(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) **EP 2 955 448 A1**

(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
16.12.2015 Bulletin 2015/51

(51) Int Cl.:
F24C 15/10 *(2006.01)*

(21) Application number: **15171434.2**

(22) Date of filing: **10.06.2015**

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
Designated Extension States:
BA ME
Designated Validation States:
MA

(30) Priority: **13.06.2014 IT MO20140176**

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(54) PROCESS FOR THE PRODUCTION OF GRIDS FOR HOBS, COOKERS AND GAS STOVES AND THE GRID THUS OBTAINABLE

(57) The process for the production of grids (1) for hobs, cookers and gas stoves comprising: a step of making a perimeter frame (2) which can be positioned on a hob; a step of preparing at least a laminar element (3) of elongated conformation; a step of shaping of the laminar element (3) to obtain a shaped laminar element (5) having a cross section of predefined shape; a step of cutting of the shaped laminar element (5) to obtain a support element (6, 6'); a step of fixing the support element (6, 6') to the perimeter frame (2), to define a hold intended to support pans, pots or the like above the burners of the hob.

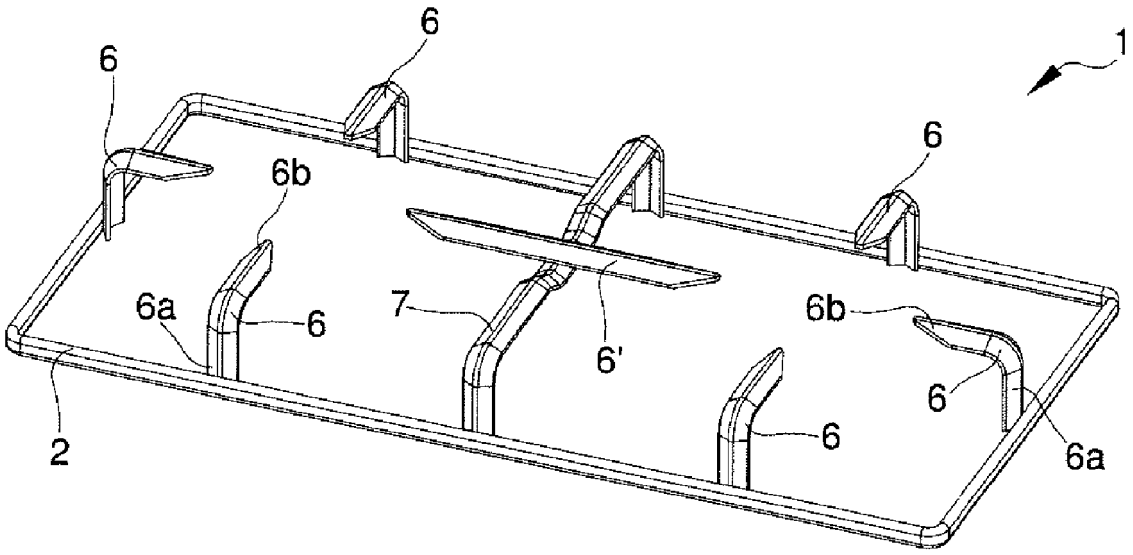


Fig. 7

EP 2 955 448 A1

Description

[0001] The present invention relates to a process for the production of grids for hobs, cookers and gas stoves and to a grid obtainable by such a process.

[0002] The grids for cooking hobs of known type are generally made of glazed metal and are composed of a perimeter frame, commonly with a rectangular shape, from which a plurality of elongated support elements extend projecting inwards. In practice, once the grid is suitably positioned on a hob, the support elements extend around one or more of the burners of the cooking hob and constitute a support for pots, pans or the like when cooking food.

[0003] Commonly, each of the support elements is formed starting from a so-called decarburized iron "strip" of variable thickness, suitably bent or cut and welded at one end in correspondence of a section of the perimeter frame.

[0004] In particular, the known process for the production of grids for hobs comprises the steps described below.

[0005] First, the process involves the realization of the perimeter frame able to be positioned on a cooking hob. The shape and size of such perimeter frame typically vary according to the specific conformation of the cooking hob and the arrangement of the burners on the same.

[0006] The cutting, with or without tips, of a strip of extruded decarburized iron allows therefore to obtain a plurality of straight bars of predefined length. Subsequently, the bars are bent in correspondence of a predefined section to define respective support elements of desired height and horizontal extent. Thereafter, the folded ends of the support elements thus obtained are welded in correspondence of respective sections of the perimeter frame, so that the support elements are mutually facing and able to cooperate to support pans, pots or the like above the burners of the cooking hobs.

[0007] Finally, the process comprises steps of glazing and firing of the grid thus obtained, in order to obtain the desired color and aesthetic appearance.

[0008] The known processes and grids thus obtained, however, are susceptible to upgrading.

[0009] In particular, the need is increasingly felt to produce cheaper grids that, at the same time, are of high quality and attractive appearance.

[0010] Furthermore, it is known that the support elements of the conventional grids can have different conformations of the cross section, which can be e.g. rectangular or elliptical.

[0011] This, according to the processes of known type, necessarily involves the use and subsequent storage in the warehouse of profiled elements of different cross section, usable according to the specific production needs.

[0012] The main aim of the present invention is to provide a process for the production of grids for hobs, cookers and gas stoves that allows to realize grids at a lower overall cost than the state of the art.

[0013] Another object of the present invention is to provide a process for the production of grids for hobs, cookers and gas stoves that allows to realize lighter grids than the grids of known type.

[0014] Another object of the present invention is to provide a process for the production of grids for hobs, cookers and gas stoves that allows to realize grids with support elements in different cross section, while simplifying the management of the supply and storage of raw materials and semi-finished products used.

[0015] Another object of the present invention is to provide a process for the production of grids for hobs, cookers and gas stoves which allows to overcome the mentioned drawbacks of the prior art within the ambit of a simple, rational, easy and effective to use solution.

[0016] The above mentioned objects are achieved by the present process for the production of grids for hobs, cookers and gas stoves according to the characteristics described in claim 1.

[0017] The above mentioned objects are also achieved by the present grid for hobs, cookers and gas stoves according to the characteristics described in claim 12.

[0018] Other characteristics and advantages of the present invention will become better evident from the description of a preferred but not exclusive embodiment of a process for the production of grids for hobs, cookers and gas stoves and a grid so obtainable, illustrated as an indicative, but not limitative example in the accompanying drawings in which:

Figures from 1 to 6 schematically illustrate the steps of the process according to the invention;
Figure 2 is an axonometric view illustrating a possible embodiment of a grid for cooking hobs obtainable by means of the process according to the invention.

[0019] With particular reference to figures from 1 to 6, a possible sequence of steps of the process according to the invention is schematically shown for the production of a grid 1 for cooking hobs.

[0020] In particular, the process first comprises a step of making a perimeter frame 2 which can be positioned on a cooking hob.

[0021] The shape and size of the perimeter frame 2 can vary depending on the size, on the conformation of the particular cooking hob and on the arrangement and number of burners on the same.

[0022] The process also provides a preparation step of a plurality of laminar elements 3 of elongated conformation.

[0023] Advantageously, each of the laminar elements 3 is made up of a metal sheet of substantially narrow and elongated conformation.

[0024] In particular, the thickness of the sheet 3 can vary between 1 mm and 4 mm. Preferably, the sheet 3 has a thickness equal to 2 mm.

[0025] Moreover, preferably such sheet 3 is made of decarburized iron suitable for glazing.

[0026] Specifically, the above mentioned preparation step of the sheet 3 may be formed by the steps schematically illustrated in Figures 1 and 2.

[0027] In particular, this preparation step may comprise the arrangement and use of a special coil 4 of sheet 3, illustrated purely by way of example in figure 1. The sheet 3 so wrapped in coils 4 may therefore be easily transported, stored in the warehouse and used depending on the specific production needs.

[0028] The above mentioned preparation step therefore comprises the unwinding of the sheet 3 from the coil 4 and the straightening of the unwound sheet 3.

[0029] As schematically illustrated in Figure 2, this operation of straightening of the sheet 3 may be made by calendering by means of a suitable calender A, along a dedicated movement line B.

[0030] Advantageously, the process comprises a shaping step of the sheet 3, so as to obtain a shaped laminar element 5 having a cross section of predefined shape. As schematically illustrated in Figure 3, preferably such shaping step is carried out by pressing the sheet 3 by means of a suitable press C.

[0031] Advantageously, the predefined shape of the cross section of the shaped laminar element 5 is selected from the group comprising: a substantially folded shape in correspondence of at least a section, a substantially curved shape, an inverted V-shape, an inverted U-shape.

[0032] In particular, with reference to the embodiment illustrated in the figures, the shaped laminar element 5 has a cross section substantially formed as an inverted V.

[0033] Conformations of the cross section of the shaped laminar element 5 different from those described in the present description and illustrated in the figures cannot however be ruled out.

[0034] Therefore, by means of the shaping step shaped laminar elements 5 can be made simply, quickly and at a low cost having different profiles, able to give different aesthetic appearances to the grids 1 obtained using the process according to the invention.

[0035] Subsequently, as schematically shown in Figure 4, the process comprises a cutting step of said shaped laminar element 5, with or without tips, in order to obtain one or more support elements 6.

[0036] Conveniently, the process may provide a bending step, schematically shown in Figure 5, in which each support element 6 is folded in correspondence of a predefined section to define a first portion 6a of desired height and a second portion 6b of desired horizontal extension.

[0037] In particular, it is noticed that the terms "height" and "horizontal extension" refer to the normal positioning of the support elements 6 in the grid 1 produced by means of the process during normal use of the grid itself, when this is positioned e.g. on a cooking hob.

[0038] It should be noticed, furthermore, that the above bending step may not be carried out and, generally, is not carried out for all support elements 6. The realization of the grid 1, in fact, preferably provides for the realization and the use of a rectilinear support element 6' fixed to a crosspiece 7 of the grid itself The above mentioned cutting and bending steps also provide the cutting of a shaped laminar element 5 of predefined length and bending of such laminar element which is shaped and cut in order to obtain the crosspiece 7. Subsequently, the process provides a fixing step of the opposite ends of the crosspiece 7 to respective opposite sections of the perimeter frame 2, in correspondence of a substantially median portion of the perimeter frame 2 itself. The fixing step also provides for the fixing of the support elements 6 made in correspondence of respective sections of the perimeter frame 2 and of the crosspiece 7, to define a hold intended to support pans, pots or the like above the burners of the cooking hob.

[0039] In particular, the fixing is made of the first portions 6a of the support elements 6 folded in correspondence of respective stretches of the perimeter frame 2, spaced apart from one another, and the fixing of a substantially median section of a rectilinear support element 6' in correspondence of a substantially median section of the crosspiece 7.

[0040] In this way, the folded ends of the second portions 6b of the support elements 6, together with the opposite ends of the rectilinear support element 6', are mutually facing and able to cooperate to support pans, pots or the like above the burners of the cooking hob.

[0041] Preferably, this fixing step is carried out by welding the support elements 6 to the perimeter frame 2 and the rectilinear support element 6' to the crosspiece 7. In this regard, it is noticed that the present description, as well as Figure 7, make explicit reference to the production of a grid 1 able to be positioned above the two burners of a cooking hob.

[0042] Different grids 1 of different shapes and size, with different number and arrangement of the support elements 6 cannot however be ruled out.

[0043] Finally, the process according to the invention provides a glazing step and a firing step of the grid thus obtained, not illustrated in the figures, in order to obtain the desired color and aesthetic appearance.

[0044] The grid 1 obtainable according to the process described above, of which a possible embodiment in figure 7 is illustrated, comprises the perimeter frame 2 positionable on a cooking hob and a plurality of support elements 6 fixed in correspondence of respective sections of the perimeter frame 2 facing each other, to define a hold for pans, pots or the like above the burners of the cooking hob.

[0045] Advantageously, the support elements 6 and 6', as well as the crosspiece 7, are composed of respective shaped laminar elements having a cross section of predefined shape.

[0046] In particular, the support elements 6 and 6' are made of a metal sheet with a substantially narrow and elongated conformation.

[0047] Conveniently, the predefined shape of the cross section of each support element 6 and 6' is selected from

the group comprising: a substantially folded shape in correspondence of at least a section, a substantially curved shape, an inverted V-shape, an inverted U-shape.

[0048] According to the possible embodiment of the grid 1 shown in Figure 7, the cross section of the support elements 6, of the rectilinear support element 6' and of the crosspiece 7 is shaped as an inverted V.

[0049] Different conformations of the cross section cannot however be ruled out. Each of the support elements 6 is welded to the perimeter frame 2 and is folded in correspondence of a predefined section to define the first portion 6a of desired height and the second portion 6b of desired horizontal extension.

[0050] The crosspiece 7 has the opposite ends welded to the respective opposed sections of the perimeter frame 2, in correspondence of a substantially median portion of the perimeter frame itself.

[0051] The rectilinear support element 6' has a median section welded in correspondence of a respective median section of the crosspiece 7.

[0052] The perimeter frame 2, the crosspiece 7, the support elements 6 and the rectilinear support element 6' are preferably glazed.

[0053] It has in practice been observed how the described invention achieves the intended objects.

[0054] In particular the fact is underlined that the process according to the invention, specifically the use of a suitably shaped sheet for the realization of the support elements, allows to realize grids for cooking hobs at a lower overall cost than the grids produced using the processes of known type.

[0055] Moreover, in this way the grids are lighter compared to the grids of known type. Not the least advantage is given by the fact that the possibility to realize the support elements with cross sections of a different conformation allows to realize pleasant-looking and innovative grids.

[0056] Moreover, the realization of support elements with different cross section by means of shaping of the sheet simplifies at the same time the management of the supply and storage of raw materials and semifinished products used. In fact, starting from the coils of sheets stored in the warehouse, grids with different profiles may be realized.

Claims

1. Process for the production of grids (1) for hobs, cookers and gas stoves comprising:

   - at least a step of making a perimeter frame (2) which can be positioned on a hob or the like;

   characterized in that it comprises:

   - at least a step of preparing at least a laminar element (3) of elongated conformation;
   - at least a step of shaping said laminar element (3) to obtain a shaped laminar element (5) having a cross section of predefined shape;
   - at least a step of cutting said shaped laminar element (5) to obtain at least a support element (6, 6');
   - at least a step of fixing said at least one support element (6, 6') to said perimeter frame (2), to define a hold intended to support pans, pots or the like above the burners of said hob.

2. Process according to claim 1, **characterized in that** said laminar element (3) comprises at least a sheet (3) of metal of substantially narrow and elongated conformation.

3. Process according to one or more of the preceding claims, **characterized in that** said step of preparing comprises preparing at least a coil (4) of said laminar element (3).

4. Process according to claim 3, **characterized in that** said step of preparing comprises unwinding at least in part said laminar element (3) from said coil (4).

5. Process according to claim 4, **characterized in that** said step of preparing comprises straightening said laminar element (3) unwound from said coil (4).

6. Process according to claim 5, **characterized in that** said unwound laminar element (3) is straightened by means of calendering.

7. Process according to one or more of the preceding claims, **characterized in that** said step of shaping comprises pressing at least a section of said laminar element (3) to define said shaped laminar element (5).

8. Process according to one or more of the preceding claims, **characterized in that** said predefined shape of the cross section of the shaped laminar element (5) is selected from the group comprising: a substantially folded shape in correspondence of at least a section, a substantially curved shape, a substantially inverted V-shape, a substantially inverted U-shape.

9. Process according to one or more of the preceding claims, **characterized in that** said step of fixing comprises welding said at least one support element (6) to said perimeter frame (2).

10. Process according to one or more of the preceding claims, **characterized in that** it comprises at least a step of bending said at least one support element (6).

11. Process according to one or more of the preceding

claims, **characterized in that** it comprises at least a step of glazing said at least one support element (6, 6') and of said perimeter frame (2).

12. Grid (1) for hobs, comprising at least a perimeter frame (2) which can be positioned on a cooking hob or the like and a plurality of mutually facing support elements (6, 6') fixed to said perimeter frame (2), to define a hold intended to support pans, pots or the like above the burners of said hob, **characterized in that** said support elements (6, 6') are constituted by respective shaped laminar elements and having a cross section of predefined shape.

13. Grid (1) according to claim 12, **characterized in that** each of said shaped laminar elements (5) is made from a sheet (3) of metal of substantially narrow and elongated conformation.

14. Grid (1) according to one or more of claims 12 and 13, **characterized in that** said predefined shape of the cross section of the shaped laminar element (5) is selected from the group comprising: a substantially folded shape in correspondence of at least a section, a substantially curved shape, a substantially inverted V-shape, a substantially inverted U-shape.

15. Grid (1) according to one or more of claims 12 to 14, **characterized in that** at least one of said support elements (6) is folded in correspondence of at least a predefined section to define a first portion (6a) of desired height and a second portion (6b) of desired horizontal extension.

Fig. 1

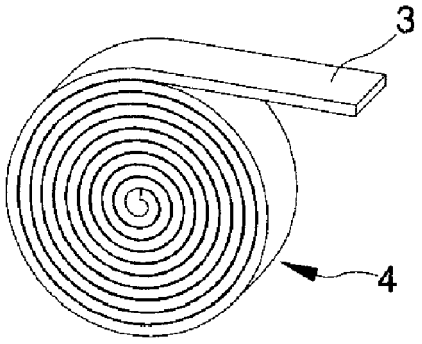
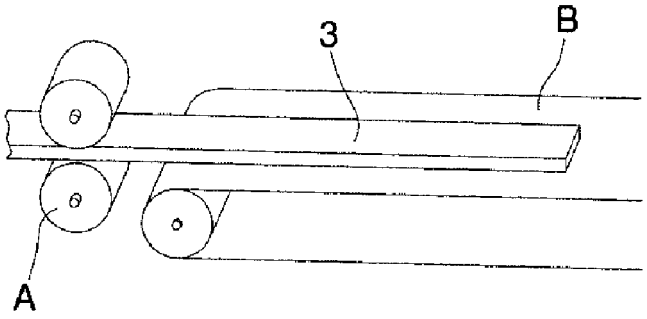


Fig. 2



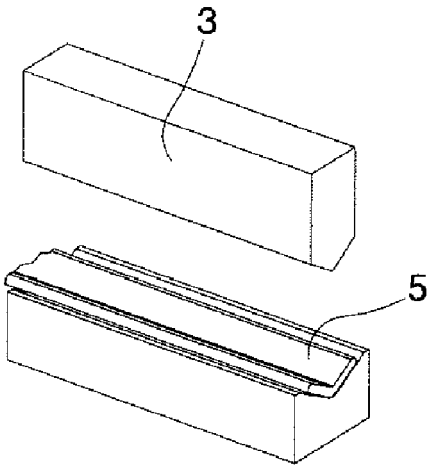
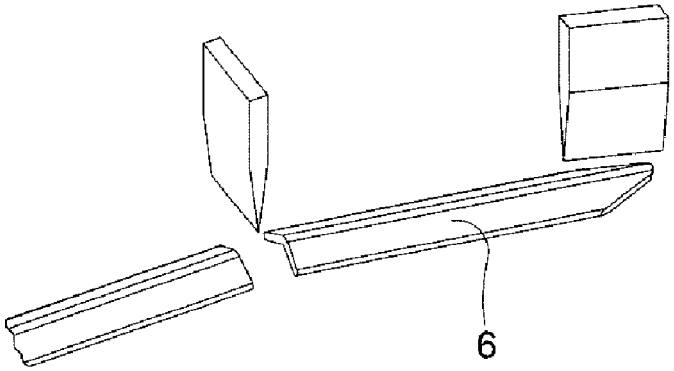


Fig. 3

Fig. 4



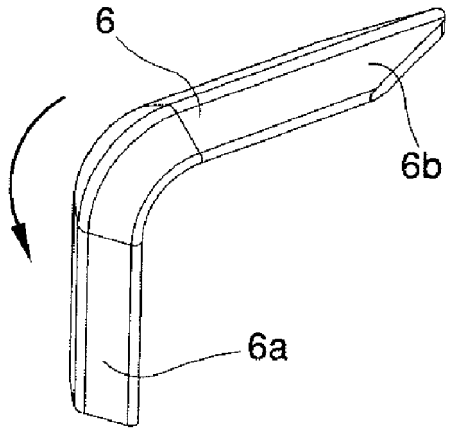


Fig. 5

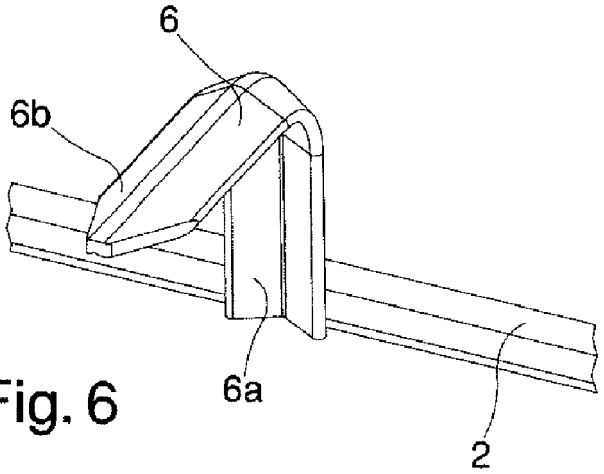


Fig. 6

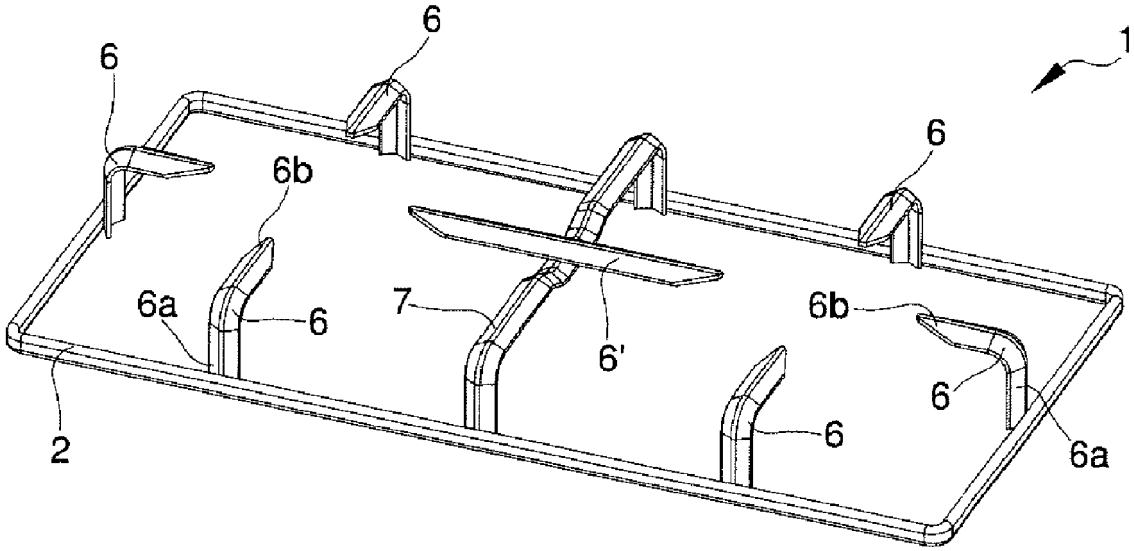


Fig. 7

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EUROPEAN SEARCH REPORT

Application Number
EP 15 17 1434

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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F24C
B21D
F23H
A47J

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	2 October 2015	Adant, Vincent

CATEGORY OF CITED DOCUMENTS

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