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(54) Title: MULTIFUNCTIONAL SEALING SYSTEM FOR COOKING TABLE

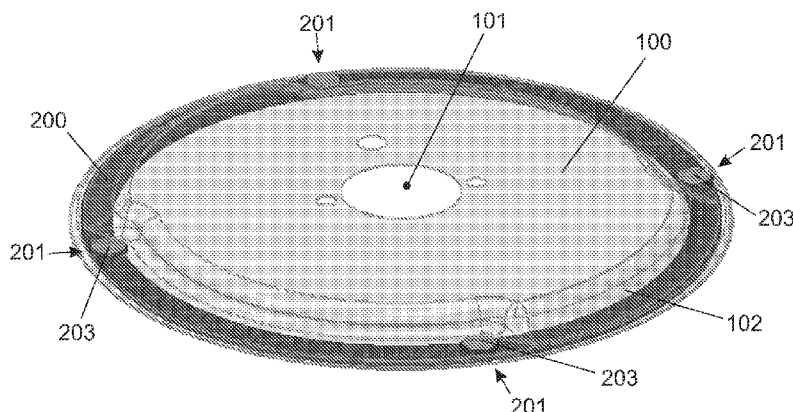


FIG. 1

(57) Abstract: The present invention relates to the technological field of the house hold appliances, more specifically for cooking equipment, and was developed to promote the proper sealing of the support discs of the burner sets – mainly in apparatus like cook-top – and, complementary, actuate as support mean and non-slid support for support trivets of cooking tools. For such, a sealing ring (200) cooperates with a support disc (100), wherein said support disc (100) comprises, through the flat perimeter surface (102), at least one cavity (103), and the sealing ring (200) comprises at least one upper projection (201) that conforms a support surface (203) together with the sealing ring (200) by an intermediate rod (202) cooperating with at least one cavity (103) of the support disc (100).



“MULTIFUNCTIONAL SEALING SYSTEM FOR COOKING TABLE”

Field of the Invention

[001] Refers to the present invention to a multifunctional sealing system for house hold appliances, but specifically to cooking equipment, which was developed to promote the proper sealing of the support discs of the burner sets – mainly in cooktop type apparatus – in view to prevent the fluid inlet and/or dirt on the internal region of the equipment and, complementary, actuate as support and sustaining means non slip for cooking tools supporting trivets. This way, it is eliminated the need to use non slip elements additional cooperating with the trivets and well known on the current prior art.

Background of the Invention

[002] As is it broadly known, on the current prior art several cooking tables – especially those used in cooktop type apparatus – comprises glass or other materials surfaces thermo resistant provided from holes for the installation of burner sets, wherein normally such equipment comprises support discs that are in direct contact with said surface and on them effective support the burners and its respective trivets for supporting cooking utensils.

[003] Document JP2011058784 can be said as an example of the current prior art, because reveals clearly that in general way such support discs are provided, on its contact region with the cooking table, gaskets or rings of rubber materials for sealing the liquid substances or dirt inlet on the internal region where are the functional components of the equipment, being this necessary due to the fact that such products can cause damage to them and, also, commits the proper functioning of the apparatus as well as the security of its users.

[004] It happens, however, that despite the high degree of efficiency of said sealing rings, some drawbacks are still observed during their use, particularly as a result of simple support that enables the occurrence of displacements and/or improper positioning between it and the disc support and can compromise proper sealing condition of the equipment. Such occurrences can be observed after any impact while handling cooking utensils, or a position possibly done improperly after

maintenance procedures and/or cleaning or even when handling the trivets on the support discs.

[005] Added to this, we must remember that the use of trivets is mandatory in cooking equipment to promote stability and proper positioning of cooking utensils; for both generally such trivets are provided in the contact region with the support discs or the table of cooking, non-slip elements, usually produced in rubberized material and resistant term, to immobilize the trivets when handling cooking utensils and to protect the support surface from the risks deriving from friction between the materials. It happens, however, that in general such non-slip elements cooperate removably with the trivets to facilitate cleaning procedures, and such parts often come off and are lost causing various disorders. We must also remember that the process of installation and assembly of cooking equipment requires the manufacture and assembly of these small non-slip elements, which make all the installation work more complex, laborious and time consuming.

[006] Note, therefore, that the present prior art lacks solutions to become more practical, efficient, economical and safe mounting of sealing systems and immobilization support discs and trivets for cooking equipment.

Objectives of the invention

[007] It is therefore a key objective of the present invention solve the technical problem of the possibility of positional displacement of the sealing rings in relation to the support disc cooking equipment.

[008] It is therefore an object of the present invention to provide a multi-functional sealing system for appliances that after assembly, remain completely fixed and immobile in relation to the support disc burner for cooking equipment.

[009] It is also one of the objectives of the present invention provide means for the said sealing system for supporting discs can simultaneously be employed as anti-slip element for trivets support of cooking utensils.

[010] It is therefore a key objective of the present invention to provide a multi-functional sealing system that eliminates the need for production, acquisition and engagement of several sealing elements and/or immobilization for use in both trivets

as the cooking equipment supporting discs.

Summary of the Invention

[011] The above objectives are achieved by a multifunctional sealing system for cooking tables, comprising at least one support disc with holes for installation and mounting at least a burner assembly, said support disc being cooperative with the least one sealing ring and having at least one support trivet for cooking utensils, characterized by the fact that said support disc comprises, along its flat perimeter surface, at least one cavity; and the sealing ring comprises at least one upper projection that conforms a surface joint supporting the sealing ring by means of cooperative intermediate rod with at least one support disc cavity (100), wherein the at least one projection top is located in a position corresponding to the at least one support cavity of the disc; wherein said intermediate shaft has geometrical and dimensional conformation similar to the at least one cavity of the support disc with which it cooperates, and wherein said support surface, together with the intermediate shaft comprises a ring fastening element sealing support disc.

[012] In a preferred embodiment of the invention, the bearing surface has larger dimensions than the supporting disc cavity, so that its lower surface comprises a stop to prevent separation between fixing ring and support disc.

Brief Description of the Drawings

[013] The present invention will be described in detail based on the accompanying drawings, in which:

[014] Figure 1 shows a perspective view of a multifunction sealing system according to a preferred embodiment of the present invention;

[015] Figure 2 shows an enlarged detail view of the sealing system illustrated in Figure 1, and

[016] Figure 3 shows a cross-sectional view of the enlarged detail shown in Figure 2.

Detailed Description of the Invention

[017] The object of the present invention will be more fully described and explained based on the attached drawings, which have a merely illustrative character

and not limiting, since adaptations and modifications may be made without thereby to escape the scope of claimed protection.

[018] The present invention relates to a sealing system for multifunctional home appliances, specifically designed to work with any cooking tables (not shown).

[019] The system of the present invention comprises, therefore, a support disc 100 that generally comprises central cavity 101 for installation and assembly of burner assemblies (not shown), and the support disc of the present invention further comprises along its flat perimeter surface 102, cavities 103 which can have any geometric conformation and be spaced as needed. In Figure 1, attached to the support disc 100 there are four recesses 103 positioned substantially orthogonal to each other.

[020] In Figures 1 and 2 the support 100 disc was represented as a transparent body to allow adequate visualization to the interaction between the components of the present invention, but the cut depicted in Figure 3 attached is possible to observe that the system of the present invention comprises also, a sealing ring 200 which, in positions corresponding to the cavities 103 of the disc support 100 comprises the upper projection (201) that form bearing surfaces 203 solidary to the sealing ring by means of an intermediate rod 202.

[021] It should be noted that the said intermediate rod 202 must present geometric and dimensional conformation similar to the cavity 103 of the support disc to enable their engagement and fixing the same, however the bearing surfaces 201 may have geometric conformation any without with if it gets out of scope of protection claimed here.

[022] In the illustrated exemplary embodiment in the accompanying figures, the upper projections 201 have circular circumference, rounded edges 203 and flat support surface 203 so as to be able to act as a support element for the trivet support T cooking utensils (represented in dashed lines in Figure 3 annexed).

[023] Note, however, that the system described herein eliminates the need for fabrication and installation of additional anti slip devices at the lower ends of the T trivets, thus providing great operational simplification and cost savings with such

additional elements in the current state technique, lack of stability and cause various disorders when it is loose and possibly lost during cleaning procedures. This aspect is important to note that in general the T trivets currently supplied with the cooking equipment comes with additional loose bearing devices to try to solve such inconveniences throughout the useful life of the equipment.

[024] It should be noted that besides comprising means for sustaining trivets T, said supporting surfaces 203, to be sympathetic to the sealing ring 200 and be transfixed and fixed to the cavity 103 of the support disc, eventually provide a form of fixing and immobilizing sealing ring 200 relative to the support disc 100, thereby minimizing the risk of occurrence of positional displacement and inadequacies that may compromise the safety of the user so as to properly seal the internal region of the device.

[025] Furthermore, the support surface 201 has larger dimensions than the cavity 103 of the support 100 of the disc, so that its lower face 204 ultimately forming a stop to prevent undue separation of the sealing ring 200 and the disc support 100.

[026] Note, then, that a single component - in this case, the sealing ring 200 - when properly cooperating with the support disc 100 comprises a non-slip element to the support disc 100, sealing ring setting means 200 compared to disc support 100, and support surfaces 201 and support trivets for cooking utensils.

[027] It is worth recalling the fact that the surfaces 201 are attachable to the support 100 by cavities 103 allows that, where necessary, the sealing ring can be removed from the disc 100 for maintenance and cleaning procedures, and can later be replaced with the same effectiveness.

[028] Therefore, in a simple, cost-effectively and manufacturing, assembly and use extremely simple and economical, the object of the present invention solves the drawbacks of the prior art with respect to providing greater sealing, protection and safety to the use of cooking equipment, especially the cooktop type.

CLAIMS

1. Multifunctional sealing system for cooking tables, comprising at least one support disc (100) comprising cavities (101) for installing and assembling at least one burner set, said support disc being cooperating with at least one sealing ring (200) and with at least one supporting trivet (T) for cooking tools, characterized by:

- said support disc (100) comprises, through its flat perimeter surface (102), at least one cavity (103);

- sealing ring (200) comprises at least one upper projection (201) that conforms a support surface (202) with the sealing ring (200) by an intermediate rod (202) cooperating with the at least one cavity (103) of the support disc (100),

- wherein the at least one upper projection (201) is situated in corresponding position to the at least one cavity (103) of the support disc (100),

- wherein said intermediate rod (202) presents geometrical and dimensional conformation similar to the at least one cavity (103) of the support disc (100) with which cooperates;

- wherein said support surface (201), together with the intermediate rod (202), comprises a fixing element of the sealing ring (200) to the support disc (100).

2. System, according to claim 1, characterized by the fact that the support surface (201) presents dimensions greater than the cavity (103) of the support disc (100), in a way that its lower face (204) comprises a stop to avoid the separation between the fixing ring (200) and the support disc (100).

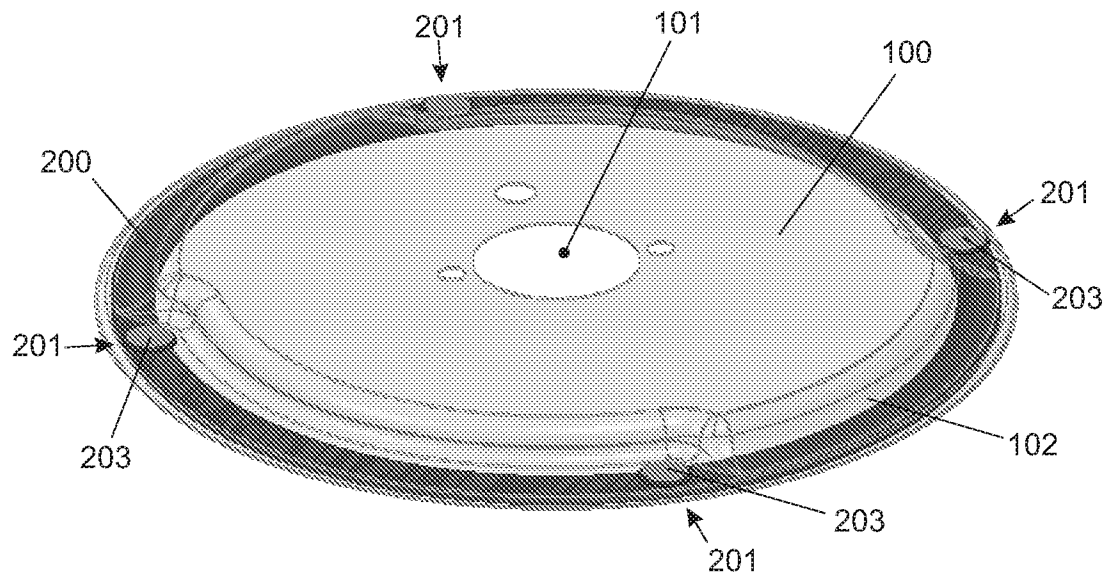


FIG. 1

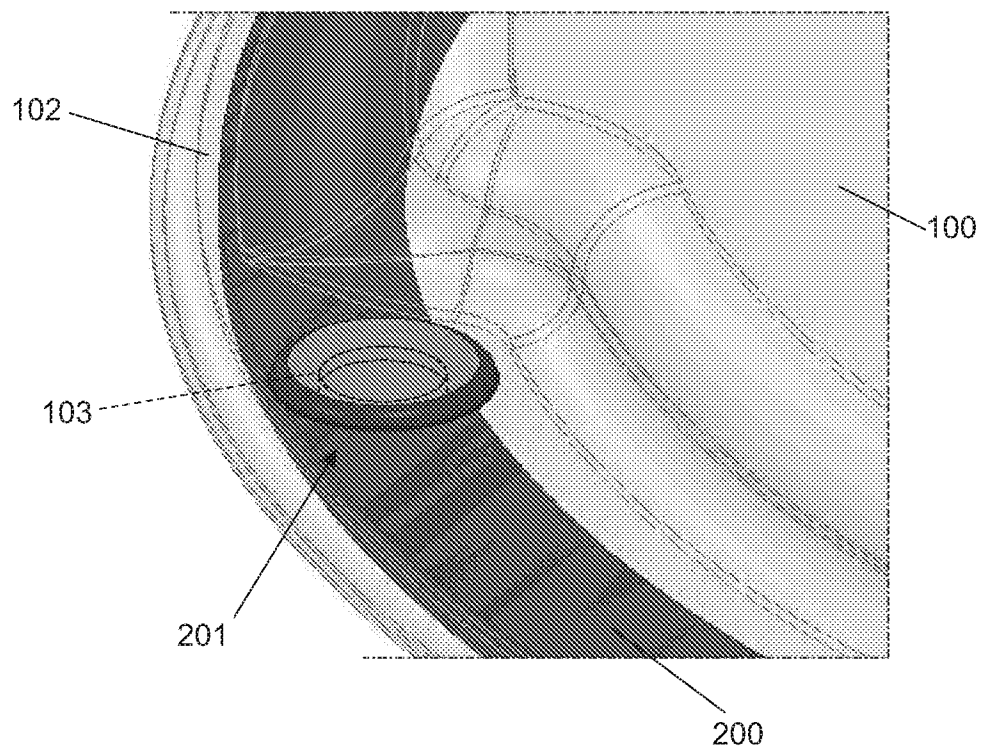


FIG. 2

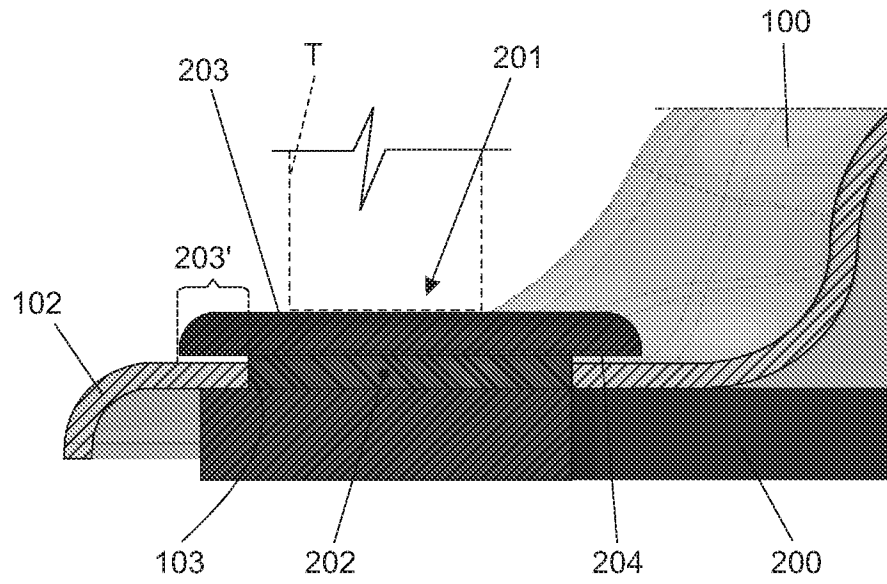


FIG. 3

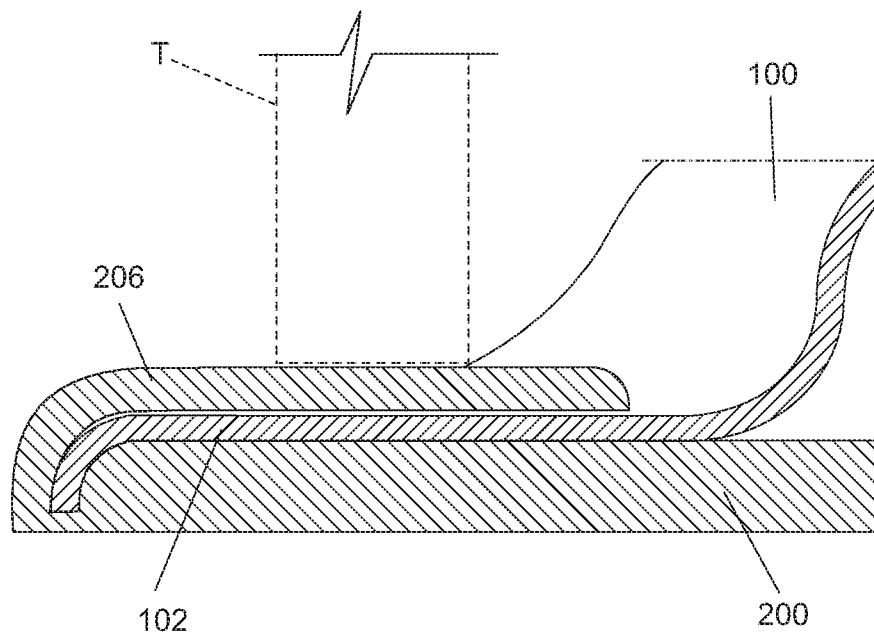


FIG. 4

INTERNATIONAL SEARCH REPORT

International application N°

PCT/BR2015/050236

A. CLASSIFICATION OF SUBJECT MATTER

F24C 15/10 (2006.01), F23D 14/58 (2006.01), F24C 3/08 (2006.01)

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

F24C, F23D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

INPI - BR Patent Base (SINPI)

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPODOC, ESPACENET

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claims N°
A	BR MU8500778 U (MULTIBRAS ELETRODOMESTICOS SA [BR]) 21 November 2006 (2006-11-21) (Whole document)	1 e 2
A	----- CN 103868117 A (LI DING) 18 June 2014 (2014-06-18) (Abstract and figures)	1 e 2
A	----- JP 2011058784 A (PALOMA KOGYO KK) 24 March 2011 (2011-03-24) (Whole document)	1 e 2
A	----- BR MU9001590 U2 (SIMAS DE ARAUJO RUBENS [BR]) 27 November 2012 (2012-11-27) (Whole document) -----	1 e 2

☒ Further documents are listed in the continuation of Box C.☒ See patent family annex.

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INTERNATIONAL SEARCH REPORT

International application N°

PCT/BR2015/050236

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claims N°
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INTERNATIONAL SEARCH REPORT

Information on patent family members

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