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(71) Applicant: **Gorenje Gospodinjski aparati d.d.**
3503 Velenje (SI)

(72) Inventors:
- **Rudolf, Mitja**
  3320 Velenje (SI)
- **Kreca, Marko**
  3312 Prebold (SI)

(74) Representative: **Ivancic, Bojan**
Inventio d.o.o.
Dolenjska cesta 11
P.O. Box 2410
1001 Ljubljana (SI)

(54) **Heating unit of an oven**

(57) The present invention refers to the field of household appliances, particularly free-standing and built-in cooking ranges and built-in ovens, and in particular to an upper heating unit comprising at least one tubular heater. It is provided for according to the invention that at least two heaters (1, 2) are arranged inside an oven (5) in the area of the ceiling section (4) thereof, said heaters being vertically spaced apart relatively to each other and attached to the back of the oven (5) by means of a common flange (3).

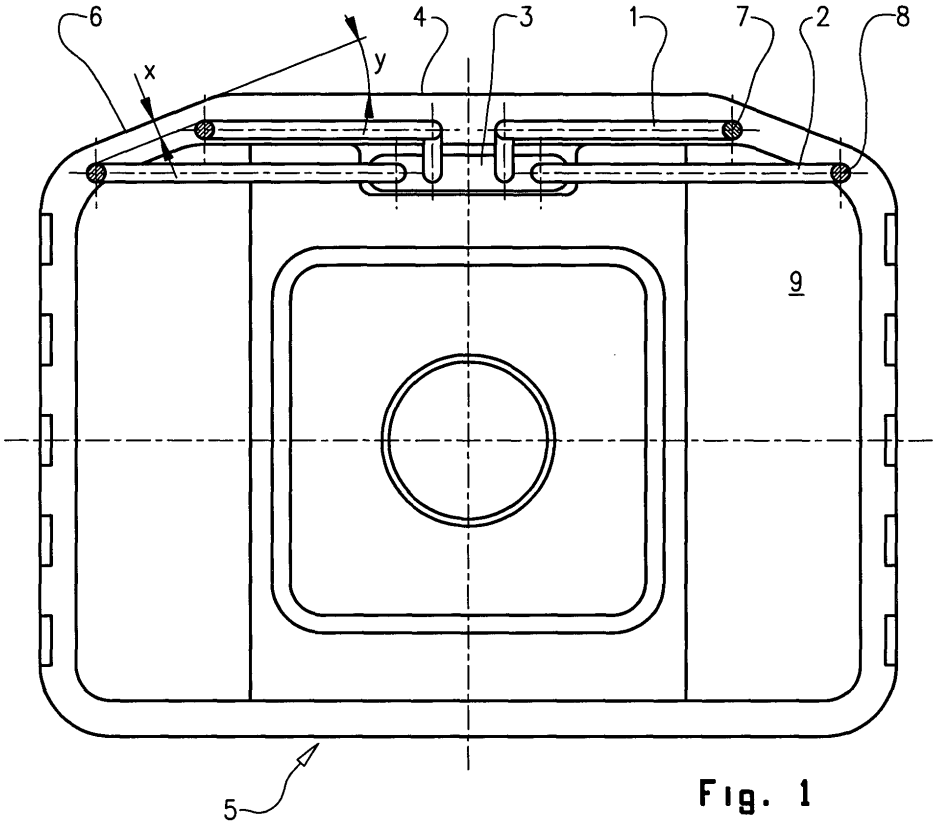

Fig. 1

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Description

[0001] The present invention refers to the field of household appliances, particularly free-standing and built-in cooking ranges and built-in ovens, and in particular to an upper heating unit comprising at least one tubular heater.

[0002] A single-level upper tubular heater is in use in an oven chamber of cooking appliances, where the number of heating tubes may be greater than one. A tubular heater formed of two concentric tubes is most commonly used. Said tubes are fixed in a flange by means of which a heating body is attached to the upper back section of the oven chamber. Tubular heaters may operate separately or simultaneously, thus resulting in food being unevenly cooked. The drawbacks of such solution are the relatively inhomogeneous temperature field in the plan view of the oven chamber, the relatively small surface of the upper oven section, the relatively significant influence of heat radiation to undesirable places in the oven, and the relatively significant resistance in the upper section of the oven chamber.

[0003] It is the object of the invention to create a brand new heating unit for an oven which will remedy the drawbacks of known solutions.

[0004] According to the invention, the object as set out above is solved in a manner that at least two heaters are arranged inside an oven in the area of the ceiling section thereof, said heaters being vertically spaced apart relative to each other and attached to the back of the oven by means of a common flange. Here, said heaters are meant to be tubular heaters.

[0005] According to the invention it is preferred that the heater which is arranged closer to the ceiling section of the oven, i.e. the upper heater, is designed with a higher heating power than the second heater being arranged below said upper heater.

[0006] Furthermore, it is provided according to the invention that the interior of the oven is formed in a manner that each of both upper side corners is provided with a chamfer. Here, it has been demonstrated as particularly advantageous if said chamfer comprises an inclination in a range of between 20 to 45 degrees relative to the horizontal.

[0007] In addition, it is provided according to the invention that the distance between each transversal cross-section of the heater and said chamfer is always the same. Thus, the food being cooked in said oven is cooked optimally and uniformly, since the upper tubular heater with a higher heating power is located on the greater distance from the food, being cooked in the oven, compared to the second tubular heater with a lower heating power arranged below said upper heater.

[0008] The invention will be more readily understood on reading the following description with reference to the accompanying drawing where

Fig. 1 shows the cross-section of an oven of a cooking apparatus,

Fig. 2 shows the top view of a heating unit of an oven according to the invention.

[0009] The upper heating unit of an oven according to the invention consists of two tubular heaters 1, 2 arranged one above the other and attached to a common flange 3 being further attached to a back 9 of an oven 5. The tubular heater 1, 2 which lies closer to a ceiling 4 of the oven 5, i.e. the upper tubular heater 1 in the given case, is preferably designed with a higher heating power whereas the second tubular heater 2 of the lower heating power is arranged in a vertical distance under said upper tubular heater 1.

[0010] The interior of the oven 5 is designed in a manner that each of the upper side corners is formed with a chamfer 6 when viewing in the direction from the door towards the back of the oven. Said chamfer 6 comprises an inclination $\underline{y}$ preferably extending in the range of between 20 and 45 degrees relative to the horizontal. With such a design the homogeneity of the temperature field significantly improves in the plan view of the oven chamber. The surface of the upper section of the oven also increases significantly resulting in an improvement of the heat radiation effect from the walls to the food being cooked in the oven.

[0011] Each cross-section 7, 8 of the tubular heater 1, 2 lies here at the very same distance $\underline{x}$ from said chamfer 6. Thus, the food being cooked in said oven is cooked optimally and uniformly, since the upper tubular heater 1 with a higher heating power is located on the greater distance from the food, being cooked in the oven, with regard to the second tubular heater 2 with a lower heating power arranged below said upper heater.

Claims

1. A heating unit of an oven comprising at least one tubular heater ***characterized*** **in** ***that*** at least two heaters (1, 2) are arranged inside an oven (5) in the area of the ceiling section (4) thereof, said heaters being vertically spaced apart relatively to each other and attached to the back of the oven (5) by means of a common flange (3).

2. A heating unit according to claim 1 ***characterized*** **in** ***that*** the upper heater (1) which is arranged closer to the ceiling section (4) of the oven (5) is designed with a higher heating power than the second heater (2) being arranged below said upper heater (1).

3. A heating unit according to claims 1 and 2 ***characterized in that*** the interior of the oven (5) is formed in a manner that each of both upper side corners is provided with a chamfer (6).

4. A heating unit according to any of claims 1 to 3 ***char-***

acterized **in** ***that*** each cross-section (7, 8) of the tubular heater (1, 2) lies at the same distance (*x*) from said chamfer (6).

5. A heating unit according to any of claims 1 to 4 ***characterized in that*** said chamfer (6) is formed with an inclination (*y*) in a range of between 20 to 45 degrees relative to the horizontal.

6. A heating unit according to any of claims 1 to 5 ***characterized in that*** said heater (1, 2) is a tubular heater.

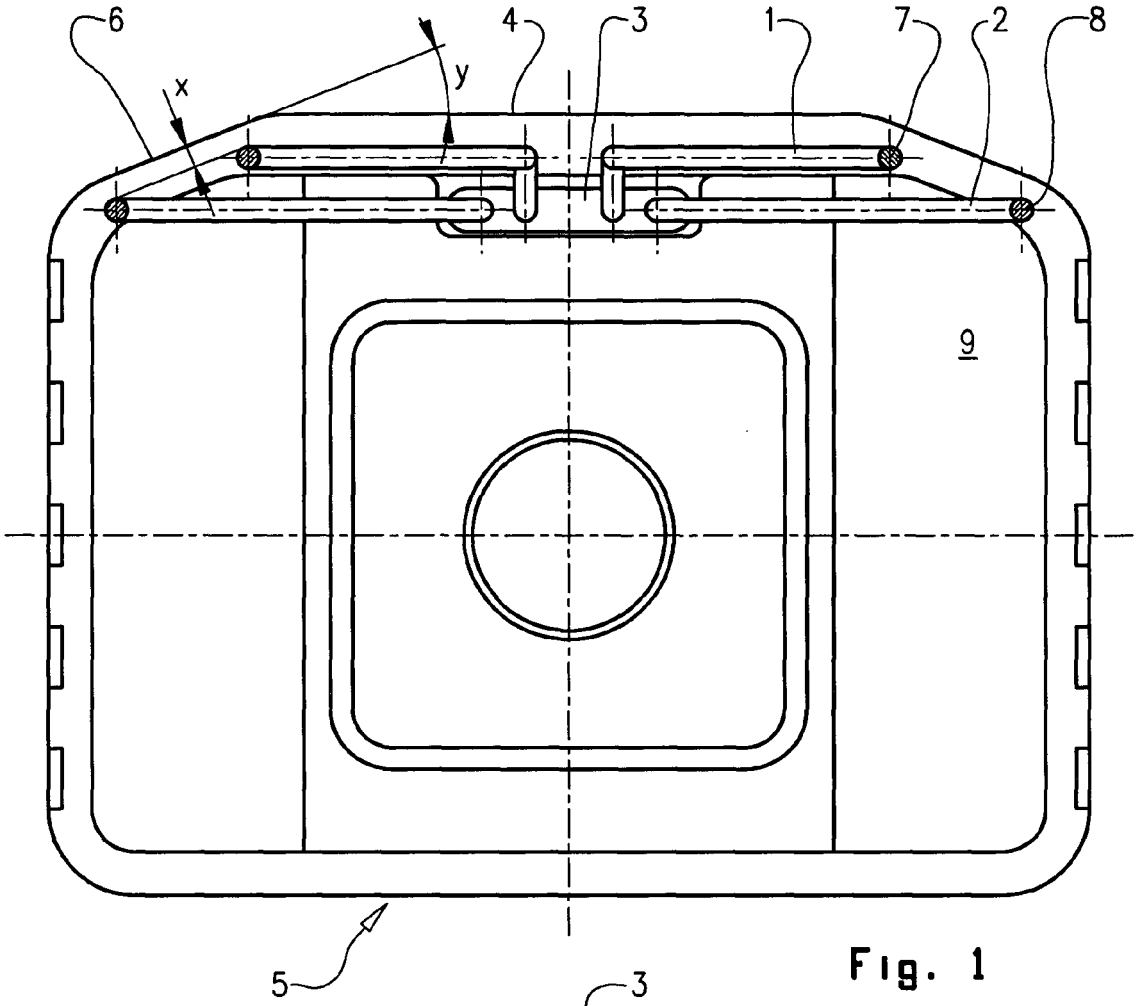

Fig. 1

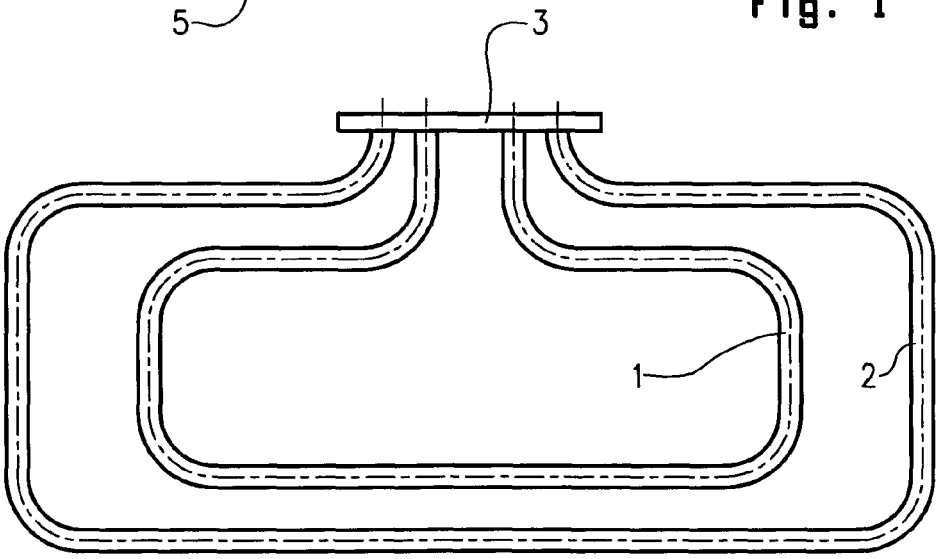

Fig. 2