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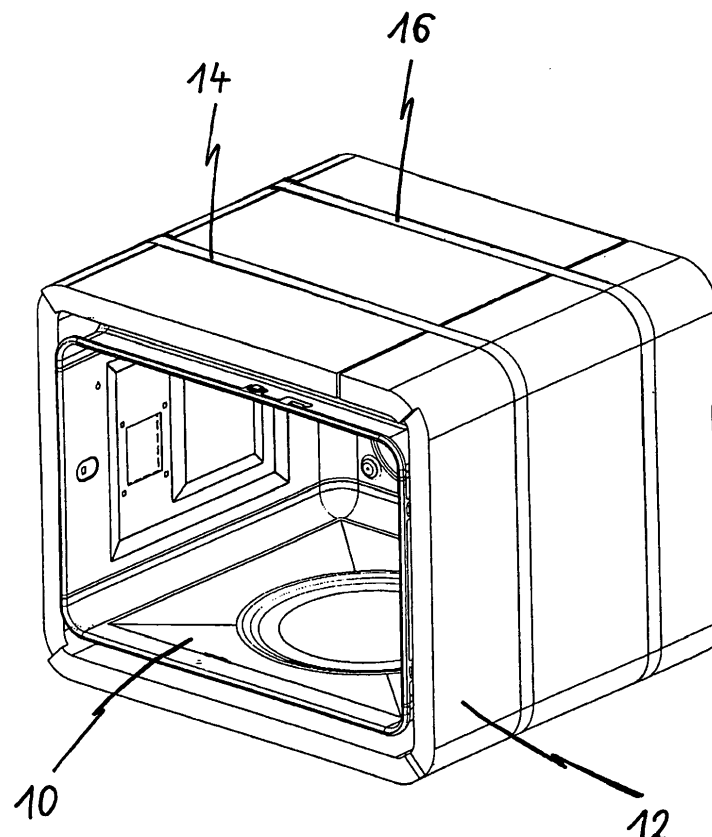
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(54) **A cooking oven with a thermal insulated oven cavity**

(57) The present invention relates to a cooking oven with at least one thermal insulated oven cavity (10),

wherein said oven cavity (10) is at least partially enclosed by an insulation layer (12). At least a part of the insulation layer (12) is made of hemp.

FIG. 1



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Description

[0001] The present invention relates to a cooking oven with at least one thermal insulated oven cavity. Further, the present invention relates to the use of hemp for the insulation layer at an oven cavity of a cooking oven.

[0002] High temperatures are generated in an oven cavity of a cooking oven. In particular, if treatment by pyrolysis is performed, then the temperature in the oven cavity may be about 500°C. In contrast, the furniture enclosing said oven cavity tolerates only a temperature lower than 90°C. Thus, an efficient thermal insulation between the oven cavity and the furniture is required. Further, the efficient thermal insulation allows low energy consumption.

[0003] The thermal insulation is achieved by an insulation layer enclosing at least partially the oven cavity. Typically, said insulation layers are made of glass wool, mineral wool and/or rock wool. Said materials have low heat conductivity. However, during the installation of glass wool, mineral wool or rock wool, dust particles are intensively emitted. These dust particles are very displeasing for the assembler. Said dust particles cause itchiness and caught.

[0004] Further, after dismantling or waste of the cooking oven the insulation layer must be separated from the oven cavity.

[0005] Other usual materials for the insulation layers are foamed or expanded minerals and foamed plastics. Also in these cases, the insulation layer must be separated from the oven cavity after dismantling or waste of the cooking oven.

[0006] It is an object of the present invention to provide a cooking oven with a thermal insulated oven cavity, wherein the insulation layer overcomes the above problems.

[0007] The object of the present invention is achieved by the cooking oven according to claim 1.

[0008] According to the present invention at least a part of the insulation layer is made of hemp.

[0009] The core of the present invention is that the insulation layer or a part of said insulation layer is made of hemp. There is no CO₂ generated during the production of hemp. On the contrary, hemp reduces CO₂ during growing. Hemp has sufficient heat conductivity, so that the thermal insulation of the oven cavity is ensured. The installation of the insulation layer made of hemp is very convenient for the assembler. Further, hemp is not carcinogen. Hemp does not contain any harmful substances. There is no labelling obligation for hemp. Additionally, hemp is compostable, so that there are no problems after a waste disposal of the insulation layer made of hemp. The production of said insulation layer provides no environmental burden.

[0010] According to a preferred embodiment of the present invention the oven cavity includes a top wall, a bottom wall, two side walls and a rear wall, wherein the insulation layer encloses at least one of said walls.

[0011] In particular, the insulation layer encloses the top wall, the bottom wall and the side walls of the oven cavity. In this case, the insulation layer may form a closed loop. Further, the insulation layer may be formed as a single-piece part. The single-piece part insulation layer simplifies the production of the oven cavity and the cooking oven.

[0012] Additionally, the insulation layer is enclosed by at least one metal foil. The metal foil allows reflections of heat radiation back to the oven cavity.

[0013] The insulation layer may be fastened at the oven cavity by at least one tape enclosing said insulation layer. The tape enclosing the insulation layer allows a simple fastening of the insulation layer at the oven cavity.

[0014] Further, the insulation layer may be fastened at the oven cavity by at least two parallel tapes enclosing said insulation layer. The parallel tapes allow a stable fastening of the insulation layer at the oven cavity.

[0015] In particular, the at least one tape is made of metal. The metal tape is stable and heat resistant.

[0016] For example, the insulation layer has a thickness between 30 mm and 200 mm. Such a thickness is sufficient for the thermal insulation of the oven cavity. The density is between 30 kg/m³ and 42 kg/m³.

[0017] At last, the present invention relates a use of hemp as a thermal insulating material, wherein the hemp is used for an insulation layer enclosing at least partially an oven cavity of a cooking oven.

[0018] Novel and inventive features of the present invention are set forth in the appended claims.

[0019] The present invention will be described in further detail with reference to the accompanied drawing, in which

FIG 1 illustrates a perspective view of an oven cavity enclosed by an insulation layer according to a preferred embodiment of the present invention.

FIG 1 illustrates a perspective view of an oven cavity 10 enclosed by an insulation layer 12 according to a preferred embodiment of the present invention. The oven cavity 10 is provided for a cooking oven.

[0021] The oven cavity 10 includes two side walls, a top wall, a bottom wall and a rear wall. The front side of the oven cavity 10 is open. The front side of the oven cavity 10 is closable by an oven door. In this example, the insulation layer 12 encloses the both side walls, the top wall and the bottom wall of the oven cavity 10.

[0022] The insulation layer 12 is made of hemp. The heat conductivity of hemp is sufficiently low, so that the thermal insulation of the oven cavity 10 is ensured.

[0023] During the installation of the cooking oven no dust particles are emitted, so that the assembler gets no itchiness and no caught by the insulation layer 12 made of hemp. The installation of the insulation layer 12 made of hemp is very convenient for the assembler.

[0024] Further, hemp is not carcinogen. Hemp does not contain any harmful substances. There is no labelling

obligation for hemp. Additionally, hemp is compostable, so that there are no problems after a waste disposal of the insulation layer 12 made of hemp. The production of said insulation layer 12 provides no environmental burden.

[0025] The insulation layer 12 is fastened by a front tape 14 and a rear tape 16. In this embodiment, the front tape 14 and the rear tape 16 are made of metal. The front tape 14 and the rear tape 16 form a holding device 14 for the insulation layer 12. The front tape 14 and rear tape 16 are arranged parallel to each other. The insulation layer 12 is pressed against the side walls, the top wall and the bottom wall of the oven cavity 10 by the front tape 14 and rear tape 16. The parallel tapes 14 and 16 allow a stable fastening of the insulation layer 12 at the oven cavity 10. Since the tapes 14 and 16 are made of metal, they are stable and heat resistant.

[0026] Although an illustrative embodiment of the present invention has been described herein with reference to the accompanying drawing, it is to be understood that the present invention is not limited to that precise embodiment, and that various other changes and modifications may be affected therein by one skilled in the art without departing from the scope or spirit of the invention. All such changes and modifications are intended to be included within the scope of the invention as defined by the appended claims.

List of reference numerals

[0027]

- 10 oven cavity
- 12 insulation layer
- 14 front tape
- 16 rear tape

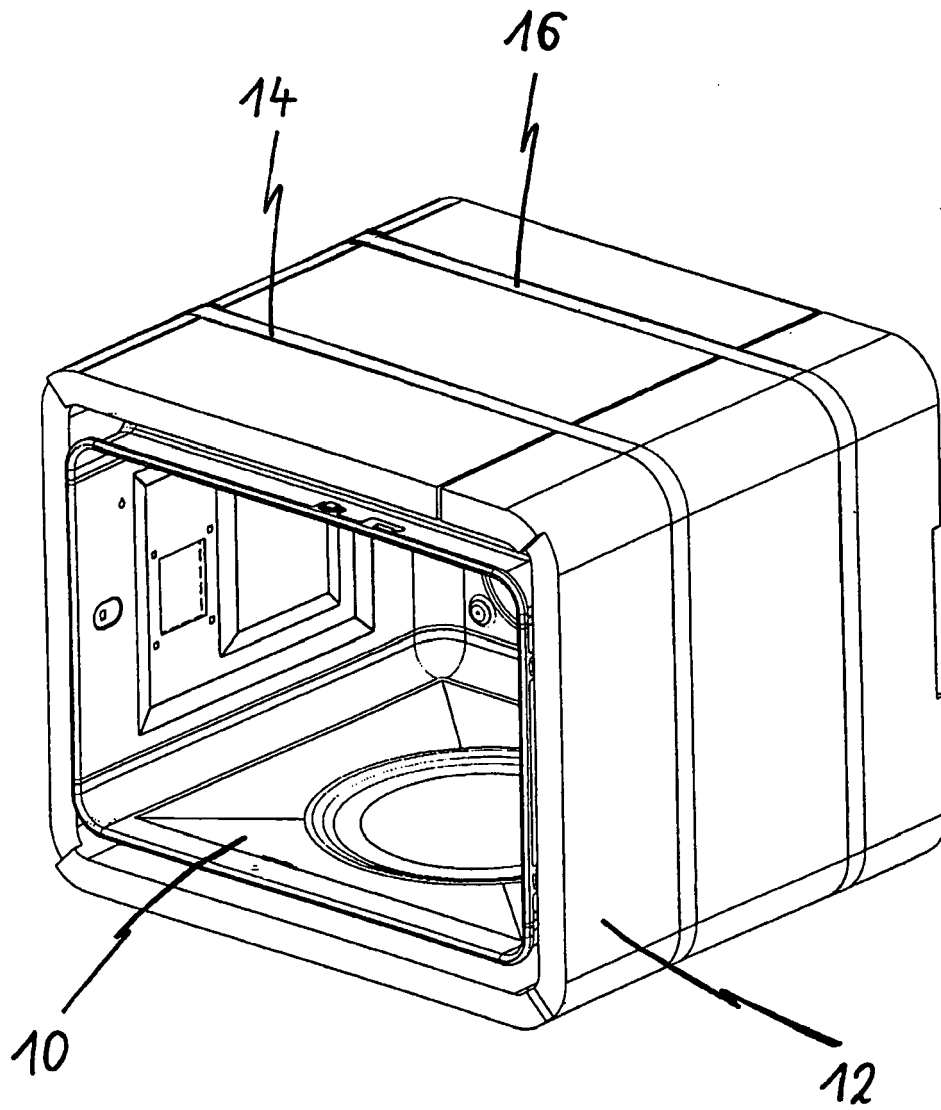
Claims

1. A cooking oven with at least one thermal insulated oven cavity (10), wherein said oven cavity (10) is at least partially enclosed by an insulation layer (12), **characterized in, that** at least a part of the insulation layer (12) is made of hemp.
2. The cooking oven according to claim 1, **characterized in, that** the oven cavity (10) includes a top wall, a bottom wall, two side walls and a rear wall, wherein the insulation layer (12) encloses at least one of said walls.
3. The cooking oven according to claim 1 or 2, **characterized in, that**

the insulation layer (12) encloses the top wall, the bottom wall and the side walls of the oven cavity (10).

4. The cooking oven according to any one of the preceding claims, **characterized in, that** the insulation layer (12) is formed as a single-piece part.
5. The cooking oven according to any one of the preceding claims, **characterized in, that** the insulation layer (12) is enclosed by at least one metal foil.
6. The cooking oven according to any one of the preceding claims, **characterized in, that** the insulation layer (12) is fastened at the oven cavity by at least one tape (14, 16) enclosing said insulation layer (12).
7. The cooking oven according to any one of the preceding claims, **characterized in, that** the insulation layer (12) is fastened at the oven cavity by at least two parallel tapes (14, 16) enclosing said insulation layer (12).
8. The cooking oven according to claim 6 or 7, **characterized in, that** the at least one tape (14, 16) is made of metal.
9. The cooking oven according to any one of the preceding claims, **characterized in, that** the insulation layer (12) has a thickness between 30 mm and 200 mm.
10. A use of hemp as a thermal insulating material, **characterized in, that** the hemp is used for an insulation layer (12) enclosing at least partially an oven cavity (10) of a cooking oven.

FIG. 1





EUROPEAN SEARCH REPORT

Application Number
EP 11 00 1018

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	EP 1 793 175 A1 (CONST ISOTHERMIQUES BONTAMI C [FR]) 6 June 2007 (2007-06-06)	1-3,5-8, 10	INV. F24C15/34
Y	* paragraphs [0026], [0035], [0037]; figures *	4,9	
Y	DE 197 55 912 A1 (AEG HAUSGERAETE GMBH [DE]) 1 July 1999 (1999-07-01) * abstract; figures *	4	
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The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 21 July 2011	Examiner Verdoodt, Luk
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
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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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