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(54) **A COOKING DEVICE**

(57) The present invention relates to a cooking device (1) comprising a body (2); a cooking chamber (3) which is disposed in the body (2) and wherein the food-stuffs to be cooked are placed; a casing (4) in the form of a box with the front side open which has a plurality of side walls and a rear wall surrounding the cooking chamber (3); a fan (5) which is disposed at the front section of

the casing (4); a motor (6) which is disposed behind the casing (4); and a shaft (7) which is connected to the motor (6) at one end and to the fan (5) at the other end on the casing (4) and which extends into the cooking chamber (3) through at least one opening (8) on the rear wall so as to transfer the movement of the motor (6) to the fan (5).

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Description

[0001] The present invention relates to a cooking device comprising a sealing member.

[0002] Today cooking devices are used for preparing foodstuffs by means of processes such as heating, cooking, etc. The oven is one of the most frequently used devices to prepare foodstuffs. In ovens, the hot air circulation in the cooking chamber wherein the foodstuffs are placed during the cooking process is provided by means of the motor and the fan. The air moves by means of the fan positioned at the end of the motor. The shaft is passed through the opening on the outer side of the cooking device and connected to the fan. However, said opening causes the passage of the hot and humid air in the cooking chamber to the outer environment. Due to the hot and humid air, the amount of energy consumed by the cooking device may increase and/or the motor may malfunction.

[0003] In the state of the art Chinese Utility Model Document Application No. CN207229450, a cooking device is disclosed, comprising a sealing member (gasket) which prevents the hot air and the steam in the cooking chamber from passing to the motor shaft.

[0004] The aim of the present invention is the realization of a cooking device wherein the leakproofing between the cooking chamber and the outer environment is effectively provided, preventing the energy consumption from increasing and the motor from malfunctioning.

[0005] The cooking device realized in order to attain the aim of the present invention, explicated in the first claim and the respective claims thereof, comprises a body; a cooking chamber which is disposed in the body and wherein the foodstuffs to be cooked are placed; and a casing which is a box with an open front side, comprising a plurality of side walls surrounding the cooking chamber. A fan is provided at the front section of the casing rear wall facing the cooking chamber. A motor is provided at the rear section of the casing rear wall facing the outside of the cooking chamber. A shaft is provided on the casing, which is connected to the motor at one end and to the fan at the other end so as to extend into the cooking chamber through an opening on the casing and to enable the movement of the motor to be transferred to the fan.

[0006] The cooking device of the present invention comprises a sealing member which is disposed between the casing and the motor. A hole through which the shaft passes is arranged on the sealing member. Thus, the shaft is enclosed, eliminating the risk of leaking and preventing the cooking device from being damaged.

[0007] In an embodiment of the present invention, the cooking device comprises a support plate which is disposed on the casing. The sealing member is disposed into a housing arranged on the support plate. Moreover, a plurality of arms on the support plate surround the sealing member, and one end of each of the arms is in contact with the sealing member.

[0008] In another embodiment of the present invention,

the cooking device comprises the support plate having a plurality of L-shaped arms. By means of the L shape, the sealing member is prevented from moving in the horizontal axis, providing any leak. The L shape is preferably equal to the thickness of the sealing member.

[0009] In another embodiment of the present invention, the cooking device comprises the support plate having the U-shaped housing. Thus, the support plate is enabled to surround the sealing member and the shaft so as to be slid on the casing and positioned.

[0010] In another embodiment of the present invention, the cooking device comprises the support plate having a skirt which is disposed at the upper side of the sealing member in the housing. The skirt extends perpendicularly to the support plate between the arms so as to be aligned with the upper side of the sealing member.

[0011] By means of the present invention, the sealing member prevents the hot air in the cooking chamber from leaking to the outer environment. Moreover, by preventing the humid air leaving the cooking chamber from reaching the motor, the motor and hence the cooking device are prevented from being damaged.

[0012] The cooking device realized in order to attain the aim of the present invention is illustrated in the attached figures, where:

Figure 1 - is the front schematic view of the cooking device.

Figure 2 - is the rear perspective view of the cooking device comprising the sealing member and the support plate in an embodiment of the present invention.

Figure 3 - is the sideways perspective view of the cooking device comprising the sealing member and the support plate in an embodiment of the present invention.

Figure 4 - is the front perspective view of the support plate comprising the housing, the arm and the skirt in an embodiment of the present invention.

[0013] The elements illustrated in the figures are numbered as follows:

1. Cooking device
2. Body
3. Cooking chamber
4. Casing
5. Fan
6. Motor
7. Shaft
8. Opening
9. Sealing member
10. Hole
11. Support plate
12. Housing
13. Arm
14. Skirt

[0014] The cooking device (1) comprises a body (2); a

cooking chamber (3) which is disposed in the body (2) and wherein the foodstuffs to be cooked are placed; a casing (4) in the form of a box with the front side open which has a plurality of side walls surrounding the cooking chamber (3); a fan (5) which is disposed at the front section of the casing (4); a motor (6) which is disposed behind the casing (4); and a shaft (7) which is connected to the motor (6) at one end and to the fan (5) at the other end on the casing (4) and which extends into the cooking chamber (3) through at least one opening (8) on the rear wall so as to transfer the movement of the motor (6) to the fan (5). Thus, the fan (5) makes rotational movement, providing the circulation of the hot air in the cooking chamber (3) and the performance of the cooking process.

[0015] The cooking device (1) of the present invention comprises a sealing member (9) which is disposed between the casing (4) and the motor (6) and which has a hole (10) thereon through which the shaft (7) passes. The hole (10) is sized so as to allow the passage of the shaft (7) therethrough and is formed so as to enclose the shaft (7). Thus, the shaft (7) is prevented from moving, providing efficient leakproofing.

[0016] In an embodiment of the present invention, the cooking device (1) comprises a support plate (11) disposed on the casing (4) and having a housing (12) wherein the sealing member (9) is disposed and a plurality of arms (13) which surround the housing (12) such that one end of each contacts the sealing member (9). The arms (13) surrounds the sealing member (9).

[0017] In an embodiment of the present invention, the cooking device (1) comprises the support plate (11) having a plurality of L-shaped arms (13). At least two arms (13) are oppositely provided on the support plate (11) preferably at the two sides of the sealing member (9).

[0018] In another embodiment of the present invention, the cooking device (1) comprises the support plate (11) having the U-shaped housing (12). With one end being open, the support plate (11) can be easily placed onto the casing (4) so as to surround the sealing member (9) and the shaft (7).

[0019] In another embodiment of the present invention, the support plate (11) comprises a skirt (14) which extends at the upper section of the sealing member (9) in the housing (12) so as to be perpendicular to the support plate (11). Thus, the sealing member (9) is prevented from moving in the vertical direction.

[0020] By means of the present invention, the sealing member (9) enables the motor (6) and the shaft (7) to be easily placed onto the casing (4), providing leakproofing. The support plate (11) surrounds the sealing member (9) and the shaft (7) and prevent both from moving. Thus, heat loss from the cooking device (1) to the outer environment is prevented.

Claims

1. A cooking device (1) **comprising** a body (2); a cook-

ing chamber (3) which is disposed in the body (2) and wherein the foodstuffs to be cooked are placed; a casing (4) in the form of a box with the front side open which has a plurality of side walls surrounding the cooking chamber (3); a fan (5) which is disposed at the front section of the casing (4); a motor (6) which is disposed behind the casing (4); and a shaft (7) which is connected to the motor (6) at one end and to the fan (5) at the other end on the casing (4) and which extends into the cooking chamber (3) through at least one opening (8) on the rear wall so as to transfer the movement of the motor (6) to the fan (5), **characterized by** a sealing member (9) which is disposed between the casing (4) and the motor (6) and which has a hole (10) thereon through which the shaft (7) passes.

2. A cooking device (1) as in Claim 1, **characterized by** a support plate (11) disposed on the casing (4) and having a housing (12) wherein the sealing member (9) is disposed and a plurality of arms (13) which surround the housing (12) such that one end of each contacts the sealing member (9).

3. A cooking device (1) as in Claim 2, **characterized by** the support plate (11) having a plurality of L-shaped arms (13).

4. A cooking device (1) as in any one the Claims 2 to 3, **characterized by** the support plate (11) having the U-shaped housing (12).

5. A cooking device (1) as in any one the Claims 2 to 4, **characterized by** a skirt (14) which extends at the upper section of the sealing member (9) in the housing (12) so as to be perpendicular to the support plate (11).

Figure 1

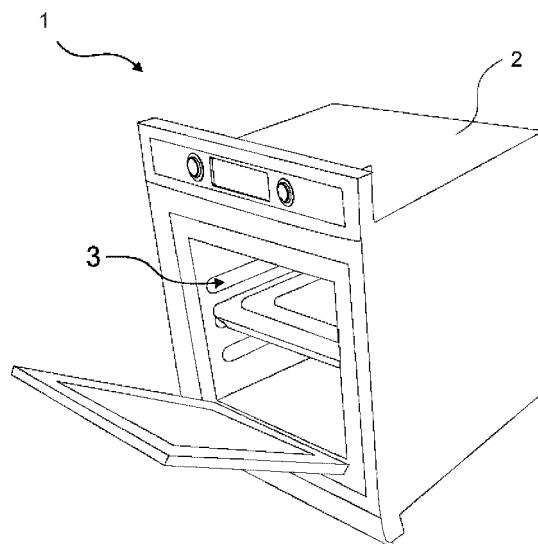


Figure 2

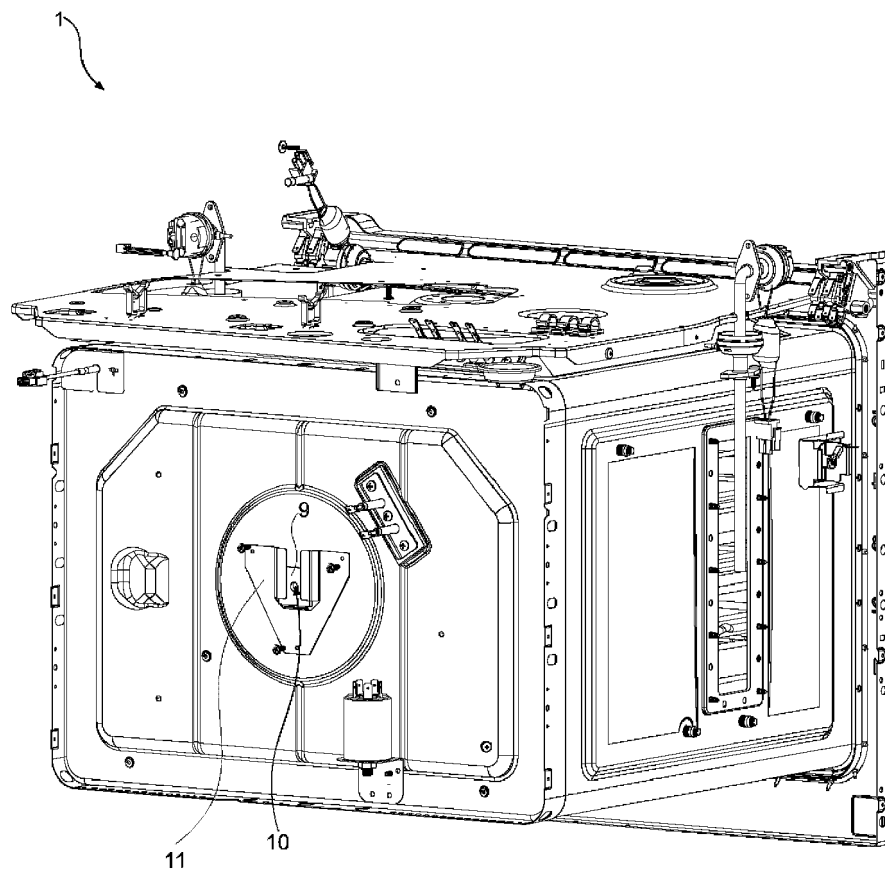


Figure 3

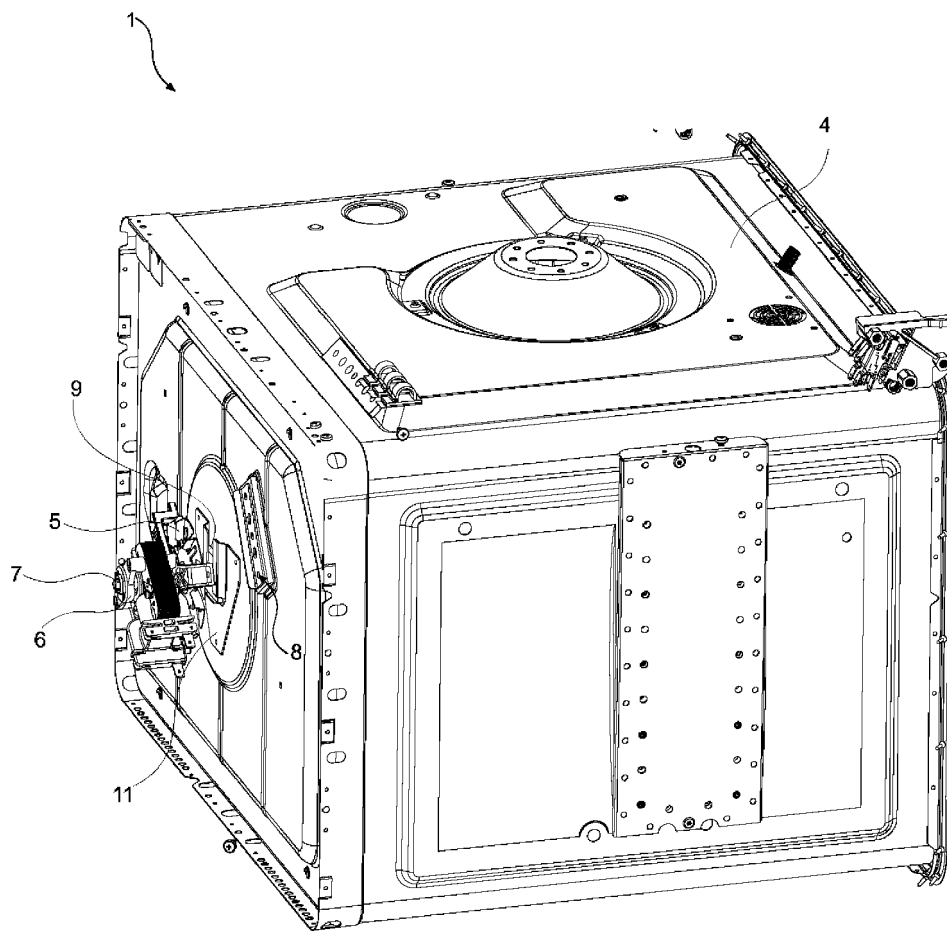
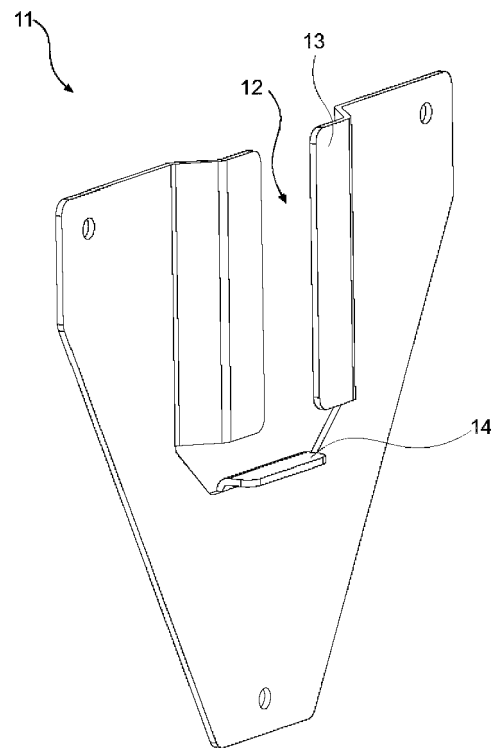


Figure 4





EUROPEAN SEARCH REPORT

Application Number
EP 20 19 9418

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			TECHNICAL FIELDS SEARCHED (IPC)
			F24C
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 16 February 2021	Examiner Rodriguez, Alexander
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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**ANNEX TO THE EUROPEAN SEARCH REPORT
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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

REFERENCES CITED IN THE DESCRIPTION

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