking 16 is embossed. The surface section is inclined to the opening of the cooking chamber, so that the identification marking 16 is always visible from the opening by the user.

[0025] In this example, the projections 14 in front of the vertical channel 20 as well as the projections 14 behind the vertical channel 20 below the guiding rails 12 comprise a surface section with the embossed identification marking 16. This constellation increases the ability to recognize the designations of the levels.

[0026] The embossed identification markings 16 in the side wall 10 are robust against heat. The inclined surface sections with said identification markings 16 allow that

the identification markings 16 are also visible from the outside of the closed cooking chamber through a window of the oven door. The embossed identification markings 16 can be easily produced. If the side wall 10 of the cooking chamber is made by extrusion, then the identification markings 16 can be embossed within the same production step.

[0027] Further, one or a set of lamps 18 may be arranged within the cooking chamber, so that the identification markings 16 can be optimally illuminated.

[0028] In this example, the identification markings 16 are represented by natural Arabic numbers. In a similar way, the identification markings 16 may be represented by natural roman numbers. Further, identification markings 16 may be represented by letters. At last, the identification markings 16 may be represented by arbitrary suitable symbols.

[0029] For example, a right inner side wall of the cooking chamber may be formed mirror-inverted to the left inner side wall. In this case, each inserting device is labelled by four identification markings 16. Further, this constellation allows an illumination of the cooking chamber from the left side and the right side.

[0030] According to another example, the right inner side wall of the cooking chamber may be formed mirror-inverted to the left inner side wall, but without the vertical channel 20.

[0031] At last, the cooking oven may comprise an oven door with one or more windows, so that the identification markings 16 are visible from the outside of the cooking chamber through at least one of said windows. Thereby the positions of the windows and the identification markings 16 may be adapted to each other.

List of Reference Numerals

[0032]

10	side wall
12	guiding rail
14	projection
16	identification marking
18	lamp
20	vertical channel

Claims

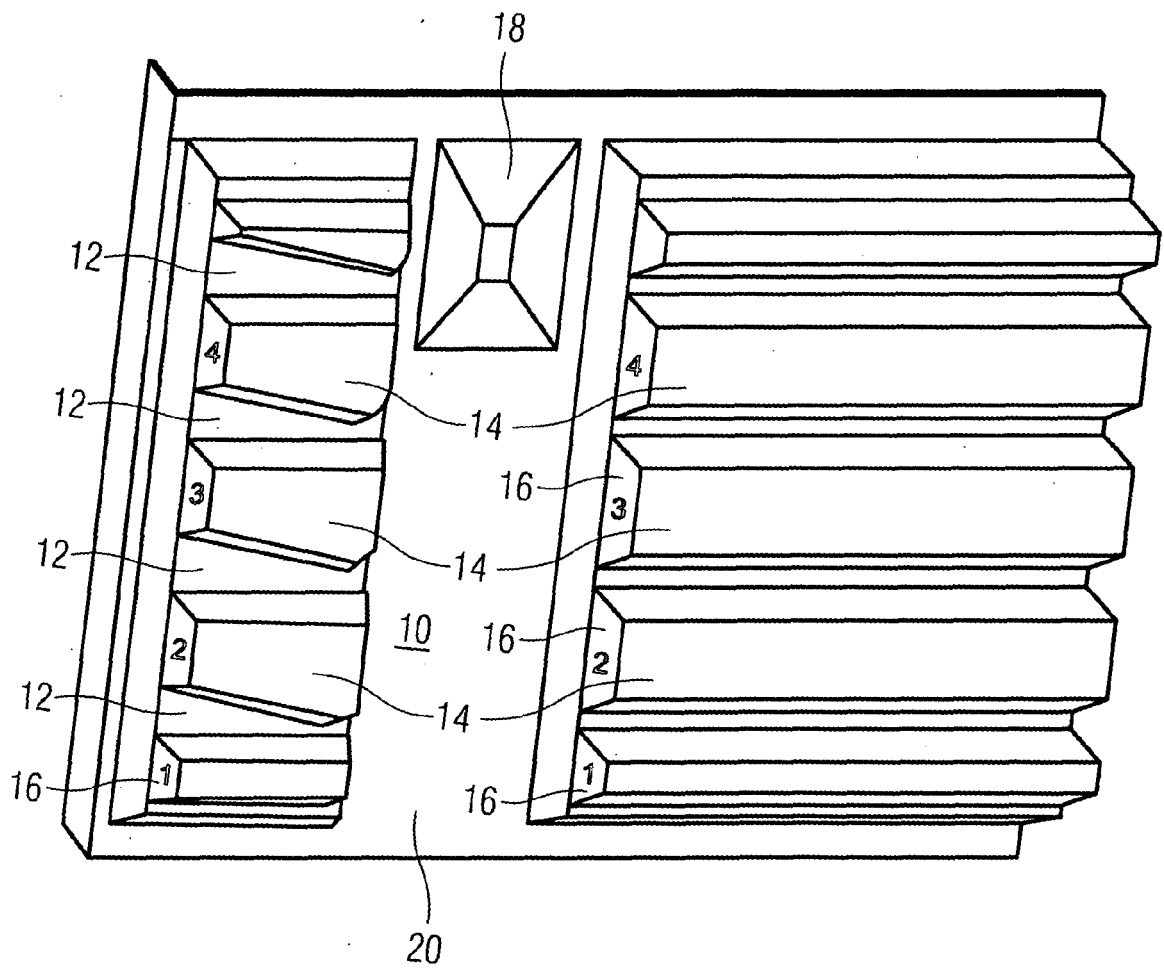
1. A cooking oven, in particular a household cooking oven, with at least one cooking chamber comprising a number of inserting devices on different levels and an opening at its front side, wherein said inserting device is provided for receiving a sheet, tray or grid supporting food stuff and each inserting device is labelled by at least one identification marking (16) in order to identify the level by a user,
characterized in that
the identification markings (16) are embossed in at

least one side wall (10) of the cooking chamber and the identification marking (16) is arranged within a surface section of the side wall (10), wherein said surface section is inclined to the front side, so that the identification marking (16) is visible from the opening by the user.

2. The cooking oven according to claim 1,
characterized in that
the side wall (10) of the cooking chamber comprises at least one projection (14) including at least one surface section with the identification marking (14). 5
3. The cooking oven according to claim 1 or 2,
characterized in that
the inserting device is formed by two guiding rails (12), arranged at the left inner side wall (10) and at the right inner side wall (10), respectively, on the same level. 10
4. The cooking oven according to claim 3,
characterized in that
the guiding rail (12) is designed as an open channel formed between at least two projections (14) lying upon each other. 15
5. The cooking oven according to any one of the preceding claims,
characterized in that
at least one of the side walls (10) comprises at least one vertical channel (20) interrupting at least a part of the guiding rails (12). 20
6. The cooking oven according to claim 5,
characterized in that
the vertical channel (20) includes at least one lamp (18). 25
7. The cooking oven according to claim 5 or 6,
characterized in that
at least one surface section with an identification marking (14) is arranged between the opening and the vertical channel (20) and at least one further surface section with an identification marking (14) is arranged between the vertical channel (20) and a rear panel of the cooking chamber. 30
8. The cooking oven according to any one of the preceding claims,
characterized in that
the cooking oven comprises an oven door with at least one window, so that the identification markings (14) are visible from the outside of the cooking chamber through said window. 35
9. The cooking oven according to claim 8,
characterized in that

the positions of the window and the identification markings (16) are adapted to each other.

10. The cooking oven according to any one of the preceding claims,
characterized in that
the identification markings (14) are represented by natural numbers. 40
11. The cooking oven according to any one of the preceding claims,
characterized in that
the identification markings (14) are represented by letters. 45
12. The cooking oven according to any one of the preceding claims,
characterized in that
the identification markings (14) are represented by symbols. 50





EUROPEAN SEARCH REPORT

Application Number
EP 09 00 3256

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X A	EP 0 981 027 A (BRANDT COOKING [FR]) 23 February 2000 (2000-02-23) * column 2, line 54 - column 3, line 47; figure 2 *	1-4,8,9, 12 5-7,10, 11	INV. F24C15/16
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A	US 5 111 028 A (LEE DUANE A [US]) 5 May 1992 (1992-05-05) * figure 1 *	1,10	
			TECHNICAL FIELDS SEARCHED (IPC)
			F24C
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 30 October 2009	Examiner Rohr, Peter
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 09 00 3256

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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30-10-2009

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REFERENCES CITED IN THE DESCRIPTION

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