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BARBECUE OR COOKER

Barbecue or cooker

Description

5 The invention relates to a barbecue or cooker. For the sake of simplicity only a barbecue is discussed below, wherein it may in this instance be a table barbecue for positioning on a table or a standing barbecue for positioning on the ground or the like.

10 The barbecue comprises an outer shell which acts as a housing, a support shell arranged inside the outer shell and being distanced therefrom on all sides, a burner unit located inside the support shell, a barbecue grate and/or a container arranged above the burner unit for cooking and roasting and a gas supply device which generates a fluid flow towards or into the burner unit from below the support shell.

15

With regard to the prior art, reference may be made purely by way of example to EP 1 838 187 B1 and EP 2 785 227 B1. From this document, a wood charcoal barbecue is known, according to which the burner unit is in the form of a wood charcoal burner chamber.

20

For the known wood charcoal barbecue, it is significant that it has a wood charcoal burner chamber inside a housing, wherein the wood charcoal burner chamber is closed by a lid during operation. The lid may be self-contained or perforated. A stepped perforated configuration of the lid is also known. The wood charcoal burner chamber rests on an ignition shell and can be supplied with external air from below the ignition shell, whereby the ignition operation is promoted using an ignition paste and also the combustion of the wood charcoal.

25

In practice, extremely different embodiments of the wood charcoal burner chamber are known, in particular with differently configured walls. A perforation or slotting of the wall is intended to promote the thermal radiation in

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the direction towards the side and finally also in the direction towards the barbecue grate.

5 In practice, the known wood charcoal barbecue has been found to be advantageous. As long as the wood charcoal burner chamber is positioned securely there, that is to say in a non-tilting manner, in the housing, the barbecue provides a considerable degree of safety. It has also been found that using a suitable wood charcoal, for example, from the company LotusGrill GmbH, low-smoke operation of the barbecue is possible. The actual development of smoke
10 is consequently quite overwhelmingly dependent on the products being barbecued.

Recently, for example, in parks or public green spaces, barbecue prohibitions with respect to the use of wood charcoal have been increasingly issued. The
15 risk of fire, increasing pollution of the environment, and supposedly higher CO₂ emissions of a wood charcoal barbecue compared with an electric barbecue or gas barbecue are cited as reasons. Often picnic enthusiasts are confronted only at the location with the locally specific requirements or provisions and prohibitions, often in such a manner that the use of an otherwise
20 popular wood charcoal barbecue is not permitted. Generally, a barbecue with an alternative burning/heating medium is not available, for example, a gas barbecue or an electric barbecue. An electric barbecue can in any case hardly be considered, that is to say with no power connection or without a sufficiently powerful battery.

25 KR2015 0000117 A discloses a generic barbecue or cooker in which a wood charcoal burner unit can be replaced with a gas burner unit and vice versa. The document has not disclosed precisely how this should be carried out. Above all, technical safety aspects are not taken into consideration in this instance.
30

An object of the invention is to configure and further develop a conventional barbecue or cooker in such a manner that it can be operated in an advantageous manner with wood charcoal but also with gas and at the same time complies with legal regulations. The barbecue or cooker should be simple in terms of construction and user-friendly. Furthermore, it should differ from competing products.

The above object is achieved with a barbecue or cooker having the features of claim 1. Accordingly, a wood charcoal burner unit or a gas burner unit together with specific attachment elements can optionally be used as the burner unit, wherein, when a burner unit is correspondingly inserted, a directed air flow can be conducted into or towards the wood charcoal burner unit or flammable gas can be conducted into or towards the gas burner unit via the gas supply device, and wherein in the floor region of the outer shell, under the support shell, preferably on a floor plate, there is arranged an exchange mechanism which can only be actuated when the burner chamber is removed and upon the actuation thereof, after reaching a defined working position for the respective burner device, an insertion and activation of the respective burner chamber including the specific attachment elements is possible.

According to the invention, it has been recognized that the known barbecue is quite particularly suitable for universal use when a more or less conventional wood charcoal burner unit and a gas burner unit can be interchanged with little complexity. This means that specific attachment elements are intended to be interchanged with the respective burner unit so that the burner unit functions correctly with the respective fuel.

In accordance with the burner unit used – conventional wood charcoal burner unit or gas burner unit – it can be supplied as usual via the gas supply device with a fluid, specifically in such a manner that in the case of the wood charcoal burner unit a directed air flow and in the case of the gas burner unit a combustible gas can be directed into the burner unit.

With regard to the function of the system relating to the use of the wood charcoal burner unit, reference may be made to EP 2 785 227, the content of which is hereby included in the disclosure of the invention forming the basis here.

5

The barbecue or cooker according to the invention is an autonomous device which comprises two different burner units which are intended to be interchanged, wherein the interchanging can be carried out manually, preferably without any tools. According to requirements, it is possible to select between
10 use as a wood charcoal barbecue or as a gas barbecue, whereby there is enormous flexibility of the barbecue or cooker. This is consequently a hybrid barbecue.

The wood charcoal burner chamber comprises a housing for receiving the barbecue coals. The housing may be configured in extremely different manners.
15 It is preferably perforated or slotted so that an optimum heat discharge is produced during operation.

The floor of the housing may be offset inwards so that the wall which is directed downwards protrudes beyond the floor and a form of hollow space is
20 formed below the actual burner chamber. The floor is perforated so that the air which is required for ignition and burning can flow through the floor into the housing to the wood charcoal.

The housing rests with the lower edge region thereof on or in an ignition shell into which prior to the ignition an ignition paste or the like is added. The ignition shell is positioned centrally in the support shell, wherein centrally
25 through the ignition shell an air pipe protrudes into the air distribution space formed between the floor of the wood charcoal burner chamber and the ignition shell. This space is supplied with air by means of an electric ventilator
30 which is arranged in the floor region of the outer shell, wherein the ventilator

can be controlled in accordance with the quantity of air to be supplied or can be regulated in accordance with the heat which is intended to be produced.

With regard to the further function and configuration, reference is made to EP 2 785 227 B1 in its entirety.

The wood charcoal burner chamber comprises a preferably perforated lid which forces the hot air produced by the burning through the wall of the wood charcoal burner chamber radially outwards. Furthermore, the wood charcoal burner chamber as a result of the lid where applicable using a lifting lug which is fitted centrally at that location, can be fixed between the barbecue grate and the support shell, that is to say by bracing the barbecue grate. A non-slipping positioning of the wood charcoal burner chamber is thereby achieved, whereby the safe operation of the barbecue is promoted.

As already set out above, the barbecue or cooker according to the invention is provided with an exchange system, that is to say it comprises another burner unit which is in the form of a gas burner chamber in the manner of a closed unit. The burner chamber of the gas burner unit is equipped in a similar manner to the burner chamber of the wood charcoal burner unit. Thus, a preferably perforated or slotted housing is also provided at that location. Also in this instance, the radial heat radiation should be promoted.

The gas burner chamber has a floor which as in the wood charcoal burner chamber may be offset inwards. However, this is not absolutely necessary.

Close to the floor centrally in the housing a gas burner is arranged, as used, for example, in camping cookers. The gas burner rests on a gas rising pipe which extends through the floor of the gas burner chamber in a downward direction and consequently outside the gas burner chamber to an inner gas attachment device. The inner gas attachment device is fluidically connected by means of an inner gas line to an outer gas attachment device for direct or

indirect attachment of a gas bottle or the like. All the gas attachments are configured in a gas-tight manner and have corresponding sealing means.

5 The gas rising pipe is provided outside the gas burner chamber, preferably in the lower region, with an air inlet which is defined by a hole or which can be changed in terms of flow cross section in order to add external air to the combustion gas, for example butane or propane, and consequently to influence the combustion of the gas or the flame.

10 Furthermore, it is advantageous to be able to influence the flow cross section for the incoming gas at any location in order to again be able to adjust the flame and consequently the barbecue temperature.

15 In a further advantageous manner, in the wall of the gas burner chamber, approximately at the height of the gas burner or slightly above it, an opening for introducing an ignition means is formed. The outgoing gas can thus be ignited in the simplest case with a match or a long igniter. It is also conceivable for there to protrude into the gas burner chamber a piezo igniter which is fitted in a stationary manner at that location. In any case, it is conceivable for the ig-
20 nition means to function electrically or mechanically or in a combined manner.

As with the wood charcoal burner chamber, it is also necessary with the gas burner chamber for it to rest securely inside the support shell. To this end, the
25 gas burner chamber may comprise a lower pedestal or a separate pedestal on which the gas burner chamber rests may be provided. The pedestal serves to securely position the gas burner chamber on the support shell, wherein to this end individual standing feet or an annular closed standing foot may be formed. The secure standing is further ensured by the positioning and screwing of the
30 gas rising pipe which can be supported on the carrier shell, an intermediate plate and on a floor plate. It is also conceivable for the gas rising pipe to be

supported and guided or retained between the gas burner chamber and the inner gas attachment device by means of a sleeve.

5 In a further advantageous manner, the gas burner chamber comprises a lid which is fixedly attached to the housing of the burner chamber and preferably perforated and via which the gas burner chamber can be fixed in a non-slip-
ping manner between the barbecue grate and the support shell. This measure corresponds to the securing of the wood charcoal burner chamber with the same advantages.

10

The exemplary embodiment mentioned above relates to the use of a gas burner chamber for barbecuing. This means that above the gas burner chamber, as in the wood charcoal burner chamber, a lockable or braceable barbecue grate is provided. Furthermore, a type of rail may be provided for circumferential se-
15 curing of the items to be barbecued. The barbecue grate and rail may be configured in one piece.

In the context of another embodiment of the cooker according to the invention, it is conceivable for the gas burner unit in addition to the gas burner to com-
20 prise a preferably circumferential or sectionally constructed standing face for positioning a container, for example, for positioning a pot, a pan or the like, above the gas burner. In this instance, the gas burner is arranged below the plane of the standing face, wherein as in the exemplary embodiment described above, from the gas burner a gas rising pipe extends through the standing face
25 and the support shell downwards to an inner gas attachment device which is fluidically connected to an external gas attachment device for direct or indirect attachment of a gas cylinder or the like. In this instance, the same state-
ments apply as with the above-mentioned exemplary embodiment with a gas burner chamber and barbecue grate. It is further advantageous when, with the
30 embodiment in question here, the gas burner unit comprises a support device by means of which the gas burner unit is positioned in a supporting manner in the support shell, especially since, for example, a filled cooking pot is

intended to be positioned and retained by the standing face. Accordingly, the supporting device serves to reinforce and stabilize the arrangement, wherein the gas burner is retained via the gas rising pipe, where applicable an intermediate floor and via the inner gas attachment device. A secure standing is
5 ensured in the attached and where applicable screwed state of the gas burner with the gas rising pipe.

Furthermore, it has been recognized that, for secure replacement and operation, it is necessary for a specific exchange mechanism which can be activated
10 when the burner chamber is removed to be provided. Upon activation thereof, after reaching a defined working position for the respective burner device, an insertion and an activation including the specific attachment elements is possible. This means that, with the burner chamber removed, the type of the burner chamber to be inserted – wood charcoal burner chamber or gas burner
15 chamber – can be selected by activating the exchange mechanism, that is to say by reaching a defined working position for the respective burner chamber.

The exchange mechanism may be configured very differently. Preferably, the exchange mechanism comprises a sliding device which can be slid or pivoted
20 by actuation from laterally outside or below the housing from a position which receives/activates the wood charcoal burner chamber into a position which receives/activates the gas burner chamber. The position adjusted in each case by the sliding device may be able to be identified by means of an indication element from outside or below the housing by means of corresponding mark-
25 ings.

Specifically, the sliding device comprises a slider which in the position for attachment of the wood charcoal burner unit supports an air attachment unit which comprises the fan and an air directing space to an insertion opening of
30 the air inlet pipe. In the position for attaching the gas burner unit, the slider comprises a gas-sealing screw or plug attachment for the gas rising pipe with an inner gas attachment and fluid attachment to the outer gas attachment.

According to the position of the slider, a simple insertion and consequently a simple attachment of either the wood charcoal burner chamber or the gas burner chamber is consequently possible, in the case of the wood charcoal burner chamber with virtually automatic attachment of the air supply and in
5 the case of the gas burner chamber with virtually automatic attachment of the supply of the gas burner with combustible gas.

For simple handling of the barbecue or cooker according to the invention, it is advantageous for the exchange mechanism to have a latching or locking for
10 the respective operating position. Consequently, the user is given the feeling of a correct adjustment, depending on the latching, and, for “switching” to the other position in each case, a degree of force for unlocking and repeated locking in the other position in each case is required.

15 Finally, it is particularly advantageous if, in the position of the exchange mechanism which receives/activates the wood charcoal burner chamber, the external gas attachment device is automatically or forcibly blocked. In this instance, with the wood charcoal burner chamber attached gas is intended to be prevented from being directed into the interior of the housing. The blocking
20 may be carried out mechanically by means of the sliding device or via a separate closure device, in the simplest case by the attachment bush for inserting/screwing in the gas attachment line from outside onto the housing being blocked. Only when the exchange mechanism is located in the position for inserting the gas burner unit is the outer gas chamber released and it is possible,
25 for example, for a flexible gas line using conventional attachment means to be inserted and where applicable screwed in a sealing manner in a gas attachment bush.

There are now various possibilities for configuring and further developing the
30 teaching of the present invention in an advantageous manner. To this end, on the one hand, reference may preferably be made to the claims dependent on claim 1 and, on the other hand, to the following explanation of preferred

exemplary embodiments of the invention with reference to the drawings. Together with the explanation of the preferred exemplary embodiments of the invention with reference to the drawings, generally preferred embodiments and further developments of the teaching are also explained. In the drawings:

5 Figure 1 shows a schematic exploded view of the significant “external” components of the barbecue according to the invention without illustrating the specific combustion chamber,

Figure 2 shows a partially sectioned schematic view of the barbecue according to the invention with an inserted wood charcoal burner chamber,

10 Figure 3 shows a partially sectioned schematic view of the barbecue according to the invention with an inserted gas burner chamber,

Figure 4 shows a partially sectioned schematic view of an exemplary embodiment of a cooker according to the invention with a gas burner chamber inserted,

15 Figure 5 shows a schematic view from the outer side and in detail from the inner side of the outer gas attachment with an inner blocking device in the open state,

Figure 6 shows a schematic view from the outer side and in detail from the inner side of the outer gas attachment with an inner blocking device in the
20 blocked state.

Figure 1 shows a schematic exploded illustration of the “outer” components of the barbecue according to the invention, that is to say starting from the bottom, the housing 1, the support shell 2 which can be inserted into the housing 1 and the barbecue grate 3 which can be arranged above it.
25

Furthermore, it can be seen in Figure 1 that the housing 1 in the lower region has an inner floor 4 in the form of an intermediate floor below which or on which electrical and where applicable mechanical components can be arranged. From outside the housing 1, it is possible to see a rotary knob 5 which
30 is used for switching on and switching off and for controlling a fan which is arranged below the inner floor 4.

In the wall of the housing 1 there are provided lower passages 6 which are used for the suction of external air. Upper passages 7 are used for the rear ventilation of the space between the support shell 2 and the housing 1.

5

The support shell 2 is placed with the edge region 8 thereof on the free edge of the housing 1 and secured at that location by means of bracing apparatuses 9 which engage on the barbecue grate 3. Ultimately, the bracing apparatuses 9 are braces which engage at both sides and which connect the barbecue grate 3 and consequently also the support shell 2 securely to the housing 1.

10

In the edge region 8 of the support shell 2 there are provided recesses 10 which are used for the positioning insertion of feet 11 of the barbecue grate 3. As a result of this measure, the barbecue grate 3 can be positioned in an ideal manner, wherein the bracing apparatuses 9 or the tension braces which are provided at that location engage in lateral securing flaps 12 on the barbecue grate 3. By bracing the bracing apparatuses 9, the barbecue grate 3 is securely attached to the housing 1, with the support shell 2 which in this instance is fixed in the same manner being interposed. In the assembled position, between the housing 1 and the support shell 2 there is provided a thermally insulating air space which is rear-ventilated via the upper passages 7. The recesses 10 in the upper edge region of the support shell 2 serve, on the one hand, to insert feet 11 of the barbecue grate 3 and, on the other hand, to discharge warm/hot air from the interior of the housing 1, more specifically from the region between the housing 1 and the support shell 2. The recesses 10 consequently promote the rear ventilation.

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The barbecue grate 3 comprises a circumferential rail 13 and is provided centrally with a closed, undulating barbecue face 14 the edge region of which may be configured to be at least slightly downwardly sloping for drips of fat.

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Figure 2 shows the barbecue according to the invention with the wood charcoal burner chamber 15 inserted. The wood charcoal burner chamber 15 has a perforated wall and is closed with a lid 16. The lid 16 is provided with a lifting lug 17 which is used from below for abutment against a barbecue grate 18.
5 Above the barbecue grate 18, a dual rail 19 for laterally securing the items to be barbecued is provided.

The wood charcoal burner chamber 15 has a perforated floor 20, wherein the perforation is used for introducing external air into the interior of the wood charcoal burner chamber.
10

Furthermore, below the wood charcoal burner chamber 15 there is provided an ignition shell 21 which can be provided with an ignition paste. The wood charcoal burner chamber 15 rests with the lower edge in the ignition shell 21
15 and is more or less non-slipping at that location.

There is provided centrally in the ignition shell 21 a passage 22a through which an air inlet pipe 23 extends through the support shell 2 to an intermediate floor 24. In the intermediate floor 24 there is also provided a passage
20 22b, after which the intermediate floor 24 opens into an air space 25 which is supplied via a ventilator 26 with external air. In other words, the ignition shell 21 and the support shell 2 are placed on the air inlet pipe 23, around it. The intermediate floor 24 opens in an air space 25 which is supplied with external air via a ventilator 26. The ventilator 26 can be operated by means of a switch
25 27 from outside the housing 1. For power supply, batteries or accumulators are provided in a battery compartment 28.

Figure 2 further shows the provision of a sliding device 29 via which a slider 30 can be displaced. In the state shown in Figure 2, the slider 30 is in the
30 position which releases the air flow from the air space 25 to the air inlet pipe 23. The external gas attachment device 31 is blocked by a blocking element 32, wherein the blocking element 32 is moved, for example, by means of

manual activation into the blocking position according to Figure 2. The rod 33 serves to activate or displace the sliding device 29 or the slider 30.

5 With respect to the gas attachment which is not activated by the sliding apparatus 29 in Figure 2, Figure 2 shows the external gas attachment apparatus 31 in the state blocked by the blocking element 32, the outer gas attachment 34, an inner gas attachment line 35 and an inner gas attachment 36 which in a state angled or rotated through 90° comprises an inner thread 37 for inserting and screwing in a gas rising pipe which is not shown in Figure 2.

10

Figure 3 shows the barbecue according to the invention with a gas burner chamber 38 inserted. The gas burner chamber 38 comprises in the same manner as the wood charcoal burner chamber a perforated housing 1 with a lid 16 placed on it, wherein the lid 16 is securely attached to the housing 1. Above
15 the lid 16 or above a lifting lug 17 the barbecue grate 18 is arranged with the rail 19, whereby the gas burner chamber 38 is secured.

20

Furthermore, the gas burner chamber 38 comprises in the lower region an opening 39 through which the gas can be ignited from the outer side.

20 Within the gas burner chamber 38 there is arranged a gas burner 40 which is supplied with gas via a gas rising pipe 41. The connection between the gas rising pipe 41 and the gas burner 40 is configured in a gas-tight manner.

25 According to the illustration in Figure 3, the gas burner chamber 38 rests on the carrier shell 2 and is positioned at that location by means of a support device 42. The support device 42 may be an integral component of the gas burner chamber 38, in particular the floor 43 which is offset inwards at that location.

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The gas rising pipe 41 extends from the gas burner 40 through the floor 43 of the gas burner chamber 38, through a central passage in the support shell 2

and through an intermediate floor 24 which comprises or carries the sliding device 29. The sliding device 29 or the slider 30 is located in the position which is used for attachment of the gas burner chamber 38 so that the gas rising pipe 41 can be screwed into an attachment block 44 of the inner gas attachment 36. Suitable sealing means 45 may be interposed.

From outside the housing 1, that is to say via an external gas attachment device 31, the gas originating from a gas tank, for example, a canister, a gas cartridge, etc., where applicable with a controller being interposed, can flow in and reaches the gas burner 40 via the provided flow path.

Figure 3 further shows that the blocking element 32 is in the open position. By means of the rod 33, the slider 30 or the blocking device 29 is moved into the position suitable for the attachment of the gas burner chamber 38. In this position, the air inlet pipe 23 acts as a gas rising pipe 41.

Figure 4 shows another exemplary embodiment with the gas burner 40 inserted, without the provision of a gas burner chamber.

There is provided around the gas burner 40 a standing face 46 which may comprise individual standing face elements, for example, in the manner of fingers. The standing face 46 serves to position a pot 47. Centrally in the region of the standing face 46, the gas burner 40 is arranged in a lower position which in turn is supported by a gas rising pipe 41. For stabilisation with respect to the support shell 2, a specific support element 48 which may be secured directly to the gas rising pipe 41 or to a sleeve 49 which surrounds the gas rising pipe 41 is provided.

With respect to the attachment to an external gas supply or to a gas store and with respect to the flow path of the gas and finally also with respect to the function of the sliding device, in order to avoid repetition reference may be made to the Figure description of Figure 3.

Figures 5 and 6 show partially an external view of the housing 1 with ventilation slots 50. The housing 1 is positioned on standing nubs 51. These may at least partially be height-adjustable.

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Figures 5 and 6 show from outside the housing 1 the external gas attachment 34 with a gas attachment bush 52 for locking insertion or screwing of a conventional gas attachment with a gas attachment line. According to the illustration in Figure 5, as a result of the sliding position which is not shown the blocking element 32 is remote from the insertion region. The gas attachment bush 52 is consequently free and an external gas attachment element can be inserted.

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Figure 6 shows in contrast the gas attachment bush 52 in the blocked state according to which the external gas attachment device 31 is closed by means of the blocking element 32.

15

With regard to other advantageous embodiments of the apparatus according to the invention, in order to avoid repetition reference may be made to the general portion of the description and the appended claims.

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Finally, it should be expressly noted that the exemplary embodiments of the apparatus according to the invention as described above serve merely to explain the claimed teaching but do not limit it to the exemplary embodiments.

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List of reference numerals

1	Housing
2	Support shell
30 3	Barbecue grate
4	Inner floor (of the housing)
5	Rotary knob (of the switch/controller)

	6	Lower passage (in the wall of the housing)
	7	Upper passage (in the wall of the housing)
	8	Edge region (of the support shell)
	9	Bracing apparatus (for bracing the barbecue grate)
5	10	Recess in the upper edge region of the support shell for inserting feet of the barbecue grate and for ventilation
	11	Foot on the barbecue grate
	12	Securing flap on the barbecue grate
	13	Rail on the barbecue grate
10	14	Barbecue face centrally on the barbecue grate
	15	Wood charcoal burner chamber
	16	Lid (of 15)
	17	Lifting lug (of 16)
	18	Barbecue grate
15	19	Rail
	20	Floor (of 15)
	21	Ignition shell
	22a	Passage in the ignition shell
	22b	Passage in the support shell
20	23	Air inlet pipe
	24	Intermediate floor
	25	Air space (airbox)
	26	Ventilator
	27	Switch (for 26)
25	28	Battery compartment
	29	Sliding device
	30	Slider
	31	External gas attachment device
	32	Blocking element
30	33	Rod (for activating/for blocking)
	34	External gas attachment
	35	Gas attachment line

	36	Inner gas attachment
	37	Inner thread (of 36)
	38	Gas burner chamber
	39	Opening (of 38)
5	40	Gas burner
	41	Gas rising pipe
	42	Support device (for 40)
	43	Floor (of 38)
	44	Attachment block (with inner gas attachment 36)
10	45	Sealing means (in 44)
	46	Standing face (for 47)
	47	Pot
	48	Support element
	49	Sleeve, air inlet pipe (secure, also acts as a support)
15	50	Air slots (in 1)
	51	Standing nubs, feet
	52	Gas attachment bush (external)

PATENTTIVAATIMUKSET

1. Grilli tai keitin, jossa on ulkokuori, joka toimii kotelona (1), ulkokuoren sisällä kaikkiin puoliin etäisyydellä sijoitettu kannatinmalja (2), kannatinmaljan (2) sisällä seisova polttoyksikkö, polttoyksikön yläpuolelle sijoitettu grilliritilä (3) tai astia, ja kaasunsyöttölaite, joka luo kannatinmaljan (2) alapuolelta fluidivirran polttoyksikön luo tai polttoyksikköön, jolloin polttoyksikkönä on käytettävissä valinnaisesti puuhiilipolttoyksikkö tai kaasupolttoyksikkö, erityisten liitäntäelementtien ohella, jolloin vastavasti käytettävän polttoyksikön yhteydessä kaasunsyöttölaitteella on johdettavissa puuhiilipolttoyksikköön tai puuhiilipolttoyksikön luo suunnattu ilmavirta tai kaasupolttoyksikköön tai kaasupolttoyksikön luo on johdettavissa palavaa kaasua, **tunnettu** siitä, että ulkokuoren pohja-alueelle, kannatinmaljan (2) alapuolelle, edullisesti pohjalevyn päälle on sijoitettu vaihtomekaniikka, joka on käytettävissä ainoastaan polttokammion ollessa poistettuna ja jonka käytön myötä, kun kulloinkin käytettävän polttolaitteen määritetty työs-kentelyasento on saavutettu, kulloinkin käytettävän polttokammion käyttö ja aktivointi erityiset liitäntä-elementit mukaan lukien, on mahdollista.

2. Patenttivaatimuksen 1 mukainen grilli tai keitin, tunnettu siitä, että polttoyksikkö on tehty puuhiilipolttokammiona (15) ja sisältää edullisesti rei'itetyn tai lovetun kotelon (1) ja rei'itetyn, edullisesti sisäänpäin sisennetyn pohjan, jolloin kotelon (1) alempi reuna-alue sijaitsee sytytysmaljan (21) päällä tai sytytysmaljassa, jolloin sytytysmalja (21) on sijoitettu kannatinmaljaan (2) keskelle, ja jolloin sytytysmaljan (21) keskeltä ulottuu läpi ilman sisään-päästöputki (23) puuhiilipolttokammion (15) pohjan ja sytytysmaljan (21) väliin muodostettuun sytytys- ja ilmanjakotilaan, johon syötetään ilmaa ulkokuoren pohja-alueelle sijoitetulla sähköisellä tuulettimella (26).

3. Patenttivaatimuksen 2 mukainen grilli tai keitin, tunnettu siitä, että puuhiilipolttokammiossa (15) on edullisesti rei'itetty kansi (16), jonka avulla puuhiilipolttokammio (15) on kiinnitettävissä liikuttamattomasti grilliritilän (3) ja kannatinmaljan (2) väliin, grilliritilää (3) kiristämällä.

4. Patenttivaatimuksen 1 mukainen grilli tai keitin, tunnettu siitä, että polttoyksikkö on tehty kaasupolttokammiona (38) suljetun yksikön muodossa sisältäen edullisesti rei'itetyn tai lovetun kotelon (1), pohjan ja koteloon (1) pohjan keskelle sijoitetun kaasupolttimen (40), josta ulottuu kaasun nousuputki (41) pohjan läpi kaasupolttokammion (38) ulkopuolelle sisäiseen kaasuliitälaitteeseen (36), joka on virtausliitetty ulompaan kaasuliitälaitteeseen (34) kaasupul-
lon tai vastaavan välitöntä tai välillistä liittämistä varten.

5. Patenttivaatimuksen 4 mukainen grilli tai keitin, tunnettu siitä, että kaasupolttokammion (38) seinämässä, suunnilleen kaasupolttimen (40) korkeudella, on aukko sytytysvälineen syöttämistä varten.

6. Patenttivaatimuksen 5 mukainen grilli tai keitin, tunnettu siitä, että sytytysväline on tehty sähköisesti tai mekaanisesti toimivana sytytysvälineenä.

7. Jonkin patenttivaatimuksista 4-6 mukainen grilli tai keitin, tunnettu siitä, että kaasupolttokammio (38) sijaitsee sokkelin päällä, joka sokkeli on muodostettu kaasupolttokammion (38) turvallista sijoittelua varten kannatinmaljan (2) päälle.

8. Jonkin patenttivaatimuksista 4-7 mukainen grilli tai keitin, tunnettu siitä, että kaasupolttokammio (38) sisältää kaasukammioon kiinteästi liitetyn, edullisesti rei'itetyn kannen (16), jonka välityksellä kaasupolttokammio (38) on kiinnitettävissä liikuttamattomasti grilliritilän (3) ja kannatinmaljan (2) väliin.

9. Patenttivaatimuksen 1 mukainen grilli tai keitin, tunnettu siitä, että kaasupolttoyksikkö

sisältää kaasupolttimen ja edullisesti ympäröivän seison-
 sontapinnan säiliön, esimerkiksi padan, pannun tai vas-
 taavan, sijoittelua varten, jolloin kaasupoltin on si-
 joitettu seison-
 sontapinnan (46) tason alapuolelle, jolloin
 5 kaasun nousuputki (41) ulottuu kannatinmaljan (2) läpi
 sisempään kaasuliitälaitteeseen, joka on virtauslii-
 tetty ulompaan kaasuliitälaitteeseen kaasupullon tai
 vastaavan välitöntä tai välillistä liittämistä varten.

10. Patenttivaatimuksen 9 mukainen grilli tai
 10 keitin, tunnettu siitä, että kaasupolttoyksikössä on
 tukilaite (42), jolla kaasupolttoyksikkö on sijoitetta-
 vissa tuetusti kannatinmaljaan (2).

11. Jonkin patenttivaatimuksista 1-10 mukainen
 grilli tai keitin, tunnettu siitä, että vaihtomekanii-
 15 kassa on työnninlaite (29), joka on työnnettävissä tai
 käännettävissä sisäpuolelta tapahtuvalla, sivulta ulko-
 puolelta tapahtuvalla tai kotelon (1) alapuolelta ta-
 pahtuvalla käytöllä puuhiilipolttokammion (15) vastaan-
 ottavasta/aktivoivasta asennosta kaasupolttokammion
 20 (38) vastaanottavaan/aktivoivaan asentoon.

12. Patenttivaatimuksen 11 mukainen grilli tai
 keitin, tunnettu siitä, että työnninlaitteessa (29) on
 työnnin, joka kannattelee puuhiilipolttoyksikön liittä-
 miseen käytettävässä asennossa puhaltimen ja ilmanjoh-
 25 totilan aina ilman sisäänpäästöputken sisääntyöntöauk-
 koon asti sisältävää ilmaliitälaitteyksikköä ja sisältää
 kaasupolttoyksikön liittämiseen käytettävässä asemassa
 kaasua tiivistävän kierre- tai pistoliitännän kaasun
 nousuputkelle (40) sisältäen sisemmän kaasuliitännän ja
 30 virtausyhteyden ulompaan kaasuliitälaitteeseen.

13. Jonkin patenttivaatimuksista 1-12 mukainen
 grilli tai keitin, tunnettu siitä, että vaihtomekaniikka
 sisältää kiinnityksen tai lukituksen kulloisellekin
 käyttöasennolle.

35 14. Jonkin patenttivaatimuksista 1-13 mukainen
 grilli tai keitin, tunnettu siitä, että vaihtomekaniikan
 puuhiilipolttokammion (15)

vastaanottavassa/aktivoivassa asennossa ulompi kaasuliitännälaitte lukkiutuu automaattisesti, edullisesti mekaanisesti, työntönninlaitteella (29) tai erillisellä sulkulaitteella.

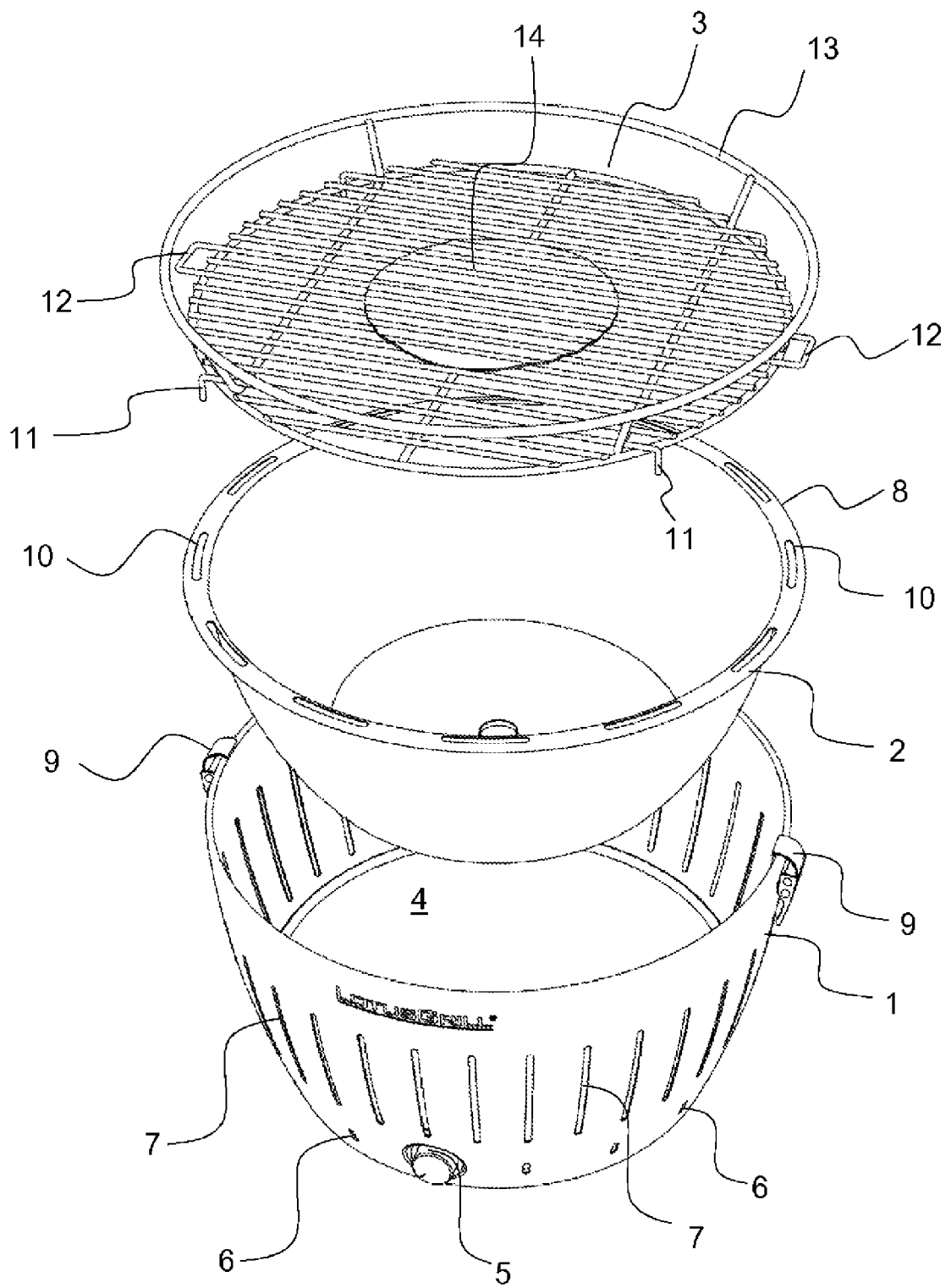


Fig. 1

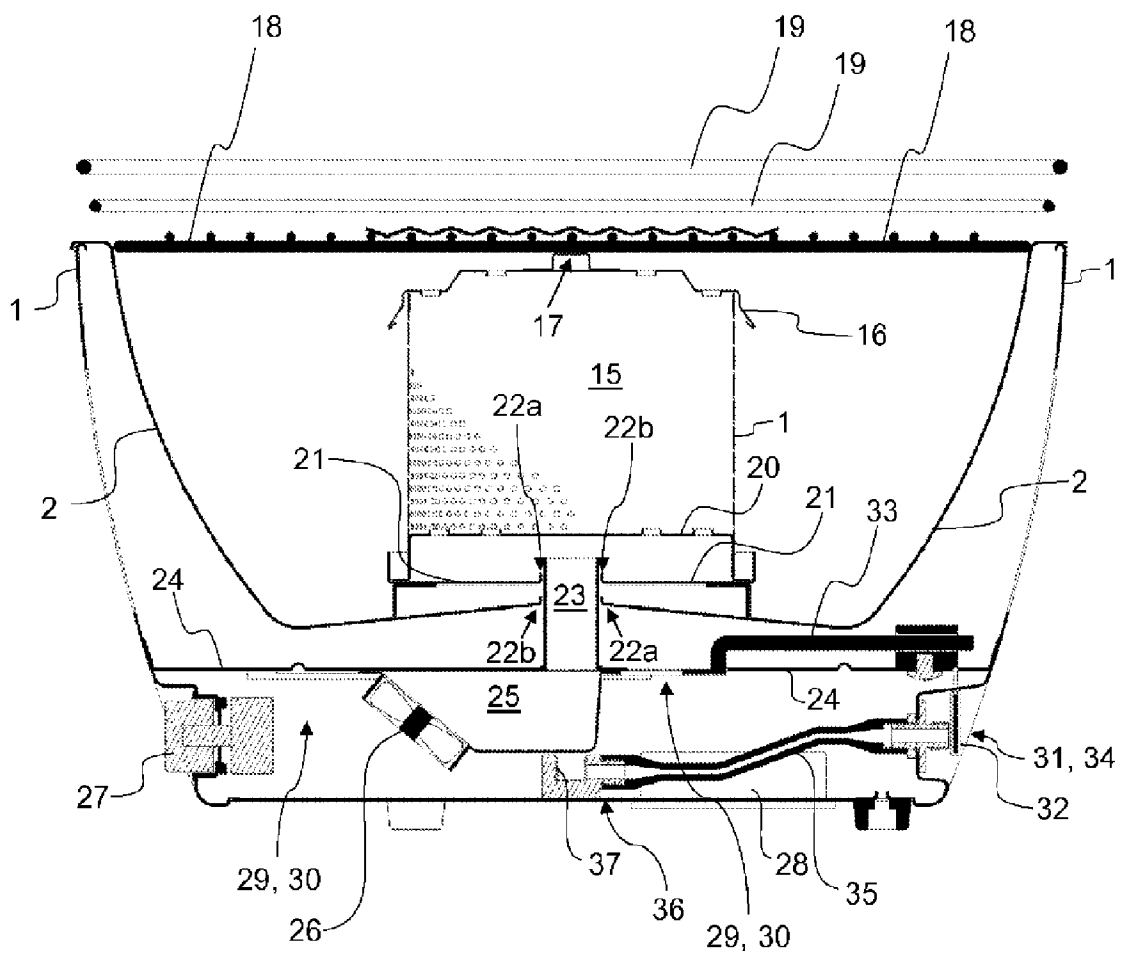


Fig. 2

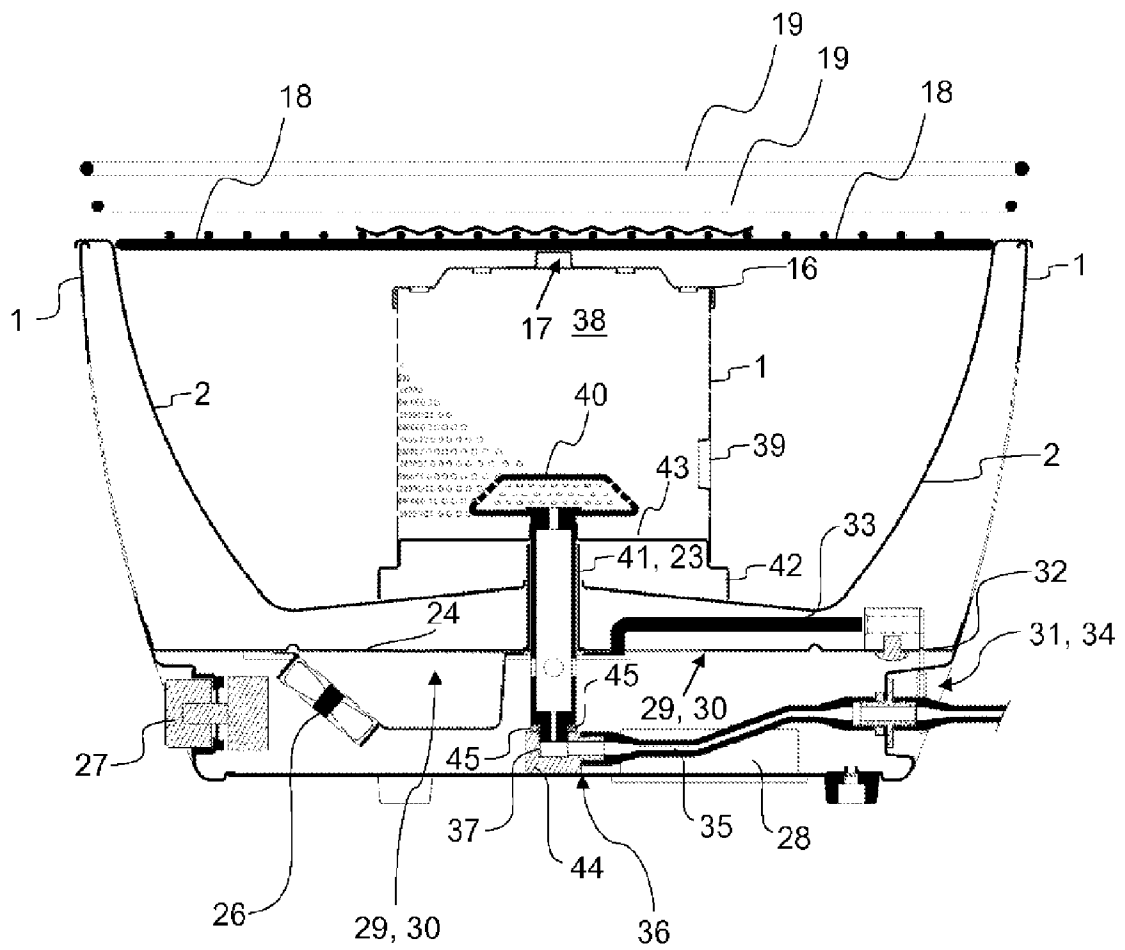


Fig. 3

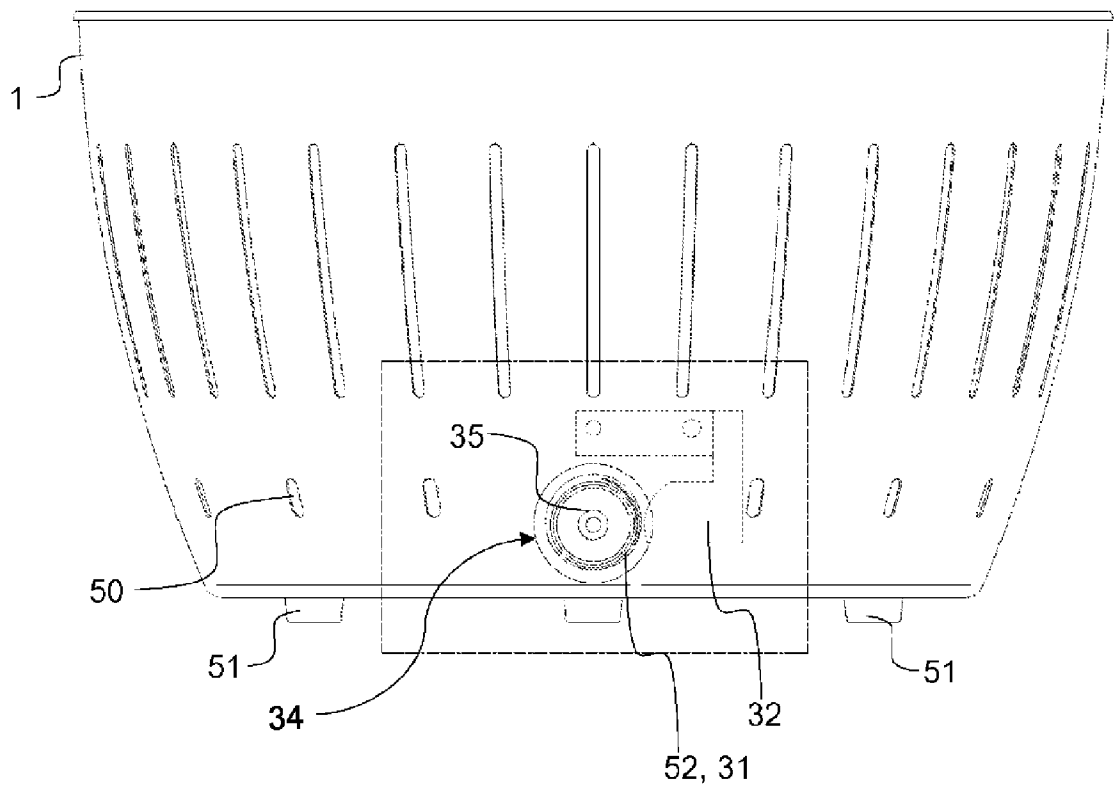


Fig. 5

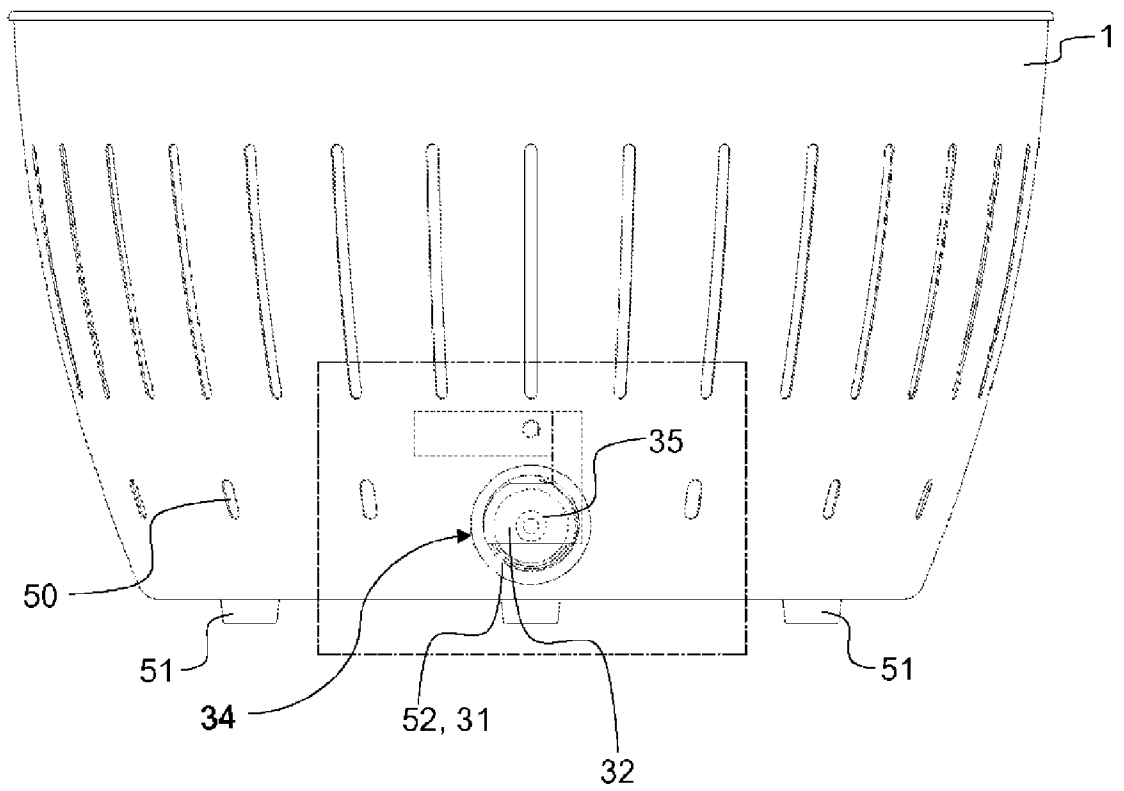


Fig. 6