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(54) **RING TO SPACE PLATES IN MICROWAVE OVEN**

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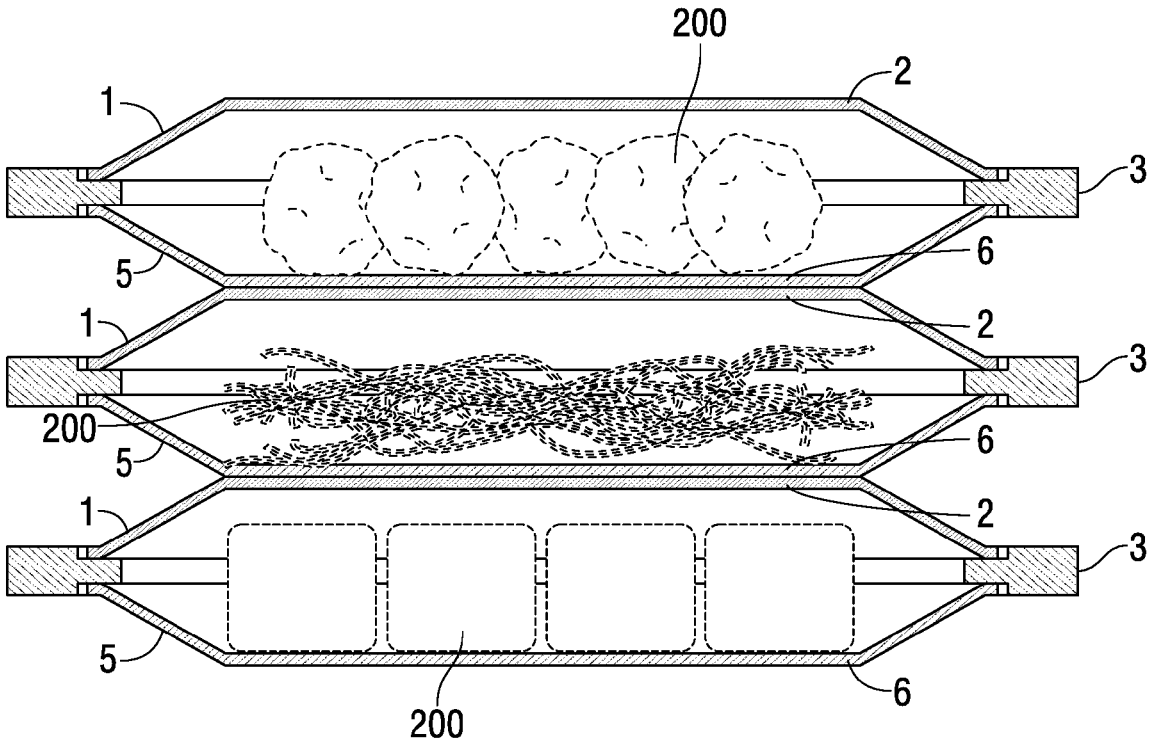
(57) **ABSTRACT**

A spacer ring device for separating plates one on top of the other to produce a cavity in which food can be placed and warmed in a microwave oven. The ring can be sized for various sized plates. The ring can be made of a plastic type material, and handles can be placed so that the plate is gripped between the handles and the rim of the spacer ring. The spacer ring can be made wider at points where it will be gripped. The spacer ring can be made with varying diameter rims so that differing diameter plates can be used with the spacer ring. The spacer ring can be made with a sealing ring so that the two plates can seal against the sealing ring. The spacer ring may be made with clasps to hold plates in place.



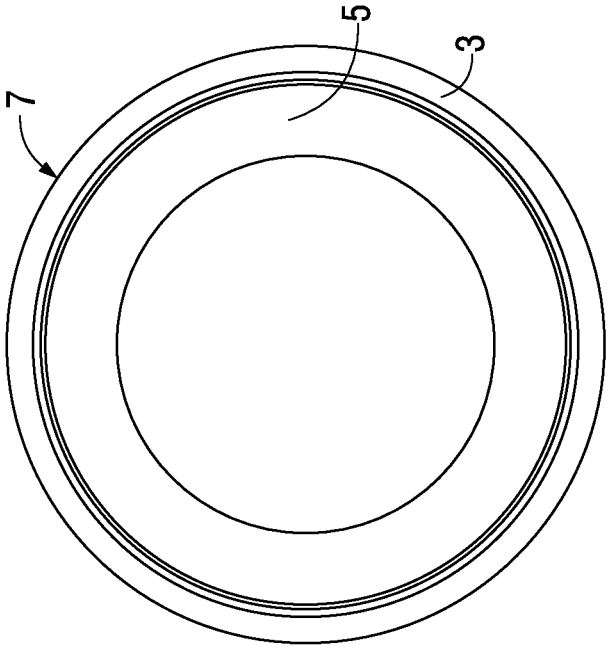


FIG. 2A

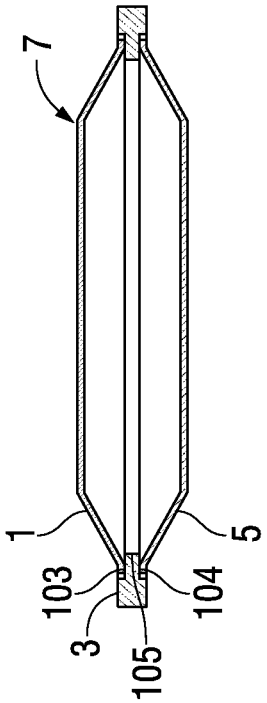


FIG. 2B

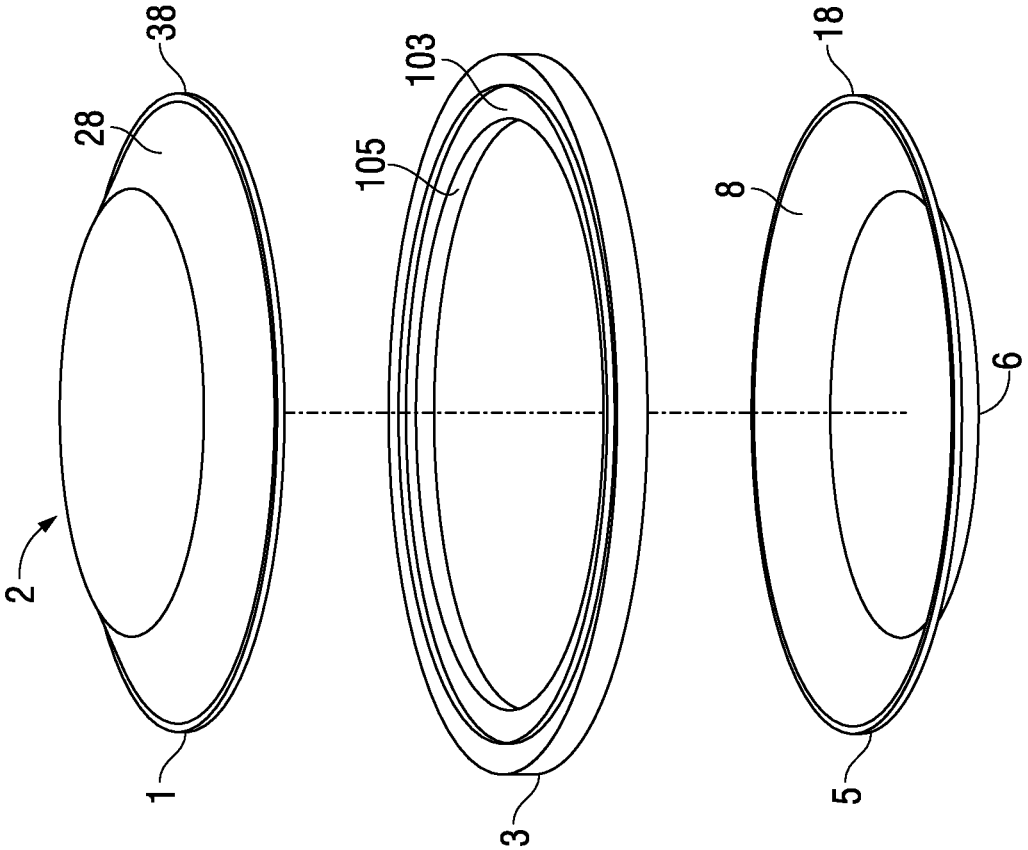


FIG. 1

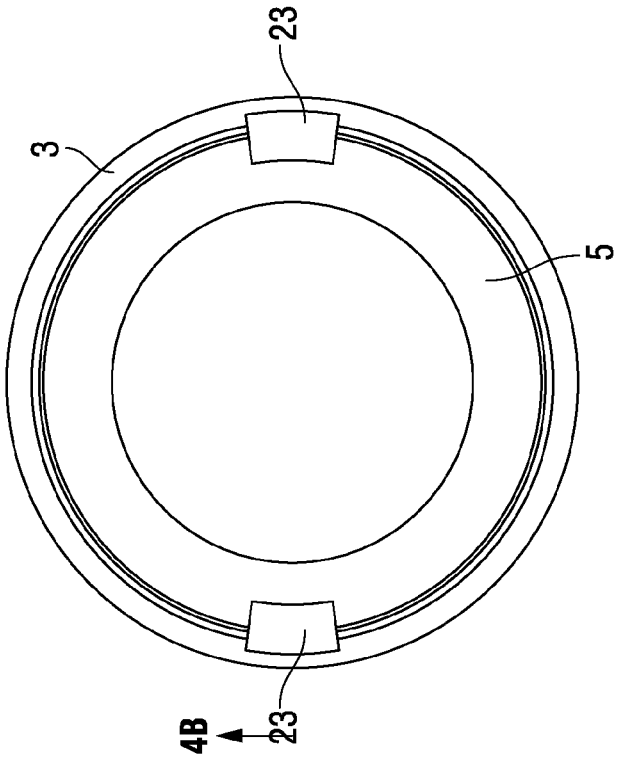


FIG. 4A

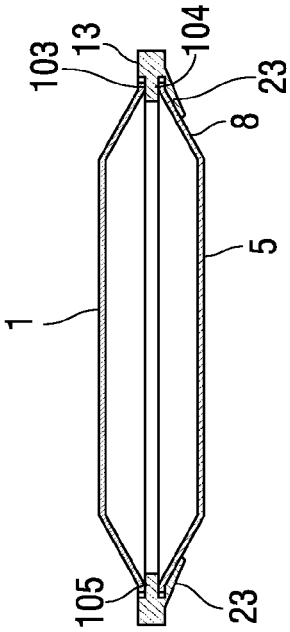


FIG. 4B

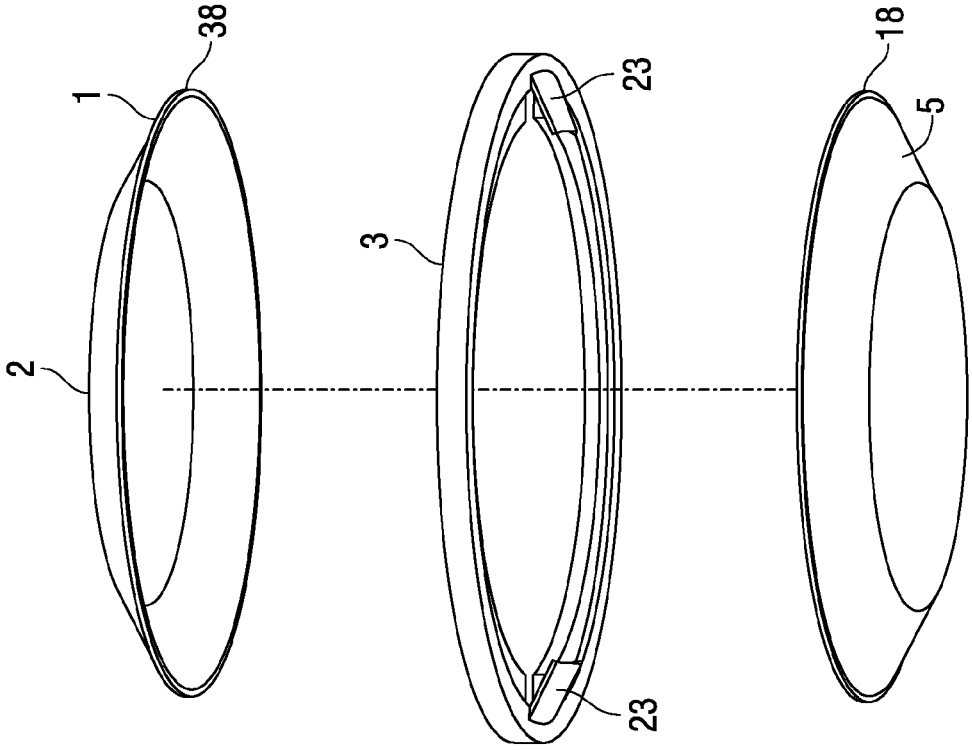


FIG. 3

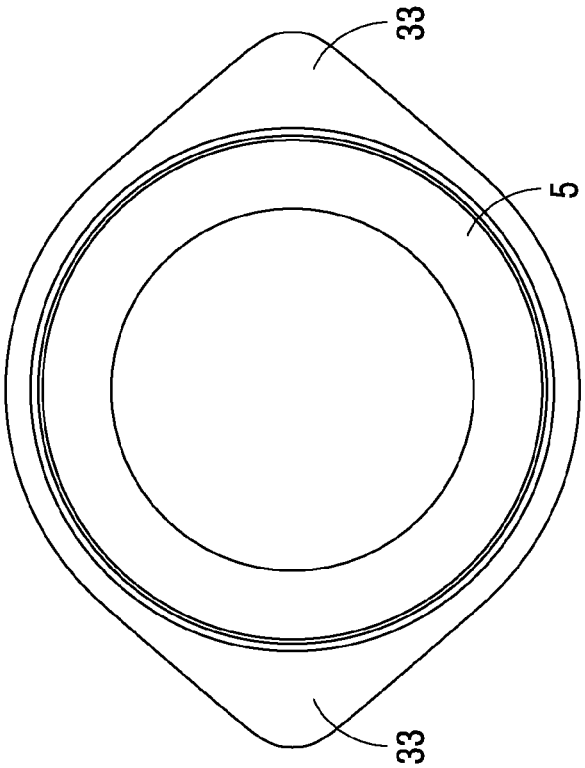


FIG. 6A

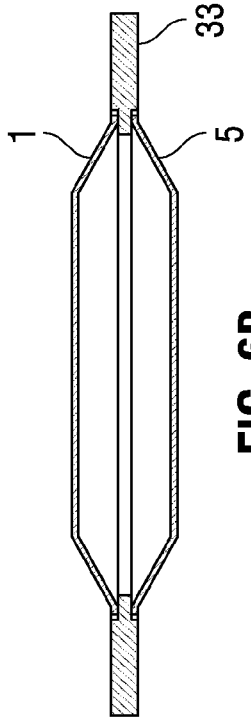


FIG. 6B

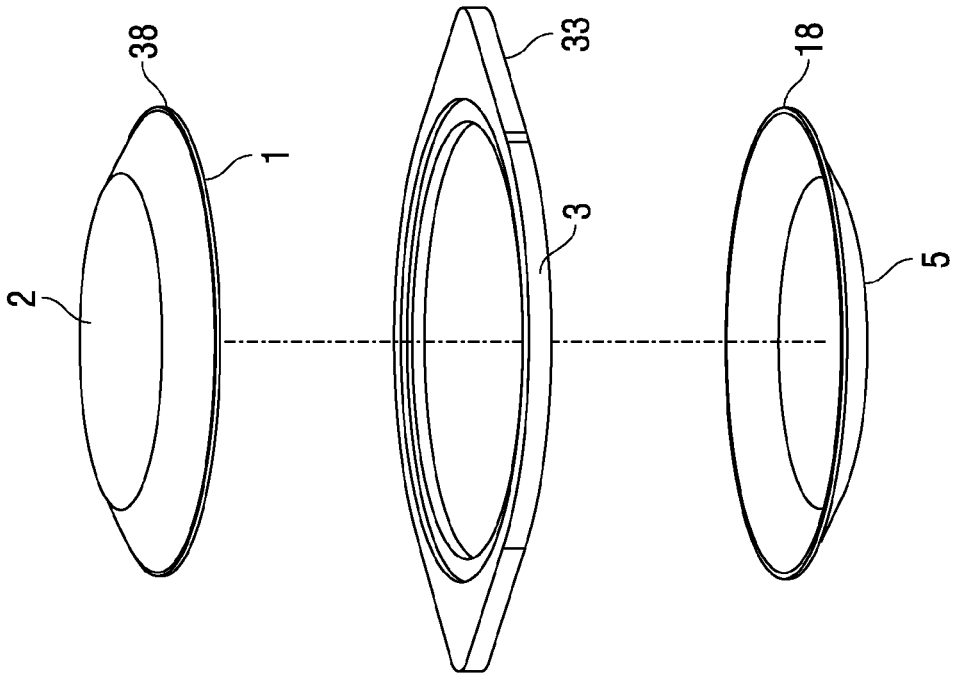


FIG. 5

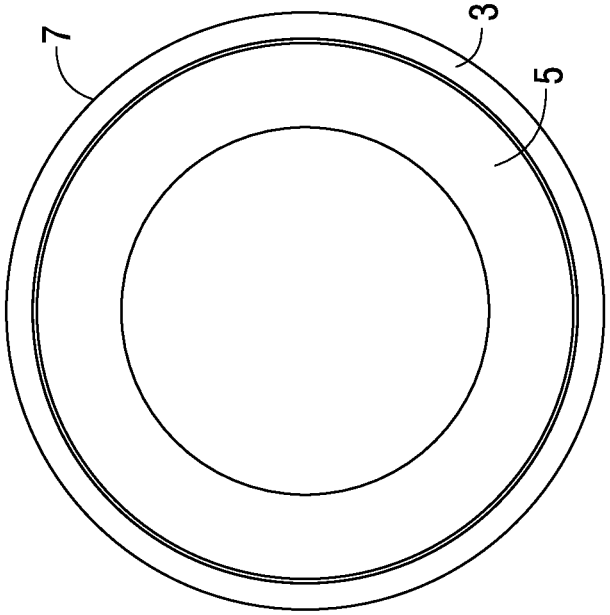


FIG. 8A

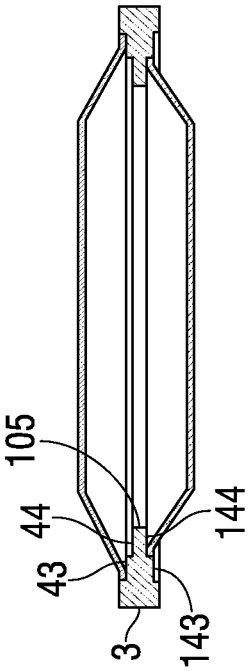


FIG. 8B

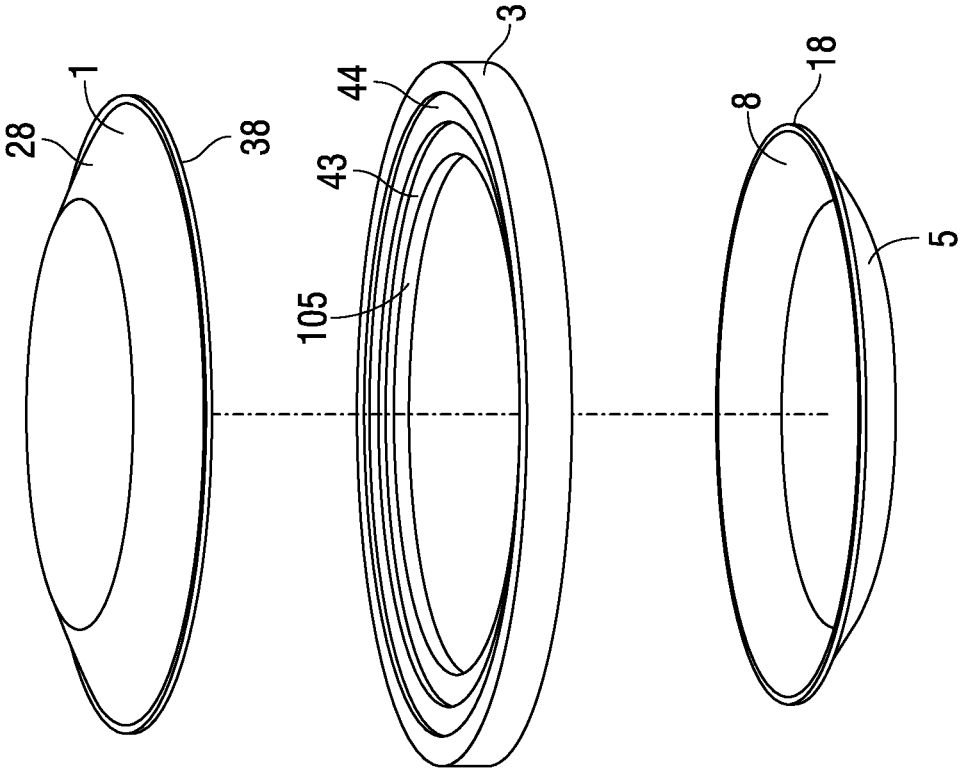


FIG. 7

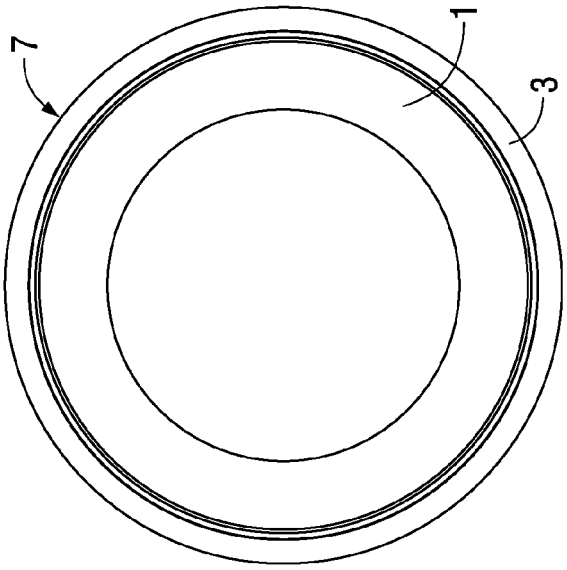


FIG. 10A

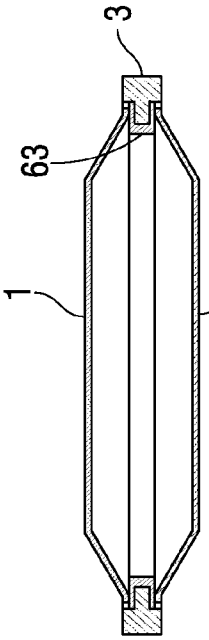


FIG. 10B

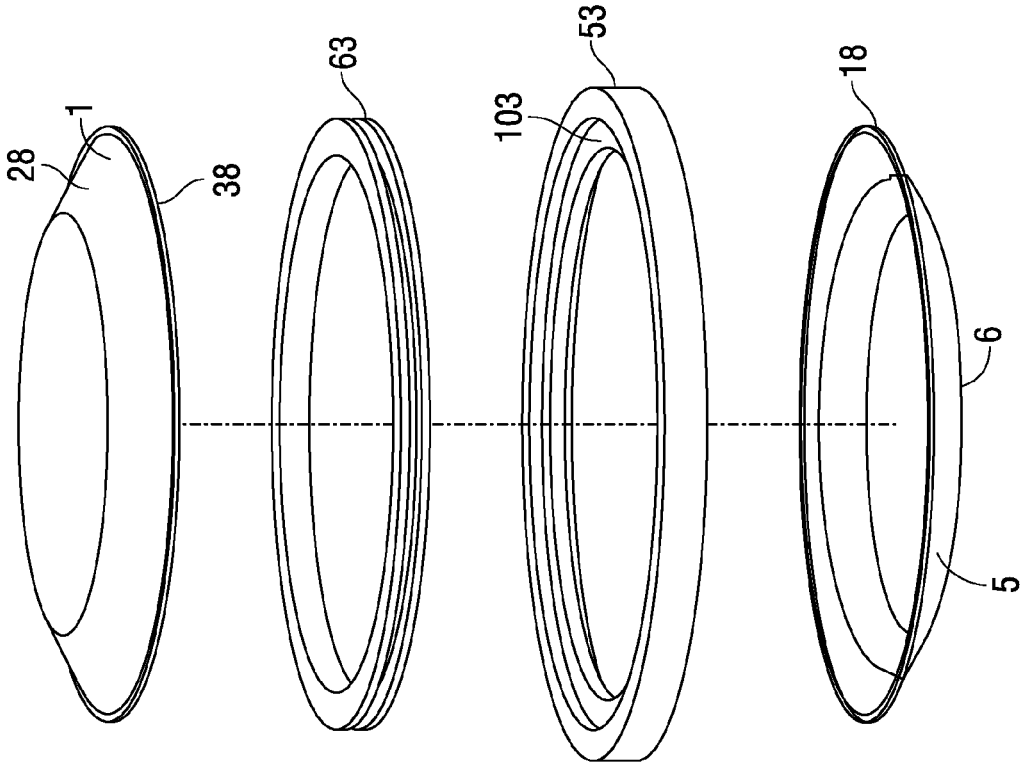


FIG. 9

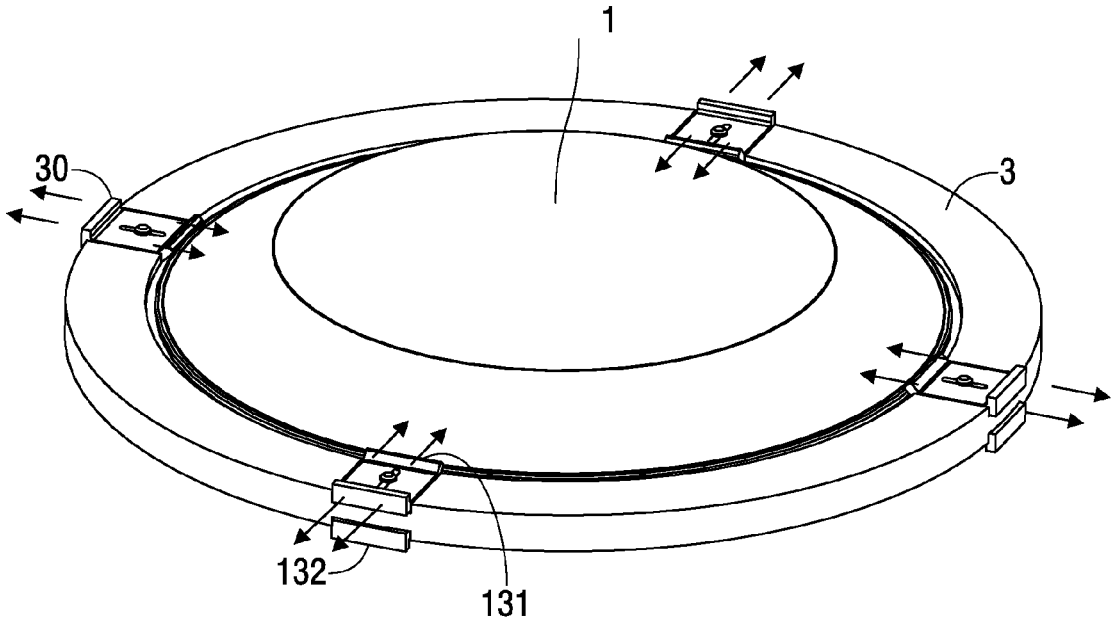


FIG. 11A

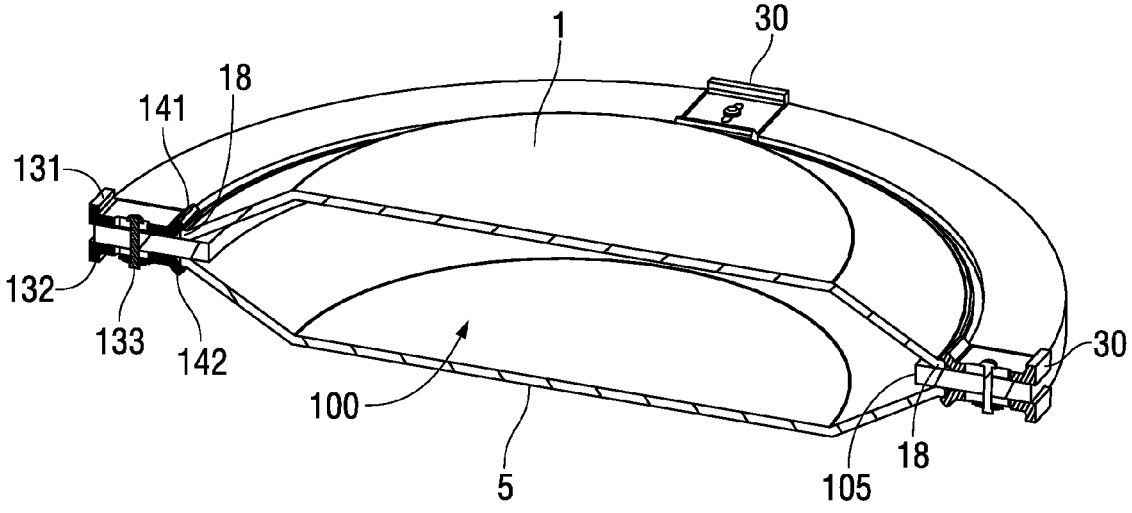


FIG. 11B

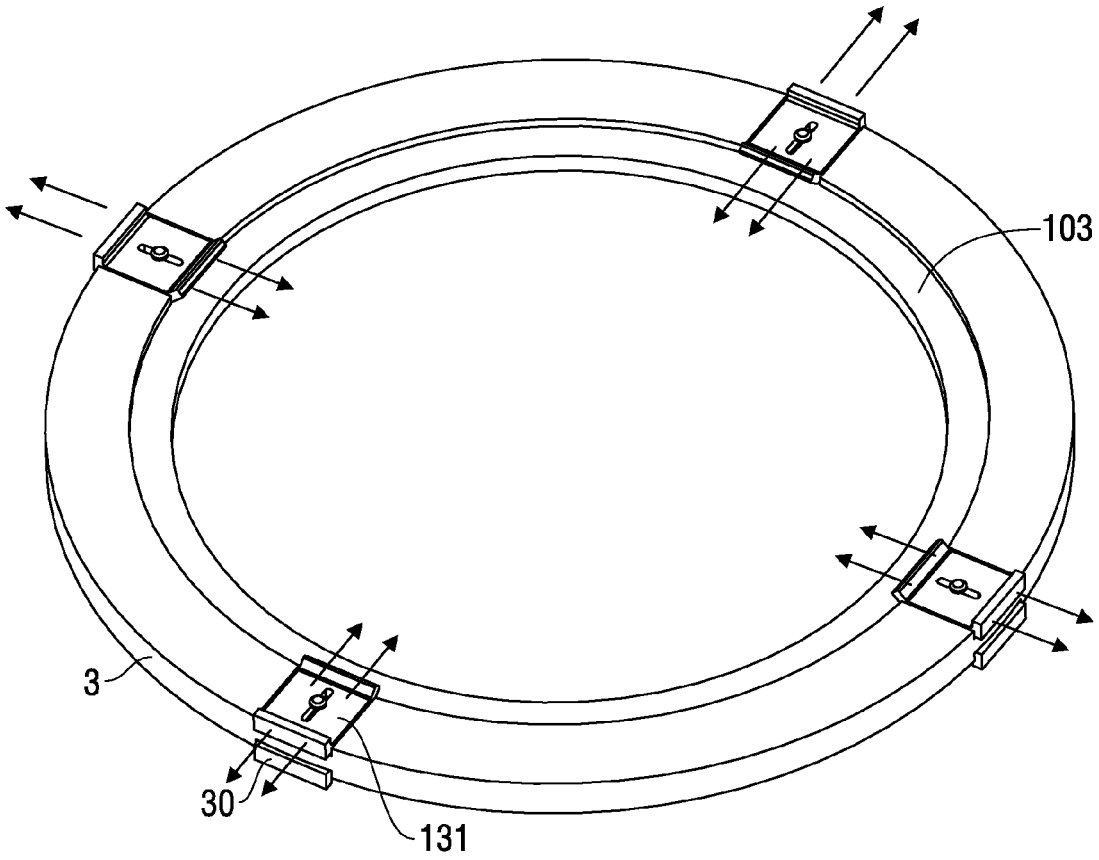


FIG. 12A

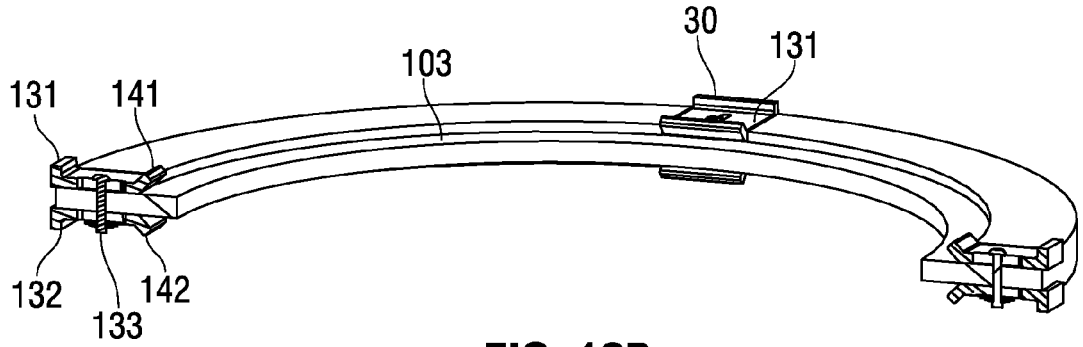


FIG. 12B

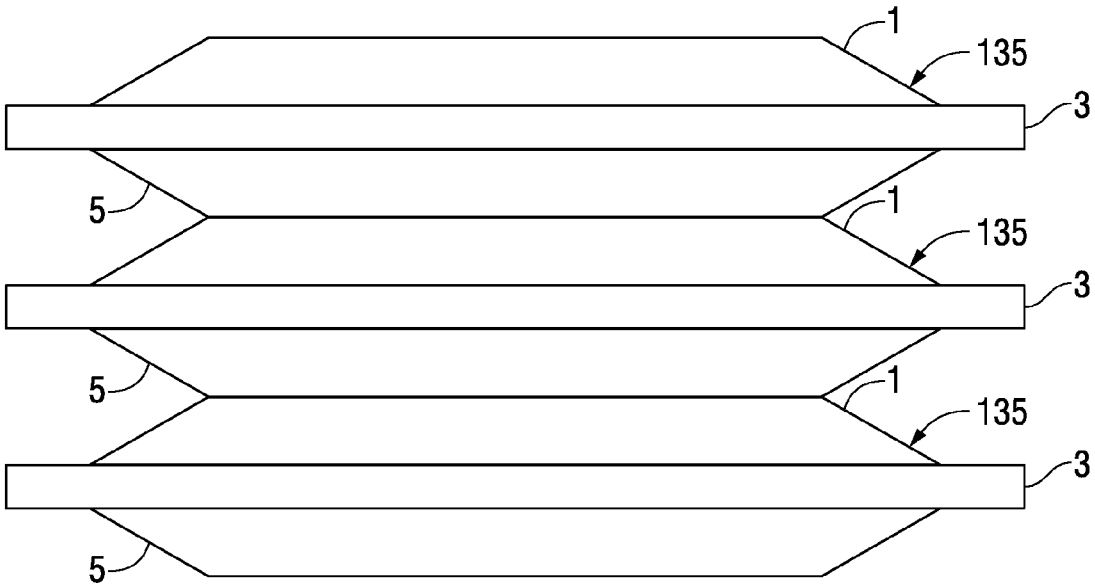


FIG. 13A

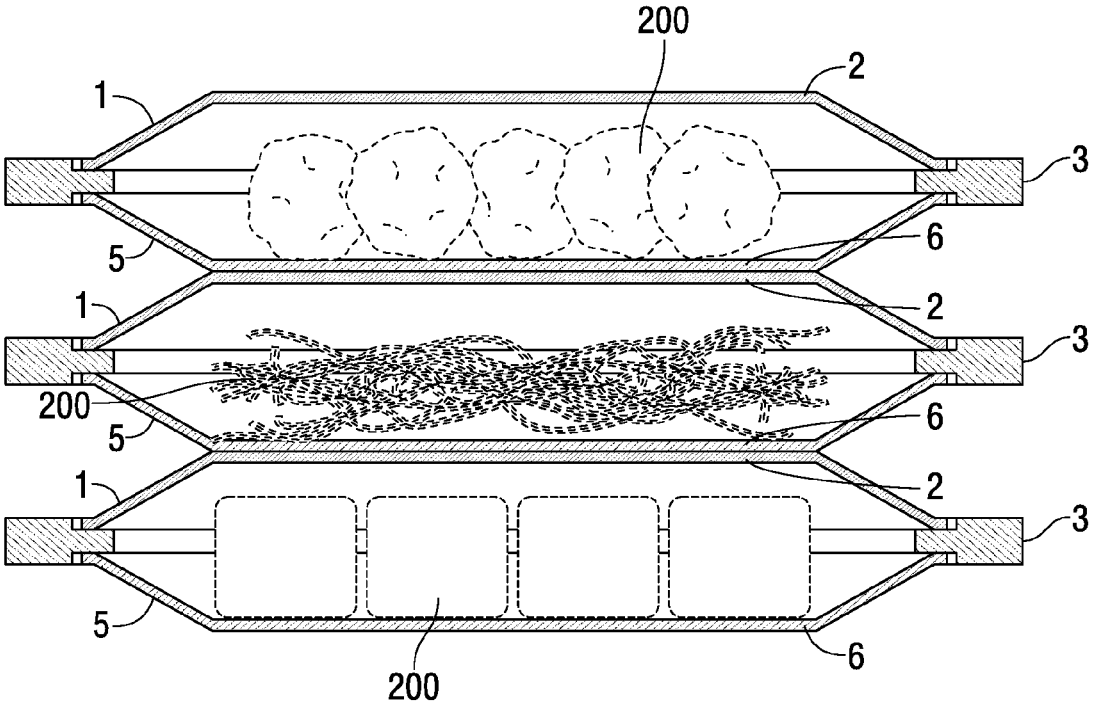


FIG. 13B

RING TO SPACE PLATES IN MICROWAVE OVEN

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] Not applicable

STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH

[0002] Not applicable.

BACKGROUND

[0003] The present invention relates to a spacer ring device that separates, and in several embodiments aligns, plates, one on top of the other, to produce a cavity in which food can be placed and warmed in a microwave oven. In the present invention, in several embodiments, the ring can be sized for various sized plates. The ring can be made of a plastic type material, and in some embodiments handles can be placed so that the plate is gripped between the handles and the rim of the spacer ring. In the present invention, the spacer ring can be made wider at points where it will be gripped. In the present invention, the spacer ring can be made with varying diameter rims so that differing diameter plates can be used with the spacer ring. In the present invention, the spacer ring can be made with a sealing ring so that the two plates can seal against the sealing ring.

[0004] The present invention is distinguished from the following art in many ways.

[0005] U.S. Pat. No. 4,906,806: "Cooking Kit with Heat Generating Member for Microwave Oven and Methods for Microwave Cooking" ("'806") differs from the present invention in the following ways: The perimeter sealing ring of '806 has no gripping surface around its perimeter so that it could not be gripped with the fingers to lift off a plate on top of it, whereas the gripping surface for the present invention extends a distance past the rim of the ring so it can be easily gripped. Also, the gripping element of '806 is obstructed by handles on the mating containers. Another feature of the present invention not shown in '806 is that two handles can be extended beyond the gripping ring to keep the fingers further away from the hot and steamy plates during operation. Finally, extensions can be put on to the present invention to grip the lower or upper plate, or both, so they are attached to the present invention providing additional gripping benefit over '806.

[0006] U.S. Pat. No. 3,941,967: "Microwave Cooking Apparatus" ("'967"): The '967 invention differs from the present invention in that the present invention has handles specifically for gripping with the fingers, where the '967 does not. Another feature of the present invention is that two handles can be extended beyond the gripping ring to keep the fingers further away from the hot and steamy plates. Finally, extensions can be put onto the present invention to grip the lower or upper plate, or both.

[0007] WO2004080841: "Plate Container with Detachable Cover" ("'841"): The plates shown in '841 attach to each other and are made from thin plastic sheets. The present invention is a ring with rims for plates to fit in and radial extensions around the rims for fingers to hold onto. The present invention does not itself include a thin plastic sheet or plate as in the patent under discussion, rather is used to align two plates. Also, the patent under discussion requires the plates to snap together which the present invention does not.

[0008] US2013/0341340 A1: "Plate Cover Assembly" ("'340"): '340 is an application for a cover assembly for a plate which covers just the outer border of the plate with some sort of decorative themes. The cover does not cover the entire plate in '340. The '340 patent application is not used for microwave cooking. The present invention centers and covers part of the outer rim of a first plate, and provides a cavity for a second plate to be centered on top of the first plate, as well as a grip ring around the cavity for gripping with the fingers.

[0009] U.S. Pat. No. 5,871,116: "Food Service and Storage Foodstuff Holding Container Assembly" ("'116"): '116 is a food holding and mixing container. '116 is not used for microwave cooking. '116 has a separator whose purpose is to separate solid food from liquid food. '116 has a rim to hold the separator between two bowls and a center supported by the rim that is perforated to allow liquid but not solid to pass through. The '116 system is not typically used in a microwave oven or used for cooking like the present invention. The rim of '116 also does not have a radially extended gripping area unlike the present invention.

[0010] US 2003/0116572 A1: "Sealing Cover for a Container" ("'572"): '572 is for an assembly of a lid and container with an elastic seal around the rim of the lid where the lid meets the container. The assembly of '572 is specifically designed to seal around two very specialized lids and containers. In contrast the present invention is a positioning device for one standard plate on top of another standard plate, with sealing options. There is a variation in the present invention where a sealing gasket is used but this gasket is not substantially deformed as it is in the '572 application or deformed in the way the '572 shows. Also, the gasket in the present invention is supported by the ring, not the mating lid or container, and again this gasket is used with standard plates with any variation the standard plates have.

SUMMARY

[0011] The present invention is a new and novel design for converting microwave safe dishes into a cooking vessel that cooks materials safely and provides the same dishes for use with eating the cooked food. The present invention is advantageous over prior art by allowing the safe cooking of food on the dishes used to eat the food, and also allowing for reassembly of the plates to house leftover food for later consumption or to prepare plates of food for storage in a refrigerator which can later be put in a microwave for cooking then consumption. Also, the current assemblies can be stacked in a refrigerator for storage then in a microwave to two or three layers for the purpose of being warmed or cooked at the same time for multiple diners.

[0012] In several embodiments the present invention is: a plate spacing microwaveable ring comprising a ring; said ring further comprising a first circular cutout with a rim parallel to the ring axis such that the cutout will allow a first plate rim to fit into said ring and prevent said first plate rim from substantially shifting; a second circular cutout on the opposite side of said ring with rims parallel to the ring axis of a diameter such that a second plate will fit into that cutout without substantially shifting; wherein said first plate and said second plate and said ring to produce a cavity between the plates when, fit into said first circular cutout and said

second circular cutout such that food can be placed into said cavity. In some embodiments, the invention further comprises a first sealing gasket fit onto said first circular cutout such that said first sealing gasket seals said first plate and said first circular cutout. In some embodiments the invention further comprises a second sealing gasket fit onto said second circular cutout such that said second sealing gasket seals said second plate and said second circular cutout. In some embodiments the sealing gasket fits onto both cutouts and seals both plates. In some embodiments the invention further comprises a third circular cutout with a rim parallel to the ring axis such that said third circular cutout will allow a first plate rim to fit into said ring and prevent said first plate from substantially shifting. In some embodiments the invention further comprises a fourth circular cutout with a rim parallel to the ring axis such that said fourth circular cutout will allow a second plate rim to fit into said ring and prevent said second plate from substantially shifting. In some embodiments the invention further comprises said plate spacing microwaveable ring comprising tabs protruding from the outer diameter of said plate spacing microwaveable ring. In some embodiments the invention further comprises said plate spacing microwaveable ring comprised from plastic with said plate spacing microwaveable ring further comprised with extensions protruding from the underside of said plate spacing microwaveable ring that can grip said second plate rim of said second plate. In some embodiments the invention further comprises clamps on the exterior edge of said ring for securing said first and said second plates to said ring.

[0013] In several embodiments the present invention is: a plate spacing microwaveable ring comprising; a ring with an exterior edge; said ring further comprising a first circular cutout with a rim parallel to the ring axis such that the cutout will allow a first plate rim to fit into said ring and prevent said first plate rim from substantially shifting; a second circular cutout on the opposite side of said ring with rims parallel to the ring axis of a diameter such that a second plate will fit into that cutout without substantially shifting; clamps on the exterior edge of said ring; wherein said first plate and said second plate produce a cavity between the plates when fit into said first circular cutout and said second circular cutout such that food can be placed into said cavity and said clamps secure said first and said second plates to said ring.

BRIEF DESCRIPTION OF THE DRAWINGS

[0014] For a more complete understanding of the present disclosure, and the advantages thereof, reference is now made to the following descriptions to be taken in conjunction with the accompanying drawings describing specific embodiments of the disclosure, wherein:

[0015] FIG. **1** is an exploded view of one embodiment of the present invention with a dual ledged ring utilized with two plates.

[0016] FIG. **2***a* is an assembled bottom view of one embodiment of the present invention with a dual ledged ring utilized with two plates.

[0017] FIG. **2***b* is an assembled side cross-section view of one embodiment of the present invention with a dual ledged ring utilized with two plates.

[0018] FIG. **3** is an exploded view of one embodiment of the present invention with a dual ledged ring with lower lock utilized with two plates.

[0019] FIG. **4***a* is an assembled bottom view of one embodiment of the present invention with a dual ledged ring with lower lock utilized with two plates.

[0020] FIG. **4***b* is an assembled side cross-section view of one embodiment of the present invention with a dual ledged ring with lower lock utilized with two plates.

[0021] FIG. **5** is an exploded view of one embodiment of the present invention with a dual ledged ring with hand grips utilized with two plates.

[0022] FIG. **6***a* is an assembled bottom view of one embodiment of the present invention with a dual ledged ring with hand grips utilized with two plates.

[0023] FIG. **6***b* is an assembled side cross-section view of one embodiment of the present invention with a dual ledged ring with hand grips utilized with two plates.

[0024] FIG. **7** is an exploded view of one embodiment of the present invention with a dual offset ledged ring utilized with two plates.

[0025] FIG. **8***a* is an assembled bottom view of one embodiment of the present invention with a dual off set ledged ring utilized with two plates.

[0026] FIG. **8***b* is an assembled side cross-section view of one embodiment of the present invention with a dual off set ledged ring utilized with two plates.

[0027] FIG. **9** is an exploded view of one embodiment of the present invention with a ledged ring and insert utilized with two plates.

[0028] FIG. **10***a* is an assembled bottom view of one embodiment of the present invention with a ledged ring and insert utilized with two plates.

[0029] FIG. **10***b* is an assembled side cross-section view of one embodiment of the present invention with a ledged ring and insert utilized with two plates.

[0030] FIG. **11***a* is an assembled side view of one embodiment of the present invention with a ledged ring and clamps utilized with two plates.

[0031] FIG. **11***b* is an assembled cross sectional side view of one embodiment of the present invention with a ledged ring and clamps utilized with two plates.

[0032] FIG. **12***a* is an assembled 3/4 side view of one embodiment of the present invention with a ledged ring and clamps.

[0033] FIG. **12***b* is an assembled 3/4 side cross-section view of one embodiment of the present invention with a ledged ring and clamps.

[0034] FIG. **13**A is a stacked version of one embodiment of the present invention.

[0035] FIG. **13**B is a cross sectional view of one embodiment of the present invention with food in it.

DETAILED DESCRIPTION

[0036] One or more illustrative embodiments incorporating the invention disclosed herein are presented below. Applicant has created a revolutionary and novel microwaveable ring for use with food and method of use of the same.

[0037] In the following description, certain details are set forth such as specific quantities, sizes, etc. so as to provide a thorough understanding of the present embodiments disclosed herein. However, it will be evident to those of ordinary skill in the art that the present disclosure may be practiced without such specific details. In many cases, details concerning such considerations and the like have been omitted inasmuch as such details are not necessary to

obtain a complete understanding of the present disclosure and are within the skills of persons of ordinary skill in the relevant art.

[0038] Referring to the drawings in general, it will be understood that the illustrations are for the purpose of describing particular embodiments of the disclosure and are not intended to be limiting thereto. Drawings are not necessarily to scale and arrangements of specific units in the drawings can vary.

[0039] While most of the terms used herein will be recognizable to those of ordinary skill in the art, it should be understood, however, that when not explicitly defined, terms should be interpreted as adopting a meaning presently accepted by those of ordinary skill in the art. In cases where the construction of a term would render it meaningless or essentially meaningless, the definition should be taken from Webster's Dictionary, 11th Edition, 2008. Definitions and/or interpretations should not be incorporated from other patent applications, patents, or publications, related or not, unless specifically stated in this specification or if the incorporation is necessary for maintaining validity. Specifically defined terms: As utilized herein, the term "plate" or "plates" is defined as any circular piece of dining ware, including but not limited to dinner plates, salad plates, saucers, bowls, cups, and/or dessert plates.

[0040] Certain terms are used in the following description and claims to refer to particular system components. As one skilled in the art will appreciate, different persons may refer to a component by different names. This document does not intend to distinguish between components that differ in name but not function. The drawing figures are not necessarily to scale. Certain features of the invention may be shown exaggerated in scale or in somewhat schematic form, and some details of conventional elements may not be shown, all in the interest of clarity and conciseness.

[0041] Although several preferred embodiments of the present invention have been described in detail herein, the invention is not limited hereto. It will be appreciated by those having ordinary skill in the art that various modifications can be made without materially departing from the novel and advantageous teachings of the invention. Accordingly, the embodiments disclosed herein are by way of example. It is to be understood that the scope of the invention is not to be limited thereby.

[0042] FIG. **1** is an exploded assembly view of two plates, **1** and **5** that can fit into the spacer ring, **3**, in an assembly in one embodiment of the present invention. It is envisioned that the plates **1** and **5** are of the ordinary type as can be used for microwave applications of food. Plates **1** and **5** can be constructed to have flat portions **2** and **6**, side walls **8** and **28**, and edges **38** and **18** as are known in the art for retaining food items placed on the plates **1** and **5**. In preferred embodiments, all plates **1** and **5** are preferably constructed to be microwave safe. Plates **1** and **5** need not have a fully oval edge **38** and can be of variant geometric shapes, as are known in the art. Ring **3** can also have variant geometric shapes to be utilized with the variant shapes of plates **1** and **5**.

[0043] Also shown in FIG. **1** is dual ridged spacer ring **3**. In several embodiments of the invention, spacer ring **3** is preferably designed to have an upper ledge, or rim **103** and a lower ledge or rim **104** as well as the extrusion **105** (FIG. **2***b*). Ring **3** can be of variant geometric shapes. In many preferred embodiments the ring **3** is comprised of non-thermal conductive microwaveable materials. In many preferred embodiments of the present invention the extrusion **105** is constructed to be of a smaller diameter than the edges **18** and **38** such that when assembled the extrusion **105** extends inward from the diameter of the edges **18** and **38**. This is so edges **18** and **38** respectively can have releasable engaging contact with rims **104** and **103** respectively.

[0044] In some embodiments, during use, plate **5** is substantially aligned with ring **3** such that edge **18** will contact ledge **104** when ring **3** is lowered onto it. It is preferable that all of edge **18** will contact ledge **104** in such a circumstance as to make a seal. During use plate **1** is substantially aligned with ring **3** such that edge **38** will contact ledge **103** when plate **1** is lowered onto ledge **103**. It is preferable that all of edge **38** will contact ledge **103** in such a circumstance as to make a partial seal.

[0045] FIGS. **2***a* and **2***b* illustrate one embodiment of the present invention in which plates **1** and **5** are in a partial sealed communication with ring **3**. It should be noted that in many embodiments of the present invention the seal formed by edges **38** and **18** is only a partial seal and can allow for gas or steam to escape from the microwave steam ring assembly **7** as is natural during the microwaving process. In some embodiments of the present invention the seal is more robust.

[0046] In order to cook food, in one embodiment, all a user needs to do is lift plate **1** and ring **3** off of plate **5** and place food onto plate **5**. The user can then replace plate **1** and ring **3** on top of plate **5** and, as shown in FIG. **2**B the microwave steam assembly **7** can be carried as a unit and placed in a microwave oven for cooking. After cooking is done, the microwave steam assembly **7** is removed from the microwave and plate **1** and ring **3** lifted. Now a user can pour some, none or all of the contents from plate **5** onto plate **1** and have two plates for use.

[0047] FIG. **3** is an exploded assembly view of two plates, **1** and **5**, fit into the spacer ring, **3** with lower locks **23**, in an assembly of one embodiment of the present invention. It is envisioned that the plates **1** and **5**, in many embodiments, are of the ordinary type as can be used for microwave applications of food. Plates **1** and **5** can be constructed to have flat portions **2** and **6**, side walls **8** and **28**, and edges **38** and **18** as are known in the art for retaining food items placed on the plates **1** and **5**. In preferred embodiments, plates **1** and **5** are preferably constructed to be microwave safe.

[0048] Also shown in FIG. **3** is the dual ridged spacer ring **3**. In several embodiments of the invention, spacer ring **3** is preferably designed to have an upper ledge, or rim **103** and a lower ledge or rim **104** as well as the extrusion **105** (FIG. **3***b*). In many preferred embodiments the ring **3** is comprised of non-thermal conductive microwaveable materials

[0049] In many preferred embodiments of the present invention the extrusion **105** is constructed to be of a smaller diameter than the edges **18** and **38** such that when assembled the extrusion **105** extends inward from the diameter of the edges **18** and **38**. As shown in FIG. **3** there are also lower locks **23** which extrude from ring **3**. Lower locks **23** can be used to lock in plate **5** to ring **3** such that a user will obtain a lock sufficient to allow both plate **5** and ring **3** to be raised by only lifting ring **3**. In many preferred embodiments locks **23** are comprised of non-thermal conductive microwaveable materials. Locks **23**, in many embodiments, are designed to engage plate **5** in a releasable seal with ledge **104** therein increasing the seal between ledge **104** and edge **18**.

[0050] During use, in some embodiments, plate **5** is substantially aligned with ring **3** such that edge **18** will contact ledge **104** when ring **3** is lowered onto it. Plate **5** is also maneuvered into and locked into place with ring **3** via locks **23**. It is preferable that all of edge **18** will contact ledge **104** in such a circumstance as to make a seal. During use plate **1** is substantially aligned with ring **3** such that edge **38** will contact ledge **103** when ring **3** is lowered onto it. It is preferable that all of edge **38** will contact ledge **103** in such a circumstance as to make a seal.

[0051] FIGS. **4***a* and **4***b* illustrate one embodiment of the present invention in which plates **1** and **5** are in a sealed communication with ring **3**. It should be noted that in many embodiments of the present invention the seal formed by edges **38** and **18** is only a partial seal and can allow for gas or steam to escape from the microwave steam ring assembly **7** as is natural during the microwaving process. Of note, FIG. **4**B illustrated how lock **23** slides over and holds face **8** of plate **5**. It is envisioned that a plurality of locks **23** can be spaced about ring **3**.

[0052] In order to cook food, in one embodiment, all a user needs to do is to lift plate **1** off of ring **3** and place food onto plate **5**. The user can then replace plate **1** on top of ring **3** and, as shown in FIG. **4**B the microwave steam assembly **7** can be carried as a unit and placed in a microwave oven for cooking. After cooking is done, the microwave steam assembly **7** is removed from the microwave and plate **1** and ring **3** lifted. Now a user can pour some, none or all of the contents from plate **5** onto plate **1** and have two plates for use.

[0053] FIG. **5** illustrates an exploded assembly view of two plates, **1** and **5**, fit into the spacer ring, **3**, in an assembly in one embodiment of the present invention. It is envisioned that the plates **1** and **5** are of the ordinary type as can be used for microwave applications of food. Plates **1** and **5** can be constructed to have flat portions **2** and **6**, side walls **8** and **28**, and edges **38** and **18** as are known in the art for retaining food items placed on the plates **1** and **5**. In preferred embodiments, plates **1** and **5** are preferably constructed to be microwave safe.

[0054] Also shown in FIG. **5** is the dual ridged spacer ring **3** with hand grips **33**. In several embodiments of the invention, spacer ring **3** is preferably designed to have an upper ledge, or rim **103** and a lower ledge or rim **104** as well as the extrusion **105** (FIG. **6***b*). In many preferred embodiments the ring **3** is comprised of non-thermal conductive microwaveable materials In many preferred embodiments of the present invention the extrusion **105** is constructed to be of a smaller diameter than the edges **18** and **38** such that when assembled the extrusion **105** extends inward from the diameter of the edges **18** and **38**. Hand grips **33** are preferable construction so as to allow increased ease of a user lifting ring **3**. It is envisioned that handle grips **33** can be of varying geometric size and shape.

[0055] During use plate **5** is substantially aligned with ring **3** such that edge **18** will contact ledge **104** when ring **3** is lowered onto it. It is preferable that all of edge **18** will contact ledge **104** in such a circumstance as to make a seal. During use plate **1** is substantially aligned with ring **3** such that edge **38** will contact ledge **103** when ring **3** is lowered onto it. It is preferable that all of edge **38** will contact ledge **103** in such a circumstance as to make a seal.

[0056] FIGS. **6***a* and **6***b* illustrate one embodiment of the present invention in which plates **1** and **5** are in a sealed communication with ring **3**. It should be noted that in many embodiments of the present invention the seal formed by edges **38** and **18** is only a partial seal and can allow for gas or steam to escape from the microwave steam ring assembly **7** as is natural during the microwaving process.

[0057] In order to cook food, in one embodiment, a user lifts plate **1** off of ring **3** and places food onto plate **5**. The user can then replace plate **1** on top of ring **3** and, as shown in FIG. **6**B the microwave steam assembly **7** can be carried as a unit and placed in a microwave oven for cooking. After cooking is done, the microwave steam assembly **7** is removed from the microwave and plate **1** and ring **3** lifted. Now a user can pour some, none or all of the contents from plate **5** onto plate **1** and have two plates for use.

[0058] FIG. **7** is an exploded assembly view of two plates, **1** and **5** and ring, **3** with an offset ledge system, in an assembly in one embodiment of the present invention. It is envisioned that the plates **1** and **5** are of the ordinary type as can be used for microwave applications of food. Plates **1** and **5** can be constructed to have flat portions **2** and **6**, side walls **8** and **28**, and edges **38** and **18** as are known in the art for retaining food items placed on the plates **1** and **5**. In preferred embodiments, all plates **1** and **5** are preferably constructed to be microwave safe.

[0059] Also shown in FIG. **7** is the ring **3** with an offset ledge system. In several embodiments of the invention, spacer ring **3** is preferably designed to have a first offset upper ledge **44**, second offset upper ledge **43**, first offset lower ledge **144**, second offset lower ledge **143**, and extrusion **105** (FIG. **7***b*). By utilizing this design, plates of different diameters can still form a releasable seal with ring **3**.

[0060] In many preferred embodiments, the ring **3** is comprised of non-thermal conductive microwaveable materials In many preferred embodiments of the present invention the extrusion **105** is constructed to be of a smaller diameter than the edges **18** and **38** such that then assembled the extrusion **105** extends inward from the diameter of the edges **18** and **38**.

[0061] During use plate **5** is substantially aligned with ring **3** such that edge **18** will contact ledge **104** when ring **3** is lowered onto it. It is preferable that all of edge **18** will contact ledge **144** or **143** depending on the size of the plate, in such a circumstance as to make a seal. During use plate **1** is substantially aligned with ring **3** such that edge **38** will contact ledge **44** or **43** depending on the size of the plate, when plate **1** is lowered onto ring **3**. It is preferable that all of edge **38** will contact ledge **44** or **43** in such a circumstance as to make a seal.

[0062] FIGS. **8***a* and **8***b* illustrate one embodiment of the present invention in which plates **1** and **5** are in a sealed communication with ring **3**. It should be noted that in many embodiments of the present invention the seal formed by edges **38** and **18** is only a partial seal and can allow for gas or steam to escape from the microwave steam ring assembly **7** as is natural during the microwaving process.

[0063] In order to cook food, in one embodiment all a user need to do is to lift plate **1** off of ring **3** and place food onto plate **5**. The user can then replace plate **1** on top of ring **3** and, as shown in FIG. **8**B the microwave steam assembly **7** can be carried as a unit and placed in a microwave oven for cooking. After cooking is done, the microwave steam assembly **7** is removed from the microwave and plate **1** with ring

3 lifted. Now a user can pour some, none or all of the contents from plate 5 onto plate 1 and have two plates for use.

[0064] FIGS. 9, 10A and 10B shows the same assembly view as shown in FIG. 1 except that the ring has an elastic sealer ring, 63, in the assembly that fits over ring 3 and seals edge 38 of plate lagainst the ring 3. Sealer ring 63 can be used to seal the contents of plate 1 before or after it is warmed in the microwave oven such as when it is placed into the refrigerator.

[0065] In several embodiments sealing ring 63 could be made or molded from, for example, microwave safe rubber, elastomer, plastic, glass, ceramic, metal, etc. It could also be machined from plastic, ceramic, or glass. In some embodiments of the present invention, there could be a hole or holes from the inside diameter to the outside diameter of the spacer ring to allow steam to escape.

[0066] FIGS. 11A, 11B, 12A and 12B, illustrate a different embodiment of the present invention. As shown in several embodiments, clamps 30 are located on the outside edge and on top of ring 3. In several embodiments clamps 30 have a top clasp 131, a bottom clasp 132 and a pin slide 133 all of which are preferably constructed of microwaveable safe materials. Top clasp 131 is preferably constructed with a holding member 141 as is its contemporary clasp 132 constructed with holding member 142. In operation clasp 30 can move to the center of ring 3 as restrained by pin slide 133.

[0067] In operation, plate 1 may be placed onto ring extrusion 105 and then clasps 30 moved interior to the ring 3 about pin slide 133 and retain plate 1 as holding member 141 engages first plate edge 38. In operation, plate 5 may be placed onto ring extrusion 105 and then clasps 30 moved interior to the ring 3 about pin slide 133 and retain plate 5 as holding member 142 engages second plate edge 18.

[0068] FIG. 11B illustrates a cross section example of one embodiment of the present invention with clasps, in which the cavity 100 between plate 1 and plate 5 is formed. It is in this cavity that food may be placed for heating in a microwave. FIG. 12A demonstrates that a plurality of clasps 30 can be utilized on ring 3 to retain and hold plates 1 and 5.

[0069] FIG. 12B illustrates a partial cross sectional view of one embodiment of the present invention with clamps 30.

[0070] FIG. 13A illustrates one embodiment of the present invention in which plates and the inventive ring 3 are stacked on top of each other. As shown plate 1 engages ring 3 and ring 3 engages bottom plate 5. This unit 135 is then stacked on another unit 135 such that plate 5 of the first unit 135 is on plate 1 of the second unit as would be known in the art of stacking plates.

[0071] 13B illustrates one embodiment of the present invention in which plates and the inventive ring 3 are stacked on top of each other in cross section view with food inside of them. As shown plate 1 engages ring 3 and ring 3 engages bottom plate 5. This unit 135 is then stacked on another unit 135 such that plate 5 of the first unit 135 is on plate 1 of the second unit as would be known in the art of stacking. Representative food 200 can include, but is not limited to meatballs, spaghetti, tofu or other food stuffs.

[0072] While preferred embodiments have been shown and described, modifications thereof can be made by one skilled in the art without departing from the scope or teaching herein. The embodiments described herein are exemplary only and are not limiting. Many variations and modifications of the system and apparatus are possible and will become apparent to those skilled in the art once the above disclosure is fully appreciated. For example, the relative dimensions of various parts, the materials from which the various parts are made, and other parameters can be varied. Furthermore, though the openings in the plate carriers are shown as circles, they may include other shapes such as ovals or squares. Accordingly, it is intended that the following claims be interpreted to embrace all such variations and modifications.

I claim:

1. A plate spacing microwaveable ring comprising;
a ring
said ring further comprising;
a first circular cutout with a rim parallel to the ring axis such that the cutout will allow a first plate rim to fit into said ring and prevent said first plate rim from substantially shifting;
a second circular cutout on the opposite side of said ring with rims parallel to the ring axis of a diameter such that a second plate will fit into that cutout without substantially shifting; wherein
said first plate and said second plate and said ring form a cavity between the plates when fit into said first circular cutout and said second circular cutout such that food can be placed into said cavity.

2. The plate spacing microwaveable ring of claim 1 further comprising;
a first sealing gasket fit onto said first circular cutout such that said first sealing gasket seals said first plate and said first circular cutout.

3. The plate spacing microwaveable ring of claim 1 further comprising;
a second sealing gasket fit onto said second circular cutout such that said second sealing gasket seals said second plate and said second circular cutout.

4. The plate spacing microwaveable ring of claim 1 further comprising;
a third circular cutout with a rim parallel to the ring axis such that said third circular cutout will allow a first plate rim to fit into said ring and prevent said first plate from substantially shifting.

5. The plate spacing microwaveable ring of claim 1 further comprising;
a fourth circular cutout with a rim parallel to the ring axis such that said fourth circular cutout will allow a second plate rim to fit into said ring and prevent said second plate from substantially shifting.

6. The plate spacing microwaveable ring of claim 1 further comprising;
said plate spacing microwaveable ring is constructed with tabs protruding from the outer diameter of said plate spacing microwaveable ring.

7. The plate spacing microwaveable ring claim 1 further comprising:
said plate spacing microwaveable ring is comprised from plastic,
said plate spacing microwaveable ring is further comprised with locks protruding from the underside of said plate spacing microwaveable ring that can grip said second plate rim of said second plate.

8. The plate spacing microwaveable ring claim 1 further comprising:

clamps on the exterior edge of said ring for securing said first and said second plates to said ring.

9. A plate spacing microwaveable ring comprising;

a ring with an exterior edge;

said ring further comprising;

a first circular cutout with a rim parallel to the ring axis such that the cutout will allow a first plate rim to fit into said ring and prevent said first plate rim from substantially shifting;

a second circular cutout on the opposite side of said ring with rims parallel to the ring axis of a diameter such that a second plate will fit into that cutout without substantially shifting;

clamps on the exterior edge of said ring; wherein

said first plate and said second plate produce a cavity between the plates when fit into said first circular cutout and said second circular cutout such that food can be placed into said cavity and said clamps secure said first and said second plates to said ring.

10. The plate spacing microwaveable ring of claim **9** further comprising;

a first sealing gasket fit onto said first circular cutout such that said first sealing gasket seals said first plate and said first circular cutout.

11. The plate spacing microwaveable ring of claim **9** further comprising;

a second sealing gasket fit onto said second circular cutout such that said second sealing gasket seals said second plate and said second circular cutout.

12. The plate spacing microwaveable ring of claim **9** further comprising;

a third circular cutout with a rim parallel to the ring axis such that said third circular cutout will allow a first plate rim to fit into said ring and prevent said first plate from substantially shifting.

13. The plate spacing microwaveable ring of claim **9** further comprising;

a fourth circular cutout with a rim parallel to the ring axis such that said fourth circular cutout will allow a second plate rim to fit into said ring and prevent said second plate from substantially shifting.

14. The plate spacing microwaveable ring of claim **9** further comprising; said plate spacing microwaveable ring is constructed with tabs protruding from the outer diameter of said plate spacing microwaveable ring.

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