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(54) **Cooking grate assembly**

Kochgitterrost-Anordnung

Arrangement de grille de cuisson

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Description

[0001] The present invention relates to a cooking grate assembly and more particularly to a burner grate assembly used in gas cooking appliances.

[0002] Utensil supporting grates are typically employed with heat sources for cooking purposes. Meal preparations are placed into various cooking utensils, such as pots and pans, which, in turn, are conventionally positioned on supporting grates above the heat source to cook the meal preparations. In electric and gas-fired appliance cooktops, a plurality of burner grates are typically employed to cook multiple food preparations at selectively different heating levels at the same time. Since the cooking vessels can have bottom portions of different shape, it is important that the cooking grates have a complementarily shaped supporting surface able to guarantee a stable and safe support of the cooking vessels. In this view conventional cooking grates are satisfactory when used with flat bottomed cooking vessels, but they are incompatible with other types of cooking utensils, such as vessels with curved bottom surfaces.

[0003] Some cooking appliances of known type have been provided with special heating elements to accommodate curved cooking utensils and vessels, such as a wok. An example is disclosed in US Patent No. 4,435,638. However, specially designed burners for curved cooking vessels has the drawback that they are not generally compatible with flat-bottomed cooking elements which are also desirable to use.

[0004] Similarly, cooktops commercially available at present can be provided with heating element having cooking grates dedicated exclusively to receive vessels with curved bottom surfaces. This arrangement poses the problem that such heating elements cannot be used in combination with flat bottomed cooking elements and therefore the cooktop is not fully versatile. It is also known from the American Patent Application No. US 2003/0079739 and the European Patent Application No. EP 1 447 624 to provide a cooking grate assembly having a frame displaced around one or more heating element of a cooktop and having at least one support element removably received in the frame for defining a cooking vessel supporting surface.

[0005] The aim of the present invention is therefore to solve the noted problems, eliminating the drawbacks of the cited known art and thus providing a cooking grate assembly able to receive different kinds of cooking vessels.

[0006] A further object of the present invention is to provide a cooking grate assembly that can be easily removed from the cooktop and cleaned.

[0007] Another object of the present invention is to provide a cooking grate assembly that can be quickly changed to suit the choice of different cooking styles and techniques.

[0008] Advantages, objects, and features of the invention will be set forth in part in the description which follows

and in part will become apparent to those having ordinary skill in the art upon examination of the following or may be learned from practice of the invention. The objects and advantages of the invention may be realised and attained as particularly pointed out in the appended claims.

[0009] The accompanying drawings, which are included to provide a further understanding of the invention and are incorporated in and constitute a part of this specification, illustrate possible embodiments of the invention and together with the description serve to explain the principles of the invention.

[0010] In the drawings:

[0011] Figure 1 shows a perspective view of the cooking grate assembly according to the present invention;

[0012] Figure 2 shows a gas range provided with the cooking grate assembly of Fig. 1;

[0013] Figures 3 to 5 shows different embodiments of cooking vessels supporting elements.

[0014] With reference to figures 1 and 2 the cooking grate assembly 1 according to the present invention comprises a frame 2 having footing elements 3 for stably displacing said frame 2 on a cooktop surface 4 of a gas range 5, in particular a free standing gas range. The frame 2 is formed by four mutually perpendicular and coplanar bars 6, 6', 7, 7' and it can removably receive one or more support elements 10 that define a cooking vessel supporting surface 11 where meal preparations can be cooked. When each support element 10 is received on the frame 2 and the latter is disposed on a cooktop 4, the frame 2 surrounds one or more heating elements 14 and the support element 10 results placed over such elements 14.

[0015] In order to avoid longitudinal and transversal movement of the supporting elements 10 when they are placed on the frame 2, parallel and spaced apart bars 7, 7' are provided with retaining members 8, 8' formed as rims 12 projecting upwards from said bars 7, 7' and bars 6, 6' comprise edges 9, 9' having an L-shaped transversal section. A corresponding complementarily L-shaped transversal section is formed on the lateral side bars 13, 13' of each support element 10, such that when each supporting element 10 is received by the frame 2 the edges 9, 9' and the lateral side bars 13, 13' abut forming a stable coupling.

[0016] The frame 2 can extend along the whole perimeter of the cooktop 4 so as to surround all the heating elements 14, and it can have a shape other than rectangular depending on the shape of the cooktop 4. If the heating elements 14 are arranged in sectors, as shown in Fig. 2, each sector can comprise a frame 2 and one or more supporting elements 10.

[0017] In Fig. 3 it is shown a first embodiment of a support element 110 made in the form of a grate specially adapted for supporting fish-kettle pans. Said element 110 comprises four mutually perpendicular and coplanar side bars 113, 113', 117, 117' forming a substantially rectangular structure. A plurality of spaced apart arms 115 ex-

tends coplanarly from the side bars 113, 113', 117, 117' so as to form a cooking vessel supporting surface 111. Even if such surface 111 has been shown as being a plane, the arms 115 can be arranged and shaped so as to be adapted to receive vessels with curved bottom surfaces, like a wok.

[0018] In Fig. 4 a second embodiment of a support element 210 is shown. In this case the support element 210 is in the form of a plate provided with a plurality of ribs 218. Lateral side bars 213, 213' have a L-shaped transversal section in order to be stably received by the frame 2.

[0019] In Fig. 5 a third embodiment of a support element 310 is shown. Now the supporting element is in the form of a smooth plate 319. In such form the element 310 can be used not only as supporting surface 311 for receiving cooking vessels but also as cooking surface. If preferred the supporting surface 311 can be curved.

[0020] The supporting elements 10, 110, 210, 310 can be easily removed from the frame 2 and interchanged for adapting the cooktop 4 to receive different types of cooking vessel so as to allow the user to perform different cooking styles and techniques. Elements 10, 110, 210, 310 can be of the type washable in a dishwashing machine.

[0021] Conclusively it can be stated that a cooktop provided with a cooking grate assembly according to the present invention is fully versatile and can be easily and quickly adapted to many different cooking styles.

[0022] As the present invention may be embodied in several forms without departing from the spirit or essential characteristics thereof, it should also be understood that the above-described embodiments are not limited by any of the details of the foregoing description, but rather should be construed broadly within its spirit and scope as defined in the appended claims, and therefore all changes and modifications that fall within the meets and bounds of the claims, or equivalence of such meets and bounds are therefore intended to be embraced by the appended claims.

Claims

1. A cooking grate assembly (1) comprising a frame (2) adapted to be displaced around one or more heating elements (14) of a cooktop (4) and at least one support element (10, 110, 210, 310) provided with side bars (13, 13', 113, 113', 213, 213') removably received in said frame (2) for defining a cooking vessel supporting surface (11, 111, 311), the frame (2) being formed by mutually perpendicular first and a second couple of parallel and spaced apart bars (6, 6', 7, 7'), **characterised in that** the first couple of bars (7, 7') is provided with retaining members (8, 8') formed as rims (12) projecting upwards from said bars (7, 7') and the second couple of bars (6, 6') comprises edges (9, 9') having L-shaped transversal

section and **in that** a corresponding complementarily L-shaped transversal section is formed on the side bars (13, 13', 113, 113', 213, 213') of each support element (10) so as to abut with said edges (9, 9') forming a stable coupling when each support element (10, 110, 210, 310) is received by the frame (2).

2. A cooking grate assembly according to claim 1 wherein said at least one support element (11) is in the form of a grate having a plurality of supporting arms (115).
3. A cooking grate assembly according to claim 1 wherein said at least one support element (210) is in the form of a plate provided with a plurality of ribs (218).
4. A cooking grate assembly according to claim 1 wherein said at least one support element (310) is in the form of a plate (319).
5. A cooking grate assembly according to any preceding claim wherein said vessel supporting surface (11, 111, 311) is curved.
6. A cooktop (4) comprising one or more cooking grate assemblies (1) according to any preceding claim.

Patentansprüche

1. Kochgitterrost-Anordnung (1), umfassend einen Rahmen (2), der geeignet ist, um ein oder mehrere Heizelemente (14) eines Kochfelds (4) herum angeordnet zu werden, und mindestens ein Auflageelement (10, 110, 210, 310), das mit Seitenstäben (13, 13', 113, 113', 213, 213') versehen ist, die abnehmbar in dem Rahmen (2) untergebracht sind, um eine Kochgefäß-Auflagefläche (11, 111, 311) zu bilden, wobei der Rahmen (2) durch ein senkrecht zueinander angeordnetes erstes und zweites Paar paralleler und beabstandeter Stäbe (6, 6', 7, 7') gebildet wird, **dadurch gekennzeichnet, dass** das erste Paar von Stäben (7, 7') mit Halteelementen (8, 8') versehen ist, die als Randlippen (12) ausgebildet sind, die sich ausgehend von den Stäben (7, 7') nach oben erstrecken, und das zweite Paar von Stäben (6, 6') Flanken (9, 9') mit einem L-förmigen Querschnitt umfasst, und dass ein entsprechender, auf komplementäre Weise L-förmiger Querschnitt an den Seitenstäben (13, 13', 113, 113', 213, 213') jedes Auflageelements (10) gebildet ist, um an den Flanken (9, 9') anzuliegen, wodurch eine stabile Verbindung gebildet wird, wenn jedes Auflageelement (10, 110, 210, 310) durch den Rahmen (2) aufgenommen wird.

2. Kochgitterrost-Anordnung nach Anspruch 1, wobei das mindestens eine Auflageelement (11) die Form eines Gitterrostes aufweist, der eine Vielzahl von Auflagearmen (115) umfasst.
3. Kochgitterrost-Anordnung nach Anspruch 1, wobei das mindestens eine Auflageelement (210) die Form einer Platte aufweist, die mit einer Vielzahl von Rippen (218) versehen ist.
4. Kochgitterrost-Anordnung nach Anspruch 1, wobei das mindestens eine Auflageelement (310) die Form einer Platte (319) aufweist.
5. Kochgitterrost-Anordnung nach einem der vorhergehenden Ansprüche, wobei die Gefäßauflagefläche (11, 111, 311) gekrümmt ist.
6. Kochfeld (4), umfassend ein oder mehrere Kochgitterrost-Anordnungen (1) nach einem der vorhergehenden Ansprüche.

que munie d'une pluralité de nervures (218).

4. Agencement de grille de cuisson selon la revendication 1, dans lequel ledit au moins un élément de support (310) se présente sous la forme d'une plaque (319).

5. Agencement de grille de cuisson selon l'une quelconque des revendications précédentes, dans lequel ladite surface de support de récipient (11, 111, 311) est courbée.

6. Table de cuisson (4) comprenant un ou plusieurs agencements de grille de cuisson (1) selon l'une quelconque des revendications précédentes.

Revendications

1. Agencement de grille de cuisson (1) comprenant un châssis (2) apte à être déplacé autour d'un ou de plusieurs éléments chauffants (14) d'une table de cuisson (4) et au moins un élément de support (10, 110, 210, 310) muni de barres latérales (13, 13', 113, 113', 213, 213') reçues d'une manière amovible dans ledit châssis (2) pour définir une surface de support de récipient de cuisson (11, 111, 311), ledit châssis (2) étant formé par un premier et un deuxième couple mutuellement perpendiculaires de barres parallèles et espacées (6, 6', 7, 7'), **caractérisé en ce que** le premier couple de barres (7, 7') est pourvu d'éléments de retenue (8, 8') formés comme des rebords (12) faisant saillie vers le haut depuis lesdites barres (7, 7'), et le deuxième couple de barres (6, 6') comprend des bords (9, 9') ayant une section transversale en forme de L, et **en ce qu'**une section transversale complémentaire en forme de L correspondante est formée sur les barres latérales (13, 13', 113, 113', 213, 213') de chaque élément de support (10) de manière à buter contre lesdits bords (9, 9') formant un couplage stable lorsque chaque élément de support (10, 110, 210, 310) est reçu par le châssis (2).
2. Agencement de grille de cuisson selon la revendication 1, dans lequel ledit au moins un élément de support (11) se présente sous la forme d'une grille ayant une pluralité de bras de support (115).
3. Agencement de grille de cuisson selon la revendication 1, dans lequel ledit au moins un élément de support (210) se présente sous la forme d'une pla-

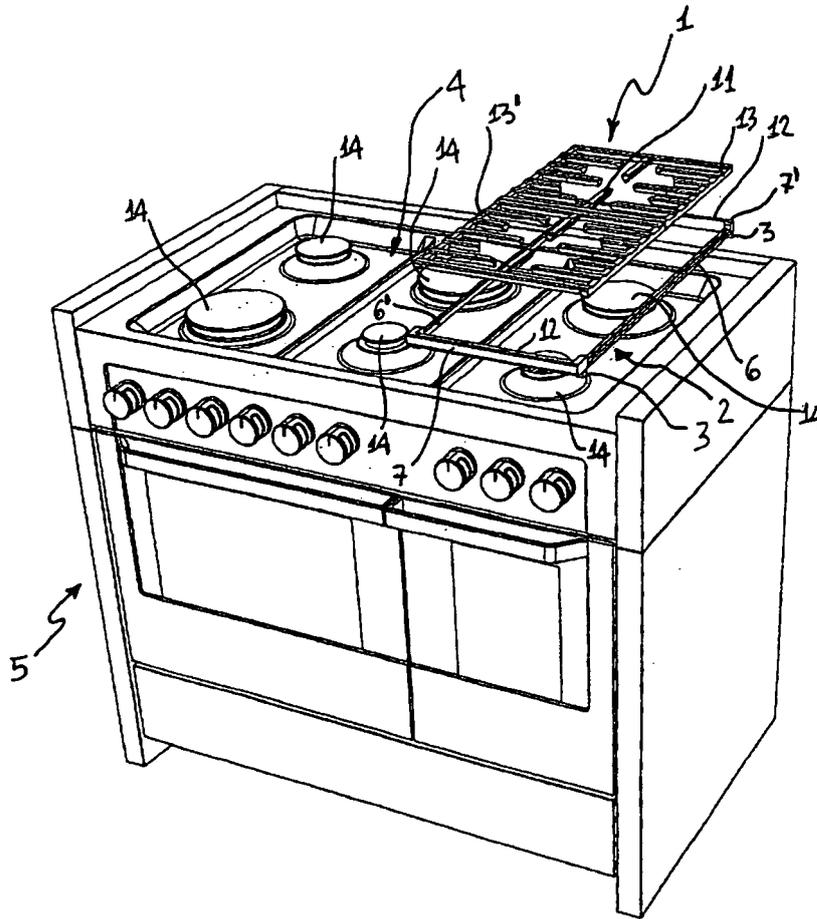


Fig. 1

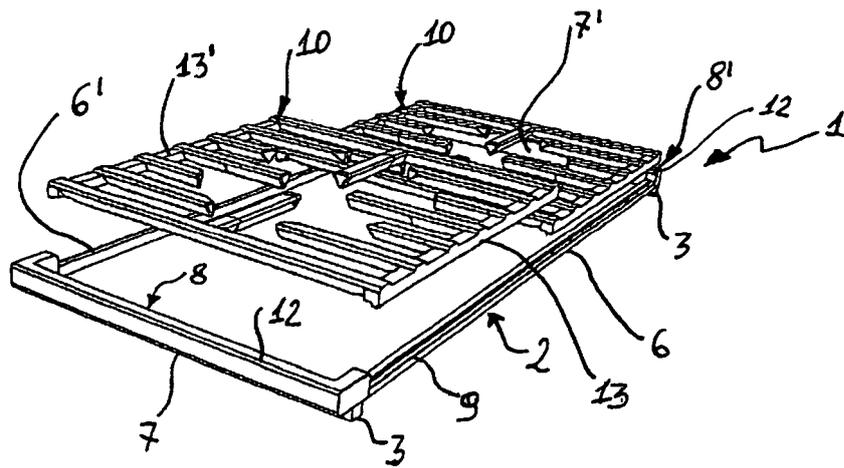


Fig. 2

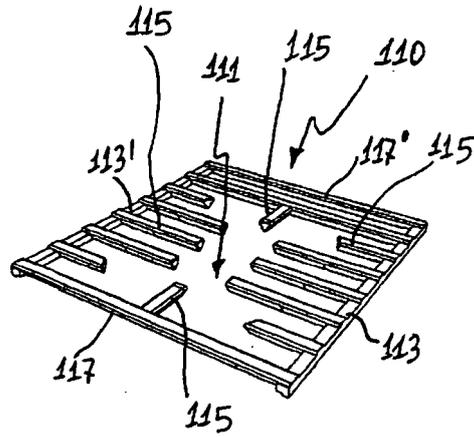


Fig. 3

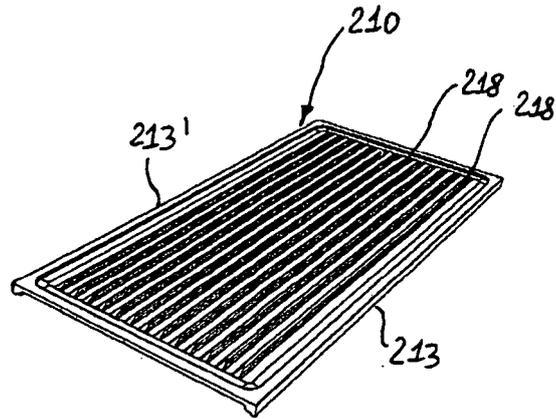


Fig. 4

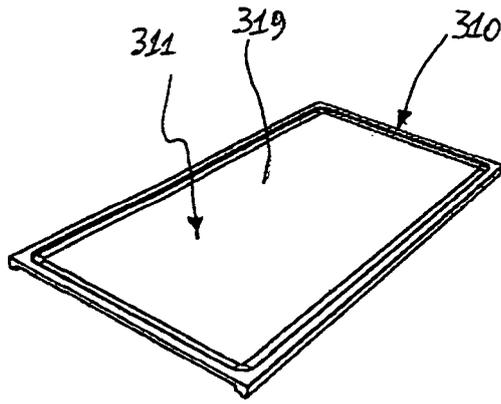


Fig. 5

REFERENCES CITED IN THE DESCRIPTION

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