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(54) **Built-in cooking hob for household kitchens**

(57) The invention relates to the field of built-in cooking hob for household kitchens. A cooking hob (4) has the control panel (6) which is completely built-in in the thickness of the working plane (3) and flush with the upper face (16) of said cooking hob. The internal organs of the cooking hob (4) arranged in the heaters zone (5) are accessible from below, by removing a cover (11)

while the organs being contained in the control panel (6) can be reached from above, by removing a cover (14). Among the advantages of the present invention, there is the possibility of realizing cooking hobs having better performance than the ones being possible with the prior art without the need of realizing openings on the flanks (2) of the pieces of furniture.

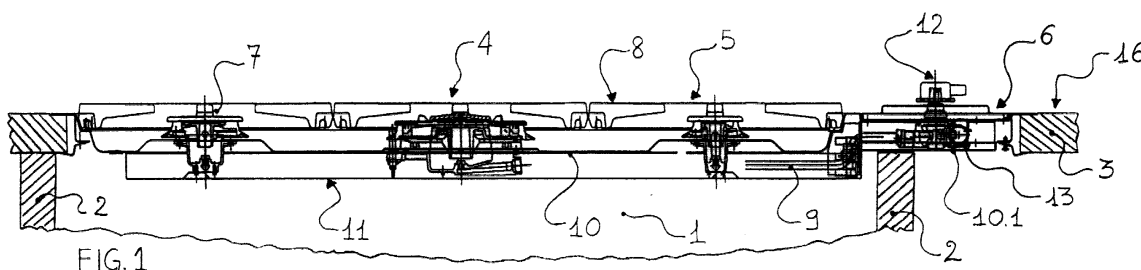


FIG. 1

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Description

[0001] The present invention refers to a built-in cooking hob for gas, electric or mixed household kitchens.

[0002] A cooking hob is formed by a container made of sheet-metal substantially including two distinct zones: a first zone being assigned to the heaters and a second zone being assigned to the command elements.

[0003] Said cooking hob is designed so as to be vertically inserted in a so-called working plane which is usually 3-4 cm thick.

[0004] Said first zone assigned to the heaters, which will be hereinafter identified as "heaters zone" contains the gas burners or the electric plates, or both types of said heating elements, when the cooking hob is of the mixed type.

[0005] The zone for the command elements, which will be hereinafter identified as "control panel" comprises, in the inside, at least the gas taps being contained in the thickness of the same control panel and/or the electric switches and, at the outside, the respective control knobs.

[0006] The minimum thickness of a cooking hob is determined by the heaters zone, since the latter, besides containing the above cited elements, must also allow for a suitable inflow of the so-called secondary air to the likely burners, for ensuring the complete and correct combustion of the gas.

[0007] The control panel, on the other hand, should not require any particular thickness requirements; considering the limited overall dimensions of the presently available taps or electric switches, the thickness could be not in excess of 4 cm..

[0008] An edge of the cited cooking hob covers, in a flange fashion, the opening of the working plane into which the hob itself is inserted and is sealed therein for avoiding that leaked liquids can drip to the underside.

[0009] The sealing can be realized in two different ways: by means of a seal when the cooking bob must be demountable, or by means of mastics when the cooking bob is provided for being inspected from below; mastics have the advantage of assuring a better sealing and of being concealed.

[0010] The cited cooking hob is superimposed to flanked pieces of furniture, which usually have modular and standardized widths; the module is generally 30 cm and the pieces of furniture being underneath the cooking hobs usually have a width of 60 or 90 cm.

[0011] It is clearly desirable, for practical and aesthetic, that the grids for supporting the pans or the plates of the electric heaters result in being utmost flush with the working plane, by inserting them as far as possible within the pieces of furniture.

[0012] At present, in order to attain such aims, two solutions are used.

[0013] According to the first solution, the cooking hob, including the control panel zone, is sufficiently narrow to stay within the flanks of a same piece of furniture.

Within the flanks of a piece of furniture being 60 cm width it is possible to contain a cooking hob having up to four heaters, while up to six heaters can be contained within the flanks of a piece of furniture being 90 cm width. Such a solution, however, is not fully satisfactory.

[0014] First of all, the space being available between the various heaters is limited; the need of assuring, on the one hand, a sufficient inflow of secondary to the burners and the difficulty, on the other hand, to allow for a great quantity of the same air to circulate within a cooking hob being completely or almost all built-in, limits the maximal power for the burners; finally, due to said dimensional constraints, the control panel is sometimes (for avoiding excessive encumbrances in plan) in an inclined position and therefore necessarily protrudes out, or it is very close to the heaters, the latter ones being consequently too approached to each other.

[0015] The second solution being presently used allows for setting cooking hobs which are much wider than the ones previously mentioned, the number of heaters being the same, and therefore without any privation of functionality and aesthetics, but realizing relevant openings not only on the working plane but also on the flanks of the cited pieces of furniture.

[0016] A first drawback of this solution is that the furniture manufacturer must differentiate his production with a costs increase; another drawback of said second solution presently used is that the cooking hob is not dismountable at the bottom for likely inspections, since this fact is impeded by the flanks of the piece of furniture: consequently, it is necessary to extract the cooking hob when interventions are required and therefore it is not possible to seal with mastics the cooking hob into the relevant seat.

[0017] Clearly, it is possible to realize a cooking hob being wide at desire and without the need of realizing openings on the flanks of the piece of furniture but, in this case, said cooking hob has the drawback of protrude out of the working plane for at least 3,5 cm.

[0018] The aim of the present invention, for built-in cooking hobs provided for being inserted in working plane which is superimposed to pieces of furniture and destined to penetrate at least partly within said pieces of furniture, is that of allowing, without any openings being present on the flanks of said pieces of furniture, the insertion in the latter ones of cooking hobs which requires on the working plane an opening whose width is greater than the internal width of said pieces of furniture.

[0019] A further aim of the present invention is that of allowing, with the widths of said pieces of furniture deprived of lateral openings being the same, a greater distance between the heaters.

[0020] A further aim of the present invention is that of allowing, with the widths of said pieces of furniture deprived of lateral openings being the same, a greater power of the gas burners.

[0021] A further aim of the present invention is that of allowing, with the widths of said pieces of furniture de-

prived of lateral openings being the same and with the power of said gas burners being the same, a deeper insertion of the cooking hob within the inside of the piece of furniture.

[0022] These and other aims are reached by a built-in cooking hob according to the present invention, which is characterized in that it has a first thickness in correspondence of the heaters zone and a second thickness, being lesser than the first one, in correspondence of the control panel.

[0023] These and other features will be better highlighted from the following description and the annexed claims..

[0024] In the attached tables of drawings, a preferred embodiment of the invention is shown by way of non limiting example, wherein

- Fig. 1 shows a transverse section, according to the width, of a cooking hob;
- Fig. 2 shows a plan view of a cooking hob.

[0025] With reference to the figures, reference number 1 indicates a piece of furniture, whose flanks are indicated with 2; above the piece of furniture 1 a working plane 3 is arranged.

[0026] Into said working plane 3 a cooking hob 4 is built in, comprising a heaters zone 5 and a control panel 6.

[0027] The heaters zone 5 contains the heaters 7, the pan-supporting grids 8, the gas conveying means 9; said means which are contained in the heaters zone 5 and/or the analogous means of one or more electric heaters (the latter ones being not represented in the figures) are preferably standing and/or fixed onto the upper and/or lower face of the bottom 10 of the cooking hob 4.

[0028] A cover 11 is fixed, by means of known and dismountable means, to the underlying part of the cooking hob 4; the cover 11 can be removed from the inside of the piece of furniture 1, in order to allow for the access, from below, to all components being under the bottom 10 of the cooking hob 4.

[0029] The control panel 6 is arranged at one side of the of the cooking hob 4 and comprises, on the top, the knobs 12 and, on the lower part, the adjustment and control means 13 being associated to said knobs 12, such as gas supply taps and/or, whenever electric heaters are provided, the relevant switches. Said control panel 6 is preferably, but not necessarily, closed on the lower part by a bottom 10.1, while on the top a cover 14 is provided, being interposed between the cited knobs and taps; for the whole of its perimetrical development, the cover 14 is equipped with a seal 15. As it is clear from Fig. 1, the control panel 6 is arranged above a flank 2 of the pieces of furniture 1, but its inside is accessible through the removal of the cover 14.

[0030] The control panel 6 is completely built-in in the thickness of the working plane 3, which has a thickness not lower than 4 cm, with the covers 14 being completely

flush with the upper face 16 of the cited cooking hob. In addition, though Fig. 1 shows the pan-supporting grids 8 being slightly protruding from the working plane 3, variant embodiments are possible, in which also the said pan-supporting grids 8 can have the upper edge completely flush with the upper face 16 of the cited working plane 3.

[0031] The cooking hob 4, once it has been mounted, can be definitively sealed to the working plane 3 into which its is built-in, since all parts are accessible for servicing and maintenance from below or from above, by virtue of the presence of the covers 11 and 14.

[0032] It is clear that the advantages of the present invention derives from the fact that the internal space of a piece of furniture is made completely available for the apparatuses strictly linked to the heaters, without the needs of openings on the flanks of the piece of furniture and without any aesthetic detriment.

[0033] Therefore, a first advantage of the cooking hob being the subject of the present invention is realized by the fact that, with a same space between the flanks of a piece of furniture, it is possible to insert a cooking hob having heaters of greater power and/or being more spaced from each other than the prior art.

[0034] A second advantage of the cooking hob being the subject of the present invention is realized by the fact that, with a same power of electric heaters, the latter ones and the relevant pan-supporting grids can be inserted much lower than, or flush with, the upper surface of the working plane.

[0035] A further advantage is that the control panel can be perfectly flush with the working plane and sufficiently spaced from the heaters zone.

[0036] A further advantage is that the cooking hob can be sealed in a definitive way onto the working plane, also when the parts subject to maintenance or servicing contained in the control panel are not accessible from below..

[0037] The teachings of the present invention can be used, by mere way of example, for realizing a cooking hob to be inserted in a working plane having a 4 cm. thickness and being similar to the one showed in Figs. 1 and 2, particularly for what concerns the very limited protrusion of the grids, but having four heaters, whose main features can be as follows. The cooking zone 5 of said cooking hob 4 has a width, the control panel being excluded, of 540 mm and a same depth; the inter-axis of the heaters is 270 mm in width and 240 mm in depth; the possible powers for the four gas burners, notwithstanding the deep insertion in the working plane, are 3.600, 1.200, 3.000 e 1.900 Watt respectively.

Claims

1. Cooking hob (4) to be built-in in a working plane (3), for gas or electric or mixed household kitchens, having a heaters zone (5) and a control panel (6), said

- control panel (6) being rigidly associated at a side of the heaters zone (5), **characterized in that**, in correspondence of the heaters zone (5), the cooking plane has a first thickness and, in correspondence of the control panel (6), a second thickness, said second thickness being lesser than the first thickness. 5
2. Cooking hob according to claim 1, **characterized in that** said second thickness in correspondence of said control panel (6) is the minimal being required to contain adjustment and control means (13) being associated to knobs (12). 10
3. Cooking hob according to the previous claim, **characterized in that** said second thickness in correspondence of said control panel (6) is not greater than the thickness of the working plane (3). 15
4. Cooking hob according to the previous claim, **characterized in that** said second thickness in correspondence of said control panel (6) is not greater than 4 cm. 20
5. Cooking hob according to the previous claim, **characterized in that** the total width of the part to be built-in, comprising at least the heaters zone (5) and the control panel (6), is greater than the width being available between the flanks (2) of the underlying piece of furniture (1) while the heaters zone (5) has a width being lower than the width being available between the flanks (2). 25 30
6. Cooking hob according to the previous claim, **characterized in that** a heaters zone (5) having at least four or six heaters, respectively, is inserted in a piece of furniture having an external width not greater than 60 or 90 cm., respectively. 35
7. Cooking hob according to one of the previous claims, **characterized in that** the heaters zone (5) is at least partly inserted within the flanks (2) of the pieces of furniture (1) while the control panel (6) is completely confined within the thickness of the working plane (3). 40 45
8. Cooking hob according to the previous claim, **characterized in that** the control panel (6) has a cover which can be arranged completely flush with the upper face (16) of the working plane (3). 50
9. Cooking hob according to one of the previous claims, **characterized in that** the gas conveying means (9) and/or the analogous means of one or more electric heaters being comprised in the heaters zone (5), which are fixed to the lower side of the bottom (10) of the cooking plane, are completely accessible from the inside of the piece of furniture (1). 55
10. Cooking hob according to the previous claim, **characterized in that** the gas conveying means (9) and/or the analogous means of one or more electric heaters being comprised in the heaters zone (5) are protected lower down by a cover (11) which is demountable from the inside of the piece of furniture (1).
11. Cooking hob according to one of the previous claims, **characterized in that** the adjustment and control means (13) contained in the control panel (5) are accessible from above by removing a cover (14).
12. Cooking hob according to the previous claim, **characterized in that** the cover (14) of the control panel (6) has a seal (15) along the perimeter of the cover itself, said seal being operative for preventing the infiltration of liquids to the inside of the same control panel (6).
13. Cooking hob according to one of the previous claims, **characterized in that** all the components being susceptible of inspection and/or servicing are accessible from the inside of the piece of furniture (1) or from the upper part of the working plane (3).
14. Cooking hob according to one of the previous claims, **characterized in that** is can be sealed in a definitive way to the working plane (3).
15. Cooking hob according to one of the previous claims, **characterized in that** the control panel (6) is laterally positioned with respect to said heaters zone (5).

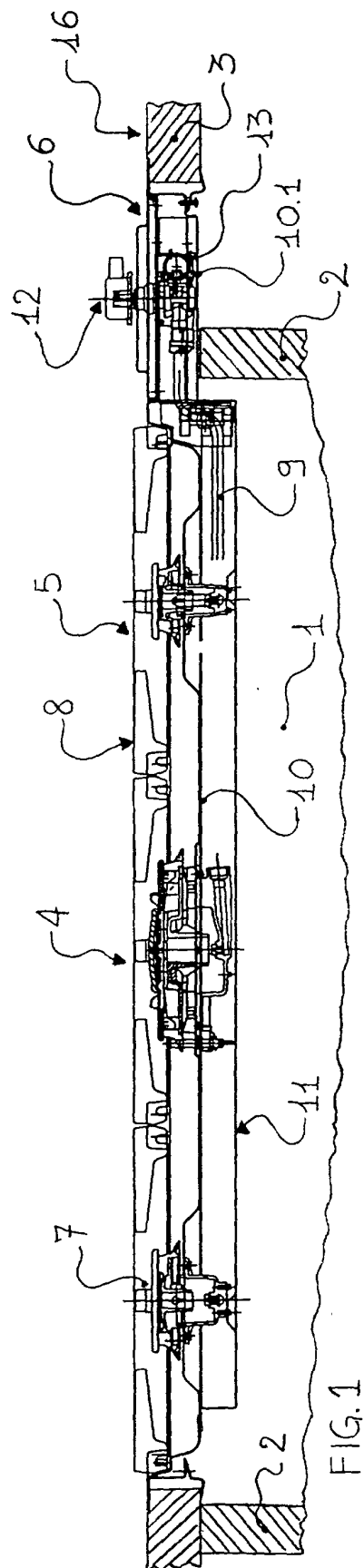


FIG. 1

