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(54) **BURNER CAP BASE FOR BURNER OF A GAS COOKTOP, BURNER, AND GAS COOKTOP**

DECKELSOCKEL FÜR BRENNER EINES GASKOCHFELDS, BRENNER UND GASKOCHFELD

BASE DE COUVERCLE POUR BRÛLEUR DE TABLE DE CUISSON À GAZ, BRÛLEUR ET TABLE DE CUISSON À GAZ

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Description

BACKGROUND

Technical Field

[0001] The present invention relates to the field of gas cooktops, and in particular, to a burner cap base for a burner of a gas cooktop, a burner head of a burner that includes the burner cap base, a burner for a gas cooktop that includes said burner head, and a gas cooktop that includes the burner.

Related Art

[0002] Cooking methods make consumers expect the heating load of a domestic cookware product to be as large as possible, and a power-saving effect to be as good as possible. Therefore, this type of product becomes the emphasis of research and development of manufacturers of gas cooktops.

[0003] EP 1 180 642 A1 describes an ultra-high-speed burner for a cooking range or gas cooker. The burner has a plate, a jet ring having a ring along which power jet supply holes are distributed, an annular chamber defined by the plate and by the jet ring and communicating directly with the power jet supply holes, and a first and a second channel for feeding fuel gas to respective sectors of the annular chamber.

SUMMARY

[0004] For the foregoing technical problem, the objectives of the present invention are to provide an improved burner cap base of a burner used for a gas cooktop, a burner head that includes the burner cap base, a burner that includes the burner head, and a gas cooktop that includes the burner.

[0005] To achieve the foregoing technical objectives, the present invention first provides the following technical solutions: A burner cap base for a burner of a gas cooktop includes an outer ring gas inlet and a groove used for accommodating gas, the outer ring gas inlet is used for allowing gas supplied by an outer ring gas injector to enter the burner cap base, the burner cap base further includes a plurality of gas guide slots, and the gas guide slot communicates the groove and the outer ring gas inlet, where the burner cap base further includes a plurality of flow division portions, the outer ring gas inlet is divided into a plurality of gas division openings by the flow division portion, and each gas guide slot corresponds to at least one flow division portion. Each flow division portion directly faces toward the center location of one of the gas guide slots.

[0006] A technical effect of the present invention is reflected in the following aspects: Gas of the outer ring gas inlet is first divided into multiple gas flows by the flow division portion, the pressure of the gas is decreased, and the flow rate is reduced, to help even mixing subsequently. Further, the technical effect of the present invention is: A part of gas flows from a gas division opening at one side of one flow division portion and a part of gas flows from a gas division opening at the other side of the flow division portion are transferred into a gas guide slot corresponding to the flow division portion. This is equivalent to a second division performed on the basis of the previous division. The first division is dividing the gas flow of the outer ring gas inlet into multiple gas flows, and the second division is dividing the previous multiple gas flows and then transferring the gas flows into the gas guide slot, so that the gas flows entering the groove can be mixed more evenly.

[0007] In a possible implementation, the burner cap base includes a plurality of air inlets, the burner cap base includes a plurality of fence portions disposed at intervals, each of the fence portions fences one of the air inlets, and two neighboring fence portions form the gas guide slot. In a preferred embodiment, each fence portion and an air inlet fenced by the fence portion have a same cross section. The air inlet is used for supplementing secondary air to burning of the stove. The air inlet is directly connected to outer atmosphere.

[0008] In a possible implementation, the burner cap base includes a surrounding outer ring wall, the fence portion is located at an inner side of the outer ring wall, and the outer ring wall and the fence portion form the groove.

[0009] In a possible implementation, each gas guide slot corresponds to one of the flow division portion, making the structure design simpler. Therefore, a part of gas flows from a gas division opening at one side of a flow division portion and a part of gas flows from a gas division opening at the other side of the flow division portion are mixed and transferred into a gas guide slot corresponding to the flow division portion.

[0010] Each flow division portion directly faces toward the center location of one of the gas guide slots, so that gas can be divided more evenly. Half of gas separated from a gas division opening at one side of a flow division portion and half of gas separated from a gas division opening at the other side of the flow division portion are transferred into a gas guide slot corresponding to the flow division portion.

[0011] To make gas be divided more evenly, in a possible implementation, the flow division portion extends in a straight line, and an extension direction of each flow division portion coincides with a symmetry axis of the corresponding gas guide slot.

[0012] In a possible implementation, an extension direction of the flow division portion is perpendicular to a direction of an air flow of gas at the outer ring gas inlet. The disposing of the flow division portion increases the resistance at the outer ring gas inlet, and has effects of pressure reduction and flow rate reduction for entered gas flows, so as to mix the gas flows more evenly subsequently.

[0013] Based on the structure design of the entire burner cap base, the layout of a secondary air channel and the mixing of the gas flows are integrated into account. In a possible implementation, the burner cap base includes three flow division portions, and the outer ring gas inlet is divided into three gas division openings.

[0014] In a possible implementation, the burner cap base further includes an inner ring gas inlet, the inner ring gas inlet is used for allowing gas supplied by an inner ring gas injector to enter the burner, the burner cap base includes a barrel portion, an inlet of the barrel portion forms the inner ring gas inlet, and the flow division portion is connected between an outer wall of the barrel portion and a wall forming the outer ring gas inlet. The advantage of this implementation is: Both the inner ring gas inlet and the outer ring gas inlet are formed on the burner cap base, to help reduce an accumulated tolerance of parts of the entire burner head or burner. For example, the inner ring gas inlet and the outer ring gas inlet on the burner cap base are on a same plane, are formed in a one-time processing, and have a small tolerance. An upper end surface of an inner ring pressure stabilizing cavity on a burner base and an upper end surface of an outer ring pressure stabilizing cavity may also be on a same plane, and are formed in a one-time processing. The matching of the burner cap base and the burner base shortens an accumulated tolerance of the entire burner to a great extent.

[0015] In a possible implementation, the burner cap base includes an inner ring gas flow channel and an outer ring gas flow channel, the barrel portion forms the inner ring gas flow channel, and the outer ring gas flow channel includes the outer ring gas inlet, the gas guide slot, and the groove; and in a use state of the burner cap base, the inner ring gas flow channel is separated from the outer ring gas flow channel.

[0016] In a possible implementation, an upper surface of the barrel portion and an upper surface of a portion forming the gas guide slot are on a same plane, so that the barrel portion and the gas guide slot may be formed in a one-time processing, and have a small tolerance. A lower end surface of a wall body potion that is on the burner cap and that is opposite to the barrel portion and a connection slot may be on a same plane, and are formed in a one-time processing, to reduce an accumulated tolerance. Therefore, the matching of the burner cap and the burner cap base is perfect.

[0017] In a possible implementation, the burner cap base is an integrally formed member. The integrally formed member in this embodiment may be formed in a forging, die-casting, or pouring manner. This reduces the quantity of parts of the entire burner, and has higher assembly efficiency.

[0018] Based on the same inventive concept, the present invention further provides a burner head for a burner of a gas cooktop, including the foregoing burner cap base.

[0019] In a possible implementation, the burner head includes a burner cap, and the burner cap is detachably covered on the burner cap base.

[0020] In a possible implementation, the burner cap includes an inner ring cap portion and an outer ring cap portion surrounding the periphery of the inner ring cap portion, the bottom of the outer ring cap portion is inwardly concaved to form an outer ring concaved portion, the outer ring concaved portion matches the groove to form an outer ring gas mixing chamber, the outer ring gas mixing chamber is used for accommodating gas supplied by an outer ring gas jet, and the outer ring cap portion is provided with an outer ring gas outlet in communication with the outer ring gas mixing chamber; and the bottom of the inner ring cap portion includes an inwardly concaved first concaved portion, the first concaved portion matches the burner cap base to form an inner ring gas mixing chamber, the inner ring gas mixing chamber is used for accommodating gas supplied by an inner ring gas jet, the inner ring cap portion is provided with a first gas outlet in communication with the inner ring gas mixing chamber, the inner ring cap portion is further provided with a second gas outlet, and the second gas outlet is in communication with the outer ring gas mixing chamber.

[0021] Therefore, when the burner head in the present invention is at the maximum fire, the outer ring gas outlet located on the outer ring cap portion of the burner head and the first gas outlet and the second gas outlet located on the inner ring cap portion are all have flames, and the burner head may reach large enough power, to ensure the heat efficiency and also make the bottom of a pan be heated evenly. When the burner head is at the minimum fire, an outer ring gas channel corresponding to the outer ring gas injector is closed, and therefore, the outer ring gas mixing chamber has no gas supplied. When the flame on the outer ring cap portion of the burner head goes out, the flame on the second gas outlet of the inner ring cap portion also goes out, but only the first gas outlet keeps the flame. Therefore, in a use state of the stove, the inner ring cap portion of the burner head can have large enough power when the burner head is at the maximum fire, to ensure the heat efficiency of the entire stove, and reach small enough power when the burner head is at the minimum fire, to meet requirements of users for small fire, such as boiling milk, making porridge, keeping warm, or making ketchup. Compared with the existing gas cooktop, the gas cooktop of the burner head in the present invention has a wider fire or power control range.

[0022] Another technical effect of the present invention is: The second gas outlet located on the inner ring cap portion of the burner head is in communication with the outer ring gas mixing chamber, the second gas outlet is supplied with gas by the outer ring gas injector and may obtain more sufficient primary air, so that the gas is burned more sufficiently, the emission of exhaust gas such as CO is reduced, and the heat efficiency of the burner can be improved obviously. Through experiment, the heat efficiency of the gas cooktop of the burner head in an embodiment of the present invention may be up to

69% to 70%, while the existing best gas cooktop in the market can only reach 64% to 65%.

[0023] In a possible implementation, the first gas outlet and the second gas outlet are formed on a same smooth extending surface on the inner ring cap portion. It should be noted that, if the first gas outlet or the second gas outlet is a circular air outlet slot extending along a circumferential direction of a smooth circumference surface, it cannot be regarded that the circular air outlet slot and the circumference surface are formed on two surfaces for the reason that the circular air outlet slot divides the circumference surface into two surfaces. In this case, it should be further understood that, the circular air outlet slot and the circumference surface are formed on a same smooth surface.

[0024] In a possible implementation, the burner cap further includes a connection portion connected between the outer ring cap portion and the inner ring cap portion, the connection portion matches the gas guide slot to form a gas guide channel, and the gas guide channel communicates the outer ring gas inlet and the outer ring gas mixing chamber. The connection portion not only forms a component of the gas guide channel, but also connects the inner ring cap portion to the outer ring cap portion, so that the burner cap in this present invention can form an integrally formed member, which can be manufactured conveniently, and reduce parts of the gas cooktop. The connection portion may include a plate portion, and the burner cap base is provided with a matching slot to form the gas guide channel; or the connection portion includes a slot, and the burner cap base is provided with a matching plate portion or slot to form the gas guide channel.

[0025] Herein, the present invention further provides a burner for a gas cooktop, including the foregoing burner head.

[0026] Finally, the present invention provides a gas cooktop, including the foregoing burner.

BRIEF DESCRIPTION OF THE DRAWINGS

[0027]

FIG. 1 is a three-dimensional view of a burner cap according to a first embodiment of the present invention;

FIG. 2 is a three-dimensional bottom view of the burner cap according to the first embodiment of the present invention;

FIG. 3 is a sectional view of the burner cap according to the first embodiment of the present invention;

FIG. 4 is a sectional view of the burner cap along another section according to the first embodiment of the present invention;

FIG. 5 is a sectional view of a burner cap according to a second embodiment of the present invention;

FIG. 6 is a three-dimensional bottom view of the burner cap according to the second embodiment of the present invention;

FIG. 7 is an exploded view of a burner head according to an embodiment of the present invention;

FIG. 8 is a three-dimensional view of a burner head according to an embodiment of the present invention;

FIG. 9 is a three-dimensional view of a burner cap base according to an embodiment of the present invention;

FIG. 10 is an exploded view of a burner according to an embodiment of the present invention;

FIG. 11 is a three-dimensional view of a burner according to an embodiment of the present invention;

FIG. 12 is a sectional view of a burner according to a first embodiment of the present invention; and

FIG. 13 is a sectional view of the burner according to the second embodiment of the present invention.

Reference numbers:

[0028] 1-burner; 2-stove; 3-burner cap; 4-burner cap base; 5-burner base; 10-inner ring cap portion; 11-first concaved portion; 12-second concaved portion; 13-inner ring gas mixing chamber; 14-burner cap location hole; 15-connection portion; 16-air outlet; 20-outer ring cap portion; 21-outer ring concaved portion; 23-outer ring gas mixing chamber; 40-barrel portion; 41-inner ring gas inlet; 42-outer ring gas inlet; 43-gas guide slot; 44-outer ring wall; 45-fence portion; 46-air inlet; 47-groove; 48-burner cap location column; 51-inner ring injection system; 52-outer ring injection system; 53-thermocouple; 54-ignition needle; 100-wall body potion; 101-first gas outlet; 102-second gas outlet; 103-connection channel; 104, 203-connection hole; 150-connection slot; 201, 202-outer ring gas outlets; 420-gas division portion; 511-inner ring gas jet; 512-inner ring induction tube; 513-inner ring pressure stabilizing cavity; 521-outer ring gas jet; 522-outer ring induction tube; 523-outer ring pressure stabilizing cavity; 42a, 42b, 42c-gas division openings; 100a-extension portion; 101a, 101b, 101c, 101d-air outlet holes.

DETAILED DESCRIPTION

[0029] To make the objectives, structures, features and functions of the present invention further understood, detailed descriptions are provided below in combination

with the embodiments.

[0030] First, referring to FIG. 1 to FIG. 4, FIG. 1 is a three-dimensional view of a burner cap according to a first embodiment of the present invention; FIG. 2 is a three-dimensional bottom view of the burner cap according to the first embodiment of the present invention; FIG. 3 is a sectional view of the burner cap according to the first embodiment of the present invention; and FIG. 4 is a sectional view of the burner cap along another section according to the first embodiment of the present invention. A burner cap 3 of a burner used for a gas cooktop in this embodiment is an integrally formed member, and the burner cap 3 includes an inner ring cap portion 10 and an outer ring cap portion 20.

[0031] The bottom of the inner ring cap portion 10 includes an inwardly concaved first concaved portion 11, the first concaved portion 11 is used for accommodating gas supplied by an inner ring gas jet, and the inner ring cap portion 10 is provided with a first gas outlet 101 in communication with the first concaved portion 11. The first gas outlet 101 includes an air outlet slot, the air outlet slot is a circular slot extending along a circumferential direction of an outer circumference surface of the inner ring cap portion 10, and the air outlet slot is provided with a plurality of connection holes 104 that communicates the air outlet slot and the first concaved portion 11.

[0032] The outer ring cap portion 20 surrounds the periphery of the inner ring cap portion 10, the bottom of the outer ring cap portion 20 is inwardly concaved to form an outer ring concaved portion 21, and the outer ring concaved portion 21 is used for accommodating gas supplied by an outer ring gas jet. In a use state of the burner cap 3, the first concaved portion 11 is separated from the outer ring concaved portion 21. The outer ring cap portion 20 is provided with an outer ring gas outlet 201 and an outer ring gas outlet 202 in communication with the outer ring concaved portion 21. The outer ring gas outlet 201 includes a plurality of air outlet holes distributed along a circumferential direction of the outer ring cap portion 20. The outer ring gas outlet 202 includes an air outlet slot extending along the circumferential direction of the outer ring cap portion 20. The air outlet slot is disposed with a plurality of connection holes 203 that communicates the air outlet slot and the outer ring concaved portion 21.

[0033] The inner ring cap portion 10 is further provided with a second gas outlet 102, and the second gas outlet 102 includes a plurality of air outlet holes. The first gas outlet 101 and the second gas outlet 102 are formed on a same smooth surface on the inner ring cap portion 10, that is, on an outer circumference surface 10b. In this embodiment, an outer edge of a vertical projection of the first gas outlet 101 and an outer edge of a vertical projection of the second gas outlet 102 are on a same circumference. In a use state of the burner cap 3, the second gas outlet 102 is in communication with the outer ring concaved portion 21. Specifically, the bottom of the inner ring cap portion 10 in this embodiment further includes an inwardly concaved second concaved portion 12. The second concaved portion 12 is disposed on the periphery of the first concaved portion 11. In a use state of the burner cap 3, the second concaved portion 12 is separated from the first concaved portion 11, the second concaved portion 12 is in communication with the outer ring concaved portion 21, and the second gas outlet 102 is in communication with the second concaved portion 12. Therefore, in a use state of the burner cap, the second gas outlet 102 is in communication with the outer ring concaved portion 21.

[0034] Referring to FIG. 2 and FIG. 3, the inner ring cap portion 10 includes a wall body potion 100 surrounding the first concaved portion 11, the wall body potion 100 is provided with a plurality of connection channels 103 that communicates the second gas outlet 102 and the second concaved portion 12, and the plurality of connection channels 103 is a plurality of connection holes distributed along a circumferential direction of the wall body potion 100. The wall body potion 100 further includes a protruding extension portion 100a, and the extension portion 100a is disposed to separate the first concaved portion 11 from the second concaved portion 12 in a use state of the burner cap 3. This will be described in the following.

[0035] In this embodiment, the total area of all first gas outlets 101 on the burner cap 3 is less than the total area of all second gas outlets 102. Therefore, flames burning in the second gas outlet 102 supplied with gas by the outer ring gas injector form main flames on the inner ring cap portion 10, and flames burning in the first gas outlet 101 supplied with gas by the inner ring gas injector form booster flames, to play an effect of stabilizing burning of the main flames. The burner cap in this embodiment may burn more sufficiently when the outer ring cap portion has flames, the heat efficiency may reach 69% to 70%, and the emission of burned CO in the burner cap can be reduced; and when the burner cap is at the minimum fire, the power is small enough.

[0036] The burner cap 3 further includes at least one connection portion 15 connected between the outer ring cap portion 20 and the inner ring cap portion 10. In a use state of the burner cap 3, the connection portion 15 forms a component of a gas guide channel used for communicating the outer ring concaved portion 21 and the second concaved portion 12. The burner cap 3 in this embodiment includes three connection portions 15, each connection portion 15 includes a connection slot 150, and the connection slot 150 communicates the outer ring concaved portion 21 and the second concaved portion 12.

[0037] Referring to FIG. 4, the first gas outlet 101 further includes an air outlet hole 101a corresponding to a thermocouple, an air outlet hole 101c on the upper side of the thermocouple, an air outlet hole 101b corresponding to an ignition needle, and an air outlet hole 101d on the upper side of the ignition needle, to ensure the ignition performance and the security protection performance of the burner cap 3.

[0038] The following describes a burner cap in a sec-

ond embodiment of the present invention. As shown in FIG. 5 and FIG. 6, FIG. 5 is a sectional view of a burner cap according to a second embodiment of the present invention; and FIG. 6 is a three-dimensional bottom view of the burner cap according to the second embodiment of the present invention. In this embodiment, portion structures and functions corresponding to same numbers of the burner cap are same as or similar to those in the first embodiment. To avoid repetition, details are not described herein again, and reference is made to related descriptions in the first embodiment. The difference from the first embodiment is: The total area of all first gas outlets 101 on the burner cap in this embodiment is greater than the total area of all second gas outlets 102. The first gas outlet 101 includes a plurality of air outlet holes distributed along a circumferential direction of the inner ring cap portion 10. The second gas outlet 102 includes an air outlet slot, and the air outlet slot is an air outlet slot extending along a circumferential direction of an outer circumference surface of the inner ring cap portion 10. The wall body potion 100 is provided with a plurality of connection channels 103 that communicates the second gas outlet 102 and the second concaved portion 12. The plurality of connection channels 103 is a plurality of connection holes distributed along a circumferential direction of the wall body potion 100, so that the air outlet slot is in communication with the second concaved portion 12. Although the heat efficiency of the burner cap in this embodiment is lower than that in the first embodiment, compared with the existing burner cap, when the outer ring cap portion has flames, the burning is more sufficiently, and the emission of burned CO in the burner cap can be reduced; and when the burner cap is at the minimum fire, the power is smaller compared with the existing burner cap.

[0039] The foregoing is only two exemplary examples of the present invention, and more embodiments about a burner cap can be derived by making modifications to some features and combinations between difference features. For example, in another embodiment of the present invention, the inner ring cap portion includes an inner ring seat and a top cap detachably covered on the inner ring seat. The outer ring cap portion, the connection portion, and the inner ring seat form an integrally formed member.

[0040] FIG. 7 and FIG. 8 further show a burner head 2 of a burner used for a gas cooktop. FIG. 7 is an exploded view of a burner head according to an embodiment of the present invention. FIG. 8 is a three-dimensional view of a burner head according to an embodiment of the present invention. The burner head 2 includes a burner cap base 4 and a burner cap 3, and the burner cap 3 is detachably covered on the burner cap base 4. The burner cap 3 may be the burner cap described in the previous embodiment. When the burner cap 3 is covered on the burner cap base 4, the first concaved portion 11 matches the burner cap base 4 to form an inner ring gas mixing chamber 13 (as shown in FIG. 12 and FIG. 13), and the outer ring concaved portion 21 matches the burner cap base 4 to form an outer ring gas mixing chamber 23. The outer ring gas mixing chamber 23 is separated from the inner ring gas mixing chamber 13.

[0041] Comparing FIG. 12 or FIG. 13 and referring to FIG. 9, FIG. 9 is a three-dimensional view of a burner cap base according to an embodiment of the present invention. The burner cap base 4 in this embodiment includes an inner ring gas inlet 41 and an outer ring gas inlet 42, the inner ring gas inlet 41 is used for allowing gas supplied by an inner ring gas injector to enter the burner head 2, and the outer ring gas inlet 42 is used for allowing gas supplied by an outer ring gas injector to enter the burner head 2. More specifically, the center region of the burner cap base 4 includes a barrel portion 40, and an inlet of the barrel portion 40 forms the inner ring gas inlet 41. In a use state of the burner head 2, the barrel portion 40 matches a portion forming the first concaved portion 11 to form an inner ring gas mixing chamber 13, that is, the barrel portion 40 is seamlessly matched with the wall body potion 100 to form the inner ring gas mixing chamber 13, that is, the barrel portion 40 is seamlessly matched with the extension portion 100a to form the inner ring gas mixing chamber 13. Therefore, in a use state of the burner cap 3, the first concaved portion 11 is separated from the outer ring concaved portion 21.

[0042] The burner cap base 4 includes an outer ring wall 44 and a plurality of air inlets 46 located at an inner side of the outer ring wall 44. As shown in FIG. 1, FIG. 2, and FIG. 6, the burner cap 3 is provided with a plurality of air outlets 16 separately corresponding to a plurality of air inlets 46. The air inlet 46 matches the air outlet 16 to form an air channel. Air enters the air channel from the lower side of the burner head 2 to supplement secondary air to burning of the burner head 2. The burner cap base 4 includes a plurality of fence portions 45 disposed at intervals, each of the fence portions 45 fences an air inlet 46, and two neighboring fence portions 45 form a gas guide slot 43. The fence portion 45 and the outer ring wall 44 form a groove 47, and the gas guide slot 43 communicates the outer ring gas inlet 42 and the groove 47. When the burner cap 3 is covered on the burner cap base 4, the groove 47 matches the outer ring concaved portion 21 to form an outer ring gas mixing chamber 23 (as shown in FIG. 12 and FIG. 13), the gas guide slot 43 matches the connection slot 150 on the burner cap 3 to form a gas guide channel, and the gas guide channel communicates the outer ring gas inlet 42 and the outer ring gas mixing chamber 23. A second concaved portion 12 on the burner cap 3 faces toward the outer ring gas inlet 42. Therefore, in a use state of the stove, after gas enters from the outer ring gas inlet 42, the second concaved portion 12 accommodates the gas, and the gas enters the outer ring gas mixing chamber 23 from the gas guide channel.

[0043] The burner cap base 4 in this embodiment is an integrally formed member, and is manufactured in a forging manner by using a brass material same as the burner

cap 3. To reduce a tolerance accumulation in a manufacture process, and prevent that after the burner cap 3 is covered on the burner cap base 4, separated inner ring gas mixing chamber and outer ring gas mixing chamber cannot be formed, for example, a matching location of the barrel portion 40 and the extension portion 100a leaks gas. An upper surface of the barrel portion 40 in this embodiment and an upper surface of a portion forming the gas guide slot 43 are on a same plane, that is, the upper surface of the barrel portion 40 and an upper surface of the fence portion 45 are on a same plane.

[0044] The burner cap base 4 further includes a plurality of flow division portions 420, and the flow division portion 420 is connected between an outer wall of the barrel portion 40 and a wall forming the outer ring gas inlet 42. The outer ring gas inlet 42 is divided into a plurality of gas division openings by the flow division portion 420, and each gas guide slot 43 corresponds to at least one of the flow division portions 420. As shown in FIG. 9, specifically, in this embodiment, the burner cap base 4 includes three flow division portions 420, the outer ring gas inlet 42 is divided into three gas division openings 42a, 42b, and 42c by the flow division portion 420, and a gas flow of the outer ring gas inlet 42 is divided into three gas flows. Each gas guide slot 43 corresponds to one flow division portion 420, and each flow division portion 420 directly faces toward the center location of one gas guide slot 43. That is, the flow division portion 420 extends in a straight line, and an extension direction of each flow division portion 420 coincides with a symmetry axis of the corresponding gas guide slot 43.

[0045] After the flow division portion 420 is disposed, an extension direction of the flow division portion 420 is perpendicular to a direction of an air flow of gas at the outer ring gas inlet 42. Therefore, a part of gas from the gas division opening 42a and a part of gas from the gas division opening 42b are mixed to enter the gas guide slot 43 in the right upper side of FIG. 9, and then enter the groove 47. Certainly, this is described from one single aspect of the burner cap base 4. In an actual use state of the stove, a part of gas from the gas division opening 42a and a part of gas from the gas division opening 42b are mixed to enter the outer ring gas mixing chamber 23 from the gas guide channel corresponding to the gas guide slot 43 in the right upper side in FIG. 9. To avoid repetition, the following provides descriptions only from the aspect of the burner cap base 4. A part of gas from the gas division opening 42b and a part of gas from the gas division opening 42c are mixed to enter a gas guide slot 43 on the right side in FIG. 9, and then enter the groove 47. A part of gas from the gas division opening 42c and a part of gas from the gas division opening 42a are mixed to enter a gas guide slot 43 on the left side in FIG. 9, and then enter the groove 47. Therefore, it can be seen that, the flow division portion 420 is disposed to perform a first division, which is equivalent to increasing the resistance at the outer ring gas inlet 42, and having effects of pressure reduction and flow rate reduction for entered gas flows. Each gas guide slot 43 corresponds to a flow division portion 420, which is equivalent to a second division performed to divide the previous multiple air flows to be transferred into the gas guide slot 43, so that division is performed twice before the gas flows enter the outer ring gas mixing chamber, and the gas entering the outer ring gas mixing chamber 23 is more even.

[0046] In this embodiment, the burner cap base 4 includes an inner ring gas flow channel and an outer ring gas flow channel, the barrel portion 40 forms the inner ring gas flow channel, and the outer ring gas flow channel includes the outer ring gas inlet 42, the gas guide slot 43, and the groove 47. In a use state of the burner cap base 4, the inner ring gas flow channel is separated from the outer ring gas flow channel.

[0047] It should be additionally noted that, the burner cap matching the burner cap base 4 in the embodiment shown in FIG. 9 may be the burner cap 3 described in the previous embodiment, or may be any burner cap that may match the burner cap base 4. Certainly, the burner cap base matching the burner cap 3 in the embodiment shown in FIG. 1 to FIG. 6 may be the burner cap base show in FIG. 9, or may be any burner cap base that may match the burner cap 3.

[0048] It needs to be further noted that, the burner cap base 4 in this embodiment is provided with a burner cap location column 48, and the burner cap 3 is provided with a burner cap location hole 14 corresponding to the burner cap location column 48, as shown in FIG. 2 and FIG. 6. In the prior art, the burner cap location hole is disposed on the burner cap base, so that after a spill or dirt enters the burner cap base, the spill or dirt may fall into the burner cap location hole and fill some height, and the burner cap location column cannot be completely inserted into place. Therefore, the burner cap cannot be covered on the burner cap base seamlessly, and a crack leaks gas. The crack that leaks gas may form flames, and after a long time, the burner cap may be burned to deform. This embodiment can avoid the foregoing problems, and even though the spill or dirt enters the burner cap base, the spill or dirt does not cause any impact to the fastening of the burner cap.

[0049] In addition, the present invention further shows a burner head 2 of a burner used for a gas cooktop, including an outer ring gas mixing chamber 23 and an inner ring gas mixing chamber 13 that are separated. The outer ring gas mixing chamber 23 is used for accommodating gas supplied by an outer ring gas injector 521 (shown in FIG. 12 and FIG. 13), and the inner ring gas mixing chamber 13 is used for accommodating gas supplied by an inner ring gas injector 511. The burner head 2 includes an outer ring gas outlet 201 and an outer ring gas outlet 202 distributed on an outer ring region of the burner head 2. The outer ring gas outlet 201 and the outer ring gas outlet 202 are separately in communication with the outer ring gas mixing chamber 23. The burner head 2 further includes a first gas outlet 101 and a second gas outlet 102 distributed on an inner ring region of the burner head

2. The first gas outlet 101 is in communication with the inner ring gas mixing chamber 13, and the second gas outlet 102 is in communication with the outer ring gas mixing chamber 23. The burner head 2 in an embodiment is formed by separated assembly, such as the burner head described in the previous embodiment. Details are not described herein again. In another embodiment, the burner head 2 is an integrally formed member, and the entire burner head may be integrally manufactured by using the existing processing technology.

[0050] The present invention shows a burner 1 used for a gas cooktop, including the burner head 2 according to any one of the foregoing embodiments. As shown in FIG. 10 and FIG. 11, FIG. 10 is an exploded view of a burner according to an embodiment of the present invention; and FIG. 11 is a three-dimensional view of a burner according to an embodiment of the present invention.

[0051] The burner 1 includes a burner base 5, and the burner head 2 is detachably placed on the burner base 5. The burner base 5 includes an inner ring injection system 51, an outer ring injection system 52, a thermocouple 53, and an ignition needle 54. The inner ring injection system 51 includes an inner ring gas injector 511, an inner ring induction tube 512 connected to the inner ring gas injector 511, and an inner ring pressure stabilizing cavity 513 connected to the inner ring induction tube 512. The outer ring injection system 52 includes an outer ring gas injector 521, an outer ring induction tube 522 connected to the outer ring gas injector 521, and an outer ring pressure stabilizing cavity 523 connected to the outer ring induction tube 522. The inner ring pressure stabilizing cavity 513 is in communication with an inner ring gas mixing chamber 13 or a first concaved portion 11. The outer ring pressure stabilizing cavity 523 is in communication with an outer ring gas mixing chamber 23 or an outer ring concaved portion 21. After the burner 1 is assembled, the thermocouple 53 corresponds to an air outlet hole 101a, and the ignition needle 54 corresponds to an air outlet hole 101b.

[0052] As shown in FIG. 12, FIG. 12 is a sectional view of a burner according to a first embodiment of the present invention. To show more structure features, FIG. 12 does not use an ordinary sectioning method along one section. The burner 1 shown in this embodiment uses the burner cap 3 described in the first embodiment. For some related descriptions, refer to the previous descriptions. The burner cap 3 includes an inner ring cap portion 10 and an outer ring cap portion 20. The bottom of the inner ring cap portion 10 includes an inwardly concaved first concaved portion 11, a wall body potion 100 surrounding the first concaved portion 11 matches a barrel portion 40 of the burner cap base 4 to form the inner ring gas mixing chamber 13. Gas supplied by the inner ring gas injector 511 and primary air inhaled from the front end of the inner ring induction tube 512 enter the inner ring induction tube 512, subsequently reach the inner ring pressure stabilizing cavity 513, and then enter the inner ring gas mixing chamber 13 from the inner ring gas inlet 41.

[0053] The outer ring cap portion 20 surrounds the periphery of the inner ring cap portion 10, the bottom of the outer ring cap portion 20 is inwardly concaved to form an outer ring concaved portion 21, and the outer ring concaved portion 21 matches a groove 47 on the burner cap base 4 to form the outer ring gas mixing chamber 23. Gas supplied by an outer ring gas injector 521 and primary air inhaled from the front end of the outer ring induction tube 522 enter the outer ring induction tube 522, subsequently reach the outer ring pressure stabilizing cavity 523, and then enter the outer ring gas mixing chamber 23 from the outer ring gas inlet 42. The outer ring cap portion 20 is provided with an outer ring gas outlet 201 and an outer ring gas outlet 202 in communication with the outer ring concaved portion 21.

[0054] The bottom of the inner ring cap portion 10 further includes an inwardly concaved second concaved portion 12, and the second concaved portion 12 is disposed on the periphery of the first concaved portion 11. The second concaved portion 12 is in communication with both the outer ring gas inlet 42 and the outer ring gas mixing chamber 23.

[0055] The inner ring cap portion 10 is provided with a first gas outlet 101 in communication with the first concaved portion 11. The first gas outlet 101 includes an air outlet slot. The inner ring cap portion 10 is further provided with a second gas outlet 102 in communication with the second concaved portion, and the second gas outlet 102 includes a plurality of air outlet holes. The total area of all first gas outlets 101 on the burner cap 3 is less than the total area of all second gas outlets 102.

[0056] As shown in FIG. 13, FIG. 13 is a sectional view of a burner according to the second embodiment of the present invention. The burner 1 shown in this embodiment uses the burner cap 3 described in the previous second embodiment. For some related descriptions, refer to the previous descriptions. In this embodiment, portion structures and functions corresponding to same numbers of the burner are same as or similar to those in the first embodiment. To avoid repetition, details are not described herein again, and reference is made to related descriptions in the first embodiment. The difference from the first embodiment is: The total area of all first gas outlets 101 on the burner cap used by the burner in this embodiment is greater than the total area of all second gas outlets 102. The first gas outlet 101 includes a plurality of air outlet holes distributed along a circumferential direction of the inner ring cap portion 10, and the second gas outlet 102 includes an air outlet slot.

[0057] Finally, the present invention further provides a gas cooktop, including the burner 1 used for a gas cooktop according to any one of the foregoing embodiments.

[0058] Various embodiments of single parts described with reference to FIG. 1 to FIG. 13 may be mutually combined in any given manner, to implement the advantages of the present invention.

[0059] The present invention has been described in the foregoing related embodiments, but the foregoing

embodiments are merely examples for implementing the present invention. It should be noted that, the disclosed embodiments do not limit the scope of the present invention.

Claims

1. A burner cap base (4) for a burner (1) of a gas cooktop, comprising an outer ring gas inlet (42) and a groove (47) used for accommodating gas, wherein the outer ring gas inlet (42) is used for allowing gas supplied by an outer ring gas injector (521) to enter the burner cap base (4), the burner cap base (4) further comprises a plurality of gas guide slots (43), wherein each gas guide slot (43) communicates the groove (47) and the outer ring gas inlet (42), wherein the burner cap base (4) further comprises a plurality of flow division portions (420), the outer ring gas inlet (42) is divided into a plurality of gas division openings (42a, 42b, 42c) by the flow division portion (420), **characterized in that** each gas guide slot (43) corresponds to at least one flow division portion (420), and wherein each flow division portion (420) directly faces toward the center location of one of the gas guide slots (43).

2. The burner cap base (4) according to claim 1, **characterized by** comprising a plurality of air inlets (46), wherein the burner cap base (4) comprises a plurality of fence portions (45) disposed at intervals, each of the fence portions (45) fences one of the air inlets (46), and two neighboring fence portions (45) form the gas guide slot (43).

3. The burner cap base (4) according to claim 2, **characterized by** comprising a surrounding outer ring wall (44), wherein the fence portion (45) is located at an inner side of the outer ring wall (44), and the outer ring wall (44) and the fence portion (45) form the groove (47).

4. The burner cap base (4) according to any one of claims 1 to 3, **characterized by** comprising three flow division portions (420), wherein the outer ring gas inlet (42) is divided into three gas division openings (42a, 42b, 42c).

5. The burner cap base (4) according to any one of claims 1 to 3, **characterized by** further comprising an inner ring gas inlet (41), wherein the inner ring gas inlet (41) is used for allowing gas supplied by an inner ring gas injector (511) to enter the burner (1), the burner cap base (4) comprises a barrel portion (40), an inlet of the barrel portion (40) forms the inner ring gas inlet (41), and the flow division portion (420) is connected between an outer wall of the barrel portion (40) and a wall forming the outer ring gas inlet (42).

6. The burner cap base (4) according to claim 5, **characterized by** comprising an inner ring gas flow channel and an outer ring gas flow channel, wherein the barrel portion (40) forms the inner ring gas flow channel, and the outer ring gas flow channel comprises the outer ring gas inlet (42), the gas guide slot (43), and the groove (47); and in a use state of the burner cap base (4), the inner ring gas flow channel is separated from the outer ring gas flow channel.

7. The burner cap base (4) according to claim 5, **characterized in that** an upper surface of the barrel portion (40) and an upper surface of a portion forming the gas guide slot (43) are on a same plane.

8. The burner cap base (4) according to any one of claims 1 to 7, **characterized in that** the burner cap base (4) is an integrally formed member.

9. A burner head (2) for a burner (1) of a gas cooktop, **characterized by** comprising a burner cap (3) and the burner cap base (4) according to any one of the foregoing claims, wherein the burner cap (3) detachably covers the burner cap base (4).

10. The burner head (2) according to claim 9, **characterized in that** the burner cap (3) comprises an inner ring cap portion (10) and an outer ring cap portion (20) surrounding the periphery of the inner ring cap portion (10), the bottom of the outer ring cap portion (20) is inwardly concaved to form an outer ring concaved portion (21), the outer ring concaved portion (21) matches the groove (47) to form an outer ring gas mixing chamber (23), the outer ring gas mixing chamber (23) is used for accommodating gas supplied by an outer ring gas injector (521), and the outer ring cap portion (20) is provided with an outer ring gas outlet (201, 202) in communication with the outer ring gas mixing chamber (23); and the bottom of the inner ring cap portion (10) comprises an inwardly concaved first concaved portion (11), the first concaved portion (11) matches the burner cap base (4) to form an inner ring gas mixing chamber (13), the inner ring gas mixing chamber (13) is used for accommodating gas supplied by an inner ring gas injector (511), the inner ring cap portion (10) is provided with a first gas outlet (101) in communication with the inner ring gas mixing chamber (13), the inner ring cap portion (10) is further provided with a second gas outlet (102), and the second gas outlet (102) is in communication with the outer ring gas mixing chamber (23).

11. The burner head (2) to claim 10, **characterized in that** the first gas outlet (101) and the second gas outlet (102) are formed on a same smooth extending

surface on the inner ring cap portion (10).

12. The burner head (2) according to claim 10, **characterized in that** the burner cap (3) further comprises a connection portion (15) connected between the outer ring cap portion (20) and the inner ring cap portion (10), the connection portion (15) matches the gas guide slot (43) to form a gas guide channel, and the gas guide channel communicates the outer ring gas inlet (42) and the outer ring gas mixing chamber (23).

13. A burner (1) for a gas cooktop, **characterized by** comprising the burner head (2) according to any one of claims 9 to 12.

14. A gas cooktop, **characterized by** comprising the burner (1) according to claim 13.

Patentansprüche

1. Brennerdeckelsockel (4) für einen Brenner (1) einer Gaskochstelle mit einem Außenring-Gaseinlass (42) und einer Nut (47) zum Aufnehmen von Gas, wobei der Außenring-Gaseinlass (42) dazu dient, dass von einer Außenring-Gasdüse (521) zugeführtes Gas in den Brennerdeckelsockel (4) hineinströmen kann, wobei der Brennerdeckelsockel (4) ferner mehrere Gasführungsschlitze (43) umfasst, die jeweils die Nut (47) und den Außenring-Gaseinlass (42) miteinander verbinden, wobei der Brennerdeckelsockel (4) ferner mehrere Strömungsaufteilabschnitte (420) umfasst, wobei der Außenring-Gaseinlass (42) durch die Strömungsaufteilabschnitte (420) in mehrere Gasaufteilöffnungen (42a, 42b, 42c) aufgeteilt ist,
dadurch gekennzeichnet, dass jeder Gasführungsschlitz (43) mindestens einem Strömungsaufteilabschnitt (420) entspricht, und wobei jeder Strömungsaufteilabschnitt (420) direkt zur Mitte eines der Gasführungsschlitze (43) weist.

2. Brennerdeckelsockel (4) nach Anspruch 1, **dadurch gekennzeichnet, dass** er mehrere Lufteinlässe (46) umfasst, wobei der Brennerdeckelsockel (4) mehrere in Abständen angeordnete Umgrenzungsabschnitte (45) umfasst, von denen jeder einen der Lufteinlässe (46) umgrenzt, und zwei benachbarte Umgrenzungsabschnitte (45) den Gasführungsschlitz (43) bilden.

3. Brennerdeckelsockel (4) nach Anspruch 2, **dadurch gekennzeichnet, dass** er eine umlaufende Außenringwand (44) umfasst, wobei sich der Umgrenzungsabschnitt (45) an einer Innenseite der Außenringwand (44) befindet und die Außenringwand (44) und der Umgrenzungsabschnitt (45) die Nut (47) bilden.

4. Brennerdeckelsockel (4) nach einem der Ansprüche 1 bis 3, **dadurch gekennzeichnet, dass** er drei Strömungsaufteilabschnitte (420) umfasst, wobei der Außenring-Gaseinlass (42) in drei Gasaufteilöffnungen (42a, 42b, 42c) aufgeteilt ist.

5. Brennerdeckelsockel (4) nach einem der Ansprüche 1 bis 3, **dadurch gekennzeichnet, dass** er ferner einen Innenring-Gaseinlass (41) umfasst, wobei der Innenring-Gaseinlass (41) dazu dient, dass von einer Innenring-Gasdüse (511) zugeführtes Gas in den Brenner (1) hineinströmen kann, der Brennerdeckelsockel (4) einen Zylinderabschnitt (40) umfasst, ein Einlass des Zylinderabschnitts (40) den Innenring-Gaseinlass (41) bildet und der Strömungsaufteilabschnitt (420) als Verbindung zwischen einer Außenwand des Zylinderabschnitts (40) und einer den Außenring-Gaseinlass (42) bildenden Wand dient.

6. Brennerdeckelsockel (4) nach Anspruch 5, **dadurch gekennzeichnet, dass** er einen Innenring-Gasströmungskanal und einen Außenring-Gasströmungskanal umfasst, wobei der Zylinderabschnitt (40) den Innenring-Gasströmungskanal bildet und der Außenring-Gasströmungskanal den Außenring-Gaseinlass (42), den Gasführungsschlitz (43) und die Nut (47) umfasst und der Innenring-Gasströmungskanal in einem Gebrauchszustand des Brennerdeckelsockels (4) von dem Außenring-Gasströmungskanal getrennt ist.

7. Brennerdeckelsockel (4) nach Anspruch 5, **dadurch gekennzeichnet, dass** sich eine obere Fläche des Zylinderabschnitts (40) und eine obere Fläche eines Abschnitts, der den Gasführungsschlitz (43) bildet, auf der gleichen Ebene befinden.

8. Brennerdeckelsockel (4) nach einem der Ansprüche 1 bis 7, **dadurch gekennzeichnet, dass** es sich bei dem Brennerdeckelsockel (4) um ein einstückig gebildetes Element handelt.

9. Brennerkopf (2) für einen Brenner (1) einer Gaskochstelle, **dadurch gekennzeichnet, dass** er eine Brennerkappe (3) und den Brennerdeckelsockel (4) nach einem der vorhergehenden Ansprüche umfasst, wobei die Brennerkappe (3) den Brennerdeckelsockel (4) abnehmbar abdeckt.

10. Brennerkopf (2) nach Anspruch 9, **dadurch gekennzeichnet, dass** die Brennerkappe (3) einen Innenring-Deckelabschnitt (10) und einen den Umfang des Innenring-Deckelabschnitts (10) umgebenden Außenring-Deckelabschnitt (20) umfasst, wobei die Unterseite des Außenring-Deckelabschnitts (20)

nach innen hin konkav ist, so dass sie einen konkaven Außenringabschnitt (21) bildet, der so zu der Nut (47) passt, dass eine Außenring-Gasmischkammer (23) entsteht, die zum Aufnehmen von von einer Außenring-Gasdüse (521) zugeführtem Gas dient, und der Außenring-Deckelabschnitt (20) mit einem Außenring-Gasauslass (201, 202) versehen ist, der mit der Außenring-Gasmischkammer (23) verbunden ist, und die Unterseite des Innenring-Deckelabschnitts (10) einen nach innen hin konkaven ersten konkaven Abschnitt (11) umfasst, der so zu dem Brennerdeckelsockel (4) passt, dass eine Innenring-Gasmischkammer (13) entsteht, die zum Aufnehmen von von einer Innenring-Gasdüse (511) zugeführtem Gas dient, wobei der Innenring-Deckelabschnitt (10) mit einem ersten Gasauslass (101) versehen ist, der mit der Innenring-Gasmischkammer (13) verbunden ist, wobei der Innenring-Deckelabschnitt (10) ferner mit einem zweiten Gasauslass (102) versehen ist und der zweite Gasauslass (102) mit der Außenring-Gasmischkammer (23) verbunden ist.

11. Brennerkopf (2) nach Anspruch 10, **dadurch gekennzeichnet, dass** der erste Gasauslass (101) und der zweite Gasauslass (102) an der gleichen eben verlaufenden Fläche an dem Innenring-Deckelabschnitt (10) gebildet sind.

12. Brennerkopf (2) nach Anspruch 10, **dadurch gekennzeichnet, dass** die Brennerkappe (3) ferner einen Verbindungsabschnitt (15) umfasst, der als Verbindung zwischen dem Außenring-Deckelabschnitt (20) und dem Innenring-Deckelabschnitt (10) dient, wobei der Verbindungsabschnitt (15) zu dem Gasführungsschlitz (43) passt, so dass ein Gasführungskanal entsteht, und der Gasführungskanal den Außenring-Gaseinlass (42) und die Außenring-Gasmischkammer (23) miteinander verbindet.

13. Brenner (1) für eine Gaskochstelle, **dadurch gekennzeichnet, dass** er den Brennerkopf (2) nach einem der Ansprüche 9 bis 12 umfasst.

14. Gaskochstelle, **dadurch gekennzeichnet, dass** sie den Brenner (1) nach Anspruch 13 umfasst.

Revendications

1. Base de couvercle de brûleur (4) pour un brûleur (1) d'une table de cuisson à gaz, comprenant une entrée de gaz annulaire externe (42) et une rainure (47) utilisée pour recevoir du gaz, dans laquelle l'entrée de gaz annulaire externe (42) est utilisée pour permettre à du gaz fourni par un injecteur de gaz annulaire externe (521) d'entrer dans la base de couvercle de brûleur (4), la base de couvercle de brûleur (4) comprenant en outre une pluralité de fentes de guidage de gaz (43), dans laquelle chaque fente de guidage de gaz (43) fait communiquer la rainure (47) et l'entrée de gaz annulaire externe (42), la base de couvercle de brûleur (4) comprenant en outre une pluralité de portions de division de flux (420), l'entrée de gaz annulaire externe (42) étant divisée en une pluralité d'ouvertures de division de gaz (42a, 42b, 42c) par la portion de division de flux (420), **caractérisée en ce que** chaque fente de guidage de gaz (43) correspond à au moins une portion de division de flux (420), et dans laquelle chaque portion de division de flux (420) est tournée directement vers l'emplacement central de l'une des fentes de guidage de gaz (43).

2. Base de couvercle de brûleur (4) selon la revendication 1, **caractérisée en ce qu'**elle comprend une pluralité d'entrées d'air (46), la base de couvercle de brûleur (4) comprenant une pluralité de portions de clôture (45) disposées à intervalles, chacune des portions de clôture (45) clôturant l'une des entrées d'air (46), et deux portions de clôture (45) voisines formant la fente de guidage de gaz (43).

3. Base de couvercle de brûleur (4) selon la revendication 2, **caractérisée en ce qu'**elle comprend une paroi annulaire externe (44) enveloppante, dans laquelle la portion de clôture (45) est située au niveau d'un côté interne de la paroi annulaire externe (44), et la paroi annulaire externe (44) et la portion de clôture (45) forment la rainure (47).

4. Base de couvercle de brûleur (4) selon l'une quelconque des revendications 1 à 3, **caractérisée en ce qu'**elle comprend trois portions de division de flux (420), dans laquelle l'entrée de gaz annulaire externe (42) est divisée en trois ouvertures de division de gaz (42a, 42b, 42c).

5. Base de couvercle de brûleur (4) selon l'une quelconque des revendications 1 à 3, **caractérisée en ce qu'**elle comprend en outre une entrée de gaz annulaire interne (41), dans laquelle l'entrée de gaz annulaire interne (41) est utilisée pour permettre à du gaz fourni par un injecteur de gaz annulaire interne (511) d'entrer dans le brûleur (1), la base de couvercle de brûleur (4) comprenant une portion cylindrique (40), une entrée de la portion cylindrique (40) formant l'entrée de gaz annulaire interne (41), et la portion de division de flux (420) étant raccordée entre une paroi externe de la portion cylindrique (40) et une paroi formant l'entrée de gaz annulaire externe (42).

6. Base de couvercle de brûleur (4) selon la revendication 5, **caractérisée en ce qu'**elle comprend un canal de flux de gaz annulaire interne et un canal de

flux de gaz annulaire externe, dans laquelle la portion cylindrique (40) forme le canal de flux de gaz annulaire interne, et le canal de flux de gaz annulaire externe comprend l'entrée de gaz annulaire externe (42), la fente de guidage de gaz (43), et la rainure (47) ; et dans un état d'utilisation de la base de couvercle de brûleur (4), le canal de flux de gaz annulaire interne est séparé du canal de flux de gaz annulaire externe.

7. Base de couvercle de brûleur (4) selon la revendication 5, **caractérisée en ce qu'**une surface supérieure de la portion cylindrique (40) et une surface supérieure d'une portion formant la fente de guidage de gaz (43) sont sur un même plan.

8. Base de couvercle de brûleur (4) selon l'une quelconque des revendications 1 à 7, **caractérisée en ce que** la base de couvercle de brûleur (4) est un organe formé d'une seule pièce.

9. Tête de brûleur (2) pour un brûleur (1) d'une table de cuisson à gaz, **caractérisée en ce qu'**elle comprend un couvercle de brûleur (3) et la base de couvercle de brûleur (4) selon l'une quelconque des revendications précédentes, dans laquelle le couvercle de brûleur (3) recouvre de manière amovible la base de couvercle de brûleur (4).

10. Tête de brûleur (2) selon la revendication 9, **caractérisée en ce que** le couvercle de brûleur (3) comprend une portion de couvercle annulaire interne (10) et une portion de couvercle annulaire externe (20) entourant la périphérie de la portion de couvercle annulaire interne (10), le fond de la portion de couvercle annulaire externe (20) est rendu concave vers l'intérieur afin de former une portion rendue concave annulaire externe (21), la portion rendue concave annulaire externe (21) est assortie à la rainure (47) afin de former une chambre de mélange de gaz annulaire externe (23), la chambre de mélange de gaz annulaire externe (23) est utilisée pour recevoir du gaz fourni par un injecteur de gaz annulaire externe (521), et la portion de couvercle annulaire externe (20) est pourvue d'une sortie de gaz annulaire externe (201, 202) en communication avec la chambre de mélange de gaz annulaire externe (23) ; et le fond de la portion de couvercle annulaire interne (10) comprend une première portion rendue concave vers l'intérieur (11), la première portion rendue concave (11) correspond à la base de couvercle de brûleur (4) afin de former une chambre de mélange de gaz annulaire interne (13), la chambre de mélange de gaz annulaire interne (13) est utilisée pour recevoir du gaz fourni par un injecteur de gaz annulaire interne (511), la portion de couvercle annulaire interne (10) est pourvue d'une première sortie de gaz (101) en communication avec la chambre de mélange de gaz annulaire interne (13), la portion de couvercle annulaire interne (10) est en outre pourvue d'une deuxième sortie de gaz (102), et la deuxième sortie de gaz (102) est en communication avec la chambre de mélange de gaz annulaire externe (23).

11. Tête de brûleur (2) selon la revendication 10, **caractérisée en ce que** la première sortie de gaz (101) et la deuxième sortie de gaz (102) sont formées sur une même surface de prolongement lisse sur la portion de couvercle annulaire interne (10).

12. Tête de brûleur (2) selon la revendication 10, **caractérisée en ce que** le couvercle de brûleur (3) comprend en outre une portion de raccordement (15) raccordée entre la portion de couvercle annulaire externe (20) et la portion de couvercle annulaire interne (10), la portion de raccordement (15) est assortie à la fente de guidage de gaz (43) afin de former un canal de guidage de gaz, et le canal de guidage de gaz fait communiquer l'entrée de gaz annulaire externe (42) et la chambre de mélange de gaz annulaire externe (23).

13. Brûleur (1) pour une table de cuisson à gaz, **caractérisé en ce qu'**il comprend la tête de brûleur (2) selon l'une quelconque des revendications 9 à 12.

14. Table de cuisson à gaz, **caractérisée en ce qu'**elle comprend le brûleur (1) selon la revendication 13.

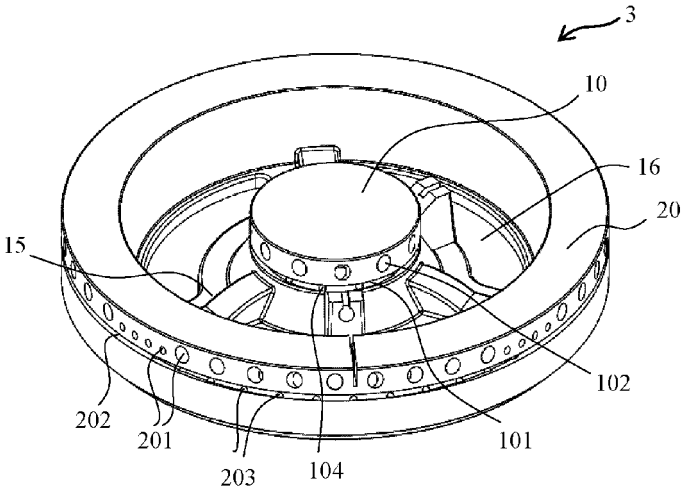

3
10
16
20
15
102
202
201
203
104
101

FIG. 1

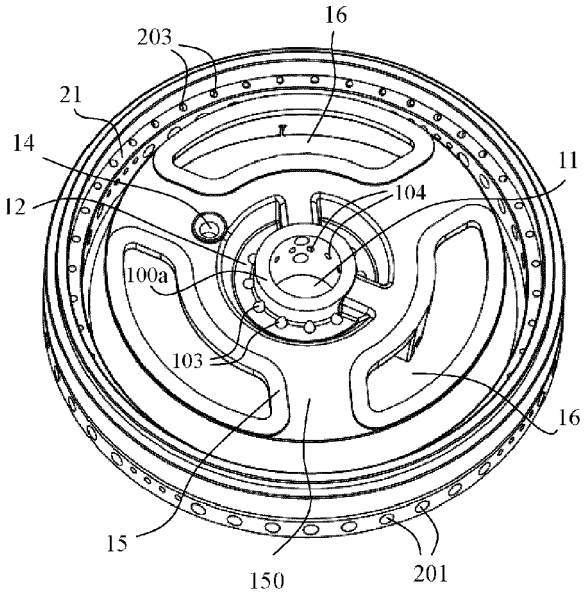

16
203
21
14
11
12
104
100a
103
16
15
150
201

FIG. 2

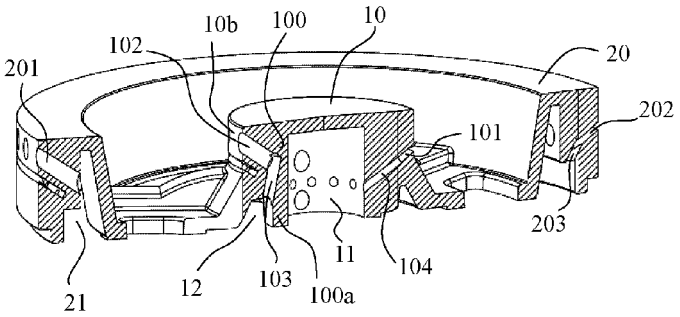


FIG. 3

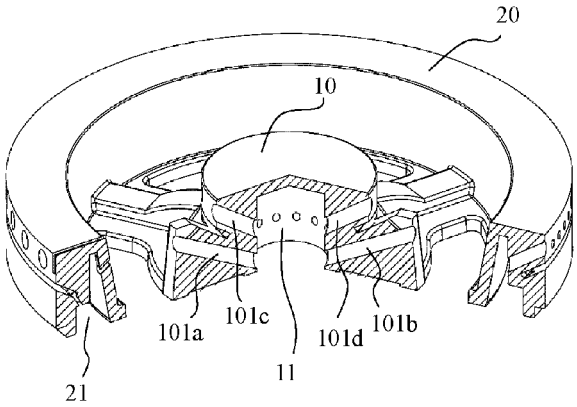


FIG. 4

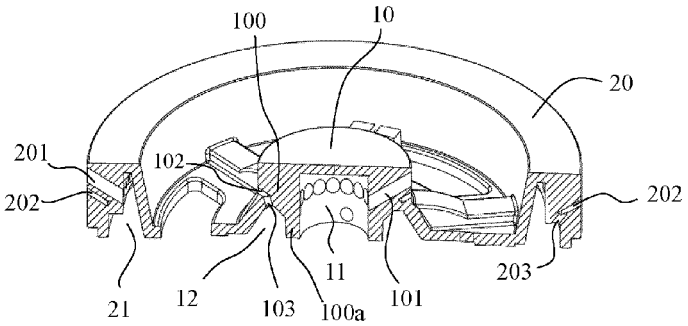


FIG. 5

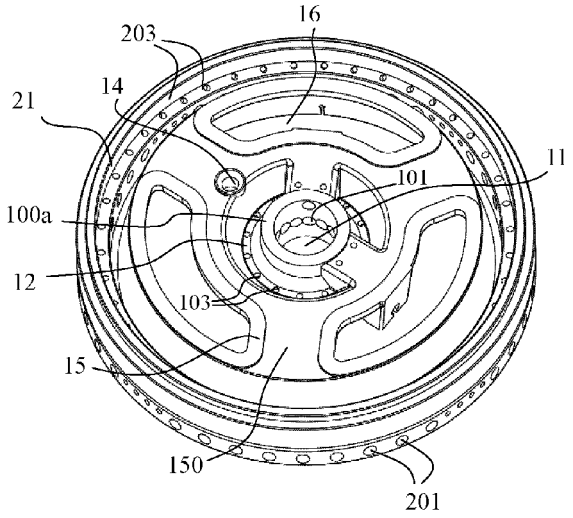


FIG. 6

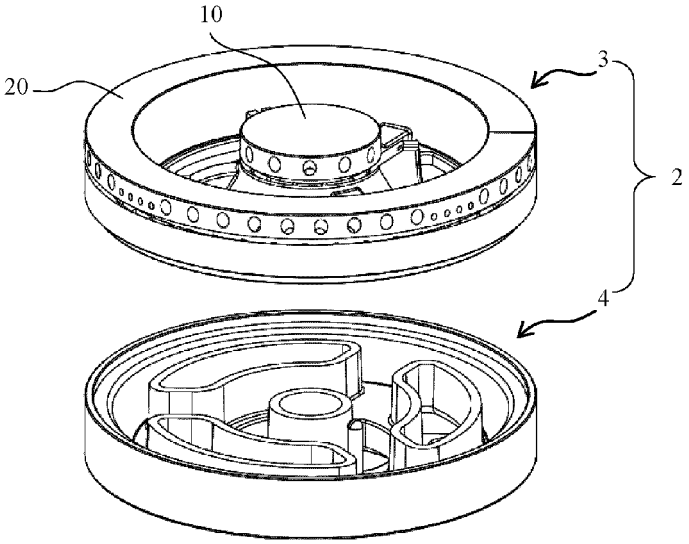
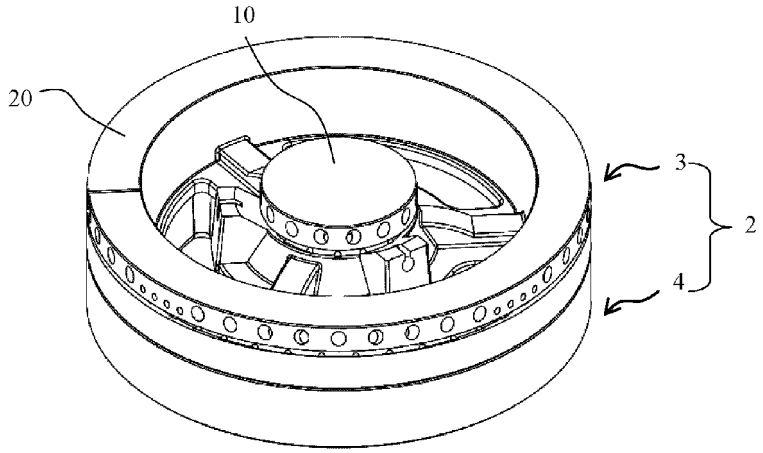


FIG. 7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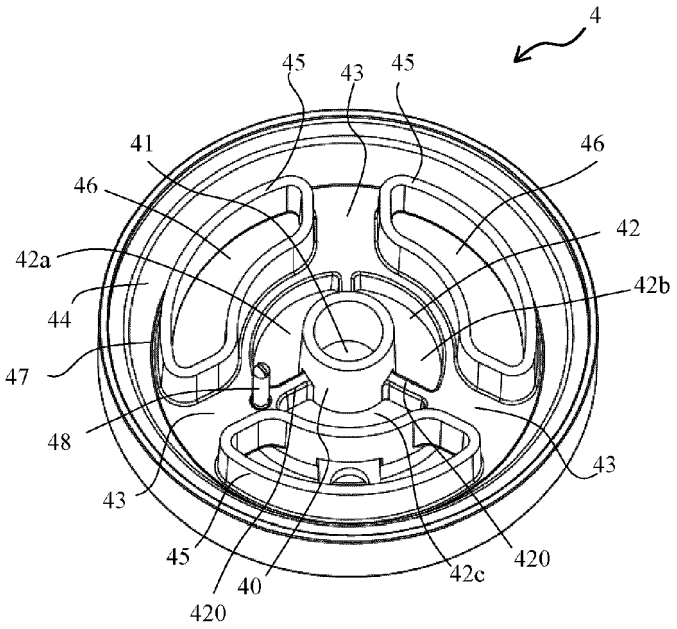
4

FIG. 8


4
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42a
42b
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42c
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420

FIG. 9

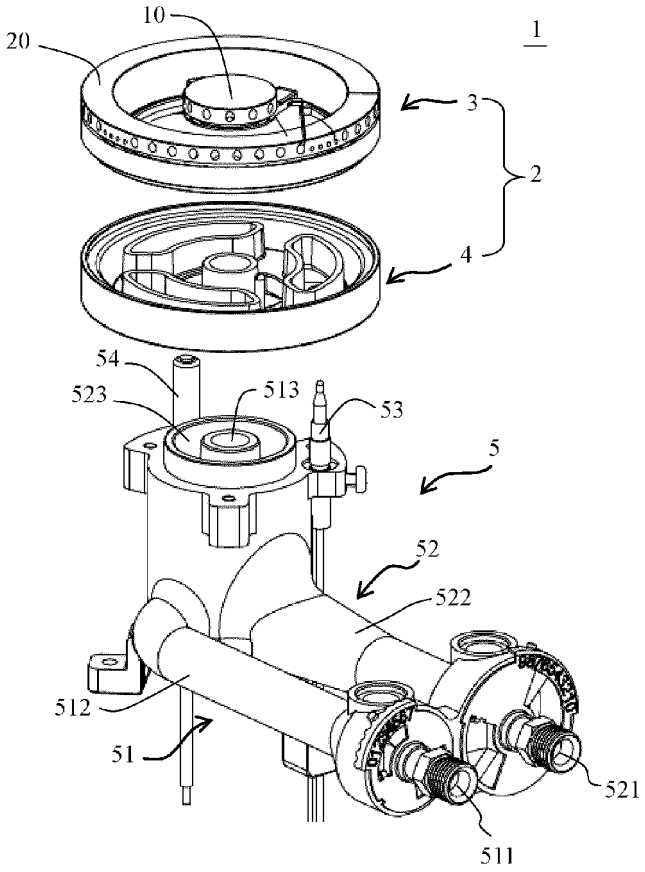


FIG. 10

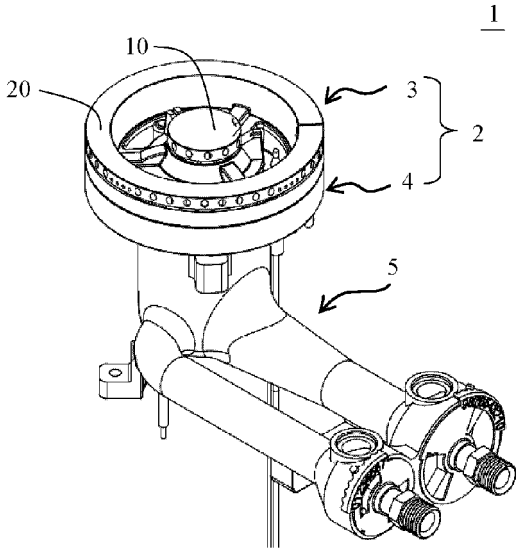
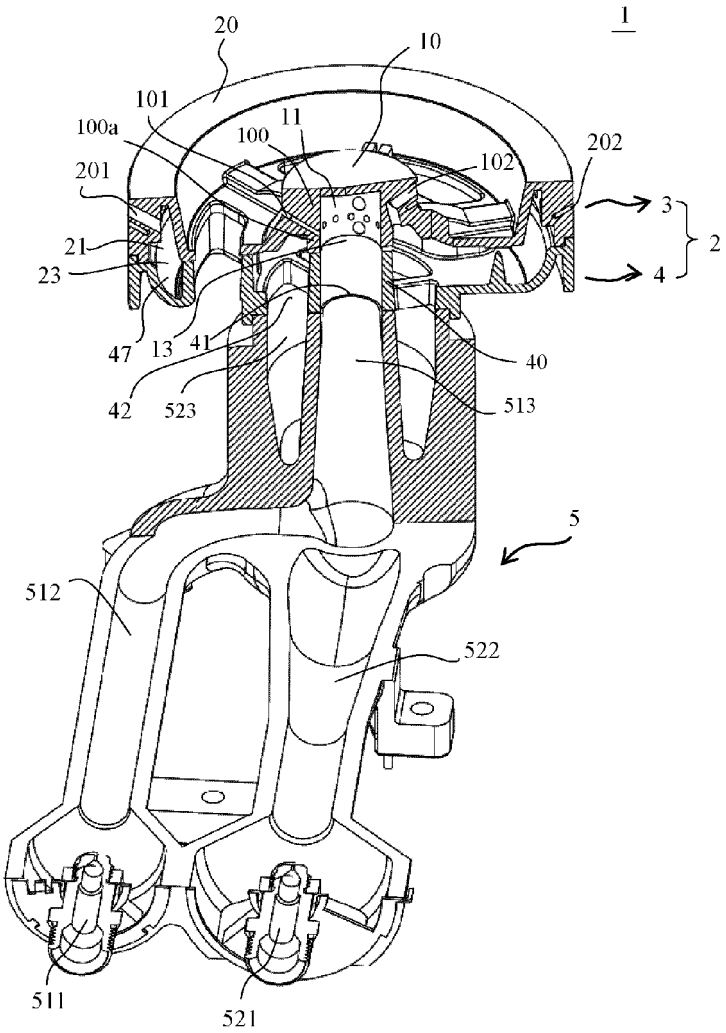


FIG. 11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521

FIG. 12

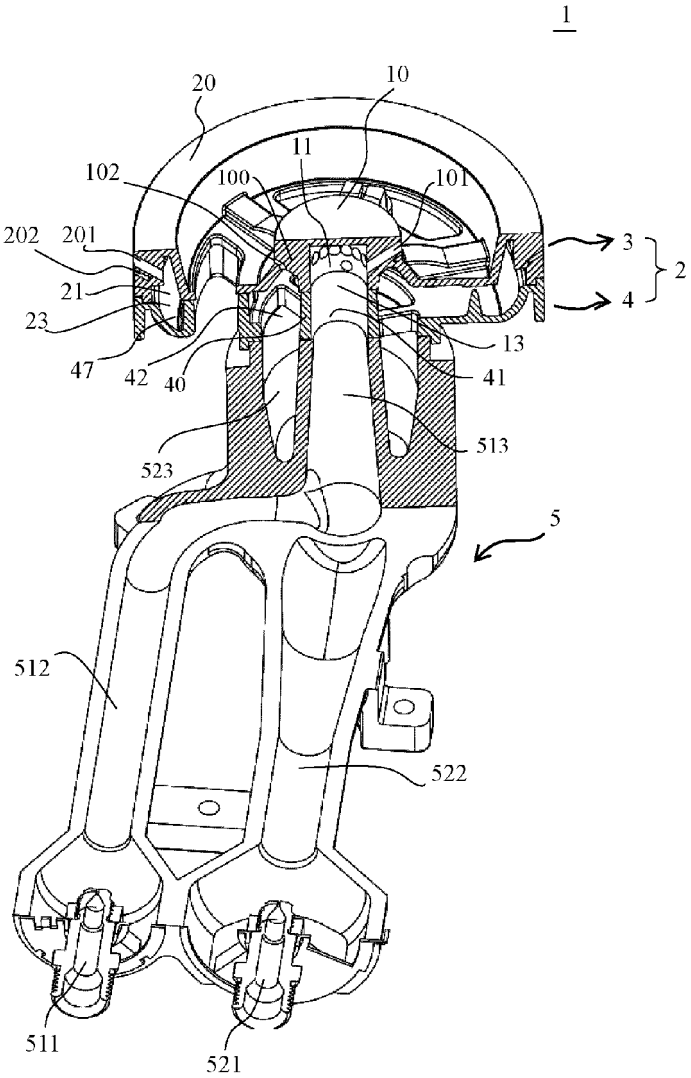
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FIG. 13

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- EP 1180642 A1 **[0003]**