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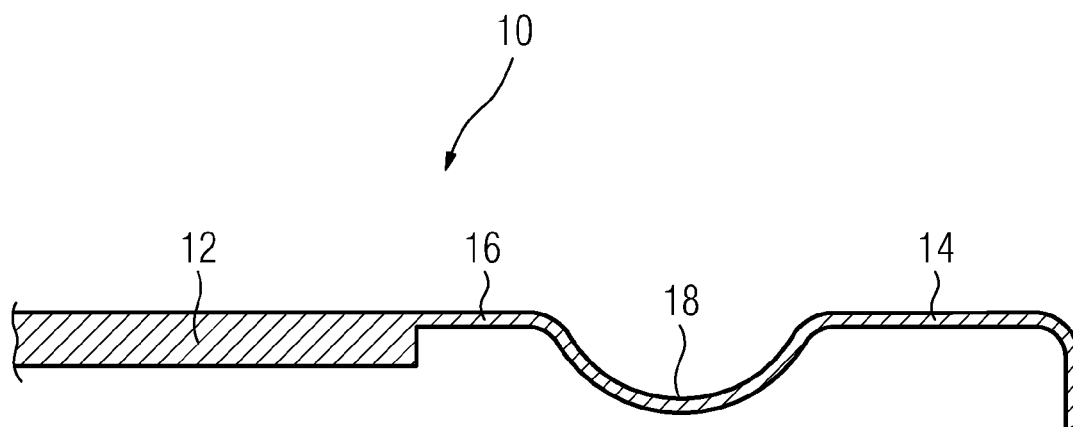
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(54) **A cooking hob including at least one griddle plate**

(57) The present invention relates to a cooking hob including at least one griddle plate (10). The griddle plate (10) includes a central portion (12). The central portion (12) is formed as a metal plate. The griddle plate (10) includes a frame portion (14) enclosing the central portion (12). The coefficient of thermal expansion for the material

of the frame portion (14) is higher than the coefficient of thermal expansion for the material of the central portion (12). A join patch (16) connects the central portion (12) and the frame portion (14), so that the central portion (12) and the frame portion (14) form a rigid body. Further, the present invention relates to a corresponding griddle plate.

FIG 1



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Description

[0001] The present invention relates to a cooking hob including at least one griddle plate according to the preamble of claim 1. Further, the present invention relates to a griddle plate according to the preamble of claim 7. In particular, the present invention relates to a Teppan Yaki grill.

[0002] The griddle plate is made of a metal plate. The Teppan Yaki grill also includes a metal plate, in particular made of ferritic steel or iron. The barbecue temperatures are very high, so that the thermal expansion of the metal plate causes a bending of said metal plate. The temperatures in the centre of the metal plate are higher than the temperatures in the outer areas of said metal plate. The bending of the metal plate is unrequested.

[0003] DE 20 2006 012 631 U1 discloses a griddle plate, in particular a Teppan Yaki grill, which may be a built-in type or a portable tabletop unit. The griddle plate is enclosed by the frame made at least particularly of glass ceramics. The material of the frame has a low thermal conductivity, so that the frame does not reach a too high temperature.

[0004] DE 202 15 979 U1 discloses a cooking plate or griddle plate including several layers. The top layer and the bottom layer are metal sheets. The intermediate sheet is made of aluminium. The griddle plate is subdivided into cooking zones. Between said cooking zones are border zones. In the border zones only the top layer is present, but the intermediate layer and bottom layer lack. This structure prevents or reduces the heat conduction from one cooking zone to another.

[0005] It is an object of the present invention to provide a cooking hob including at least one griddle plate and a corresponding griddle plate, wherein the bending of the griddle plate by the heat is prevented or reduced.

[0006] The object of the present invention is achieved by the cooking hob according to claim 1.

[0007] According to the present invention the coefficient of thermal expansion for the material of the frame portion is higher than the coefficient of thermal expansion for the material of the central portion, and a join patch connects the central portion and the frame portion, so that the central portion and the frame portion form a rigid body.

[0008] The main idea of the present invention is that at least one griddle plate of the cooking hob is formed as rigid body, wherein the coefficient of thermal expansion for the material of the outer portion is higher than the coefficient of thermal expansion for the material of the inner portion. The higher thermal expansion of the outer portion reduces or prevents the pressure from the outer portion to the inner portion, so that the bending of the inner portion and the griddle plate is reduced or completely avoided.

[0009] Preferably, the frame portion is made of metal.

[0010] In particular, the join patch is a welded joint.

[0011] For example, the central portion and/or the

frame portion are at least partially made of iron.

[0012] Further, the thickness of the central portion is bigger than the thickness of the frame portion.

[0013] At last, the cooking hob includes at least one Teppan Yaki grill or is formed as a Teppan Yaki grill.

[0014] The object of the present invention is further achieved by the griddle plate according to claim 7.

[0015] According to the present invention the coefficient of thermal expansion for the material of the frame portion is higher than the coefficient of thermal expansion for the material of the central portion, and a join patch connects the central portion and the frame portion, so that the central portion and the frame portion form a rigid body.

[0016] The core of the present invention is that the griddle plate is formed as rigid body, wherein the coefficient of thermal expansion for the material of the outer portion is higher than the coefficient of thermal expansion for the material of the inner portion. The higher thermal expansion of the outer portion reduces or prevents the pressure from the outer portion to the inner portion, so that the bending of the inner portion and the griddle plate is reduced or completely avoided.

[0017] In particular, the frame portion is made of metal.

[0018] Preferably, the join patch is a welded joint.

[0019] The central portion and/or the frame portion may be at least partially made of iron.

[0020] Moreover, the thickness of the central portion is bigger than the thickness of the frame portion.

[0021] In particular, the griddle plate is formed as a Teppan Yaki grill.

[0022] Novel and inventive features of the present invention are set forth in the appended claims.

[0023] The present invention will be described in further detail with reference to the drawing, in which

FIG 1 illustrates a partial sectional side view of a griddle plate for the cooking hob according to a preferred embodiment of the present invention.

[0024] FIG 1 illustrates a partial sectional side view of a griddle plate 10 for the cooking hob according to a preferred embodiment of the present invention. The griddle plate 10 is formed as a metal sheet and includes a central portion 12 and a frame portion 14. The partial sectional side view in FIG 1 shows the cross-sections of the complete frame portion 14 and of an outer area of the central portion 12.

[0025] The central portion 12 of the griddle plate 10 is the preferred area provided for barbecue or broiling. The frame portion 14 encloses the central portion 12. The central portion 12 and the frame portion 14 are connected by a join patch 16. The join patch 16 allows a rigid connection between the central portion 12 and the frame portion 14 of the griddle plate 10. Thus, the griddle plate 10 forms a rigid body. Preferably, the join patch 16 is realized by a welded joint.

[0026] The central portion 12 and the frame portion 14

of the griddle plate 10 are made of metal. However, the materials of the central portion 12 and the frame portion 14 have different coefficients of thermal expansion. The coefficient of thermal expansion for the material of the frame portion 14 is higher than the coefficient of thermal expansion for the material of the central portion 12. Thus, the thermal expansion of the frame portion 14 is higher than the thermal expansion of the central portion 12, if the temperatures of the central portion 12 and the frame portion 14 are substantially the same. The higher thermal expansion of the frame portion 14 reduces or prevents the pressure from the frame portion 14 to the central portion 12. Thus, the bending of the central portion 12 is reduced or avoided. Further, also the bending of the griddle plate 10 is reduced or completely avoided.

[0027] In this example the frame portion 14 comprises a groove 18. Said groove 18 is provided for collecting fat and/or oil. The groove 18 is an optional element of the griddle plate 10.

[0028] 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

[0029]

- 10 griddle plate
- 12 central portion
- 14 frame portion
- 16 join patch
- 18 groove

Claims

1. A cooking hob including at least one griddle plate (10), wherein
 - the griddle plate (10) includes a central portion (12),
 - the central portion (12) is formed as a metal plate, and
 - the griddle plate (10) includes a frame portion (14) enclosing the central portion (12),

characterized in, that

the coefficient of thermal expansion for the material of the frame portion (14) is higher than the coefficient of thermal expansion for the material of the central portion (12), and a join patch (16) connects the central portion (12) and the frame portion (14), so that the central portion (12) and the frame portion (14) form a rigid body.

2. The cooking hob according to claim 1, **characterized in, that** the frame portion (14) is made of metal.
3. The cooking hob according to claim 1 or 2, **characterized in, that** the join patch (16) is a welded joint.
4. The cooking hob according to any one of the preceding claims, **characterized in, that** the central portion (12) and/or the frame portion (14) are at least partially made of iron.
5. The cooking hob according to any one of the preceding claims, **characterized in, that** the thickness of the central portion (12) is bigger than the thickness of the frame portion (14).
6. The cooking hob according to any one of the preceding claims, **characterized in, that** the cooking hob includes at least one Teppan Yaki grill or is formed as a Teppan Yaki grill.
7. A griddle plate (10) including a central portion (12) and a frame portion (14), wherein
 - the central portion (12) is formed as a metal plate, and
 - the frame portion (14) encloses the central portion (12),**characterized in, that** the coefficient of thermal expansion for the material of the frame portion (14) is higher than the coefficient of thermal expansion for the material of the central portion (12), and a join patch (16) connects the central portion (12) and the frame portion (14), so that the central portion (12) and the frame portion (14) form a rigid body.
8. The griddle plate according to claim 7, **characterized in that** the frame portion (14) is made of metal.
9. The griddle plate according to claim 7 or 8, **characterized in, that** the join patch (16) is a welded joint.

10. The griddle plate according to any one of the claims
7 to 9,
characterized in, that
the central portion (12) and/or the frame portion (14)
are at least partially made of iron. 5
11. The griddle plate according to any one of the claims
7 to 10,
characterized in, that
the thickness of the central portion (12) is bigger than 10
the thickness of the frame portion (14).
12. The griddle plate according to any one of the claims
7 to 11,
characterized in, that 15
the griddle plate (10) is formed as a Teppan Yaki grill.

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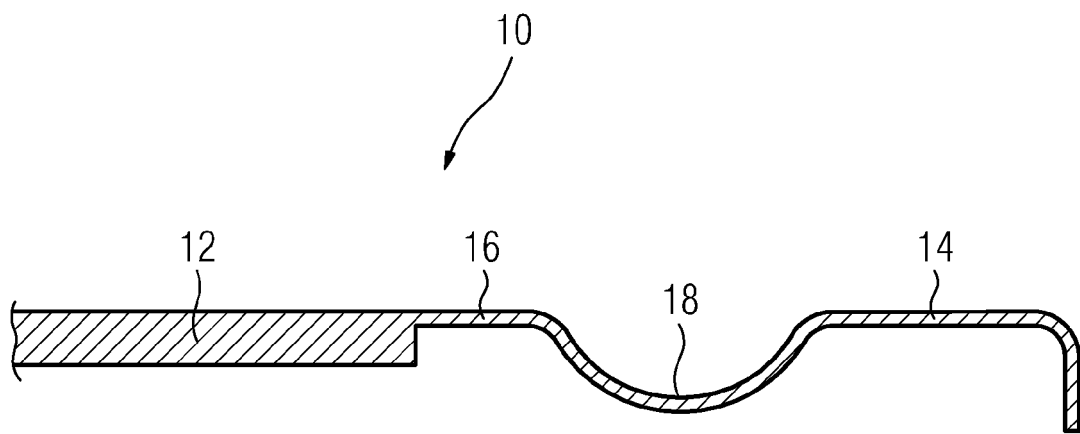
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FIG 1





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Application Number
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The Hague		22 May 2012	Rodriguez, Alexander
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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EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
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The members are as contained in the European Patent Office EDP file on
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