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(56) Related Art
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ABSTRACT with Fig 1

A barbeque 10 having a mounting plate 11 which may be screwed vertically to a post or wall so that the plate 11 is vertical. This has suspenders 12 and 13 in the form of ropes or stainless steel cables and a hinge 14 mounted to a lower side of the plate 11 so that the barbeque firebox assembly 15 may be lifted up into a folded position secured against the plate 11. Removable shelving 16, 17 is fitted to firebox 18 with shelf 16 having a drink holder 19 so that the shelves 16 and 17 and the drink holder may be used while cooking. The firebox 18 is part of the firebox assembly 15 and has a vent or ash opening 20 which is located below a charcoal grill support including projecting baffles. The opening 20 is protected against falling ash by a baffle in the form of a projecting plate section 21 while opposite this is a plate section or sector 22 which serves to capture ash when the firebox 18 is rotated to the folded up position against the plate 11. The barbecue may be reconfigured for slow cooking using a charcoal ring integral with and located on the outside of a circular water pan and optionally a heat deflector ring may be located on top of the charcoal ring. A non-endless charcoal ring may be formed and the barbecue may be configured to cook pizzas, slow cooked meats as well as grilling.

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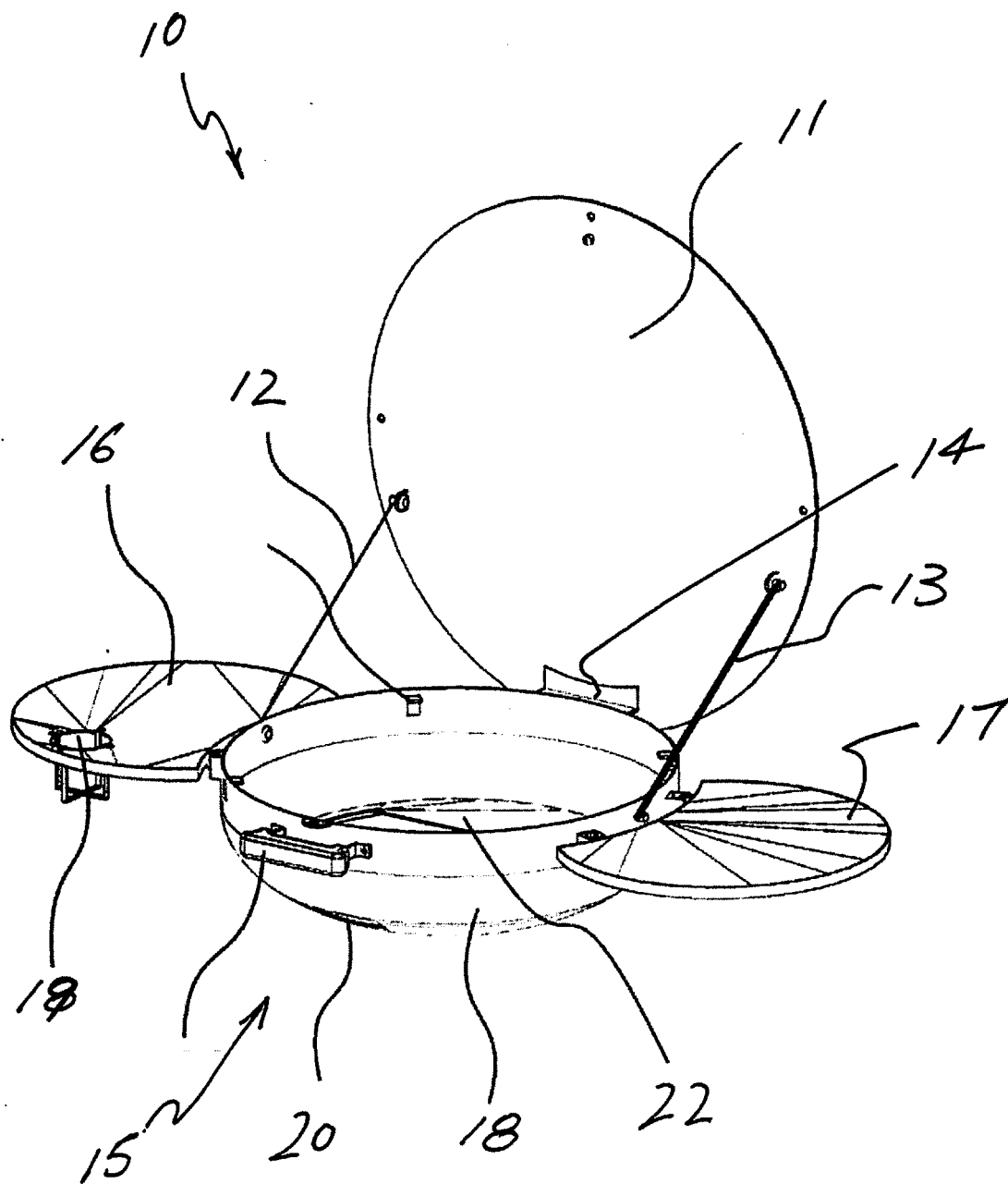


FIG. 1

Improvements in or in relation to food preparation

TECHNICAL FIELD

[0001] This invention relates to food preparation and in particular but not limited to a reconfigurable food preparation device that can optionally be configured to be used as a BBQ, a smoker, cooking with a rotisserie or as a pizza oven all in one machine.

BACKGROUND

[0002] The following background discussion is based on the Applicant's knowledge and is not to be taken as any admission as to the common general knowledge in Australia or anywhere.

[0003] In this specification any use of words such as "comprising", "consisting", "including", "having" or the like should be construed as non-limiting and in the non-exhaustive sense and not as in for example "comprising only of" but rather meaning "comprising at least".

[0004] BBQ smokers may have a firebox on the side that cooks meat slowly on low heat, these smokers have been popular in the Southern states of the US, like Texas, Carolina, Memphis, etc., and due to the influence of various TV cooking shows they are becoming popular in the rest of the world.

[0005] Using various methods via a low and slow cooking technique, tender juicy meats are cooked over low heat for up to 15 hours depending on meat size and by adding some wood the cooked meat has a nice smoky taste.

[0006] There different types of smokers. These can be electric, gas, charcoal, some use pellets (small shavings of wood pressed into shape and held together with glue into a shape of bottle cork) and wood. Some consider that the best results are obtained when the meats is cooked using wood or charcoal.

[0007] An object of the present patent application is to provide improvements in or in relation to food preparation as herein described.

OUTLINE

[0008] Applicant has devised a number of improvements in or in relation to food preparation which improvements may be used individually or in combination noting that in a particularly preferred form the invention comprises a multifunctional and reconfigurable device for meat preparation. The improvements are presented below separately and in combination with Applicant reserving its right to divide or claim these individually or in any novel combination.

[0009] In one improvement there is provided a fold down cooker having a mount and a firebox assembly, the firebox assembly being folded onto the mount for storage and unfolded for use. It is usual the operative parts of the cooker be horizontal during use in the folded down position, accordingly unless specified otherwise, in the following description, the cooker will be described in its folded down position.

[0010] Preferably, there is an ash retainer or protection part to hold ash and prevent or inhibit spillage of ash when the assembly is stored. Typically, a rearward flange projecting into the firebox holds ash when the firebox is stored. In one preferred aspect the firebox is suspended by one or more suspenders which may be any of, for example flexible ropes, wires, cables, chains or the like. Typically, the firebox is hinged to the mount opposite a connection of the suspenders to the firebox.

[0011] Preferably, the firebox is detachable for cleaning. Typically, where suspenders are employed these may be unhitched so that the firebox may be lowered further for cleaning via a main front opening of the firebox.

[0012] In another improvement there is provided a firebox having a fuel holder suited to slow and/or smoker cooking. The fuel holder typically comprises a surround which may be a ring used to hold charcoal or may be used as a water pan depending on the type of cooking required. Charcoal may therefore be stacked around the sides for slow cooking. The surround is typically annular. In a preferred form the fuel holder comprises a water container or pan and surrounding the dish is a section for fuel. The fuel holder is preferably an integrated pan with an annular surround. The annular surround typically is not an endless ring but has dividers to separate sections of the fuel. Preferably, there are two closely spaced fuel dividers used to keep opposite ends of the fuel apart.

[0013] In another improvement there is provided a firebox with an associated heat reflector. The heat reflector is preferably positioned atop the fuel holder. The heat reflector is preferably an outwardly and upwardly inclined annular ring. The ring typically has a peripheral edge spaced from an inner wall of the firebox. The ring typically overlays and is spaced above the fuel holder.

[0014] In a preferred form there is provided a multifunctional BBQ, pizza oven, smoker and rotisserie having a cooking chamber or BBQ bowl with wooden handle, mounting/backing charcoal plate, charcoal/ash flange, charcoal/water pan, heat deflector, steel racks, charcoal grill and cooking grill, lid with handle, and two shelves.

[0015] In terms of layout there is typically an inward horizontal flange running around the inside of the firebox. A circular charcoal grill for holding charcoal sits on top of this grill. There are then circumferentially brackets to hold a cooking grill. Preferably, the

flange has integral with it, a horizontal projecting baffles or plate which captures ash when the firebox is folded up. In this embodiment the firebox has a vent which also can function as an ash outlet for cleaning, the vent being opposite the hinge and being covered by a vent baffle plate.

[0016] Typically, the baffles comprise an ash flange which is fixed (welded) horizontally below the position of the charcoal grill. Below the ash flange there is an opening on the firebox for cleaning out the ashes, above the opening, the ash flange width has been increased to prevent ashes from falling out during grilling.

[0017] The charcoal grill is preferably made of carbon steel and rests on top of the ash flange.

[0018] A charcoal/water pan is typically used during smoking of meats and sits on the charcoal grill, the heat deflector sits inside/on top of the charcoal/water pan.

[0019] The cooking chamber or firebox is typically a solid, carbon steel structure with four carbon steel brackets about 20mm below its upper edge for the cooking grill to rest on. There is preferably a wooden handle above the ash emptying hole/opening.

[0020] The ash flange is preferably set below the charcoal grill at the bottom of the cooking chamber and consists of the ash-holding chamber at the back of the BBQ towards the mounting plate and the ash protection part at the front above the ash emptying hole to prevent ashes from falling out during cooking.

[0021] In one preferred embodiment there is provided a multifunctional barbecue stove which is characterised in that a cooking grill sits on top of an ash flange and the cooking grill sits on top of the brackets and has lifting handles.

[0022] In another preferred embodiment there is provided a multifunctional barbecue which is characterised in that two sides of a grill are provided with a shelving board and the two sides of the barbecue are vertically equipped with slots, and the corresponding slots on the plate are fixed convex vertically.

[0023] In another preferred embodiment there is provided a barbecue oven which is characterised in that a shelving board is provided with a drink holding hole, which is provided with a support basket underneath, wherein the support basket comprises two cross support bars, and the ends of the supporting bars are bent upwards to be fastened to an orifice of the drink holding hole.

[0024] In a still further another preferred embodiment there is provided a multifunctional barbecue which is characterized in that a charcoal/water pan is also included, and the charcoal/water pan is arranged in a firebox cavity and there is a space between an outer wall of the water pan and an inner wall of the firebox for stacking the charcoal for low and slow cooking, and a lateral wall of the water pan is provided with two isolation plates vertically, and two spacers are used to separate charcoal preventing it from burning simultaneously as might thus cause reducing cooking time and increasing temperature when the aim is low and slow.

[0025] In still further preferred embodiment there is provided a multifunctional barbecue which is characterised in that it also includes a heat insulating board or heat deflector, which is a ring structure, the heat deflector being positioned above a charcoal/water pan being an , and an inner circle of the annular structure is provided with a butt barrel, and the butt cylinder is connected) with the (fits inside the upper end of the charcoal/water pan.

[0026] In a still further aspect there is provided a multifunctional barbecue characterized in that it also includes a upper section acting as a mounting plate welded

to the upper part of a firebox, the upper mounting plate is fixed with a stainless steel cord, the free end of the cord is provided with a hook, and a hanging ring corresponding to the hook is arranged on the outer side wall of the firebox.

[0027] In a still further aspect there is provided a multifunctional barbecue characterized in that the side wall of the firebox is permanently fixed with a fixed mounting plate, and the fixed plate side end face and the upper part of the firebox are inclined with a support bar allowing it to move to the folded position.

[0028] Preferably there is a cooker which comprises a firebox, ash isolation flange or plate, a charcoal grill, a cooking grill and upper cover, the isolation plate or ash flange is set level in the firebox and is lower in the firebox such that the isolation plate divides the firebox into an upper side barbecue space and on the other side is an ash space, the barbecue space provides normal use as a barbeque. Ashes from the barbecue are stored temporarily due to the ash flange. One side of the isolation plate is provided with a wider side above an ash outlet hole to prevent ashes from falling out during cooking, and the ashes generated on the charcoal grill can be emptied via the ash emptying hole.

[0029] When use of the barbecue is completed, ashes are stored in the opposite side of the ash plate, the ashes will be captured behind the plate when the BBQ is closed against a mount.

[0030] Ash that would otherwise fall on top of a vent/ash outlet is blocked with a ash-retaining bulge in the ash plate for the barbecue so that when ashes on the charcoal grill are blocked so they do not go straight down through the ash mouth and discharge from the ash outlet.

[0031] The charcoal grill and the cooking grill 4 are all of circular structure, and the charcoal grill is arranged in the firebox above the isolation plate or ash flange.

[0032] There is also a cover or lid corresponding to the upper port of the firebox, the cover may be fixed with a lanyard, the free end of the lanyard is provided with a hook, the outer wall of the firebox is provided with a hanging ring corresponding to the hook, and the upper lid can be hung on the firebox by the hook to prevent the upper cover from being placed on the ground.

[0033] The side wall of the firebox is fixed on a fixed mounting plate, the fixed mounting plate has a side end and the upper mouth of the firebox are supported in its operative position with an inclined suspender cable (there being two in this case), the mounting plate is fixed on a wall (not shown), and the cables support the fixing plate to the firebox. The inner wall of the firebox at the top of the charcoal grill is provided with a plurality of supporting parts are arranged in the same plane in the firebox, a grill is placed on the supports, a lifting ring is arranged on the grill, charcoal is placed on the carbon charcoal grill, and the food material is placed on the cooking grill, and the grill can be moved by the replacement of the grill. The cooking grill is set above charcoal grill in the firebox. An ash mouth may be in a side of the firebox in a lateral wall adjacent a handle, after the barbecue, a user may lift the handle to move the barbeque to storage against mounting plate and the ashes move to the opposite side of the ash mouth and are held behind the ash plate.

[0034] The cooking on both sides is typically level with the side boards or shelves on both sides which are set up using vertical set up slots, the use of boards on the corresponding slotted vertical fixings makes it easy to use the boards quickly fixed on the firebox side wall, at the same time easy to remove from the side wall of the firebox.

[0035] Preferably at least one of the shelving boards is provided with a drink holder which is provided with a support basket, and the support basket comprises two cross support strips, and the ends of the support strips are bent upwards to be fixed at an opening of the drink holder. A user may place food on the boards and place a bottle in the holder.

[0036] To open the barbeque a user may remove a safety pin from a spigot projecting from the mounting through a hole in the rim of the firebox that holds it safely locked and the user may then lower it down to the horizontal position where it's held by the two stainless steel ropes securely in position for use.

[0037] To do BBQ grilling a user may simply add charcoal on the charcoal grill and light it up; when charcoal is glowing place the meat on the cooking grill above the charcoal and cook till ready.

[0038] The two removable shelves can be used to store meat and food on them. When cooking is finished a user may shut the firebox without the need to remove the ashes because the wide part of the ash flange holds the ashes from falling out.

[0039] To smoke meat it is more complicated; a user uses a charcoal ring/water pan on top of the charcoal grill and optionally a heat deflector on the charcoal ring. The user may place the charcoal /water pan on the charcoal grill and build a line of charcoal between the outer wall of the charcoal ring/water pan and the inner wall of the BBQ firebox. This line of charcoal is called "charcoal snake" in the BBQ world because fire starts on one end and slowly burns towards the other end lasting for up to 15 hours without the need for re-fuelling.

[0040] Two flaps on the ends of the charcoal ring separate the ends of the charcoal snake preventing the fire from burning simultaneously on both sides, prolonging

cooking long time. The inside part of the charcoal ring acts as a water pan; water is added to create steam with the heat and keep the meat moist while cooking.

[0041] The charcoal ring helps provide low heat at long burning time; up to 15 hours of low and slow without the need to add more charcoal; other BBQ smokers need to add charcoal, but in doing so they need to open the BBQ and lose heat disturbing the cooking process.

[0042] Adding a few pieces of wood like apple or cherry spaced out in intervals helps create smoke that will add that nice smoky flavour to the meat.

[0043] A heat deflector may be used above the charcoal ring. The heat reflector guides the heat to the edge of the firebox and prevents direct heat from cooking the meat too fast and at the same time it helps increase the cooking area, other smoker kits for round BBQ smokers do not have that advantage, they take 1/3 of the cooking area and often don't have protection against direct heat. The advantage of the removable heat reflector is that it can be removed if desired to apply more heat for say cooking pizzas or a quick smoking process like seafood etc. the heat reflector also helps guide the dripping fat and juices and prevents flames from burning fat to create too much heat and burn the meat.

[0044] When all is done, the meat is placed on the cooking grill and the lid is put on the firebox to keep the heat inside and cook the meat. The vent under the flange at the front of the firebox and the vent on top of the lid can be regulated (adjusted) to control the air flow and the heat, more open, more heat.

[0045] Below the charcoal grill there is a flange that has a wide end at the back; this helps to stop the ashes from falling out when the firebox is closed; it also protects the ashes from falling out through the vent which is below the flange at the front of the

firebox.

[0046] The two shelves on the side of the fir bowl help store food on them; they can be placed on when need and remove when not needed. There is a beer bottle holder on the left shelve to allow the cook to enjoy a cold beer while cooking.

[0047] For pizza cooking one may remove the heat reflector for more direct heat and light up both ends of the charcoal snake to give more heat; the pizza is placed on the cooking grill and the lid is put on to seal the heat. Wood pieces placed on top of the burning charcoal help give the pizza that wood fire pizza kind of taste. Succulent spit roasted meats can be cooked by adding a rotisserie set comprising of the base with the two ends for securing the rotisserie motor on one end and the rotisserie skewer handle on the other.

[0048] When cooking it is complete the charcoal grill can be removed to push hot ashes to the bottom of the firebox, the charcoal grill is placed back in position and the firebox can be securely closed and locked in position without losing any ashes because they are held by the large end of the flange at the back of the firebox. By closing the firebox one can have more space for friends and visitors that come to visit.

[0049] When ashes have cooled down a user can open the firebox, undo the safety pins that attach the stainless steel ropes and lower the firebox so the ashes can be swept out through the vent at the front of the firebox. Then we can close it back safely. The barbeque is especially suited to any situation, especially where space is a bit restricted, like apartment balconies, small yards, townhouses etc.

BRIEF DESCRIPTION OF THE DRAWINGS

[0050] In order that the present invention may be more readily understood and be put in practical effect reference will now be made to the accompanying drawings. Which illustrate a preferred embodiment of the invention and wherein:-

Figure 1 is a drawing showing the firebox in its unfolded position but absent the respective grills, charcoal ring support and heat deflector;

Figure 2 is a view from below of the embodiment of Figure 1;

Figure 3 is another embodiment illustrated from further above;

Figure 4 is a section through a typical firebox suitable for use in the present invention;

Figure 5 is a drawing illustrating a charcoal ring located inside the first box;

Figure 6 is a drawing illustrating a heat reflector fitted on top of a fuel holder/water pan and suitable for use in the embodiment of Figures 1,2 and 3;

Figure 7 is a top view of a top view of a typical charcoal flange plate showing respective baffles;

Figure 8 is a typical cooking grill suitable for use in the embodiment of Figures 1,2 and 3;

Figure 9 is a typical charcoal grill;

Figure 10 is a typical lid;

Figure 11 is the lid of figure 10 shown from above.

[0051] Referring to the drawings and initially to Figures 1, 2 and 3 there is illustrated a barbeque 10 having a mounting plate 11 which may be screwed vertically to a post or wall so that the plate 11 is vertical. This has suspenders 12 and 13 in the form of ropes or stainless steel cables and a hinge 14 mounted to a lower side of the plate 11 so that the barbeque firebox assembly 15 may be lifted up into a folded position secured against the plate 11. In Figures 1 through 3 the firebox is shown in its operative horizontal position.

[0052] Removable shelving 16, 17 is fitted to firebox 18 with shelf 16 having a drink holder 19 so that the shelves 16 and 17 and the drink holder may be used while cooking. The firebox 18 is part of the firebox assembly 15 and has a vent or ash opening 20 which is located below a charcoal grill support including projecting baffles. The opening 20 is protected against falling ash by a baffle in the form of a projecting plate section 21 (more clearly shown in Figure 7) while opposite this is a plate section or sector 22 which serves to capture ash when the firebox 18 is rotated to the folded up position against the plate 11. The plate sections 21 and 22 serve as baffles to block ash from moving to undesirable positions at different stages of the operation of the cooker of Figures 1 through 3. The plate baffle sections 21 and 22 are separated by an opening 23 and along with flange sections 24 and 25 serve as a mounting plate within the firebox for a charcoal grill 26 shown in Figure 9.

[0053] The firebox assembly 18 has four cooking grill mounting brackets 27, 28, 29 and 30 so that the cooking grill of Figure 8 may be located above the charcoal grill for cooking and grilling purposes. Thus in one cooking mode charcoal may be placed all over the surface of the charcoal grill and food may be cooked over the entirety of the cooking grill in this mode.

[0054] Other features illustrated in Figures 1 through 3 include the handle 31, a tab 32 having a hole 33 so that when the firebox assembly 18 is rotated up against plate 11, a spigot 34 passes through the hole 33 and a securing pin may be used to secure the firebox assembly in its folded up position.

[0055] Other modes of operation require other setups. The following description will be in relation to the use of adaptors for reconfiguring the barbecue of slow cooking or cooking pizza and this will be described in relation to the following drawings.

[0056] Referring now to Figures 5 and 6 there is a illustrated implementation of a charcoal ring shown schematically at 35, the charcoal ring is integral with and located on the outside of a circular water pan 36 and optionally a heat deflector ring 37 may be located on top of the charcoal in position illustrated in Figure 5. An annular inclined deflector part 38 deflects heat in the direction of arrows 39 outwardly in the firebox while as a further option water may be located in the interior 40 to add a steaming effect. The flanges 41 and 42 break up the charcoal so that there isn't a continuous burn ring of charcoal within the firebox. This means one end of the charcoal may be lit. The top edge 43 located below the cooking grill.

[0057] In order to impart a smoky flavour to food hickory or other similar flavoured smoking timber may be located at circumferentially around and above the charcoal as this smoulder and smokes the effect of smoking will be readily apparent.

[0058] Other cooking modes are available where for example the heat deflector may be removed and a pizza cooked on the cooking grill with both ends of the charcoal lit.

[0059] Figures 10 and 11 illustrated lid 43 having a top 44 and a rim 45 which fits continuously with the peripheral rim of the firebox a hook 46 may be used to hang the lid on the firebox or elsewhere while the lid is not being used.

[0060] Whilst the above has been given by way of illustrative example many variations and modifications will be apparent to those skilled in the art without departing from the broad ambit and scope of the invention as herein set out in the appended claims. For example other modes of operation by adjusting different cooking variables as might be experimented with will be within the scope of the invention

CLAIMS

1. An outdoor cooker having a firebox assembly adapted to use solid fuels, the assembly having a fuel holder, water pan and heat reflector suited to slow and/or smoker cooking, the fuel holder comprises a surround, the water pan being adjacent and inside the surround defining a cooking area above the water pan and the heat reflector being adapted to reflect heat outwardly of the surround and away from the cooking area, there further being a mount and the cooker being a fold down cooker such that it may be positioned onto the mount for storage and unfolded for use and having an ash retainer or protection part to hold ash and prevent or inhibit spillage of ash when the assembly is stored.
2. An outdoor cooker according to claim 1, wherein the heat reflector comprises an outwardly and upwardly inclined annular ring.
3. An outdoor cooker according to claim 1 or claim 2 being a, wherein the heat deflector is positioned atop the fuel holder.
4. An outdoor cooker according to any one of the preceding claims wherein the heat deflector is positioned atop the fuel holder, the fuel holder having spacers so that ends of a charcoal ring may be separated.
5. An outdoor cooker according to claim 1 having a rearward flange projecting into the firebox which holds ash when the firebox is stored.
6. An outdoor cooker according to claim 1 or claim 5 wherein the firebox is suspended by one or more suspenders when unfolded for use.
7. An outdoor cooker according to any one of claims 1 to 6 wherein the firebox is hinged to the mount opposite a connection of suspenders to the firebox.

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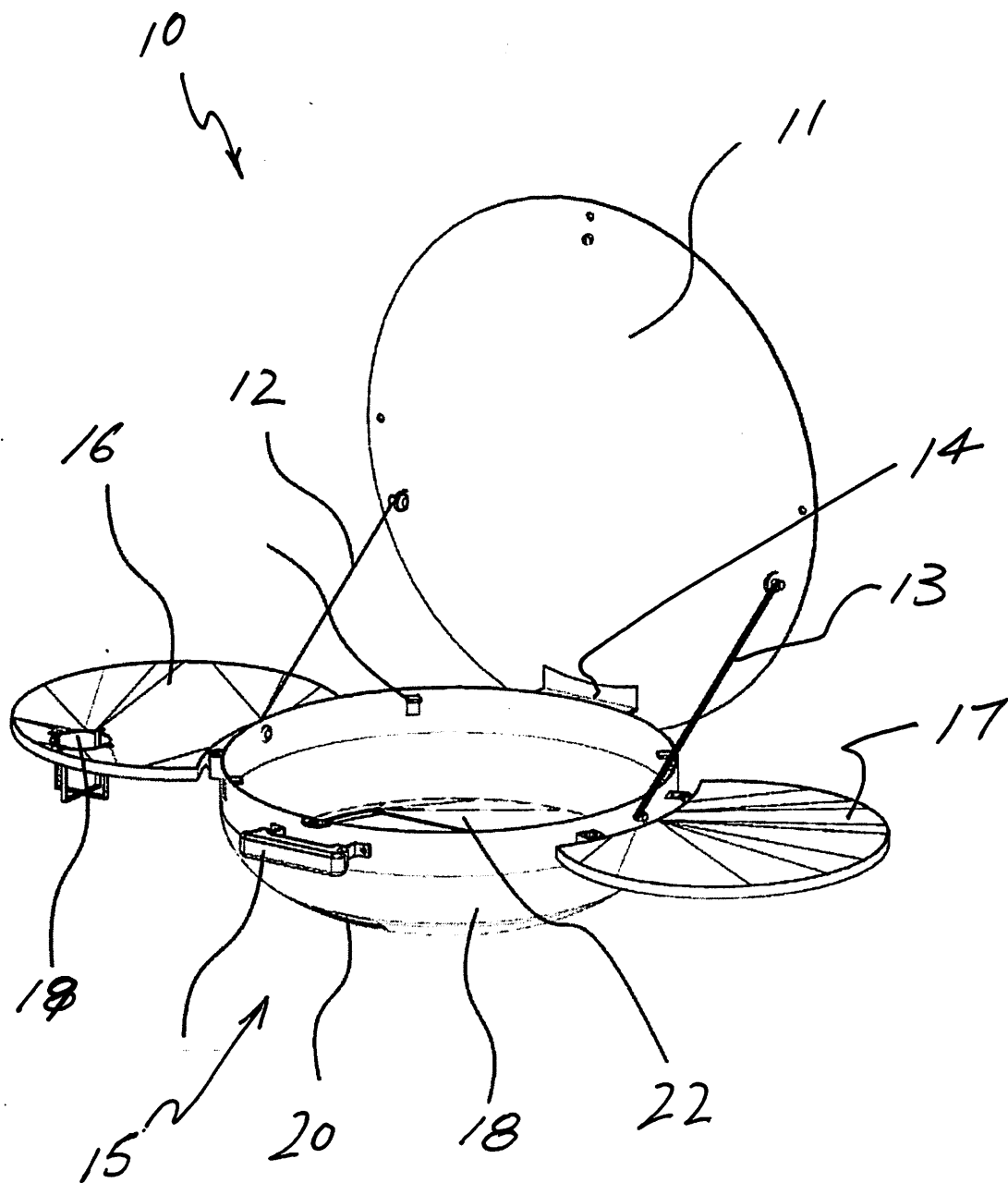


FIG. 1

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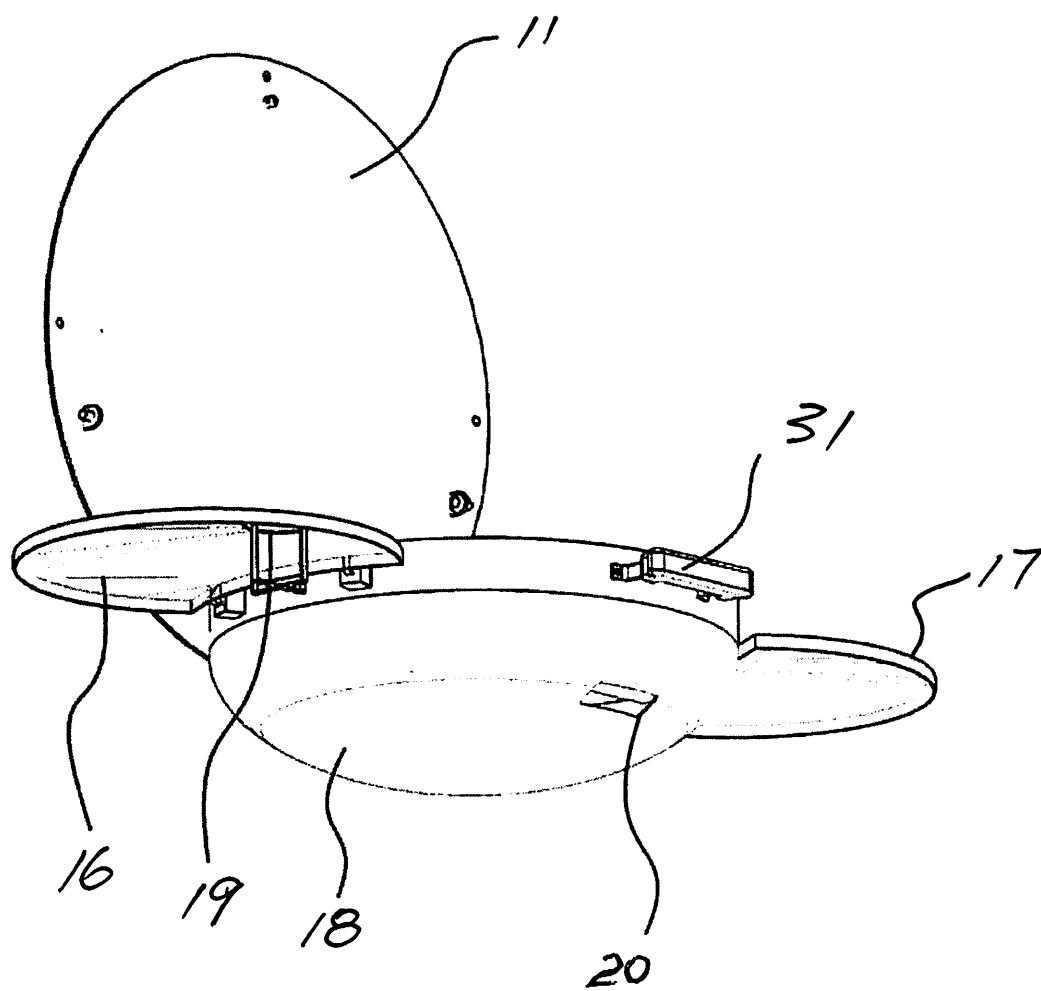


FIG. 2

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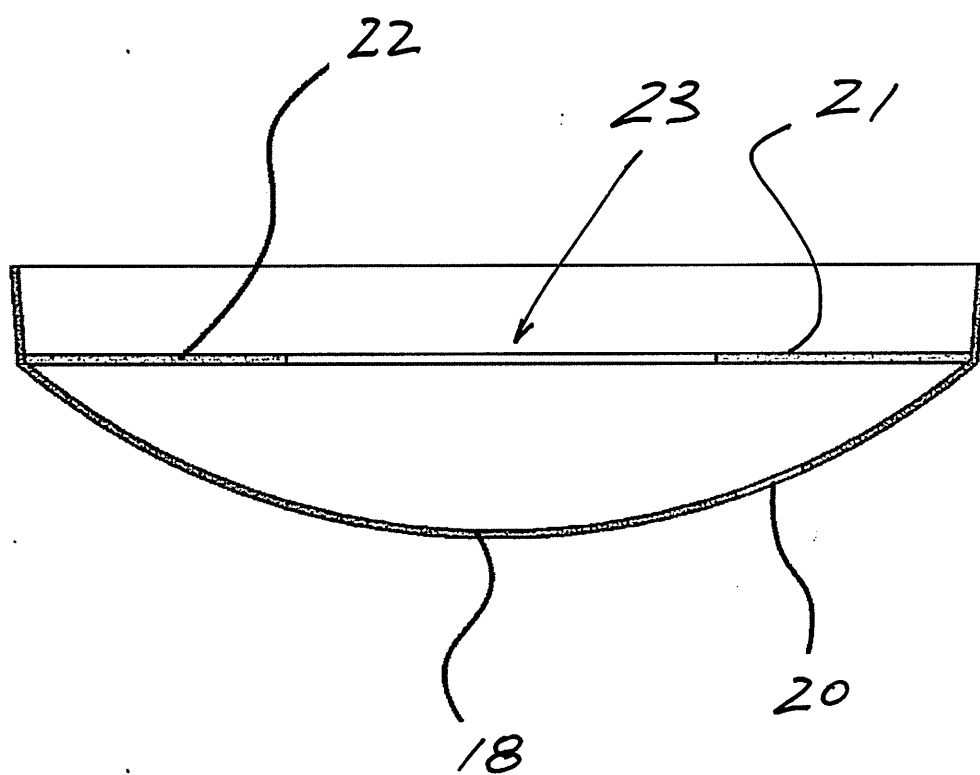


FIG. 4

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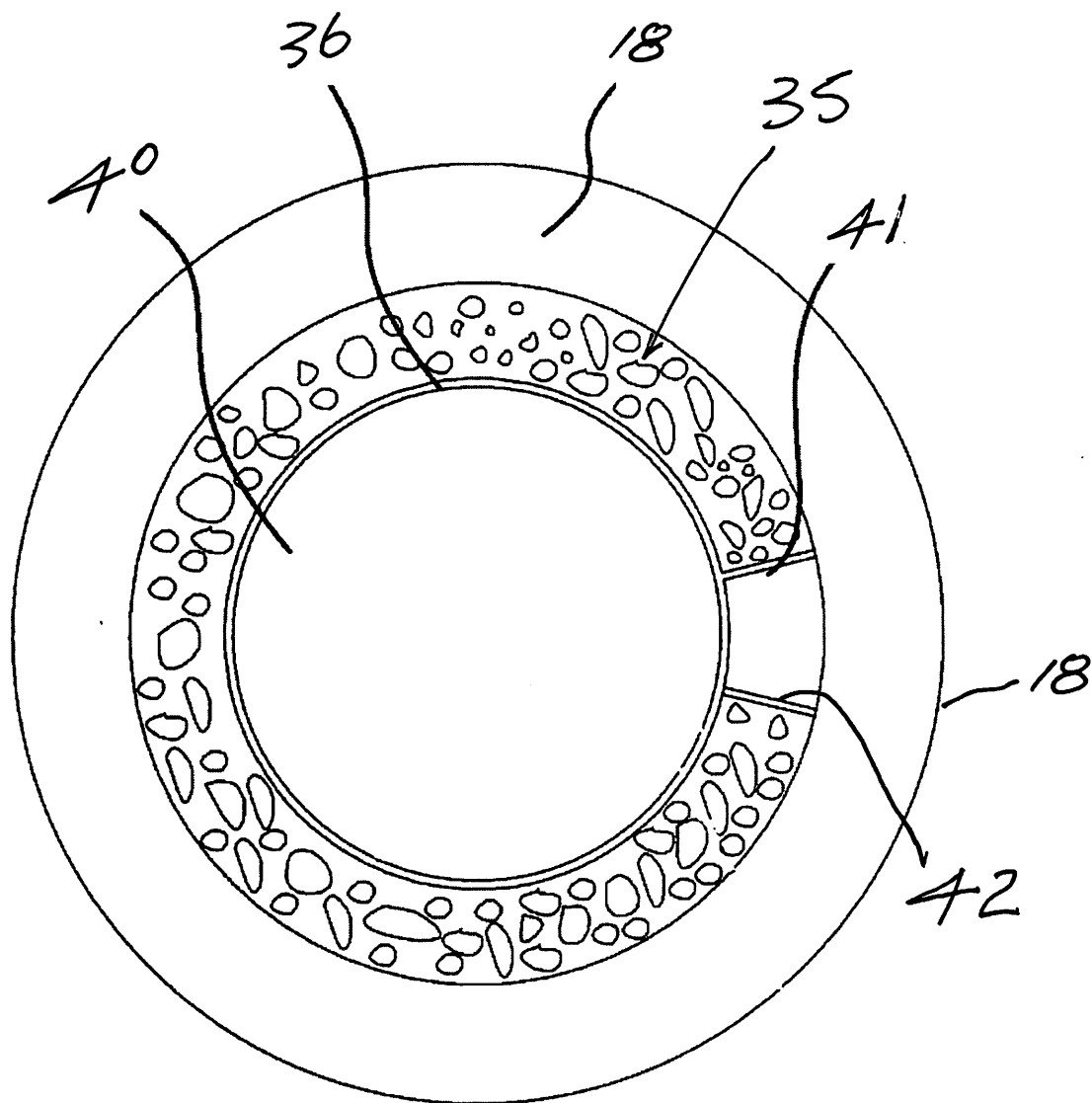
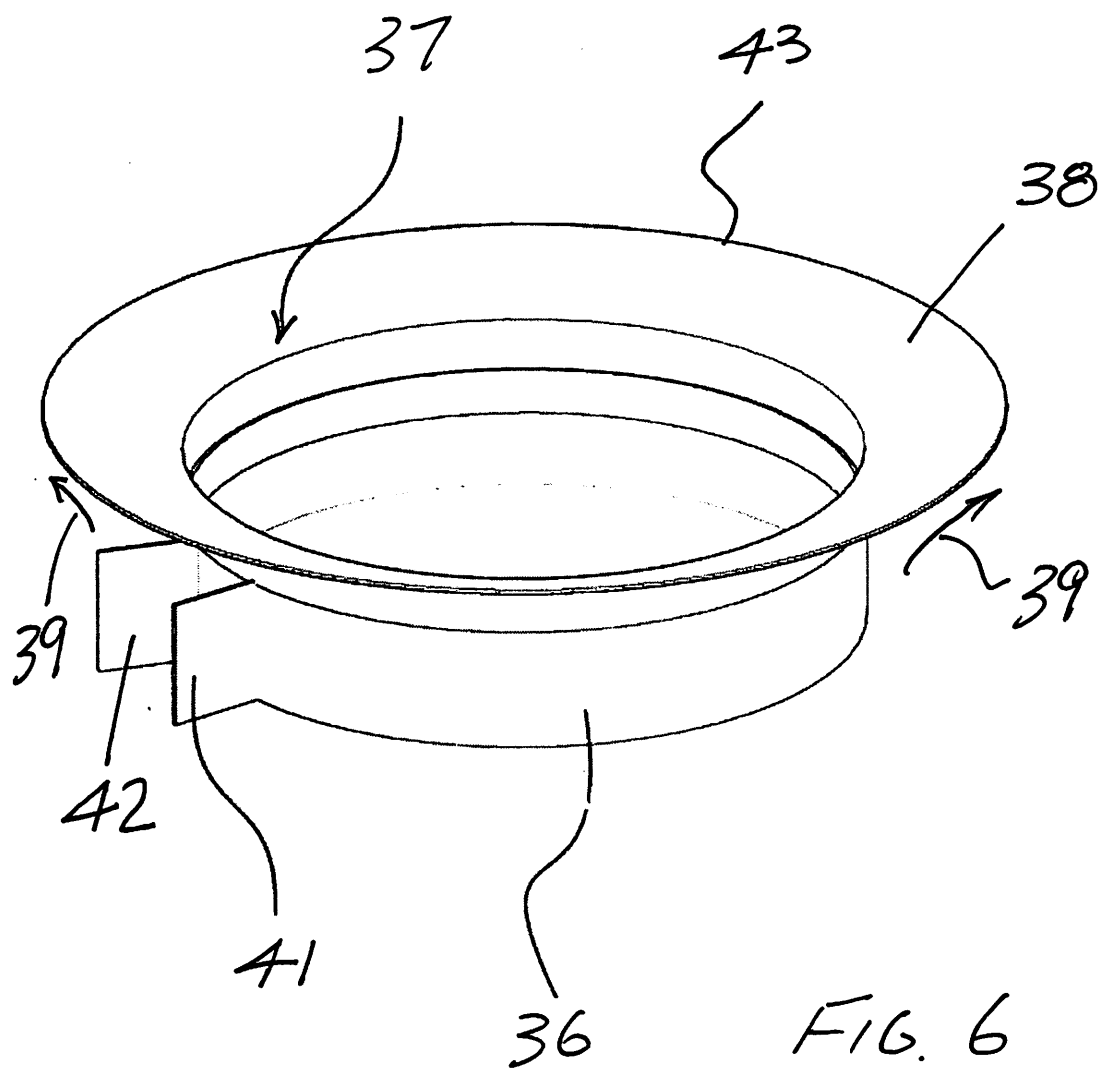


FIG. 5

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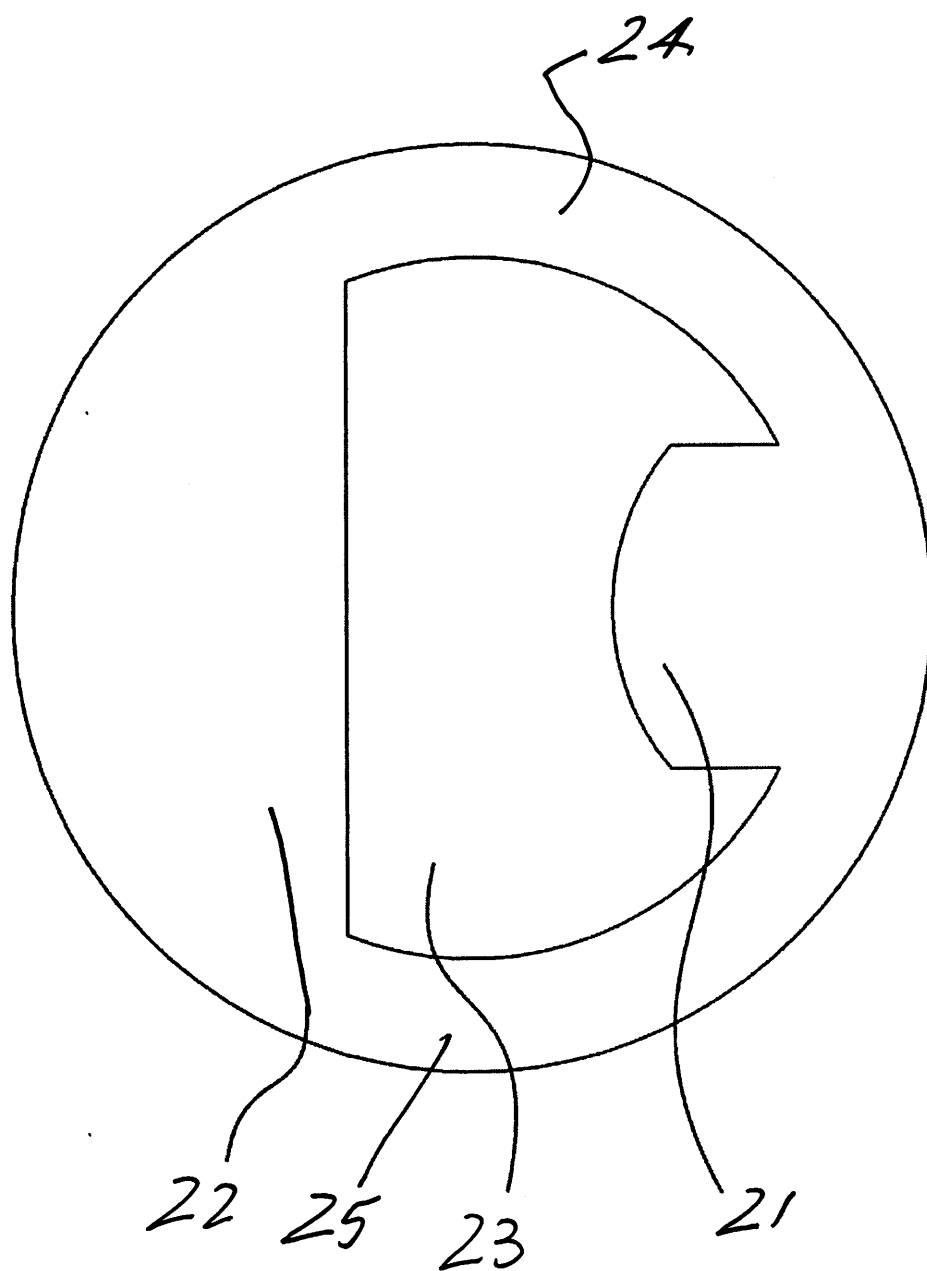


FIG. 7

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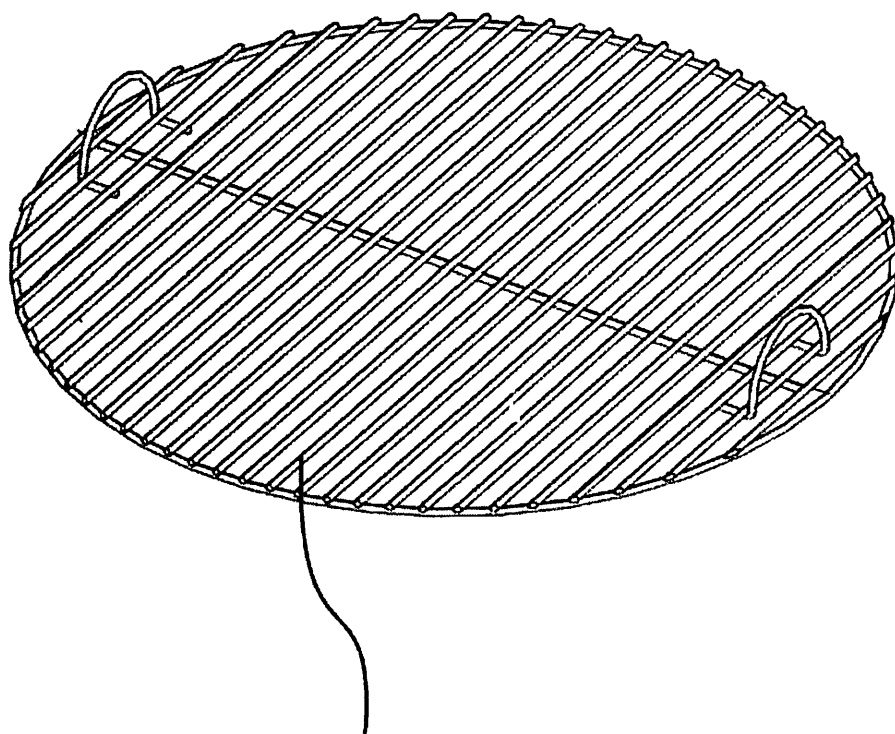
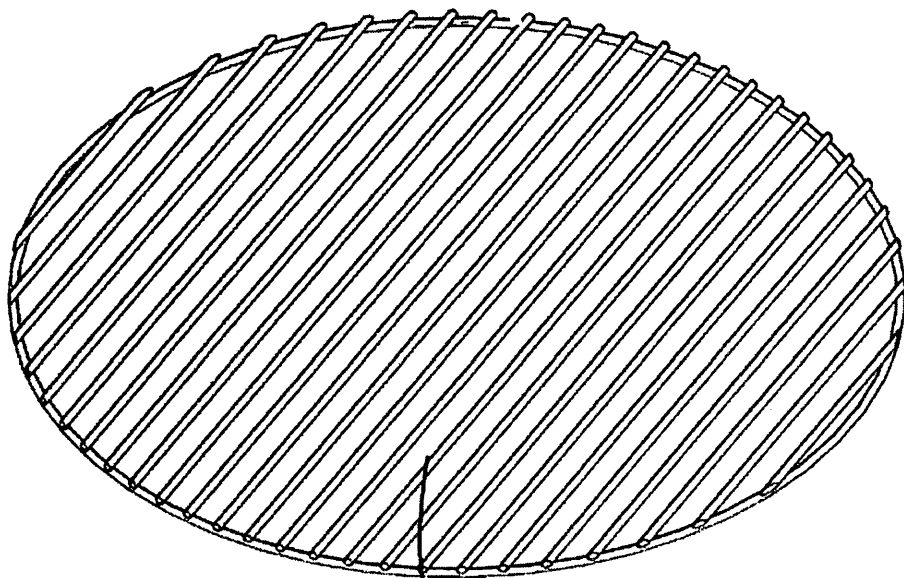


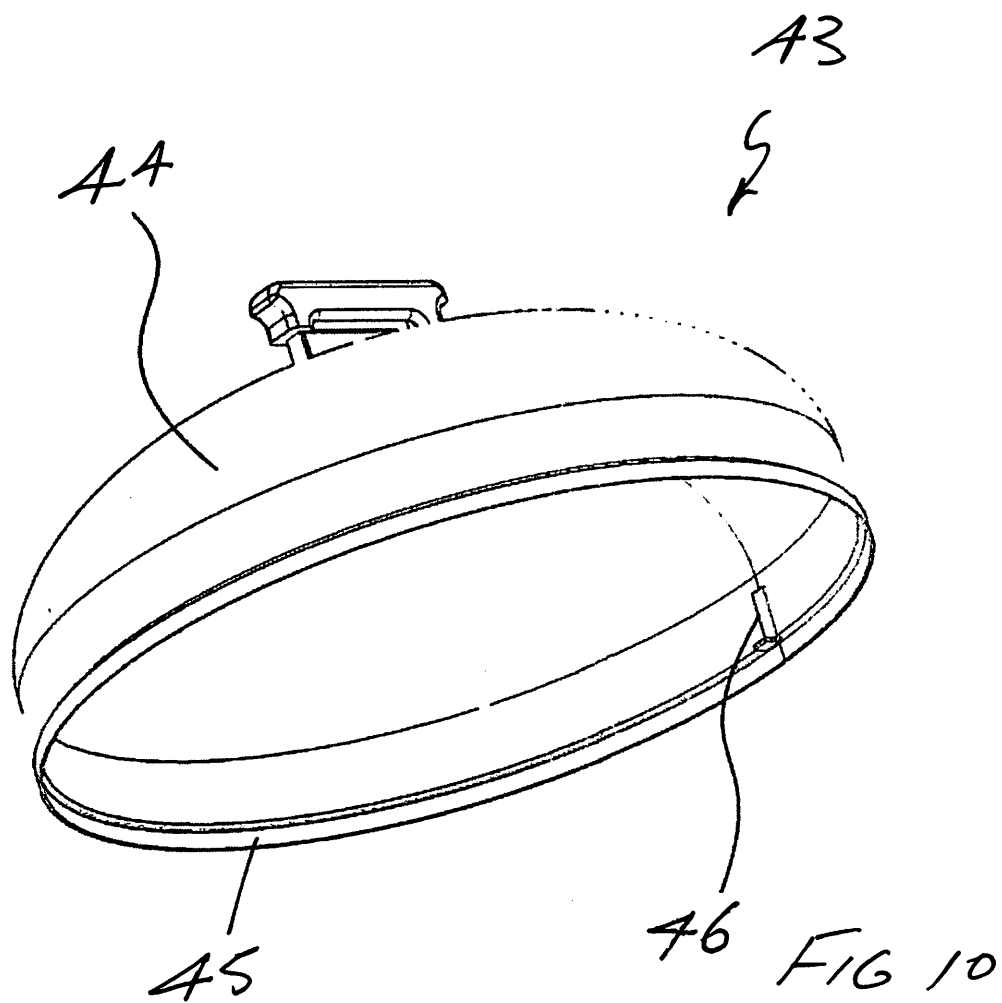
FIG 8

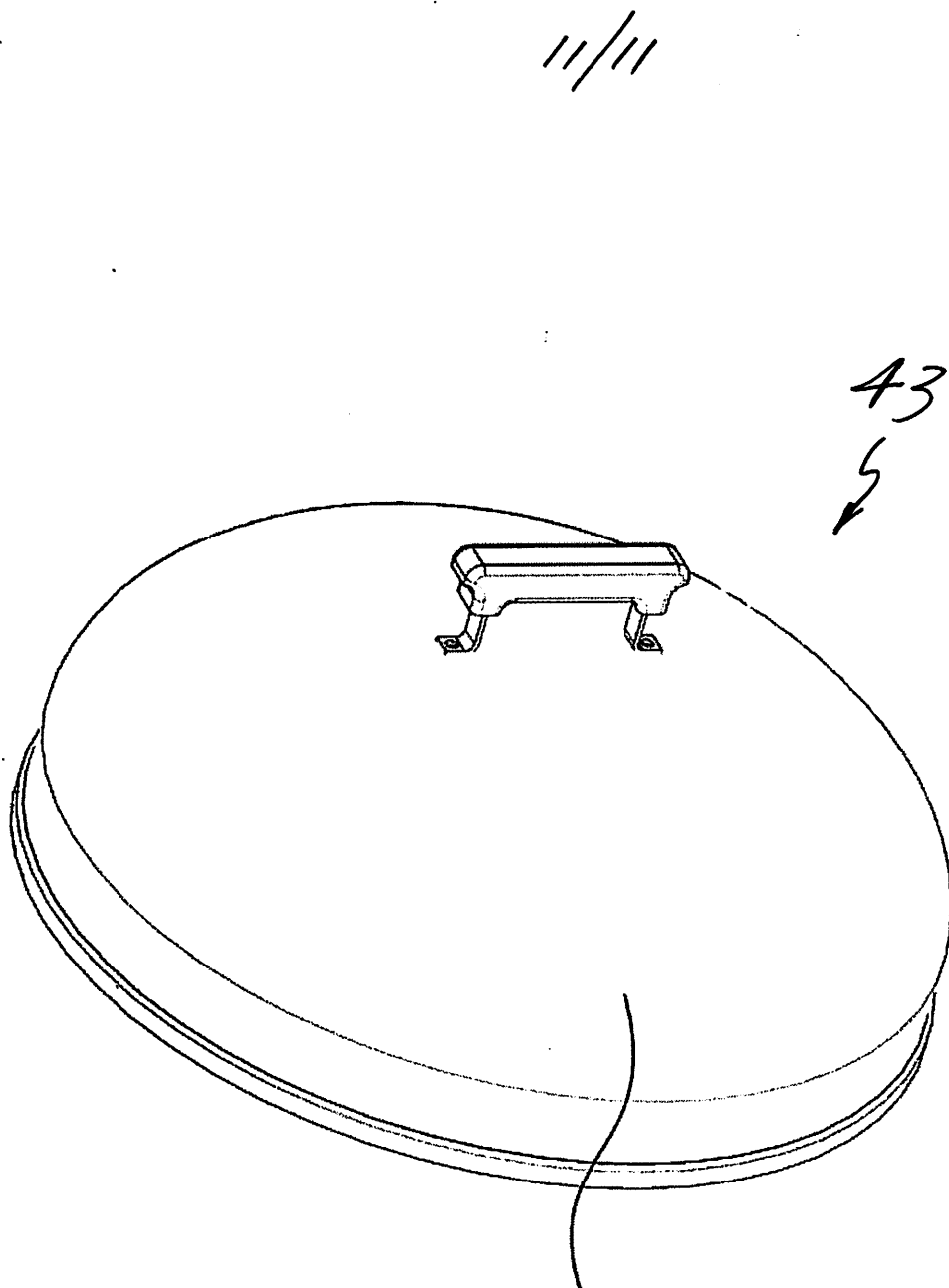
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26 FIG. 9

10/11





44 FIG. 11