

(19)



(11)

EP 3 276 261 B1

(12)

EUROPEAN PATENT SPECIFICATION

(45) Date of publication and mention
of the grant of the patent:

28.07.2021 Bulletin 2021/30

(51) Int Cl.:

F23D 14/04 ^(2006.01)

F24C 3/10 ^(2006.01)

(86) International application number:

PCT/CN2016/099749

(21) Application number: **16874605.5**

(22) Date of filing: **22.09.2016**

(87) International publication number:

WO 2017/101545 (22.06.2017 Gazette 2017/25)

(54) **BURNER ASSEMBLY AND GAS STOVE**

BRENNERANORDNUNG UND GASHERD

ENSEMBLE BRÛLEUR ET CUISINIÈRE À GAZ

(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**

• **ZHANG, Bingwei**

Foshan

Guangdong 528311 (CN)

(30) Priority: **17.12.2015 CN 201510963461**

(74) Representative: **Lam, Alvin et al**

Maucher Jenkins

26 Caxton Street

London SW1H 0RJ (GB)

(43) Date of publication of application:

31.01.2018 Bulletin 2018/05

(56) References cited:

EP-A1- 2 868 968 CN-A- 101 666 500

CN-A- 101 666 500 CN-A- 104 315 516

CN-A- 105 444 170 CN-U- 202 826 579

CN-U- 203 099 912 CN-U- 203 099 913

CN-U- 205 227 322 CN-U- 205 227 322

CN-U- 205 316 321 JP-A- H07 318 064

US-A- 3 843 313

(73) Proprietors:

• **Guangdong Midea Kitchen Appliances
Manufacturing Co., Ltd.**

Foshan, Guangdong 528311 (CN)

• **Midea Group Co., Ltd.**

Foshan, Guangdong 528311 (CN)

(72) Inventors:

• **YU, Kang**

Foshan

Guangdong 528311 (CN)

Note: Within nine months of the publication of the mention of the grant of the European patent in the European Patent Bulletin, any person may give notice to the European Patent Office of opposition to that patent, in accordance with the Implementing Regulations. Notice of opposition shall not be deemed to have been filed until the opposition fee has been paid. (Art. 99(1) European Patent Convention).

EP 3 276 261 B1

Description**FIELD**

5 [0001] The present disclosure relates to a technology of gas stoves, and more particularly to a burner assembly and a gas stove.

BACKGROUND

10 [0002] A burner assembly in the prior art is generally constituted by a burner, a gas distribution disk disposed to the burner and a burner cap assembly mounted to the gas distribution disk. Since the burner and the gas distribution disk each are required to be resistant to high temperature, fitting surfaces of the burner and the gas distribution disk are generally subject to a finely planishing treatment, so as to maintain flatness of the fitting surfaces of the two, thereby effectively preventing gas leakage. However during the practical processing, due to a machining error, the fitting surfaces of the burner and the gas distribution disk cannot be sealed completely. Moreover during the practical processing, the burner and the gas distribution disk expand when heated, and the fitting surfaces of the burner and the gas distribution disk may be partially separated, such that it is difficult to ensure reliability of the sealing between the burner and the gas distribution disk, thereby resulting in a gas leakage problem existing in the gas stove.

15 [0003] CN101666500A relates to an upper inlet wind type burner comprising a central fire cover, an outer fire cover, a furnace end, a base and a gas distribution pipe which are sequentially arranged from top to bottom, wherein the furnace end is provided with a plurality of injection pipes, the base is provided with a gas mixing chamber and the gas distribution pipe is provided with a gas nozzle. A gas distribution slice is arranged between the outer fire cover and the furnace end, a fire cover seat is arranged between the central fire cover and the furnace end, and the fire cover seat is in a barrel structure with a ladder-shaped inner hole.

20 [0004] US3843313A relates to a fluid-radiant burner having cavities each individually controlled.

SUMMARY

25 [0005] A main objective of the present disclosure is to provide a burner assembly, which seeks to improve reliability of sealing between a burner and a gas distribution disk, and prevent gas leakage in the burner.

30 [0006] In order to achieve the above objective, a burner assembly is provided according to claim 1. A gas stove is further provided as set out in claim 7.

35 [0007] In the technical solutions of the present disclosure, the flexible metal sealing ring is additionally disposed between the burner and the gas distribution disk. The first surface of the flexible metal sealing ring abuts against the first fitting surface of the gas distribution disk, and the second surface of the flexible metal sealing ring abuts against the second fitting surface of the burner, thereby achieving a better sealing effect. When the burner assembly operates, the gas distribution disk and the burner each are heated to expand, and since the flexible metal sealing ring has better thermal elasticity, the first fitting surface of the gas distribution disk expanded by heat is pressed on and closely fitted to the first surface of the flexible metal sealing ring, and the second fitting surface of the burner expanded by heat is pressed on and closely fitted to the second surface of the flexible metal sealing ring, such that the burner can be better seal-fitted with the gas distribution disk due to the thermal elasticity of the flexible metal sealing ring, thereby effectively preventing gas leakage and achieving better safety.

BRIEF DESCRIPTION OF THE DRAWINGS

40 [0008] In order to describe embodiments of the present disclosure or technical solutions in the prior art more clearly, the drawings necessary in the descriptions of the embodiments or the prior art will be briefly explained. Obviously, the drawings in the following description are just some embodiments of the present disclosure. To those skilled in the art, in the premise of no creative labor, other drawings can also be obtained according to structures illustrated in these drawings.

45 Fig. 1 is a schematic view of a burner assembly according to an embodiment of the present disclosure;

Fig. 2 is a top view of the burner assembly illustrated in Fig. 1;

50 Fig. 3 is a schematic section view taken along A-A line of the burner assembly illustrated in Fig. 2;

Fig. 4 is a schematic exploded view of the burner assembly illustrated in Fig. 1;

Fig. 5 is a schematic view of a gas distribution disk illustrated in Fig. 4;

Fig. 6 is a schematic view of a flexible metal sealing ring illustrated in Fig. 4;

Fig. 7 is a schematic section view of the flexible metal sealing ring illustrated in Fig. 6;

Fig. 8 is a schematic view of a gas stove according to an embodiment of the present disclosure.

Reference numerals:

[0009]

Reference numeral	Object	Reference numeral	Object
1	Inner ring burner cap	2	Outer ring burner cap
3	Gas distribution disk	31	Second flange
32	First flange	4	Flexible metal sealing ring
4a	Second sealing ring	4b	First sealing ring
41	First material layer	42	Second material layer
5	Burner	51	Enclosure wall
52	Ring-shaped boss	53	Injection pipe
54	Gas mixing chamber	1'	Burner assembly
2'	Base shell	3'	Panel
4'	Gas pipe assembly		

[0010] Implementation of the objective, functional features and advantages of the present disclosure will be further described with reference to the drawings in combination with embodiments.

DETAILED DESCRIPTION

[0011] Technical solutions in embodiments of the present disclosure will be clearly and completely described in combination with the drawings in the embodiments of the present disclosure in the followings. Obviously, the embodiments described are just a part of embodiments of the present disclosure, rather than all the embodiments. Based on the embodiments of the present disclosure, all the other embodiments obtained by the skilled in the art without the creative labors belong to the protection scope of the present disclosure.

[0012] It should be noted that, all the directional indications (such as "upper," "lower," "front," "rear," "left," "right,") in embodiments of the present disclosure are just to explain relative positional relation and movement conditions between respective components under a certain posture (as shown in the drawings). If the certain posture changes, the directional indications change correspondingly.

[0013] In addition, terms such as "first" and "second" are used herein for purposes of description and are not intended to indicate or imply relative importance or significance or to imply the number of indicated technical features. Thus, the feature defined with "first" and "second" may comprise one or more of this feature. Furthermore, technical solutions in respective embodiments may be mutual combined, and the combination must be on basis of that can be achieved by those skilled in the art. When the combinations of technical solutions appear to be mutually contradictory or cannot be achieved, the combinations of technical solutions should be deemed to be inexistent, and are not within the protection scope of the present disclosure.

[0014] A burner assembly is provided by the present disclosure.

[0015] Referring to Fig. 1, Fig. 1 is a schematic view of a burner assembly according to an embodiment of the present disclosure; Fig. 2 is a top view of the burner assembly illustrated in Fig. 1; Fig. 3 is a schematic section view taken along A-A line of the burner assembly illustrated in Fig. 2; Fig. 4 is a schematic exploded view of the burner assembly illustrated in Fig. 1.

[0016] Referring to Fig. 1, in the present embodiment, the burner assembly includes a burner 5, a gas distribution disk 3 mounted to the burner 5, a burner cap assembly fixed to the gas distribution disk 3, and a flexible metal sealing ring

4 located between the burner 5 and the gas distribution disk 3. The gas distribution disk 3 has a first fitting surface on a bottom portion, and the burner 5 has a second fitting surface on a top portion. The flexible metal sealing ring 4 has a first surface and a second surface opposite to the first surface. When the burner 5 and the gas distribution disk 3 are heated to expand, the first surface is seal-fitted with the first fitting surface of the gas distribution disk 3, and the second surface is seal-fitted with the second fitting surface of the burner. The above burner cap assembly can include an inner ring burner cap 1 and an outer ring burner cap 2, or can include one burner cap. In the present embodiment, the burner cap includes the inner ring burner cap 1 and the outer ring burner cap 2. The burner 5 introduces gas through an injection pipe 53, and the injection pipe 53 is designed according to Venturi principle, which can increase an inlet velocity of the gas.

[0017] In the technical solutions of the present disclosure, the flexible metal sealing ring 4 is additionally disposed between the burner 5 and the gas distribution disk 3. The first surface of the flexible metal sealing ring 4 abuts against the first fitting surface of the gas distribution disk 3, and the second surface of the flexible metal sealing ring 4 abuts against the second fitting surface of the burner 5, thereby achieving a better sealing effect. When the burner assembly operates, the gas distribution disk 3 and the burner 5 each are heated to expand, and since the flexible metal sealing ring 4 has better thermal elasticity, the first fitting surface of the gas distribution disk 3 expanded by heat is pressed on and closely fitted to the first surface of the flexible metal sealing ring 4, and the second fitting surface of the burner 5 expanded by heat is pressed on and closely fitted to the second surface of the flexible metal sealing ring 4, such that the burner 5 can be better seal-fitted with the gas distribution disk 3 due to the thermal elasticity of the flexible metal sealing ring 4, thereby effectively preventing gas leakage and achieving better safety.

[0018] Referring to Figs. 1 to 6, in a preferable embodiment, a circumferential edge of the top portion of the burner 5 is provided with a ring-shaped boss 52, and an enclosure wall 51 located in the ring-shaped boss 52 is provided to the top portion of the burner 5 and extends upwards.

[0019] The bottom portion of the gas distribution disk 3 is provided with a first flange 32 corresponding to the ring-shaped boss 52, and the bottom portion of the gas distribution disk 3 is provided with a second flange 31 corresponding to the enclosure wall 51.

[0020] The flexible metal sealing ring 4 includes a first sealing ring 4b and a second sealing ring 4a. A first surface of the first sealing ring 4b abuts against the first flange 32, and a second surface of the first sealing ring 4b abuts against a top part of the ring-shaped boss 52; a first surface of the second sealing ring 4a abuts against the second flange 31, and a second surface of the second sealing ring 4a abuts against a top part of the enclosure wall 51.

[0021] In embodiments of the present disclosure, the first sealing ring 4b is located between the first flange 32 and the ring-shaped boss 52, thereby facilitating the fixation of the first sealing ring 4b. Certainly, the fitting manner between the first flange 32 and the boss is not limited to just one embodiment, but all the other fitting manners, such as the fitting between a boss and a groove or the fitting between two grooves, can be sealed by the first sealing ring 4b. The function of the second sealing ring 4a is similar to that of the first sealing ring 4b, and a structural connection of the second sealing ring 4a is similar to that of the first sealing ring 4b, which will not be elaborated herein.

[0022] Referring to Figs. 1 to 4, in a preferable embodiment, the first sealing ring 4b is fixed to the first flange 32, and the second sealing ring 4a is fixed to the second flange 31. In order to facilitate the fixation of the first sealing ring 4b and the second sealing ring 4a, the first sealing ring 4b can be directly mounted to the first flange 32, or the first sealing ring 4b can be directly mounted to the ring-shaped boss 52. The area of the above first sealing ring 4b is adapted to the area of the first flange 32, so as to achieve a fully close-fit between the first flange 32 and the ring-shaped boss 52. The function of the second sealing ring 4a is similar to that of the first sealing ring 4b, and the structural connection of the second sealing ring 4a is similar to that of the first sealing ring 4b, which will not be elaborated herein.

[0023] Referring to Fig. 5, in a preferable embodiment, the first surface of the first sealing ring 4b adheres to the first flange 32 or is screwed to the first flange 32 through a screw, and the second surface of the first sealing ring 4b adheres to the top part of the ring-shaped boss 52; the first surface of the second sealing ring 4a adheres to the second flange 31 or is screwed to the second flange 31 through a screw, and the second surface of the second sealing ring 4a adheres to the top part of the enclosure wall 51. In order to further improve the stability of the assembly of the first sealing ring 4b and the second sealing ring 4a, the first sealing ring 4b and the second sealing ring 4a can be pasted and fixed by means of an adhesive backing, or connected through a screw. Besides that, the gas distribution disk 3 and the burner 5 can also be screwed and fixed to clamp the first sealing ring 4b and the second sealing ring 4a.

[0024] In a preferable embodiment, the second surface of the first sealing ring 4b is provided with an adhesive backing layer (not shown) bonding to the top part of the ring-shaped boss 52, and the second surface of the second sealing ring 4a is provided with an adhesive backing layer bonding to the top part of the enclosure wall 51. In embodiments of the present disclosure, the adhesive backing layer can further improve the sealing between the first sealing ring 4b and the ring-shaped boss 52 and the sealing between the second sealing ring 4a and the enclosure wall 51, so as to prevent the gas leakage, and can also omit a gluing process, thereby improving the working efficiency.

[0025] In a preferable embodiment, a thickness of the flexible metal sealing ring 4 is 0.1-0.5 mm. Preferably, the thickness of the flexible metal sealing ring 4 is 0.2-0.4 mm. To save materials of the flexible metal sealing ring 4, the thickness of the flexible metal sealing ring 4 can be reduced, and to satisfy the better thermal elasticity of the flexible

metal sealing ring 4, the thickness can be increased appropriately. It can be understood that, other thicknesses are feasible options, and the specific thickness of the flexible metal sealing ring 4 can be designed flexibly according to a design requirement.

[0026] Referring to Figs. 6 and 7, according to the invention, the flexible metal sealing ring 4 is provided with a first material layer 41 and a second material layer 42 in a direction from the first surface to the second surface, the material of the first material layer 41 is as same as that of the gas distribution disk 3, the material of the second material layer 42 is as same as that of burner 5, and the first material layer 41 and the second material layer 42 are formed integrally. In order to further improve the sealing property, the flexible metal sealing ring 4 has two layers which can be deposited with or coated with two layers of different thermal elastic metals when being fabricated, so as to enable the gas distribution disk 3 to have the same material as the first material layer 41, and enable the burner 5 to have the same material as the second material layer 42, given that the same material has the same heat-resistant quality. The present technical solution can relieve a greater extrusion deformation produced between different components due to different materials, thereby effectively preventing the gas leakage.

[0027] Referring to Figs. 6 and 7, according to the invention, the materials of the gas distribution disk 3 and the first material layer 41 are aluminum or copper, while the materials of the burner 5 and the second material layer 42 are iron. In the present embodiment, the material of the gas distribution disk 3 is aluminum or copper, and the material of the burner 5 is iron. In order to reduce the extrusion between the gas distribution disk 3 and the burner 5 when heated, the first material layer 41 of the flexible metal sealing ring 4 has the same material as the gas distribution disk 3, and the second material layer 42 of the flexible metal sealing ring 4 has the same material as the burner 5.

[0028] Referring to Fig. 8, a gas stove is further provided by the present disclosure, and the gas stove includes a panel 3', a base shell 2' and a burner assembly 1'. The panel 3' covers the base shell 2' and defines, with the base shell 2', an accommodation space for accommodating the burner assembly 1'. A gas inlet end of the burner assembly 1' is communicated with a gas pipe assembly 4'. A specific structure of the burner assembly 1' can refer to the above embodiments. The gas stove adopts all the technical solutions in the above embodiments, thereby at least having the beneficial effects provided by the technical solutions of the above embodiments, which will not be elaborated herein.

[0029] The burner 5 is provided with three injection pipes 53, and the burner 5 has an inner ring passage, a middle ring passage and an outer ring passage correspondingly connected with the three injection pipes in the burner 5. Burning and injection by means of three independent passages can improve a gas flow of the gas stove. The three injection pipes all adopt the structures based on the Venturi principle, so as to accelerate a flow rate of the gas. A first flame port of the inner ring burner cap 1 communicated with a first flame transfer channel, a second flame port of the inner ring burner cap 1 communicated with a second flame transfer channel, and a major flame port of the outer ring burner cap 2 each adopt a three-level combustion assistance technology, thereby allowing more sufficient combustion of the gas, and improving the combustion efficiency. In addition, the whole gas stove adopts injection for combustion assistance at a nozzle, an injection pipe mouth and the gas distribution disk 3. By the three-level air injection combustion assistance technology, it is possible to improve the combustion efficiency of the gas, thereby saving the gas cost and improving the quality of the entire product.

[0030] The above descriptions are just preferable embodiments of the present disclosure and are not intended to limit the patent scope of the present disclosure. Any equivalent structural variations made by making use of the specification or drawings under the inventive concept of the present disclosure are included in the protection scope of the present disclosure.

Claims

1. A burner assembly (1') comprising a burner (5) and a gas distribution disk (3) mounted to the burner (5), wherein the burner assembly (1') further comprises a flexible metal sealing ring (4) located between the burner (5) and the gas distribution disk (3), the gas distribution disk (3) having a first fitting surface on a bottom portion, and the burner (5) having a second fitting surface on a top portion; and the flexible metal sealing ring (4) has a first surface and a second surface opposite to the first surface, the first surface being seal-fitted with the first fitting surface of the gas distribution disk (3), and the second surface being seal-fitted with the second fitting surface of the burner (5), **characterized in that** the flexible metal sealing ring (4) is provided with a first material (41) layer and a second material (42) layer in a direction from the first surface to the second surface, the material of the first material (41) layer being as same as that of the gas distribution disk (3), the material of the second material (42) layer being as same as that of burner (3), and the first material (41) layer and the second material (42) layer being formed integrally, **and in that** the materials of the gas distribution disk (3) and the first material (41) layer are aluminum or copper, and the materials of the burner and the second material (42) layer are iron.
2. The burner assembly (1') according to claim 1, wherein a circumferential edge of the top portion of the burner (5)

is provided with a ring-shaped boss (52), and an enclosure wall (51) located in the ring-shaped boss (52) is provided to the top portion of the burner (5) and extends upwards;

the bottom portion of the gas distribution disk (3) is provided with a first flange (32) corresponding to the ring-shaped boss (52), and the bottom portion of the gas distribution disk (3) is provided with a second flange (31) corresponding to enclosure wall (51);

the flexible metal sealing ring (4) comprises a first sealing ring (4b) and a second sealing ring (4a), a first surface of the first sealing ring (4b) abutting against the first flange (32), a second surface of the first sealing ring (4b) abutting against a top part of the ring-shaped boss (52), a first surface of the second sealing ring (4a) abutting against the second flange (31), and a second surface of the second sealing ring (4a) abutting against a top part of the enclosure wall (51).

3. The burner assembly (1') according to claim 2, wherein the first sealing ring (4b) is fixed to the first flange (32), and the second sealing ring (4a) is fixed to the second flange (31).

4. The burner assembly (1') according to claim 3, wherein the first surface of the first sealing ring (4b) adheres to the first flange (32) or is screwed to the first flange (32) through a screw, and the second surface of the first sealing ring (4b) adheres to the top part of the ring-shaped boss (52); the first surface of the second sealing ring (4a) adheres to the second flange (31) or is screwed to the second flange (32) through a screw, and the second surface of the second sealing ring (4a) adheres to the top part of the enclosure wall (51).

5. The burner assembly (1') according to claim 4, wherein the second surface of the first sealing ring (4a) is provided with an adhesive backing layer bonding to the top part of the ring-shaped boss (52), and the second surface of the second sealing ring (4a) is provided with an adhesive backing layer bonding to the top part of the enclosure wall (51).

6. The burner assembly (1') according to any one of claims 1-5, wherein a thickness of the flexible metal sealing ring (4) is 0.1-0.5 mm.

7. A gas stove comprising a panel (3'), a base shell (2') and a burner assembly (1'), the panel (3') covering the base shell (2') and defining, with the base shell (2'), an accommodation space for accommodating the burner assembly (1'), wherein the burner assembly (1') is the burner assembly (1') according to any one of claims 1-6.

Patentansprüche

1. Brenneranordnung (1'), die einen Brenner (5) und eine am Brenner (5) angebrachte Gasverteilungsscheibe (3) umfasst, wobei die Brenneranordnung (1') ferner einen flexiblen Metalledichtungsring (4) umfasst, der zwischen dem Brenner (5) und der Gasverteilungsscheibe (3) positioniert ist, wobei die Gasverteilungsscheibe (3) eine erste Passfläche an einem unteren Abschnitt aufweist und der Brenner (5) eine zweite Passfläche an einem oberen Abschnitt aufweist; und der flexible Metalledichtungsring (4) eine erste Fläche und eine zweite Fläche gegenüber der ersten Fläche aufweist, wobei die erste Fläche mit der ersten Passfläche der Gasverteilungsscheibe (3) abdichtend verbunden ist und die zweite Fläche mit der zweiten Passfläche des Brenners (5) abdichtend verbunden ist, **dadurch gekennzeichnet, dass**

der flexible Metalledichtungsring (4) mit einer ersten Materialschicht (41) und einer zweiten Materialschicht (42) in einer Richtung von der ersten Fläche zur zweiten Fläche versehen ist, wobei das Material der ersten Materialschicht (41) dasselbe ist wie das der Gasverteilungsscheibe (3), das Material der zweiten Materialschicht (42) dasselbe ist wie das des Brenners (3) und die erste Materialschicht (41) und die zweite Materialschicht (42) einstückig ausgebildet sind, und dadurch, dass

das Material der Gasverteilungsscheibe (3) und der ersten Materialschicht (41) Aluminium oder Kupfer ist und das Material des Brenners und der zweiten Materialschicht (42) Eisen ist.

2. Brenneranordnung (1') nach Anspruch 1, wobei eine Umfangskante des oberen Abschnitts des Brenners (5) mit einem ringförmigen Vorsprung (52) versehen ist und eine in dem ringförmigen Vorsprung (52) befindliche Kapselungswand (51) am oberen Abschnitt des Brenners (5) vorgesehen ist und sich nach oben erstreckt; der untere Abschnitt der Gasverteilungsscheibe (3) mit einem ersten Flansch (32) versehen ist, der dem ringförmigen Vorsprung (52) entspricht, und der untere Abschnitt der Gasverteilungsscheibe (3) mit einem zweiten Flansch (31) versehen ist, der der Kapselungswand (51) entspricht; der flexible Metalledichtungsring (4) einen ersten Dichtungsring (4b) und einen zweiten Dichtungsring (4a) umfasst, wobei eine erste Fläche des ersten Dichtungsring (4b) am ersten Flansch (32) anliegt, eine zweite Fläche des

ersten Dichtungsring (4b) an einem oberen Teil des ringförmigen Vorsprungs (52) anliegt, eine erste Fläche des zweiten Dichtungsring (4a) am zweiten Flansch (31) anliegt und eine zweite Fläche des zweiten Dichtungsring (4a) an einem oberen Teil der Kapselungswand (51) anliegt.

3. Brenneranordnung (1') nach Anspruch 2, wobei der erste Dichtungsring (4b) am ersten Flansch (32) befestigt ist und der zweite Dichtungsring (4a) am zweiten Flansch (31) befestigt ist.
4. Brenneranordnung (1') nach Anspruch 3, wobei die erste Fläche des ersten Dichtungsring (4b) am ersten Flansch (32) haftet oder mit dem ersten Flansch (32) durch eine Schraube verschraubt ist, und die zweite Fläche des ersten Dichtungsring (4b) am oberen Teil des ringförmigen Vorsprungs (52) haftet; die erste Fläche des zweiten Dichtungsring (4a) am zweiten Flansch (31) haftet oder mit dem zweiten Flansch (32) durch eine Schraube verschraubt ist, und die zweite Fläche des zweiten Dichtungsring (4a) am oberen Teil der Kapselungswand (51) haftet.
5. Brenneranordnung (1') nach Anspruch 4, wobei die zweite Fläche des ersten Dichtungsring (4a) mit einer klebenden Rückschicht versehen ist, die am oberen Teil des ringförmigen Vorsprungs (52) haftet, und die zweite Fläche des zweiten Dichtungsring (4a) mit einer klebenden Rückschicht versehen ist, die am oberen Teil der Kapselungswand (51) haftet.
6. Brenneranordnung (1') nach einem der Ansprüche 1-5, wobei eine Dicke des flexiblen Metaldichtungsring (4) 0,1-0,5 mm beträgt.
7. Gasherd mit einem Paneel (3'), einer Bodenschale (2') und einer Brenneranordnung (1'), wobei das Paneel (3') die Bodenschale (2') abdeckt und mit der Bodenschale (2') einen Aufnahmeraum zum Aufnehmen der Brenneranordnung (1') definiert, wobei die Brenneranordnung (1') die Brenneranordnung (1') nach einem der Ansprüche 1-6 ist.

Revendications

1. Ensemble de brûleur (1') comprenant un brûleur (5) et un disque de distribution de gaz (3) monté sur le brûleur (5), où l'ensemble de brûleur (1') comprend en outre une bague d'étanchéité métallique flexible (4) située entre le brûleur (5) et le disque de distribution de gaz (3), le disque de distribution de gaz (3) ayant une première surface d'ajustement sur une partie inférieure, et le brûleur (5) ayant une deuxième surface d'ajustement sur une partie supérieure ; et la bague d'étanchéité métallique flexible (4) a une première surface et une deuxième surface opposée à la première surface, la première surface étant ajustée de manière étanche avec la première surface d'ajustement du disque de distribution de gaz (3), et la deuxième surface étant ajustée de manière étanche avec la deuxième surface d'ajustement du brûleur (5),
caractérisé en ce que
la bague d'étanchéité métallique flexible (4) est pourvue d'une première couche de matériau (41) et d'une deuxième couche de matériau (42) dans une direction allant de la première surface à la deuxième surface, le matériau de la première couche de matériau (41) étant le même que celui du disque de distribution de gaz (3), le matériau de la deuxième couche de matériau (42) étant le même que celui du brûleur (3), et la première couche de matériau (41) et la deuxième couche de matériau (42) étant formées d'un seul tenant, et **en ce que**
les matériaux du disque de distribution de gaz (3) et de la première couche de matériau (41) sont en aluminium ou en cuivre, et les matériaux du brûleur et de la deuxième couche de matériau (42) sont en fer.
2. Ensemble de brûleur (1') selon la revendication 1, où un bord circonférentiel de la partie supérieure du brûleur (5) est pourvu d'un bossage annulaire (52), et une paroi d'enceinte (51) située dans le bossage annulaire (52) est prévue sur la partie supérieure du brûleur (5) et s'étend vers le haut ;
la partie inférieure du disque de distribution de gaz (3) est pourvue d'une première bride (32) correspondant au bossage annulaire (52), et la partie inférieure du disque de distribution de gaz (3) est pourvue d'une deuxième bride (31) correspondant à la paroi d'enceinte (51) ;
la bague d'étanchéité métallique flexible (4) comprend une première bague d'étanchéité (4b) et une deuxième bague d'étanchéité (4a), une première surface de la première bague d'étanchéité (4b) venant en butée contre la première bride (32), une deuxième surface de la première bague d'étanchéité (4b) venant en butée contre une partie supérieure du bossage annulaire (52), une première surface de la deuxième bague d'étanchéité (4a) venant en butée contre la deuxième bride (31), et une deuxième surface de la deuxième bague d'étanchéité (4a) venant en butée contre une partie supérieure de la paroi d'enceinte (51).

3. Ensemble de brûleur (1') selon la revendication 2, où la première bague d'étanchéité (4b) est fixée à la première bride (32), et la deuxième bague d'étanchéité (4a) est fixée à la deuxième bride (31).
4. Ensemble de brûleur (1') selon la revendication 3, où la première surface de la première bague d'étanchéité (4b) adhère à la première bride (32) ou est vissée à la première bride (32) par une vis, et la deuxième surface de la première bague d'étanchéité (4b) adhère à la partie supérieure du bossage annulaire (52) ; la première surface de la deuxième bague d'étanchéité (4a) adhère à la deuxième bride (31) ou est vissée à la deuxième bride (32) par une vis, et la deuxième surface de la deuxième bague d'étanchéité (4a) adhère à la partie supérieure de la paroi d'enceinte (51).
5. Ensemble de brûleur (1') selon la revendication 4, où la deuxième surface de la première bague d'étanchéité (4a) est pourvue d'une couche de support adhésive se liant à la partie supérieure du bossage annulaire (52), et la deuxième surface de la deuxième bague d'étanchéité (4a) est pourvue d'une couche de support adhésive se liant à la partie supérieure de la paroi d'enceinte (51).
6. Ensemble de brûleur (1') selon l'une quelconque des revendications 1 à 5, où une épaisseur de la bague d'étanchéité métallique flexible (4) va de 0,1 à 0,5 mm.
7. Cuisinière à gaz comprenant un panneau (3'), une coque de base (2') et un ensemble de brûleur (1'), le panneau (3') couvrant la coque de base (2') et définissant, avec la coque de base (2'), un espace de logement pour loger l'ensemble de brûleur (1'), où l'ensemble de brûleur (1') est l'ensemble de brûleur (1') selon l'une quelconque des revendications 1 à 6.

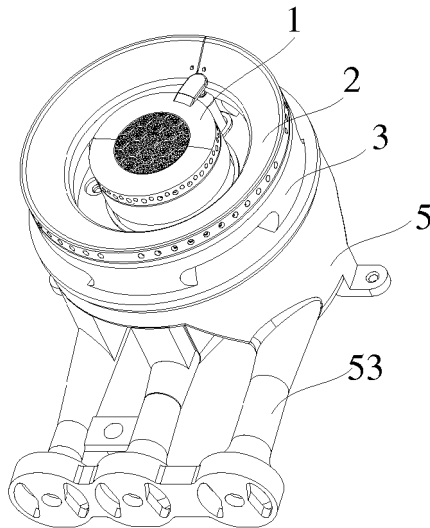


Fig. 1

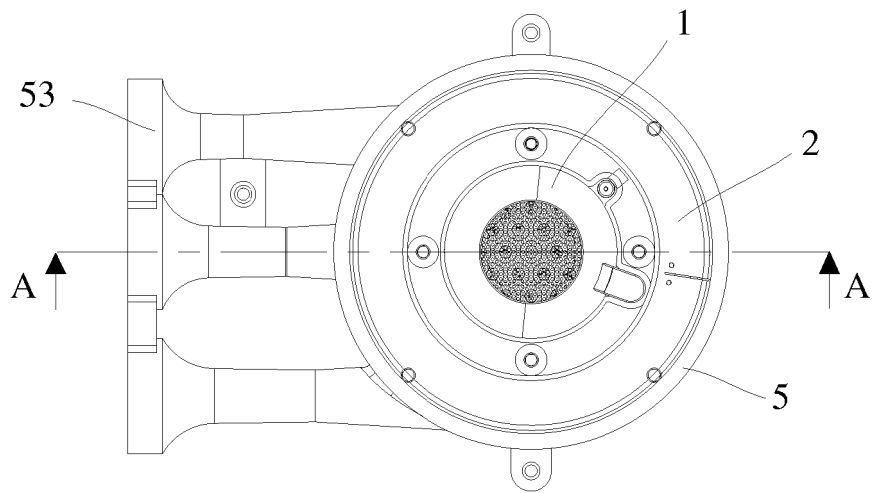


Fig. 2

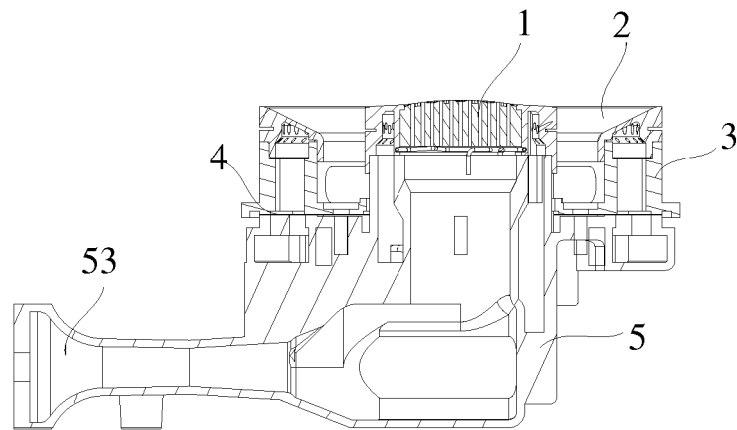


Fig. 3

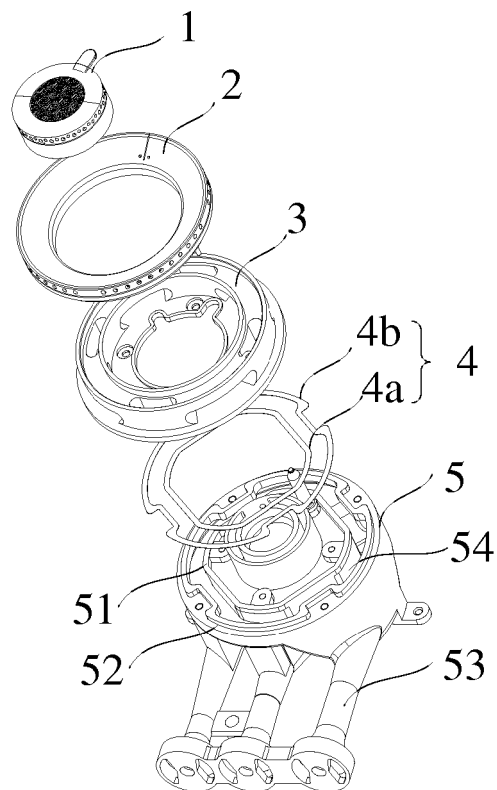


Fig. 4

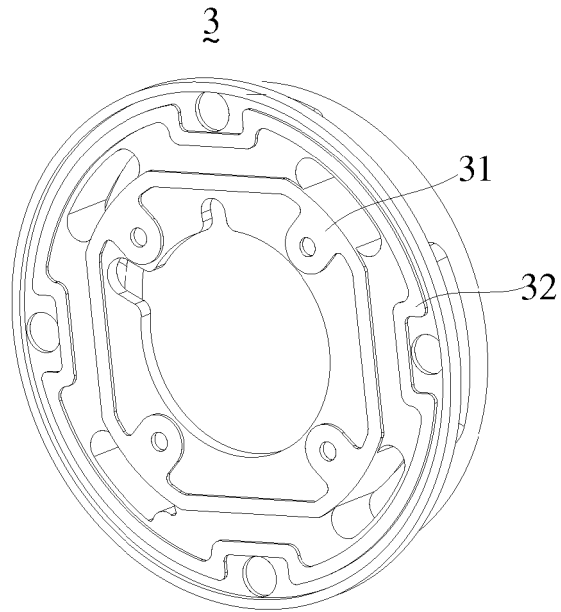


Fig. 5

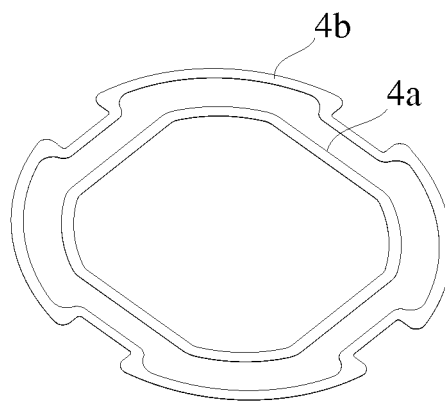


Fig. 6

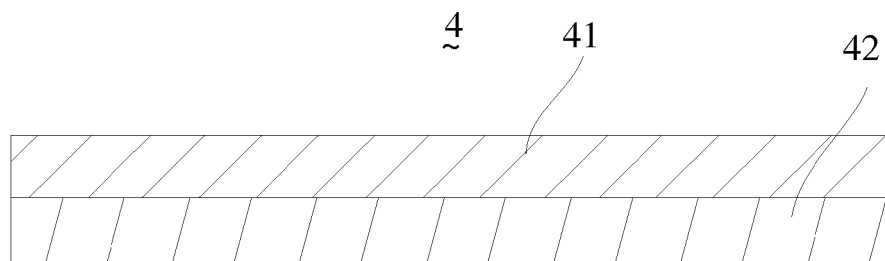


Fig. 7

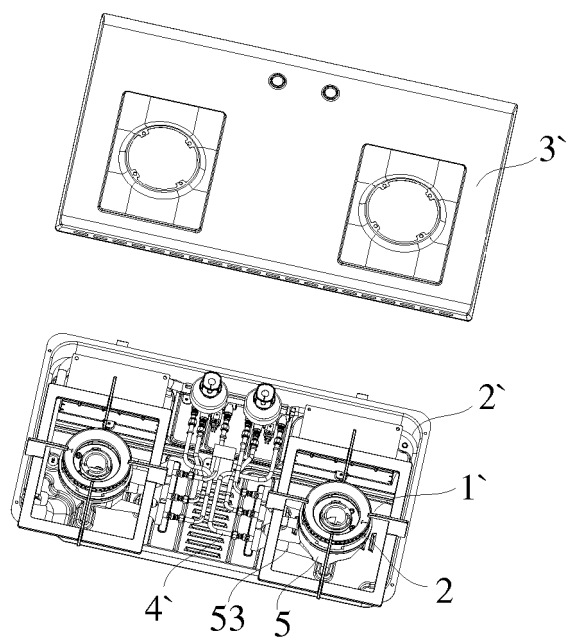


Fig. 8

REFERENCES CITED IN THE DESCRIPTION

This list of references cited by the applicant is for the reader's convenience only. It does not form part of the European patent document. Even though great care has been taken in compiling the references, errors or omissions cannot be excluded and the EPO disclaims all liability in this regard.

Patent documents cited in the description

- CN 101666500 A [0003]
- US 3843313 A [0004]