

Fastening a grid like support of guides in an oven

5 The present invention refers to a fastening a grid like support of guides in a household appliance, particularly in an oven, comprising a backing chamber defined by a top wall, a bottom wall and two side walls, and is closed at the first end thereof with a back wall and at the opposite end it can be closed by means of a door, a grid like support being arranged at each side wall that can be fixed to the side walls of the backing chamber.

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Fastening a grid like support of guides of the aforementioned kind has been disclosed in a patent document No. DE 199420705 U1, for instance. However, said disclosed fastening can be used only with ovens made of stainless steel, whereas such fastening being of no use in the case the oven is enameled. A problem namely occurs with the mounting and
15 demounting of the grid, since the enamel may crack in particular around the receiving hole, if the grid hits the edge of said hole.

It is the object of the present invention to create fastening a grid like support of guides in a household appliance, particularly in an oven, which will remedy the drawbacks of the
20 known solutions.

The object as set above is solved with characteristics as set forth in a characterising clause of claim 1. Details of the invention are disclosed in subclaims.

25 The invention is further described in detail by way of non-limiting preferred embodiments, and with a reference to the accompanying drawing, where

Fig. 1 shows a schematic three-dimensional view of an oven,

Fig. 2 shows a three-dimensional view of a screw to fix a grid like support.

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A household appliance, particularly an oven 1, comprises a backing chamber 2 defined in the circumferential direction by a top wall 3, a bottom wall 4 and two side walls 5, 6, and is closed at the first end thereof with a back wall 7 and at the opposite end it can be closed by means of a door, not shown. All said walls 3, 4, 5, 6, 7 are preferably covered with a
35 protective layer of enamel. A grid like support 5.1, 6.1 of guides is arranged at each side

wall 5, 6 to receive a baking tray, for instance. A fan cover 9 is attached to said back wall 7 by means of a plurality of screw means 8. Each said screw 8 is arranged in each vertical marginal area of said back wall 7, where in the present and preferred embodiment a pair of said screws 8 being provided in said vertical marginal area. Furthermore, each said screw 8 is fixed by means of a nut, not shown, from the back side of said back wall 7, a washer being optionally arranged between the nut and the back side of the back wall 7. Optionally, said sealing washer can be arranged also between the back wall 7 and the fan cover 9, thus preventing the mutual friction of the enameled elements.

Each said screw 8 is formed with a radially extending head 10 where a shank 11 stems from, each said screw 8 being formed at the side of said head 10 with a threaded hole 12 being concentric with said shank 11. It is understood of course, that the diameter of said threaded hole 12 is smaller in comparison to the diameter of said shank 11. Furthermore, it is provided according to the present invention that said threaded hole 12 is a blind hole, however, an embodiment is possible where said threaded hole 12 is a through hole.

Each said grid like support 5.1, 6.1 of guides is placed into the backing chamber in a manner that, essentially, a horizontal extension 13, 14 of the grid like support 5.1, 6.1 is inserted into said threaded hole 12 of each screw 8. In order to achieve a suitable cooperation between said hole 12 and said extension 13, 14, a slip fit is provided there between. In order for each said grid like support 5.1, 6.1 to be fixed and secured against unwanted draw out of said holes 12 of the screw 8, each said grid like support 5.1, 6.1 is additionally secured by means of a fixing screw 15 screwed into a threaded hole of the additional screw fixed in each side wall 5, 6. It is provided for according to the present invention that said additional screw is identical to said screw 8. Optionally, each end region of said extension 13, 14 is provided with a washer, not shown, which presses against the head 10 of said screw 8 when said supports 5.1, 6.1 being mounted. Said washer is particularly essential when installing said grid like support 5.1, 6.1 according to the invention into a micro-wave oven, since the occurrence of sparks is prevented between the screw 8 and said support 5.1, 6.1.

The above described fastening a grid like support 5.1, 6.1 of guides is useful practically with all types of ovens, such as steam ovens, pyrolytic ovens, multifunctional ovens, micro-wave ovens and similar. In this manner, said grid like supports 5.1, 6.1 of guides and said screws 8 are equal for all types of ovens, thus, substantially reducing the production

costs and accelerate the assembling of ovens. Additionally, the need for different hoods and fan covers become superfluous, since they are the same for all said ovens.

Claims

1. Fastening a grid like support of guides in a household appliance, particularly in an oven, comprising a backing chamber defined by a top wall, a bottom wall and two side walls, and is closed at the first end thereof with a back wall and at the opposite end it can be closed by means of a door, a grid like support being arranged at each side wall that can be fixed to the side walls of the backing chamber, **characterized in that** a plurality of screw means (8) is screwed in a back wall (7) fixing a fan cover (9), an additional screw (8) being screwed into each side wall (5, 6) and a fixing screw (15) being screwed in said additional screw (8), said screws (8, 15) fixing each grid like support (5.1, 6.1) of guides to each side wall (5, 6) in a backing chamber (2).
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2. Fastening a grid like support of guides according to claim 1, **characterized in that** each said screw (8) is formed with a radially extending head (10) where a shank (11) stems from, each said screw (8) being formed at the side of said head (10) with a threaded hole (12) being concentric with said shank (11).
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3. Fastening a grid like support of guides according to claims 1 and 2, **characterized in that** an essentially horizontal extension (13, 14) of the grid like support (5.1, 6.1) is inserted with a loose fit into said threaded hole (12) of each said screw (8) being screwed into said back wall (7) of the backing chamber (2).
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4. Fastening a grid like support of guides according to any of the preceding claims, **characterized in that** each said screw (8) arranged in each vertical marginal area of said back wall (7) is fixed by means of a nut from the back side of said back wall (7), a sealing washer being optionally arranged between the nut and the back side of the back wall (7).
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5. Fastening a grid like support of guides according to any of the preceding claims, **characterized in that** said sealing washer is optionally arranged between the back wall (7) and the fan cover (9).
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6. Fastening a grid like support of guides according to any of the preceding claims, **characterized in that** each end region of said extension (13, 14) is provided with a washer, which presses against the head (10) of said screw (8) when said supports
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(5.1, 6.1) being mounted.

