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(54) GAS BURNER ASSEMBLY

(57) The present invention pertains to the technological field of gas burners for cooking equipments.

Problem to be solved: The state of the art comprises gas burners which outlet ports - holes through which gas burns from the inside to the outside - have variable and/or adjustable opening and/or size. Nevertheless, the already existing solutions are technically complex, either from the construction view point or functional viewpoint.

Problem solution: A gas burner assembly which alteration in the opening of the outlet ports exclusively depends on the relative movement in the axial direction and/or longitudinal direction between two bodies defining the burner is disclosed. Such concept is extremely simple from both construction and functional view points.

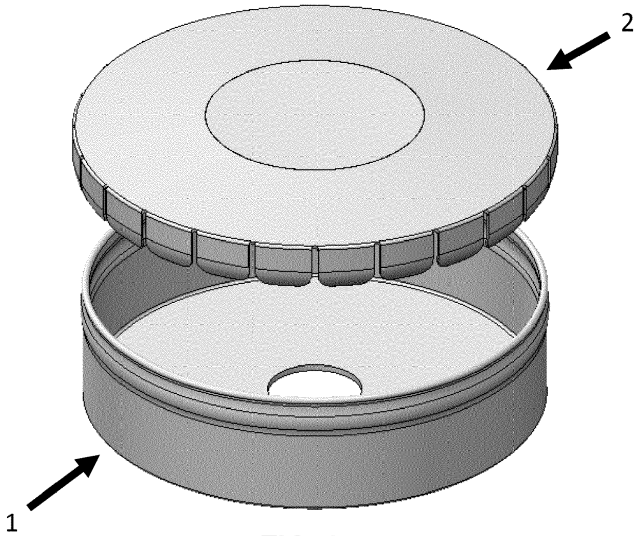

FIG. 2

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Description

Field of the Invention

[0001] The present invention refers to a gas burner assembly typically used in gas-burning cooking equipments, constituted by at least two bodies which when in cooperation with one another define a outlet port-adjusting mechanism, that is, a mechanism for adjusting the opening area of the outlet ports which permits to control the air-fuel mixture flow rate and, consequently, the flame intensity.

Background of the Invention

[0002] The current prior art comprises a great number of gas burner assembly models used in gas-burning cooking equipments, all of which aim at controlling the air-fuel mixture rate -from any source - and to keep a constant and safe flame.

[0003] From the most basic models to the majority of the most complex models, gas burner assemblies are comprised of at least one base and one cap, wherein in any portion of at least one of these bodies, a plurality of holes - outlet ports - through which the gas exits are defined and flame is maintained

[0004] As known by those skilled in the art, since gas burner assemblies are comprised of at least two parts this results in many technical problems and aspects which have been optimized over the years.

[0005] One of these problems, as also known by a person skilled in the art, lies in the difficulty of manufacturing gas burner assemblies provided with adjustable outlet ports, that is, outlet ports having a variable burning gas outlet area (within a dimensional range).

[0006] Nevertheless, only highly complex designs of gas burners comprise adjustable outlet ports.

[0007] A first example of gas burner assembly comprising adjustable outlet ports is disclosed in JP60149818, which describes two independent and self-engageable burners useful for cooking tables, which, however, also has a very relatively complex construction design, which, for operation, require the provision of two adjacent feed ducts (one for each burner), which are bifurcated at the point of the main duct in which there is a flow rate controlling valve which should be rotated to provide fuel gas for both ducts, for only one of them or partially for one or other duct.

[0008] A second example of gas burner assembly comprising adjustable outlet ports is found in BRP111028955, which refers to a burner for cooking equipment comprised of a body comprising a moving element that cooperates with outlet ports, wherein said moving element is associated with the flame intensity control system, and means for allowing a body to contain the elements required to link the calorific potency adjusted to the equipment with outlet ports for the passage of the air-fuel mixture to guarantee the quality of the flame outlet. Such moving element of the body comprises a sliding surface or elements independent, which are capable of totally or partially blocking the holes or outlet ports and cooperate with the flame control flame intensity.

[0009] Although two patent documents above mentioned comprise examples of gas burner assemblies comprising adjustable gas outlet ports, it is possible to assure that the present state of the art comprises other embodiments which are equal or more complex if compared to the described examples.

[0010] Based on this scenery, the present invention was developed.

Objections of the Invention

[0011] Therefore, one of the objects of the present invention is to provide a gas burner assembly comprised of at least two bodies which when in cooperation with one another define a means which permits to adjust the air-fuel mixture outlet area.

[0012] Thus, one of the objects of the present invention is to provide the presently disclosed gas burner comprising a simple and effective means to adjust outlet port size and then a flame adjustment simplified means, which does not require additional elements (e.g. intermediate valves, independent ducts, dedicated spreaders, etc.).

Summary of the Invention

[0013] All the objects of the present invention are achieved by means of the presently described gas burner assembly, which comprises at least two bodies, at least an inner chamber defined between said two bodies, and at least one outlet port.

[0014] In accordance with the present invention, one of said two bodies comprises a surrounding wall locked in one of its ends by a plate, wherein said surrounding wall has at least one rib and/or at least one groove. Said body further comprises at least one hole for the air-fuel mixture inlet.

[0015] The other body comprises a plate from which there protrude at an angle of 60° to 120° at least two spaced adjacent walls, wherein each of said adjacent walls comprises a final end facing towards the center of the plate.

[0016] Hence, said at least one outlet port is defined by the spacing extension existing between the two adjacent walls and to the body wall edge and the body wall edge which are in fluid communication with the inner chamber defined between said two bodies. Accordingly, said two bodies may cooperatively move therebetween in order to alter the spacing extension existing between the adjacent walls and the wall edge of the "first" body and the wall edge of the "second" wall which are in fluid communication with the inner chamber defined between the two bodies.

[0017] In accordance with the present invention, the

cooperating movement between the two bodies comprises a movement in axial direction or longitudinal direction. In addition, the final end of at least one adjacent wall cooperates with at least one rib or groove to define at least one limit of the stroke relative to the cooperating movement between the two bodies.

[0018] Thus, the final end of at least one adjacent wall cooperates with at least one rib or groove to define at least one predefined adjustment position of the spacing extension existing between the adjacent walls and the wall edge of the "first" body and the wall edge of the "second" body which are in fluid communication with the inner chamber defined between said two bodies. In accordance with the present invention, the rib or groove of the surrounding wall is surrounding or segmented.

[0019] In view of the form of said two bodies, the "first" body may comprise both base and cap of the burner assembly, wherein the same applies to the "second" body.

Brief Description of the Drawings

[0020] The present invention will be described in detail on the basis of the following drawings, where:

Fig. 1 illustrates in perspective view a preferred embodiment of the gas burner assembly in accordance with the present invention;

Fig. 2 illustrates in a perspective exploded view a preferred embodiment of the gas burner assembly in accordance with the present invention;

Fig. 3 illustrates in perspective view, the gas burner assembly cap in accordance with a preferred embodiment of the present invention;

Fig. 4 illustrates a front planned view of the gas burner assembly cap in accordance with a preferred embodiment of the present invention;

Fig. 5 illustrates a perspective view of the gas burner assembly base in accordance with a preferred embodiment of the present invention;

Fig. 6 illustrates a front view of the gas burner assembly base in accordance with the present invention;

Fig. 7 illustrates in a schematic cut view a first possibility of adjusting the outlet ports of a preferred embodiment of the gas burner assembly in accordance with the present invention;

Fig. 8 illustrates in a schematic cut view a second possibility of adjusting the outlet ports of a preferred embodiment of the gas burner assembly in accordance with the present invention;

Fig. 9 illustrates in a perspective view a preferred embodiment of the gas burner assembly in accordance with the present invention duly mounted on a cooking table;

Fig. 10 illustrates in a perspective view an alternative embodiment of the gas burner assembly in accordance with the present invention;

Fig. 11 illustrates a perspective exploded view of an alternative embodiment of the gas burner assembly in accordance with the present invention;

Fig. 12 illustrates in a perspective view an alternative embodiment of the gas burner assembly in accordance with the present invention duly mounted on a cooking table.

Detailed Description of the Invention

[0021] In accordance with the objects of the present invention, a gas burner assembly whose size of the outlet ports can be altered by a simple relative cooperating movement between at least two bodies defining the burner is disclosed.

[0022] In view of the inventive construction concept, all objectives of the present invention are achieved, wherein said inventive concept refers to a preferred embodiment illustrated in Figures. 1 to 9.

[0023] In accordance with these figures, it is observed that the gas burner assembly is essential comprised of two bodies **(1, 2).**

[0024] In accordance with the preferred embodiment illustrated in Figures 1 to 9, the body **1** comprises the burner assembly base and the body **2** comprises the burner assembly cap. It is clearly that such condition is not limitative and can be reversed (as illustrated in Figures 10 to 12).

[0025] Said body 1 comprises a surrounding wall **11** locked in its ends by a plate **12,** which comprises conventional fixation means (not illustrated) to be secured to a cooking table and an inlet hole **15** for fuel gas or air-fuel mixture from any source. Said surrounding wall **11** of said body **1** further comprises at least one rib **13** and at least one groove **14,** wherein they are both preferably surrounding.

[0026] The body **2** comprise a plate **21** from which there protrude perpendicularly multiple adjacent walls **22,** which are spaced from one another by means of slots or vertical spaces. Yet each of said adjacent walls **22** has a final end **23** facing towards the center of said plate **21.**

[0027] From Figures 1 to 9, it can be observed that said bodies **1** and **2** are similar to one another, namely: these both bodies have an equivalent and/or supplementary profile, and both bodies when assembled form a chamber **3.**

[0028] Figures 7 and 8 illustrate a chamber **3** between the said bodies 1 and **2** (when same are duly assembled). In this context, it is worth mentioning that most burners formed by two bodies have an inner chamber, which is filled with fuel gas or air-fuel mixture to exit through the outlet ports.

[0029] In accordance with a preferred embodiment of the present invention, the outlet ports **4** of the gas burner assembly are defined by the spacing extension existing between the adjacent walls **22** (of said body **2)** and from the position relative to the edge of the wall **11** of the body **1** and the edge of the wall **21** of the body **2** which are in fluid communication with said inner chamber **3.**

[0030] Said embodiment permits to adjust said outlet ports **4,** wherein, to this effect, it is only required that the position relative to the body **1** in relation to the body **2** (wherein the reciprocal is true) is already altered, after all said bodies **1** and **2** are capable of cooperating movement therebetween, wherein said movement ends up altering the spacing extension existing between the edge of the wall **11** of the body **1** and the edge of the wall **21** of the body **2,** which are in fluid communication with said two bodies **1** and **2.**

[0031] As illustrated in Figures 7 and 8, said cooperating movement between bodies **1** and **2** may occur axially and/or vertically, that is, such movement may come near or go away from said wall **21** of the plate **12** and then the size of the outlet ports **4** will increase or decrease.

[0032] In Figure 7, said outlet ports **4** are entirely open (said opening being as greater as possible) and in Figure 8 said outlet ports **4** are minimally open.

[0033] The previously cited final ends **23** of said adjacent walls **22** are specifically intended for cooperating actuation with rib **13** and/or groove **14** of the surrounding wall **11.** This cooperating actuation can be applied to different purposes, nevertheless, it should be pointed out that there is the possibility of defining the stroke limit relative to the cooperating movement between said two bodies **1** and **2** or the possibility of defining predefined positions for adjusting the spacing extension existing between the adjacent walls **22** and to the edge of the wall **11** of the body **1** and the edge of the wall **21** of the body **2** which are in fluid communication with the inner chamber **3** defined between said two bodies **1** and **2.**

[0034] Figure 9 illustrates the preferred embodiment of the gas burner assembly, wherein said body **1** comprises the burner assembly base and the body **2** comprises the burner assembly cap duly fixed to a cooking table.

[0035] Figures 10, 11, and 12 illustrate an alternative embodiment of the gas burner assembly, wherein said body **2** comprises the burner assembly base and the body **1** comprises the burner assembly cap duly fixed to a cooking table. In this context, it should be pointed out that the sole difference required between the preferred embodiment and the alternative embodiment of the present invention resides in the location of the inlet hole **15** for the fuel gas, which necessarily requires to be defined in the body that will comprise the burner assembly base.

[0036] Then, and considering that the presently disclosed high inventive merit relates to the adjustment of the outlet ports **4** simply from the relative movement between the bodies **1** and **2,** one may consider that the preferred embodiment and the alternative embodiment are essentially similar.

[0037] Finally, it should be pointed out that although only two possible embodiments have been cited, the scope of the present invention is broader, which is limited only by the claims and their possible equivalent means.

EMBODIMENTS

[0038]

1. Gas burner assembly, comprising at least two bodies (1, 2), at least one inner chamber (3) defined between said bodies (1, 2) and at least one outlet port (4); said gas burner assembly is specifically **characterized** in that:

the body (1) comprises a surrounding wall (11) closed in one of its ends by a plate (12); said surrounding wall (11) comprises at least one rib (13); said body (1) further comprises at least one inlet hole (15) for fuel gas or air-fuel mixture;
said body (2) comprises a plate (21) from which there protrude at angle of 60° to 120° at least two adjacent walls (22) spaced therebetween; wherein each of said adjacent walls (22) comprises a final end (23) facing towards the center of said plate (21);
at least one outlet port (4) is defined by the spacing extension existing between two adjacent walls (22) and to the edge of the wall (11) of the body (1) and the edge of the wall (21) of the body (2) which are in fluid communication with the inner chamber (3) defined between the two bodies (1, 2); and
the two bodies (1, 2) are capable of a cooperating movement therebetween so as to alter the spacing extension existing between the adjacent walls (22) and to the edge of the wall (11) of the body (1) and the edge of the wall 21 of the body (2) which are in fluid communication with the inner chamber (3) defined between said two bodies (1, 2).

2. Gas burner assembly, in accordance with embodiment 1, **characterized** in that the cooperating movement between the two bodies (1, 2) comprises a movement in the axial direction.

3. Gas burner assembly, in accordance with embodiment 1, **characterized** in that said cooperating movement between said two bodies (1, 2) comprises a movement in the longitudinal direction.

4. Gas burner assembly, in accordance with embodiment 1, **characterized** in that the final end (23) of at least one adjacent wall (22) cooperates with at least one rib (13) of the surrounding wall (11) so as to define at least one stroke limit relative to the cooperating movement between the two bodies (1, 2).

5. Gas burner assembly, in accordance with embodiment 1, **characterized** in that the final end (23) of at least one adjacent wall (22) cooperates with at least one rib (13) of the surrounding wall (11) so as define at least one predefined adjustment position of the spacing extension existing between said adjacent walls (22) and to the edge of the wall (11) of

the body (1) and edge of the wall (21) of the body (2) which are in fluid communication with the inner chamber (3) defined between said two bodies (1, 2).

6. Gas burner assembly, in accordance with embodiment 1, **characterized** in that said rib (13) of the surrounding wall (11) comprises a surrounding rib.

7. Gas burner assembly, in accordance with embodiment 1, **characterized** in that said rib (13) of the surrounding wall (11) comprises a segmented rib.

8. Gas burner assembly, in accordance with embodiment 1, **characterized** in that the body (1) comprises the burner assembly base and the body (2) comprises burner assembly cap.

9. Gas burner assembly, in accordance with embodiment 1, **characterized** in that the body (1) comprises the burner assembly cap and the body (2) comprises the burner assembly base.

10. Gas burner assembly, comprising at least two bodies (1, 2), at least one inner chamber (3) defined between said two bodies (1, 2), and at least one outlet port (4); said gas burner assembly being especially **characterized** in that:

said body (1) comprises one surrounding wall (11) locked in one of its ends by a plate (12); wherein said surrounding wall (11) comprises at least one groove (14), wherein said body (1) further comprises at least one inlet hole (15) for the fuel gas or air-fuel mixture;

said body (2) comprises a plate (21) from which there protrude at angle of 60° to 120° at least two adjacent walls (22) spaced therebetween; each of said adjacent walls (22) comprises a final end (23) facing towards the center of the plate (21); at least one outlet port (3) is defined by the spacing extension existing between two adjacent walls (22) and to the edge of the wall (11) of the body (1) and the edge of the wall (21) of the body (2) which are in communication with the inner chamber (3) defined between the two bodies (1, 2); and

said two bodies (1, 2) are capable of cooperating movement therebetween to alter the spacing extension existing between the adjacent walls (22) and to the edge of the wall (11) of the body (1) and the edge of the wall (21) of the body (2) which are in fluid communication with the inner chamber (3) defined between two bodies (1, 2).

11. Gas burner assembly, in accordance with embodiment 10, **characterized** in that cooperating movement between the two bodies (1, 2) comprises a movement in the axial direction.

12. Gas burner assembly, in accordance with embodiment 10, **characterized** in that the cooperating movement between the two bodies (1, 2) comprises a movement in longitudinal direction.

13. Gas burner assembly, in accordance with embodiment 10, **characterized** in that the final end (23) of at least one adjacent wall (22) cooperates with at least one groove (14) of the surrounding wall (11) in order to define at least one stroke limit relative to the cooperating movement between said two bodies (1, 2).

14. Gas burner assembly, in accordance with embodiment 10, **characterized** in that the final end (23) of at least one adjacent wall (22) cooperates with at least one groove (14) of the surrounding wall (11) so as to define a predefined adjustment position of the spacing extension existing between the adjacent walls (22) and to the edge of the wall (11) of the body (1) and the edge of the wall (21) of the body (2) which are in fluid communication with the inner chamber (3) disposed between said two bodies (1, 2).

15. Gas burner assembly, in accordance with embodiment 10, **characterized** in that the groove (14) of the surrounding wall (11) comprises a surrounding rib.

16. Gas burner assembly, in accordance with embodiment 10, **characterized** in that the groove (14) of the surrounding wall (11) comprises a segmented rib.

17. Gas burner assembly, in accordance with embodiment 10, **characterized** in that the body (1) comprises the burner assembly base and the body (2) comprises the burner assembly cap.

18. Gas burner assembly, in accordance with embodiment 10, **characterized** in that said body (1) comprises the burner assembly cap and said body (2) comprises the burner assembly base.

19. Gas burner assembly, comprising at least two bodies (1, 2), at least one inner chamber (3) defined between said two bodies (1, 2) and at least one outlet port (4); said gas burner assembly being especially **characterized** in that:

the body (1) comprises a surrounding wall (11) locked in one of its ends by a plate (12); said surrounding wall (11) comprises at least one rib (13) and at least one groove (14); said body (1) comprises also at least one inlet hole (15) for fuel gas or air-fuel mixture;

said body (2) comprises a plate (21) from which there protrude at an angle of 60° to 120°C at least two adjacent walls (22) spaced from one another, each of said adjacent walls (22) comprises one final end (23) facing towards the center of the plate (21);

at least one outlet port (3) is defined by the spacing extension existing between two adjacent walls (22) and to the edge of the wall (11) of the body (1) and the edge of the wall (21) of the body (2) which are in fluid communication with the inner chamber defined between said two bodies (1, 2).

20. Gas burner assembly, in accordance with embodiment 19, **characterized** in that the cooperating movement between the two bodies (1, 2) comprises a movement in the axial direction.

21. Gas burner assembly, in accordance with embodiment 19, **characterized** in that said cooperating movement between said two bodies (1, 2) comprises a movement in the longitudinal direction.

22. Gas burner assembly, in accordance with embodiment 19, **characterized** in that the final end (23) of at least one adjacent wall (22) cooperates with at least one rib (13) of the surrounding wall (11) so as to define at least one stroke limit relative to the cooperating movement between the two bodies (1, 2).

23. Gas burner assembly, in accordance with embodiment 19, **characterized** in that the final end (23) of at least one adjacent wall (22) cooperates with at least one groove (14) of the surrounding wall (11) so as to define at least one stroke limit relative to the cooperating movement between the two bodies (1, 2).

24. Gas burner assembly, in accordance with embodiment 19, **characterized** in that the final end (23) of at least one adjacent wall (22) cooperates with at least one rib (13) of the surrounding wall (11) so as to define at least one predefined adjustment position of the spacing extension existing between the adjacent walls (22) and to the edge of the wall (11) of the body (1) and the edge of the wall (21) of the body (2) which are in fluid communication with the inner chamber (3) defined between the two bodies (1, 2).

25. Gas burner assembly, in accordance with embodiment 19, **characterized** in that the final end (23) of at least one adjacent wall (22) cooperates with at least one groove (14) of the surrounding wall (11) so as to define at least one predefined adjustment position of the spacing extension existing between the adjacent walls (22) and to the edge of the wall (11) of the body (1) and the edge of the wall (21) of the body (2) which are in fluid communication with the inner chamber (3) defined between said two bodies (1, 2).

26. Gas burner assembly, in accordance with embodiment 19, **characterized** in that the rib (13) of the surrounding wall (11) comprises a surrounding rib.

27. Gas burner assembly, in accordance with embodiment 19, **characterized** in that the rib (13) of the surrounding wall (11) comprises a segmented rib.

28. Gas burner assembly, in accordance with embodiment 19, **characterized** in that the groove (14) of the surrounding wall (11) comprises a surrounding rib.

29. Gas burner assembly, in accordance with embodiment 19, **characterized** in that the groove (14) of the surrounding wall (11) comprises a segmented rib.

30. Gas burner assembly, in accordance with embodiment 19, **characterized** in that the body (1) comprises the burner assembly base and the body (2) comprises the burner assembly cap.

31. Gas burner assembly, in accordance with embodiment 19, **characterized** in that the body (1) comprises the burner assembly caps and the body (2) comprises the burner assembly base.

Claims

1. Gas burner assembly, comprising at least two bodies (1, 2), at least one inner chamber (3) defined between said bodies (1, 2) and at least one outlet port (4); said gas burner assembly is specifically **characterized in that**:

   the body (1) comprises a surrounding wall (11) closed in one of its ends by a plate (12); said surrounding wall (11) comprises at least one rib (13); said body (1) further comprises at least one inlet hole (15) for fuel gas or air-fuel mixture;
   said body (2) comprises a plate (21) from which there protrude at angle of 60° to 120° at least two adjacent walls (22) spaced therebetween; wherein each of said adjacent walls (22) comprises a final end (23) facing towards the center of said plate (21);
   at least one outlet port (4) is defined by the spacing extension existing between two adjacent walls (22) and to the edge of the wall (11) of the body (1) and the edge of the wall (21) of the body (2) which are in fluid communication with the inner chamber (3) defined between the two bodies (1, 2); and
   the two bodies (1, 2) are capable of a cooperating movement therebetween so as to alter the spacing extension existing between the adjacent walls (22) and to the edge of the wall (11) of the body (1) and the edge of the wall 21 of the body (2) which are in fluid communication with the inner chamber (3) defined between said two bodies (1, 2).

2. Gas burner assembly, in accordance with claim 1, **characterized in that** the cooperating movement between the two bodies (1, 2) comprises a movement in the axial direction.

3. Gas burner assembly, in accordance with claim 1, **characterized in that** said cooperating movement between said two bodies (1, 2) comprises a movement in the longitudinal direction.

4. Gas burner assembly, in accordance with claim 1, **characterized in that** the final end (23) of at least one adjacent wall (22) cooperates with at least one

rib (13) of the surrounding wall (11) so as to define at least one stroke limit relative to the cooperating movement between the two bodies (1, 2).

5. Gas burner assembly, in accordance with claim 1, **characterized in that** the final end (23) of at least one adjacent wall (22) cooperates with at least one rib (13) of the surrounding wall (11) so as define at least one predefined adjustment position of the spacing extension existing between said adjacent walls (22) and to the edge of the wall (11) of the body (1) and edge of the wall (21) of the body (2) which are in fluid communication with the inner chamber (3) defined between said two bodies (1, 2).

6. Gas burner assembly, in accordance with claim 1, **characterized in that** said rib (13) of the surrounding wall (11) comprises a surrounding rib.

7. Gas burner assembly, in accordance with claim 1, **characterized in that** said rib (13) of the surrounding wall (11) comprises a segmented rib.

8. Gas burner assembly, in accordance with claim 1, **characterized in that** the body (1) comprises the burner assembly base and the body (2) comprises burner assembly cap.

9. Gas burner assembly, in accordance with claim 1, **characterized in that** the body (1) comprises the burner assembly cap and the body (2) comprises the burner assembly base.

10. Gas burner assembly, comprising at least two bodies (1, 2), at least one inner chamber (3) defined between said two bodies (1, 2), and at least one outlet port (4); said gas burner assembly being especially **characterized in that**:

said body (1) comprises one surrounding wall (11) locked in one of its ends by a plate (12); wherein said surrounding wall (11) comprises at least one groove (14), wherein said body (1) further comprises at least one inlet hole (15) for the fuel gas or air-fuel mixture;
said body (2) comprises a plate (21) from which there protrude at angle of 60° to 120° at least two adjacent walls (22) spaced therebetween; each of said adjacent walls (22) comprises a final end (23) facing towards the center of the plate (21);
at least one outlet port (3) is defined by the spacing extension existing between two adjacent walls (22) and to the edge of the wall (11) of the body (1) and the edge of the wall (21) of the body (2) which are in communication with the inner chamber (3) defined between the two bodies (1, 2); and
said two bodies (1, 2) are capable of cooperating movement therebetween to alter the spacing extension existing between the adjacent walls (22) and to the edge of the wall (11) of the body (1) and the edge of the wall (21) of the body (2) which are in fluid communication with the inner chamber (3) defined between two bodies (1, 2).

11. Gas burner assembly, in accordance with claim 10, **characterized in that** cooperating movement between the two bodies (1, 2) comprises a movement in the axial direction.

12. Gas burner assembly, in accordance with claim 10, **characterized in that** the cooperating movement between the two bodies (1, 2) comprises a movement in longitudinal direction.

13. Gas burner assembly, in accordance with claim 10, **characterized in that** the final end (23) of at least one adjacent wall (22) cooperates with at least one groove (14) of the surrounding wall (11) in order to define at least one stroke limit relative to the cooperating movement between said two bodies (1, 2).

14. Gas burner assembly, in accordance with claim 10, **characterized in that** the final end (23) of at least one adjacent wall (22) cooperates with at least one groove (14) of the surrounding wall (11) so as to define a predefined adjustment position of the spacing extension existing between the adjacent walls (22) and to the edge of the wall (11) of the body (1) and the edge of the wall (21) of the body (2) which are in fluid communication with the inner chamber (3) disposed between said two bodies (1, 2).

15. Gas burner assembly, in accordance with claim 10, **characterized in that** the groove (14) of the surrounding wall (11) comprises a surrounding rib.

16. Gas burner assembly, in accordance with claim 10, **characterized in that** the groove (14) of the surrounding wall (11) comprises a segmented rib.

17. Gas burner assembly, in accordance with claim 10, **characterized in that** the body (1) comprises the burner assembly base and the body (2) comprises the burner assembly cap.

18. Gas burner assembly, in accordance with claim 10, **characterized in that** said body (1) comprises the burner assembly cap and said body (2) comprises the burner assembly base.

19. Gas burner assembly, comprising at least two bodies (1, 2), at least one inner chamber (3) defined between said two bodies (1, 2) and at least one outlet port (4); said gas burner assembly being especially

characterized in that:

the body (1) comprises a surrounding wall (11) locked in one of its ends by a plate (12); said surrounding wall (11) comprises at least one rib (13) and at least one groove (14); said body (1) comprises also at least one inlet hole (15) for fuel gas or air-fuel mixture;
said body (2) comprises a plate (21) from which there protrude at an angle of 60° to 120°C at least two adjacent walls (22) spaced from one another, each of said adjacent walls (22) comprises one final end (23) facing towards the center of the plate (21);
at least one outlet port (3) is defined by the spacing extension existing between two adjacent walls (22) and to the edge of the wall (11) of the body (1) and the edge of the wall (21) of the body (2) which are in fluid communication with the inner chamber defined between said two bodies (1, 2).

20. Gas burner assembly, in accordance with claim 19, **characterized in that** the cooperating movement between the two bodies (1, 2) comprises a movement in the axial direction.

21. Gas burner assembly, in accordance with claim 19, **characterized in that** said cooperating movement between said two bodies (1, 2) comprises a movement in the longitudinal direction.

22. Gas burner assembly, in accordance with claim 19, **characterized in that** the final end (23) of at least one adjacent wall (22) cooperates with at least one rib (13) of the surrounding wall (11) so as to define at least one stroke limit relative to the cooperating movement between the two bodies (1, 2).

23. Gas burner assembly, in accordance with claim 19, **characterized in that** the final end (23) of at least one adjacent wall (22) cooperates with at least one groove (14) of the surrounding wall (11) so as to define at least one stroke limit relative to the cooperating movement between the two bodies (1, 2).

24. Gas burner assembly, in accordance with claim 19, **characterized in that** the final end (23) of at least one adjacent wall (22) cooperates with at least one rib (13) of the surrounding wall (11) so as to define at least one predefined adjustment position of the spacing extension existing between the adjacent walls (22) and to the edge of the wall (11) of the body (1) and the edge of the wall (21) of the body (2) which are in fluid communication with the inner chamber (3) defined between the two bodies (1, 2).

25. Gas burner assembly, in accordance with claim 19, **characterized in that** the final end (23) of at least one adjacent wall (22) cooperates with at least one groove (14) of the surrounding wall (11) so as to define at least one predefined adjustment position of the spacing extension existing between the adjacent walls (22) and to the edge of the wall (11) of the body (1) and the edge of the wall (21) of the body (2) which are in fluid communication with the inner chamber (3) defined between said two bodies (1, 2).

26. Gas burner assembly, in accordance with claim 19, **characterized in that** the rib (13) of the surrounding wall (11) comprises a surrounding rib.

27. Gas burner assembly, in accordance with claim 19, **characterized in that** the rib (13) of the surrounding wall (11) comprises a segmented rib.

28. Gas burner assembly, in accordance with claim 19, **characterized in that** the groove (14) of the surrounding wall (11) comprises a surrounding rib.

29. Gas burner assembly, in accordance with claim 19, **characterized in that** the groove (14) of the surrounding wall (11) comprises a segmented rib.

30. Gas burner assembly, in accordance with claim 19, **characterized in that** the body (1) comprises the burner assembly base and the body (2) comprises the burner assembly cap.

31. Gas burner assembly, in accordance with claim 19, **characterized in that** the body (1) comprises the burner assembly caps and the body (2) comprises the burner assembly base.

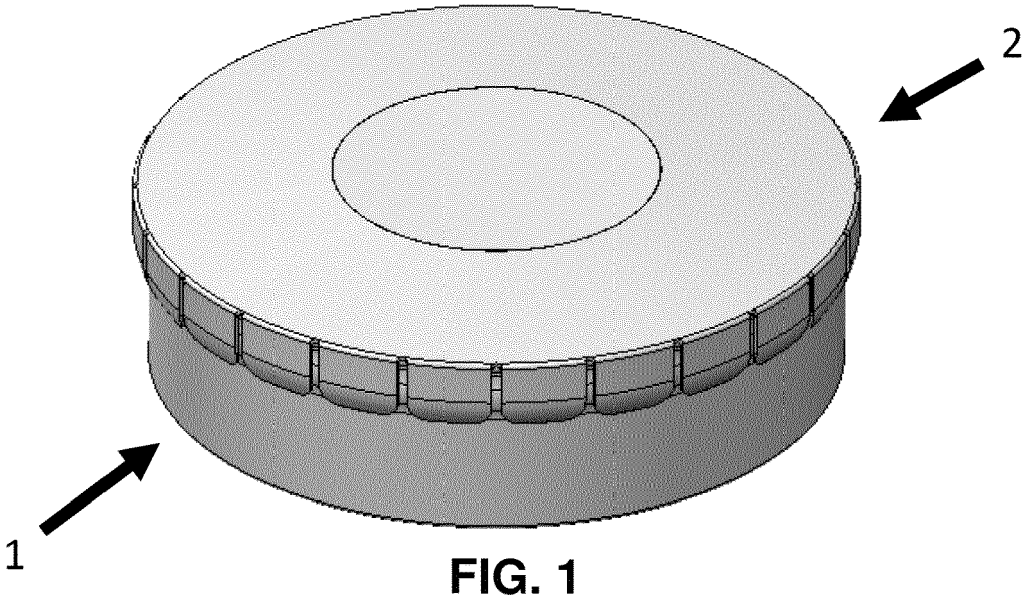

FIG. 1

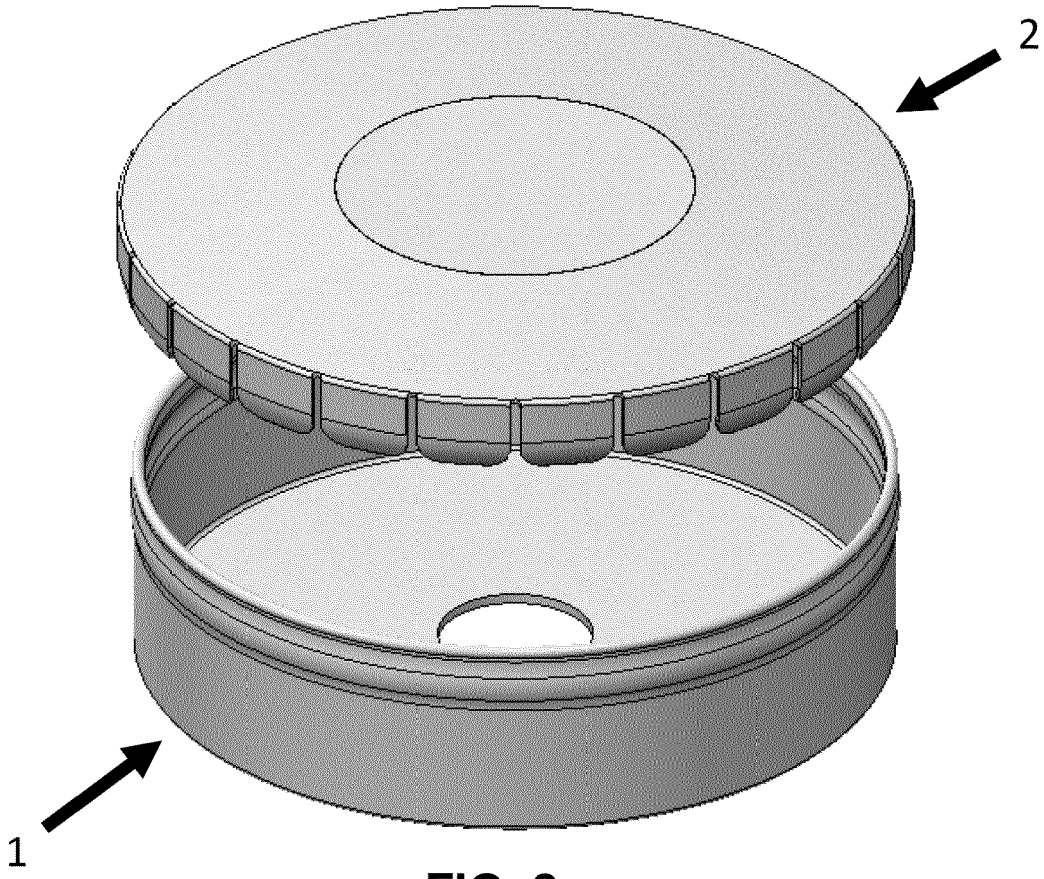

FIG. 2

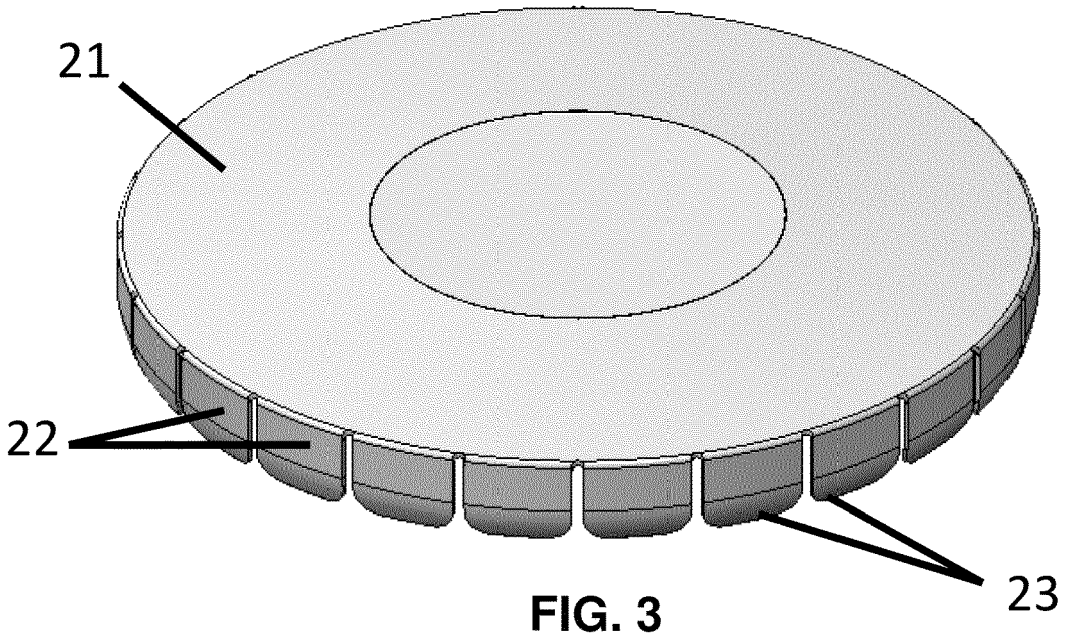

FIG. 3

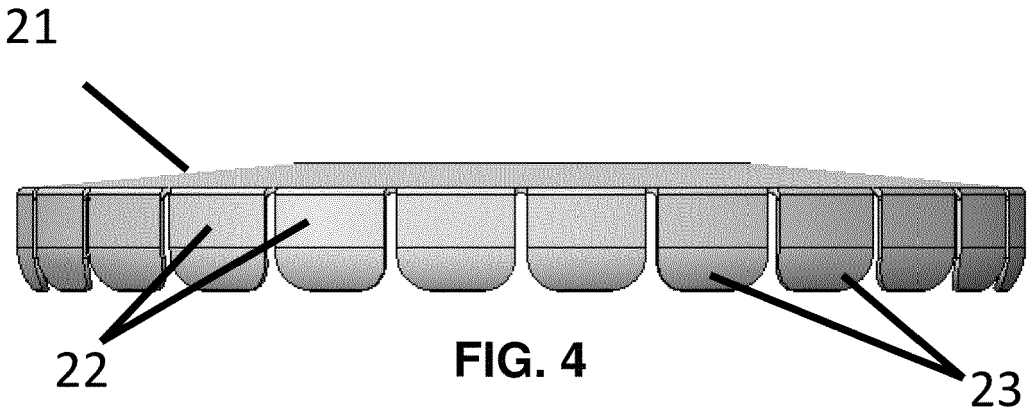

FIG. 4

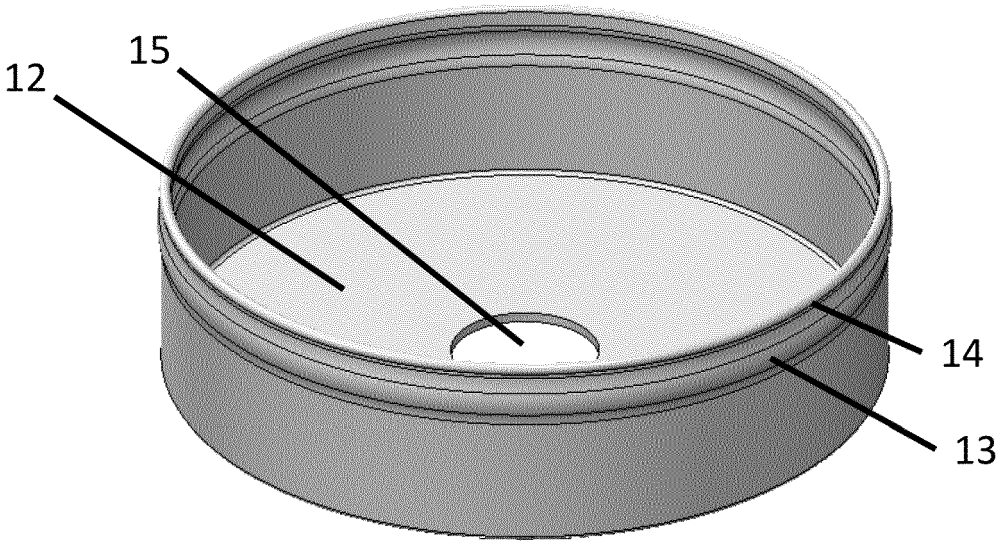

FIG. 5

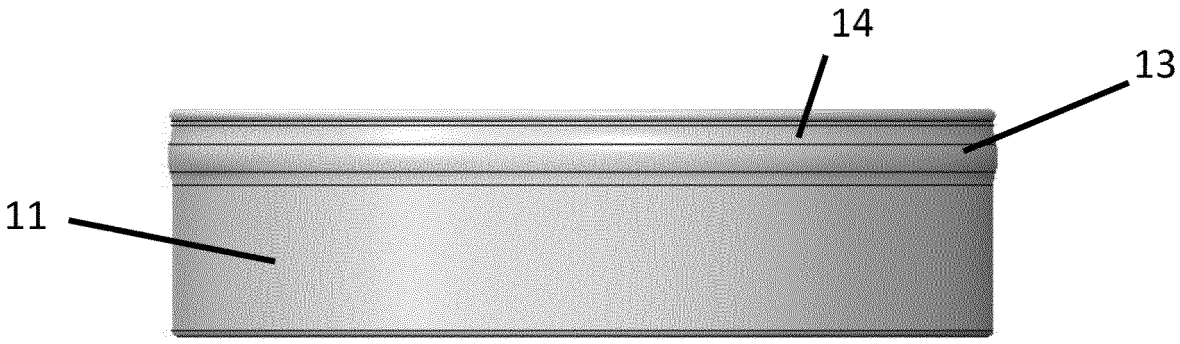

FIG. 6

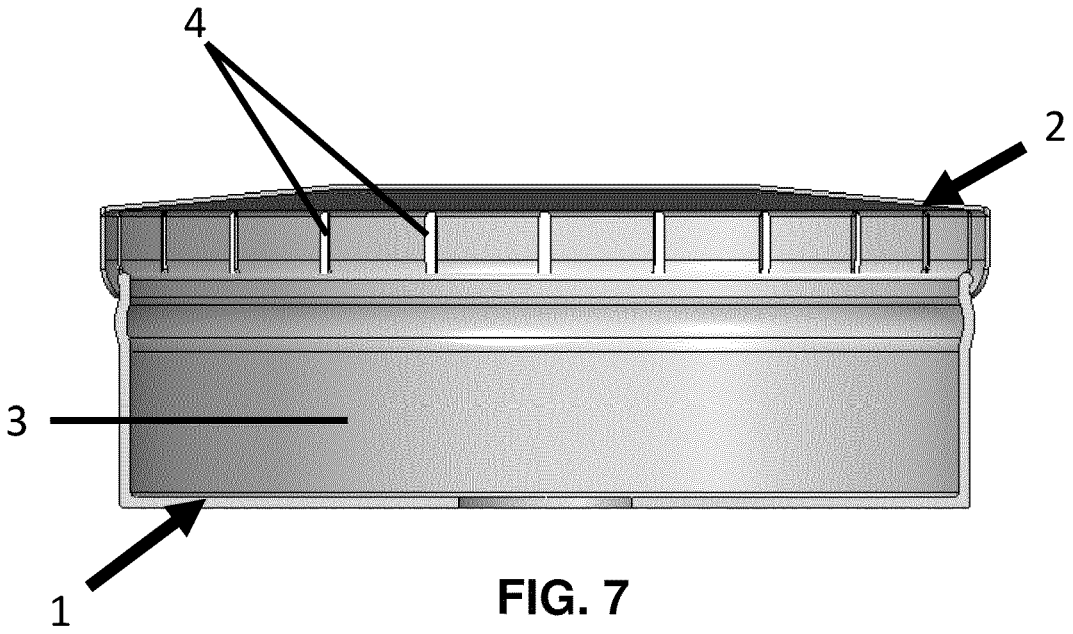

FIG. 7

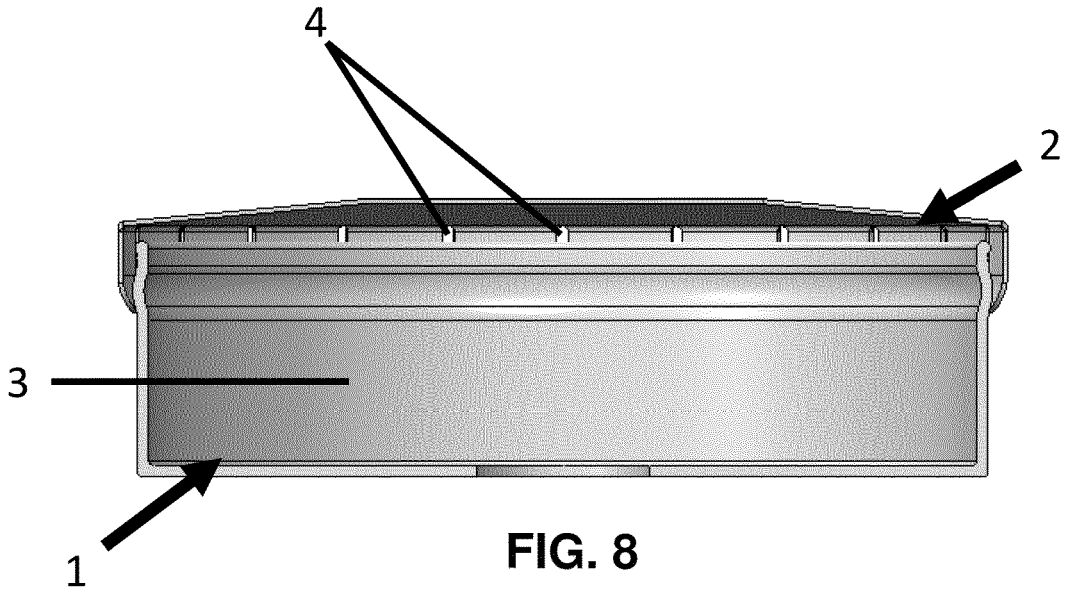

FIG. 8

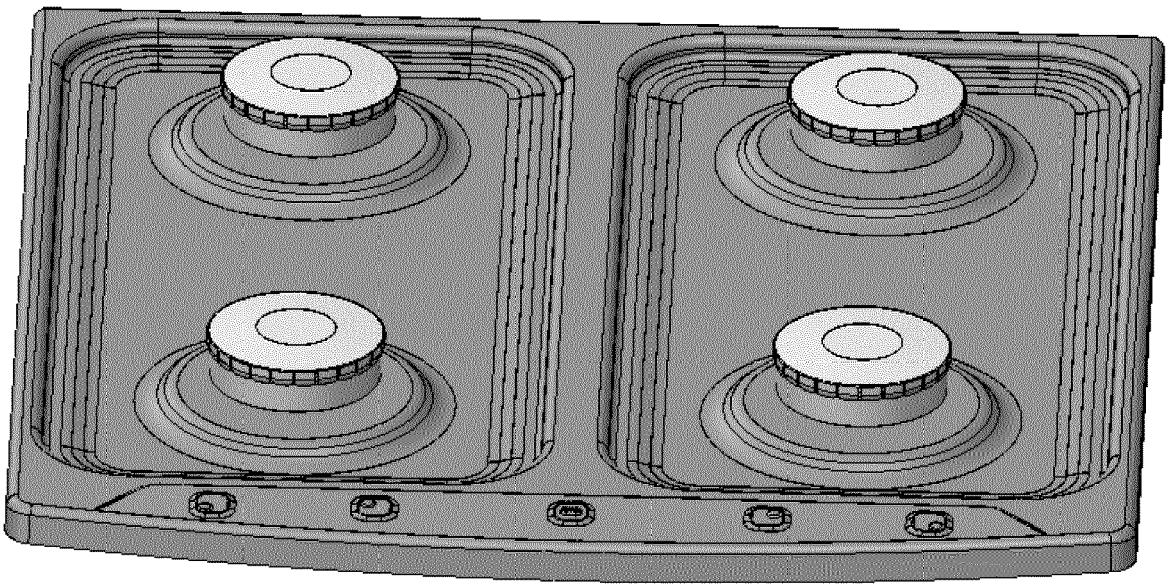

FIG. 9

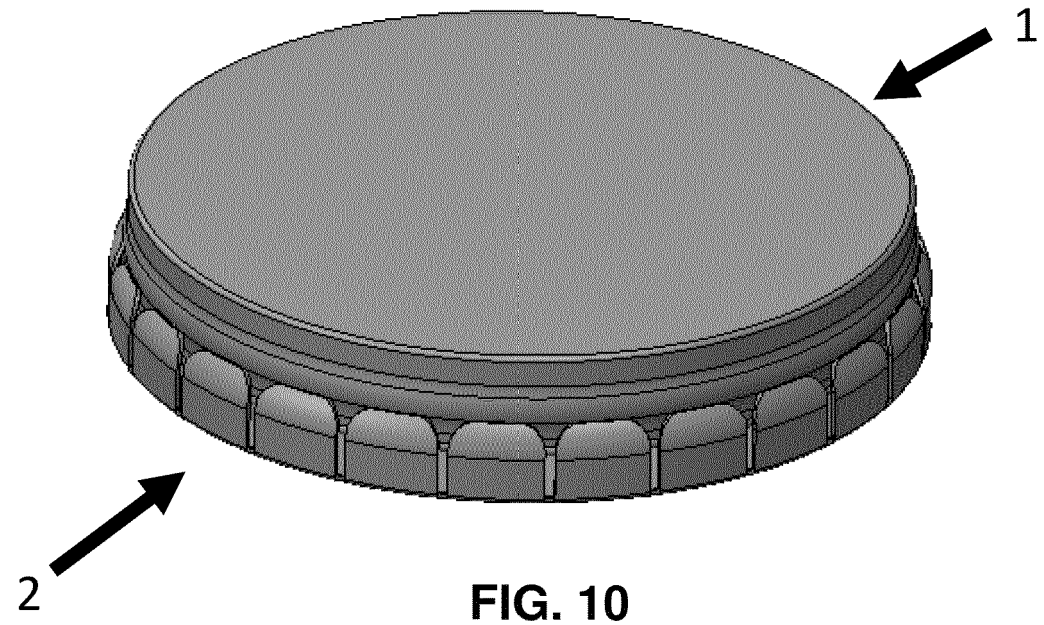

FIG. 10

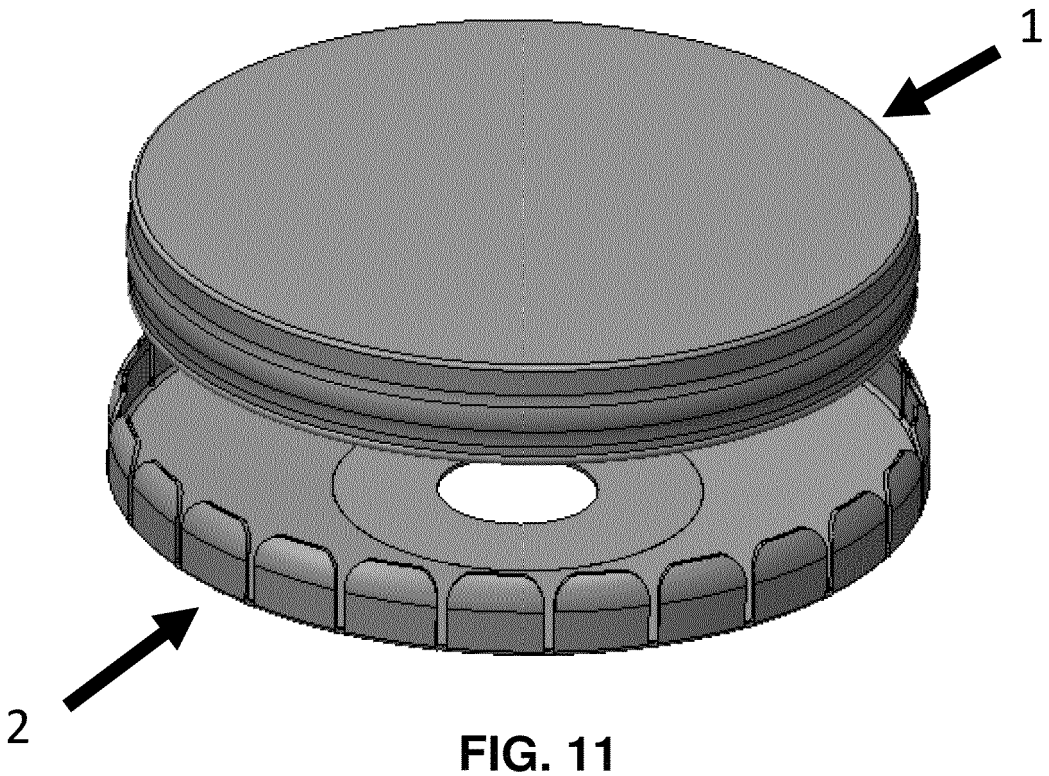

FIG. 11

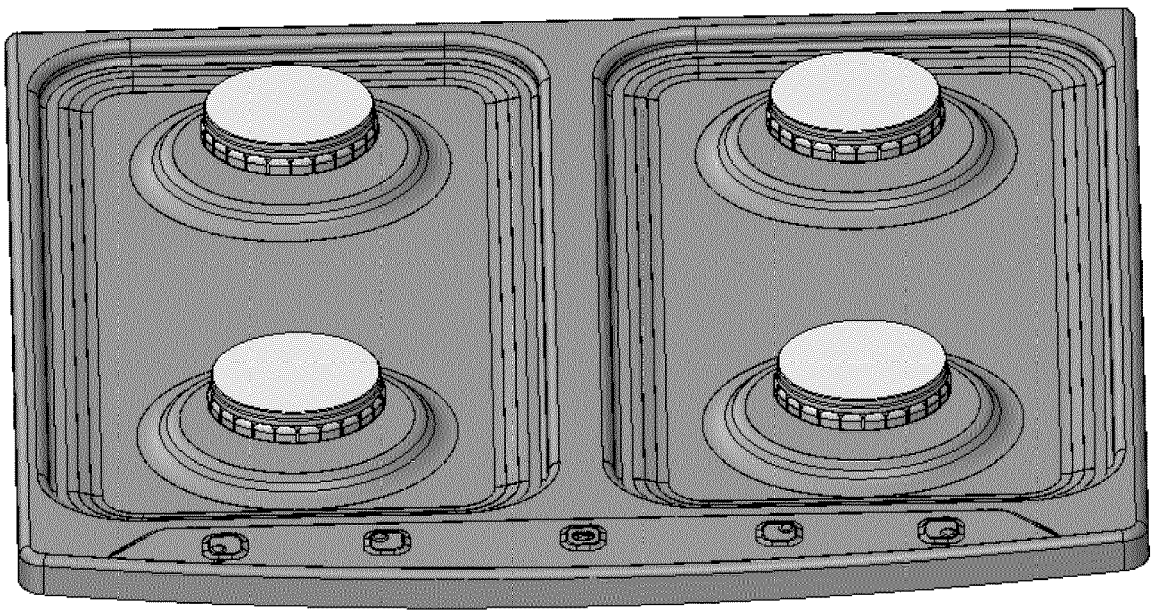

FIG. 12

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EUROPEAN SEARCH REPORT

Application Number
EP 15 18 8249

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	FR 1 327 885 A (TREIER ALBERT) 24 May 1963 (1963-05-24) * figure 1 * -----	1-6, 8-15, 17-26, 28,30,31	INV. F23D14/06 F23D14/08
A	US 2011/129783 A1 (HARNEIT UWE [US]) 2 June 2011 (2011-06-02) * the whole document * -----	1-31	

TECHNICAL FIELDS SEARCHED (IPC)

F23D

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	2 February 2016	Christen, Jérôme

CATEGORY OF CITED DOCUMENTS

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E : earlier patent document, but published on, or after the filing date
D : document cited in the application
L : document cited for other reasons

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EPO FORM 1503 03.82 (P04C01)

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02-02-2016

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
FR 1327885 A	24-05-1963	NONE	
US 2011129783 A1	02-06-2011	NONE	

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- JP 60149818 B **[0007]**