

(19) **DANMARK**

(10) **DK/EP 2802247 T3**



Patent- og
Varemærkestyrelsen

(12) Oversættelse af
europæisk patentskrift

-
- (51) Int.Cl.: **A 47 J 37/00 (2006.01)**
- (45) Oversættelsen bekendtgjort den: **2016-07-25**
- (80) Dato for Den Europæiske Patentmyndigheds bekendtgørelse om meddelelse af patentet: **2016-04-13**
- (86) Europæisk ansøgning nr.: **14708022.0**
- (86) Europæisk indleveringsdag: **2014-03-05**
- (87) Den europæiske ansøgnings publiceringsdag: **2014-11-19**
- (86) International ansøgning nr.: **EP2014054239**
- (87) Internationalt publikationsnr.: **WO2014135576**
- (30) Prioritet: **2013-03-06 DE 102013203805**
- (84) Designerede stater: **AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR**
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- (54) Benævnelse: **Grillindretning med lufttilførselsstyring**
- (56) Fremdragne publikationer:
DE-U1-202007 017 595
KR-A- 20100 118 738
KR-U- 20110 003 315

Description

The invention relates to a grill device comprising a barbecue container for a barbecue and an ash container which is fastened or able to be fastened to the barbecue container, comprising an ash inlet, the ash inlet facing the barbecue container, and the air supply from the surrounding air to the barbecue being adjustable via a relative movement between the ash container and the barbecue container, the relative movement taking place in the vertical direction and a shape and/or a dimension of an air passageway delimited at least by the ash container and the barbecue container being adjustable by means of the vertical relative movement, a movement device comprising a moveable bracket for the ash container being indirectly or directly fastened to the barbecue container in order to carry out the relative movement between the ash container and the barbecue container.

Grill devices have long been known and popular. They are used for preparing meals over an open fire. They are above all used outside and operated in particular by means of gas or solid fuels such as wood or charcoal. When solid fuels are used, ash is produced during combustion and must be removed from the grill device in order for said device to remain operable. In addition, for controlling the barbecue, it is usual to adjust the air supply to the barbecue in order to thus influence the heat development thereof. In this case, the air supply can be controlled by throttling the supply air or by throttling the escape of waste gases from the grill device. The latter solution requires the grill device to be in a system that is substantially sealed against gas escape and in which the gas escape can be controlled in a targeted manner, whereas the first solution comprising supply air control conversely advantageously makes open grilling over a non-sealed barbecue possible.

Ash is usually removed from the grill device in that the fire is burnt over a grate through which the ash left from the solid fuel can fall down. An ash box is therefore generally arranged under the barbecue. In order to facilitate the removal of ash from the grill device, ash containers are known in the prior art

which can be removed from the grill device in order to be emptied independently of the grill device. A favourable position for a supply air control is generally under the barbecue. It is therefore suitable to additionally provide an ash container with the supply air control. Solutions of this kind are already
5 known in the prior art.

US 5,809,991 for example describes a grill device in which an ash container that can be removed by means of a bayonet catch is provided under an ash outlet of a barbecue container. The ash container is provided with a plurality of
10 holes on the periphery thereof, in front of which holes a rotatable ring is located inside the ash container. Holes of the same size are likewise provided in said ring, aligned with the holes in the ash container, so that air can reach the barbecue, through the ash container, when the holes in the ring and in the ash container are in alignment. The ring is designed so as to be rotatable relative to
15 the ash container, such that rotating the ring causes the holes to no longer be aligned and thus makes it possible for the flow of supply air to the barbecue to be throttled. US 4,966,126 describes a similar solution, but having the difference that the ash container can be removed horizontally from the grill device by a guide. US 5,471,916 also describes a similar solution, in which the
20 ash container can also be removed horizontally by a guide, but the supply air control is not in the ash container but rather in a connecting piece that is located underneath the barbecue container and that comprises, at its lower end, the horizontal guide for removing the ash container, meaning that the connecting piece is a link, comprising integrated supply air control, between the ash
25 container and the barbecue container. Just as in US 5,809,991, the supply air control is carried out by means of a rotatable ring comprising holes that align with the holes in the connecting piece.

US 2006/0266345 A1 provides a further solution. In this case, a rectangular ash
30 box is proposed, which box is designed to be able to be horizontally inserted into the base of a grill container by means of a guide. The supply air control is achieved by means of lateral slits in the ash box, in front of which slits in a slide are arranged so as to align. In order to control the air supply, the slide can be

slid relative to the slits in the ash box such that the alignment of the holes is reduced and the flow of supply air is throttled. The slide is connected to a handle that can be actuated from the outside. The ash box can also be removed from the grill device by means of the same handle. When the ash box is removed, the ash outlet of the grill device is opened, with the result that air can flow in to the barbecue through the horizontal gap occurring in the process between the barbecue container and the ash box. However, US 2006/0266354 A1 does not provide for the heat output of the barbecue to be controlled in this manner, but rather provides a conceivable side effect by means of which supply air control could also be produced. However, a disadvantage of a conceivable supply air control of this kind is that, when a gap of this kind is opened in the ash outlet, ash from the barbecue can escape not into the ash box but rather through the gap and out of the grill device.

15 A further disadvantage of many of the devices mentioned is that the supply air controls are arranged in a central region of the ash box or even in a lower region of the ash box. It is thus possible for ash to escape from the openings of the supply air control, and thus out of the grill device. In addition, ash, which can also contain larger lumps, can block the supply air control and in particular prevent said control from being able to be fully closed. It is therefore not possible to completely fill the ash container without the flow of supply air being impeded by the ash or the possibility of said ash falling through the inflow openings. The embodiments of the supply air control shown in addition have the disadvantage of being based on reducing an overlap of openings. This in principle requires two elements that comprise openings and can be slid relative to one another. In order to be able to slide, said elements cannot be pressed against one another as firmly as desired, meaning that gaps remain through which air can reach the barbecue even in the completely closed position. It is almost impossible for air to be completely excluded by means of the supply air control.

US 2006/0054158 A1 discloses a grill device of the type mentioned at the outset. Said device comprises a hemispherical barbecue container comprising a

lower ash outlet that is surrounded by an annular collar protruding downwards from the barbecue container. Ramp-like guide rails are arranged on the annular collar for retaining pins that are provided on an ash container as elements for connecting the ash container to the barbecue container. The ash container can
5 be pulled out from below, over the collar of the ash outlet of the barbecue container, such that the retaining pins reach the ramp-like guide rails on the collar of the ash outlet in vertical insertion channels. Once the retaining pins of the ash container have been completely received in the insertion channels, rotating the ash container then results in mutual engagement of the retaining
10 pins and the ramp-like guide rails, such that a bayonet catch-like connection is produced. Further rotation of the ash container results in the retaining pins sliding on the ramp-like guide rails, the ash container being lowered or raised depending on the direction of rotation. An outwardly protruding handle is fastened to the ash container and can be used by the operator in order to rotate
15 the ash container relative to the barbecue container. The dimensions of an air passageway between the barbecue container and the upper edge of the ash box or in the further course between the outside of the collar of the ash outlet and the edge region of the ash container overlapping therewith are determined according to the angular position of the ash container relative to the barbecue
20 container and thus according to the positioning of the retaining pins on the ramp-like guide rails.

A concept of this kind for the supply air control is also pursued in a grill appliance according to DE 20 2007 017 595 U1.

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It is relatively complex to produce the bayonet-like connections between the ash container and the barbecue container, and to release said connections when attaching the ash container to or removing the ash container from the barbecue container. This is also the case when rotating the ash container for the purpose
30 of the supply air control at the barbecue container, in particular when ash has contaminated the relevant components and has led to increased friction or even a clamping effect following repeated use of the grill device. In order to overcome this, the operator has to exert a relatively large force on the grill device, which

can result in unintended movements of the grill device as a whole. This is dangerous in particular when the grill is in operation and when the grill device is at a high temperature.

- 5 The object of the present invention is that of designing a grill device of the generic type in a manner that is more environmentally friendly than hitherto.

Proceeding from a grill device having the features mentioned at the outset, this object is achieved according to the invention in that the bracket comprises a
10 swivel fork which is mounted so as to be able to be swivelled relative to the barbecue container about a usually horizontal swivel pin, which swivel fork comprises two fork limbs which receive and support the ash container in between them, such that a swivel movement of the swivel fork has respective vertical movement components for raising and lowering the ash container, and
15 such that the movement device comprises an actuating member in order to swivel the swivel fork about the swivel pin, wherein the movement device comprises a worm gearing which acts on the bracket and can be actuated by rotating the actuating member in order to swivel the bracket about the swivel pin and thereby adjust the ash container vertically relative to the barbecue
20 container.

The fact that the swivel fork is part of the movable bracket for the ash container permits a simple procedure when removing the ash container from the barbecue container and when attaching the ash container to the barbecue
25 container, it simply being necessary to unhook the ash container from the bracket or the swivel fork or to hang said container therein, respectively. Since this can be achieved without overcoming uncontrolled clamping effects and actions of forces on the barbecue container, the risk of inadvertently sliding or tilting the grill device when attaching or releasing the ash container is virtually
30 eliminated. In addition, the movement device makes it possible for the air supply to the barbecue container to be adjusted in a user-friendly manner by raising or lowering the ash container. Compared with the known bayonet catch-like adjustment possibilities for controlling the air supply, the invention, in various

variants of the movement device, permits controlled swivelling of the swivel fork and thus smooth, easy and sensitive raising and lowering of the ash container in order to control the air supply. Designing the movement device having a worm gearing further permits user-friendly step-free adjustment of the ash
5 container.

According to a preferred embodiment of the invention, the ash container is attached in a removable and hinged manner to the swivel fork, such that said ash container can usually orient itself horizontally about a hinge axis, which is
10 parallel to the swivel pin of the swivel fork, under the effect of gravity, i.e. can balance itself, when the swivel fork is swivelled about the swivel pin thereof.

A solution of this kind can be achieved using very simple means, e.g. by using a detachable coupling connection between the ash container and the swivel fork
15 using edge recesses in the swivel fork which are open at the top and pins of the ash container rotatably received therein, said pins protruding radially outwardly from the ash container on diametrically opposed sides thereof. A hinged, detachable coupling connection of this kind makes it possible not only to simply balance the ash container in a horizontal position, but in addition also provides
20 the possibility of a particularly simple procedure for unhooking the ash container from the swivel fork or for hanging the ash container in the swivel fork.

In an embodiment of the invention, the ash container can be swivelled about the hinge axis so far as to be able to be emptied downwards without being removed
25 from the grill device.

According to a development of the invention comprising a worm gearing, the movement device is designed such that the worm gearing acts on the bracket in a manner only loosely in contact without mutual engagement, such that
30 compression forces can be transmitted between the worm gearing and the bracket, in order to swivel the swivel fork about the swivel pin. In this case, the bracket always rests against the output component of the worm gearing, since said bracket is downwardly loaded under the effect of the gravitational force of

the ash container and thus is subjected to a torque that pushes it against the output component of the worm gearing. In this case, the swivel fork of the bracket follows the return movements and advance movements of the output component of the worm gearing.

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The worm gearing can be a spindle drive comprising rotatably mounted spindles and nuts that are linearly slidable thereon and act on the bracket.

However, the worm gearing preferably comprises a crank spindle, provided with
10 an external thread, as the actuating member and a nut which is penetrated by the crank spindle and held in threaded engagement therewith and which is fixed relative to the barbecue container such that when the crank spindle is rotated said spindle can be moved linearly forwards and backwards by means of a screw action, in order to swivel the bracket or swivel fork. According to an
15 embodiment, an axial end of the crank spindle rests loosely on the end face of the bracket as the output component, the other end of said crank spindle protruding outwards so as to face away from the bracket, and the crank spindle having a crank actuating handle on this other end. The movement device is preferably arranged on a mechanism carrier that is fastened to the barbecue
20 container, the fork-shaped bracket being retained on the mechanism carrier so as to be able to swivel about its swivel pin. The worm gearing is also preferably arranged on the mechanism carrier.

Preferably at least the actuating member is thermally shielded from the
25 barbecue container by means of a heat shield.

Further embodiments of the invention are set out in claims 9-13.

A vertical relative movement is also a relative movement that has a not
30 negligible vertical component. An air passageway is a path that the air follows on its route from the external surroundings of the grill device, through a throttling point between the barbecue container and the ash container, to the barbecue. An air passageway can consist, for example, of gaps, channels,

labyrinths, openings or the like, also in combination. The vertical relative movement preferably adjusts a vertical extension of an air passage opening. An advantage of this solution is that the air supply to the barbecue can be adjusted by means of a throttling point that is formed at least in part by the elements that

5 are in any case necessarily present, specifically the barbecue container and the ash container. A further advantage is that the ash container can be filled with ash up to the throttling point for the supply air, which is advantageously located on the upper edge of the ash container. The ash thus cannot escape from the ash container before said container is completely full, or block a mechanism of

10 the supply air control. The ash container is preferably designed to be airtight, with the exception of the ash inlet. The air passage opening between the barbecue container and the ash container can preferably be closed in an airtight manner. The barbecue can then be completely sealed from below against air admission.

15 It is not important in the invention whether the air passageway also has extensions and/or courses other than the vertical. What is important is that there is a portion, the throttling effect of which can be adjusted by means of a vertical relative movement between ash containers, and that this has a control effect on

20 the air supply to the barbecue. The grill device is preferably designed as a kettle grill.

In an embodiment, the air passageway comprises an air passage opening in the form of at least one portion of a vertical annular gap between the ash container

25 and the barbecue container.

The annular gap is preferably a completely sealed annular gap. An air passage opening in the form of an annular gap or a portion thereof can be achieved, for example, if the barbecue container is provided with at least one approximately

30 flat base around the ash outlet, and the ash container is provided with at least one approximately flat upper edge. If the flat edge and the flat base are opposite one another so as to be spaced apart, an annular gap is formed. If the edge of the ash container is brought to the base of the barbecue container, the

gap can be completely closed if the base and edge are of corresponding shapes. If the base of the barbecue container is made of sheet metal, unevenness such as undulations or the like which could prevent sealed closure of the air passage opening can be smoothed out by pressing by means of the
5 closure pressure, meaning that a sealed closure is still achieved. If the ash container is designed to be substantially cylindrical or pot-shaped then the flat upper edge thereof is relatively rigid in the pressing direction, such that the shape thereof is preferably impressed on the more pliable base of the barbecue container. An annular gap of this kind can form part of the air passage opening
10 for surrounding air into the barbecue or can form the entire air passage opening.

In a further embodiment, the air passageway extends through a vertical choke portion between a vertical portion of the barbecue container that surrounds the
15 ash outlet, and a vertical portion of the ash container.

For this purpose, it is sufficient for the course of the portions to be vertical in part. Such a shape of the air passageway forces the supply air to the barbecue through a vertical annular gap. The effect of the vertical annular gap is to
20 increase throttling of the supply air, with the result that a supply air control that also operates by adjusting the height of the annular gap does not need to be as precisely adjustable, since it does not alone carry out the throttling. The requirements for the precision of parts and movement mechanisms are thus reduced.

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A vertical portion of the barbecue container can, on the underside thereof, for example as an annular collar or a shoulder having a cross section that is different from circular, for example a square or polygonal cross section, can protrude downwards from the underside of the barbecue container. The vertical
30 portion of the ash container is typically an upper edge portion of the ash container. The cross section of the upper edge of the ash container is preferably of the same shape as a cross section of the collar or shoulder projecting from the base of the barbecue container, the inner diameter of the upper edge

portion of the ash container, however, being slightly larger than the outer diameter of the collar or shoulder in order to be able to produce the vertical annular gap. The ash outlet from the barbecue container is located inside the shoulder or the ring.

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In a further embodiment, a vertical height of the vertical portion of the air passageway is adjustable.

The throttling effect of the vertical portion depends on the length thereof in the passage direction of the supply air to the barbecue. The supply air to the barbecue flows in the vertical direction through the choke portion, meaning that changing the vertical length of the choke portion results in a change in the throttling effect thereof. The length of the choke gap can be achieved by sliding the vertical portions of the barbecue container and the ash container vertically relative to one another, as a result of which the overlap thereof changes. This change in the throttling effect is preferably linked with an adjustment of the height of a vertical annular gap between the ash container and the barbecue container. The change in the throttling effect thus becomes more pronounced when the ash container is moved vertically relative to the barbecue container.

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The ash outlet from the barbecue container is an opening in the base thereof. The edge of an opening of this kind can be deep-drawn outwards and downwards such that the portion having a vertical course at least in regions is produced. The course of the collar drawn in this way is preferably designed to be completely vertical after a transition region. Alternatively, a ring or the like can be fastened to the edge or close to the edge of the ash outlet, as the portion having a vertical course at least in regions. The inner periphery of the ash container is preferably pushed over the collar or the ring in order to thus from a choke gap and an annular gap between the ash container and the barbecue container. The advantage of the collar or ring is reliable positioning of the ash container relative to the barbecue container, and an appropriate throttling effect. The edge of the ash container is preferably rounded towards the outside. This results in a threading rounding on the inside of the edge of the

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ash container, meaning that the pre-positioning for sliding the ash container onto the collar or ring need not be as precise. In addition, the tendency to tilt is reduced. If there is a rounded transition region between the collar or ring and the base of the barbecue container, the radius at the edge of the ash container

5 is designed to be larger than the radius of the rounding of the transition region, so that the edge of the ash container comes to rest on the flat part of the base of the barbecue container, and not on the transition region. If the radius of the edge of the ash container were smaller than the radius at the transition between the base of the barbecue container and the ring or collar, the two roundings

10 may jam in one another when pressed together, which can make it difficult to release the two parts from one another. Particularly preferably, the radii of the rounding of the ash container and at the transition between the base of the barbecue container and the ring or collar are the same size. A further advantage of the collar or ring on the base of the ash container is that ash

15 falling through is guided into the inside of the ash container. This virtually eliminates the possibility of ash escaping through the annular gap, as would be conceivable without the collar or ring.

It should further be noted, with regard to the design of the movement device

20 and of the worm gearing, that the ash container is fastened so as to be spaced apart from the swivel pin of the bracket, so that the ash container is moved in a portion of a circular path between the swivel pin of the bracket and the fastening point of the ash container. In this case, the circular path of the ash container is arranged such that, in an embodiment comprising a vertical choke gap, the ash

25 container is led towards the barbecue container such that a choke portion is produced by overlapping vertical portions of the barbecue container and the ash container. The ash container comes to rest below the ash outlet, on the circular path. The swivel pin of the bracket, about which the ash container moves, is preferably outside the ash container. As a result, an adequately long lever arm

30 is achieved. Advantageously, the swivel pin of the bracket extends on the bracket through a mechanism carrier that is fastened to the barbecue container and carries the bracket and the worm gearing.

The pressure on the bracket or a lever associated therewith is exerted on a force application point on the bracket, the force application point being outside the swivel pin of the bracket.

- 5 Forces can be exerted in a relative manner between the mechanism carrier and the bracket by rotating the externally threaded crank spindle, the crank spindle being subjected to a screwing movement. Alternatively, instead of the crank, a handwheel or a rotary knob can be provided on a relevant spindle. The crank handle, the handwheel or the rotary knob are preferably produced from a
10 thermally insulating material.

- Plastics materials, wood and ceramics are particularly suitable. In an alternative embodiment, an externally threaded element can be fastened to the bracket and a nut can be designed to be rotatable in the mechanism carrier, so that an
15 axial movement of the externally threaded element is produced by rotating the nut. In a further embodiment, a nut can be provided in the bracket, an externally threaded element engaging in said nut and in addition being supported on the mechanism carrier in order to thus produce tension or pressure between the mechanism carrier and the nut in the bracket which in this case forms the
20 application point.

- On account of the hinged attachment of the ash container, a rotational movement that is superimposed on a movement of the ash container over the circular path about the swivel pin of the bracket can be uncoupled. The centre
25 of gravity of the ash container is preferably vertically below the fastening point between the bracket and the ash container, with the result that the freely rotatable ash container is rotated, by means of the position of the centre of gravity, into a position in which the ash inlet is turned towards the barbecue container. On account of the ash container being freely rotatable relative to the
30 bracket, the ash container can rest better on the base of the barbecue container because manufacturing tolerances of the parts can be compensated by the rotational degree of freedom. In addition, during the movement of the ash container relative to the barbecue container, tilting of the ash inlet opening and

thus a virtual reduction in the size of the ash inlet with respect to the ash produced is prevented.

As already mentioned, the ash container can preferably be hung by means of a
5 reversible positive engagement. Particularly preferably, this positive engagement is produced by means of at least one pin on the ash container and at least one recess in the bracket. Alternatively, the pin can also be arranged on the bracket and the recess in the ash container. Preferably, the ash container can be removed in a position of the bracket in which the supply air control does
10 not stop the air supply. In a removal position of this kind, the ash container is lowered relative to an air exclusion position.

An embodiment, given by way of example, of a grill device according to the invention will be described in the following with reference to the accompanying
15 drawings, in which:

Fig. 1 is a schematic side view of the embodiment of the grill device, in a removal position of the ash container,

20 Fig. 2 is a schematic front view of the embodiment of the grill device, in a removal position of the ash container,

Fig. 3 is a schematic cross section through the embodiment of the grill device, in a removal position of the ash container,

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Fig. 4 is a schematic side view of the embodiment of the grill device, in a position in which the air passageway from the surrounding air to a barbecue in the grill device is completely closed,

30 Fig. 5 is a schematic view of a further embodiment of the invention that differs from the embodiment described above by a variation of the movement device, and

Fig. 6 is a detail from Fig. 5, not to scale, from a viewing direction according to the arrow denoted VI in Fig. 5.

Fig. 1 is a schematic side view of the embodiment of the grill device 1 which comprises the barbecue container 2 and the ash container 3. The ash container 3 is preferably designed to be cup-shaped. Said container is closed at the bottom and has an ash inlet at the top. The periphery of the ash container is designed to be substantially cylindrical. The barbecue container 2 is designed as part of a kettle grill. The ash container 3 is fastened to the barbecue container 2 by means of a mechanism carrier 4 and a bracket 5. The bracket 5 comprises a swivel fork 20 and preferably comprises a recess 6 on the end portion of the swivel fork 20 thereof that is facing away from the mechanism carrier 4, in which recess a pin 7 fastened to the outer periphery of the ash container 3 engages. The outer periphery of the pin 7 preferably has a circular cross section. The recess 6 preferably has a contour which is circular at least in portions. In this case, the recess 6 is arranged on an upper edge of the swivel fork 20. A pressure element 8 in the form of a crank spindle is fastened to the mechanism carrier 4. A crank handle 9 is provided on the end of the crank spindle. In order to protect the crank handle 9 from heat from the barbecue container 2, a heat guard plate 10 can be fastened to the barbecue container 2, between the barbecue container 2 and the crank handle 9. A collar 11 is provided on the underside of the barbecue container 2, which collar is preferably deep-drawn from the material of the base of the barbecue container 2. The ash outlet from the barbecue container 2 is located inside the collar 11. The diameter of the collar 11 is slightly smaller than the inner diameter of an upper edge region 12 of the ash container 3. The upper edge region 12 of the ash container 3 is outwardly offset in a funnel-shaped manner, i.e. the ash container has an outwardly pointing rounding 13 on the upper end thereof that functions as threading aid for inserting the collar 11 into the ash container 3. In addition, the end on the outer periphery of the rounding 13 is more resilient in the vertical direction than the cylindrical portion of the ash container 3 meaning that, on account of the greater flexibility, the outer periphery of the rounding 13 can rest in a more sealed manner on the base of the barbecue container 2 and

can thus better seal the air supply into the inside of the barbecue container. The bracket 5, and thus the swivel fork 20, can be swivelled about a substantially horizontal swivel pin 14.

5 Fig. 2 is a schematic front view of the embodiment of the grill device. Additional features that cannot be seen in Fig. 1 will be described in the following. The ash container 3 is provided with two pins 7 that are aligned with one another and are fastened to the ash container 3 opposite one another. Said pins are carried by the swivel fork 20, one of the pins 7 resting on one leg, respectively, of the
10 swivel fork 20. The bracket 5 preferably has curved or angled portions that form the swivel fork 20. The bracket 5 is held by a swivel pin 14 that is preferably designed having two screws, as a pin having two rivet heads, or as rivets, the screw heads or rivet heads being visible in Fig. 2. In the embodiment comprising two screws, said screws are screwed into the bracket and pushed
15 through holes in the mechanism carrier 4 so that this arrangement forms the swivel pin 14. The swivel pin 14 penetrates two opposing side walls of the mechanism carrier 4 that are perpendicular to the image plane. The mechanism carrier 4 is fastened to the barbecue container 2 by means of two rivets or weld points 15 for example. The heat guard plate 10 can be fastened to the barbecue
20 container 2 at the same time by means of the rivets or weld points 15. In one embodiment, the mechanism carrier 4 and the heat guard plate 10 can be integral.

Fig. 3 is a schematic cross section of the embodiment of the grill device 1, the
25 cross section being in the plane denoted A-A in Fig. 2. Further features that are not shown in Fig. 1 and 2 are described in the following. The cross section shown in Fig. 3 extends through the part of the crank-like rod 8 that is not offset. Said part, shown as the left-hand portion of the rod 8 in Fig. 3, is provided, in one embodiment, with an external thread. The external thread of the rod 8 is
30 received in an internal thread of a rivet nut 16. Said rivet nut can be inserted in a non-rotatable manner in a hole in the front side (shown in Fig. 2) of the mechanism carrier 4. The end of the crank-like rod 8 facing the ash container 3 comes into contact with a lever 17 of the bracket 5 at a force application point.

The lever 17 preferably extends perpendicularly to the swivel fork leg that holds the ash container 3, and downwards from the swivel pin 14. The force application point on the lever 17 is preferably located on a lower portion of the lever 17. The swivel pin 14 penetrates the bracket 5 in an upper portion of the lever 17.

A rotation of the crank spindle 8 formed as a crank-like rod causes an axial displacement thereof. If the crank-like rod 8 is displaced towards the ash container 3, this results in the ash container 3 being raised. In the process, the rotational movement of the crank-like rod 8 is converted into an axial translation thereof. This translation causes the bracket 5 to be swivelled, which in turn results in a movement of the ash container 3 over a circular path. In the process, the ash container 3 orients itself horizontally.

Fig. 4 is a schematic side view of the embodiment of the grill device 1 in a position in which the air passageway from the surrounding air to a barbecue in the barbecue container 2 is completely closed. Additional features that cannot be found in the preceding drawings will be described in the following. The rounding 13 of the ash container 3 rests on the base of the barbecue container 2. As a result, the air passageway is closed in a sealed manner. In order for the ash container 3 to be in this position, the crank-like rod 8 is screwed into the rivet nut 16 as far as a striking point. Consequently, the lever 17 is swivelled as far as possible to the left in the inside of the mechanism carrier 4, as a result of which the bracket 5 is displaced as far as possible upwards. This produces a pressing force of the ash container 3 on the barbecue container 2. In this position, the bracket 5 is inclined relative to the base of the barbecue container 2 at an angle α in a direction in which the end portion of the bracket 5 comprising the recess 6 is closer to the barbecue container 2 than the portion of the bracket 5 on which the swivel pin 14 is arranged. The angle α is preferably approximately 3° . An angle of this kind advantageously causes the ash container 3 to press against the barbecue container 2 in a substantially perpendicular direction. In contrast, the angle in the maximum open position of the ash container 3 relative to the barbecue container is preferably

approximately 15°. In the maximum open position, the portion of the bracket 5 comprising the recess 6 is further away from the barbecue container 2 than the portion of the bracket 5 on which the swivel pin 14 is arranged.

- 5 A further embodiment of a grill device according to the invention will be described in the following with reference to Fig. 5 and 6. The embodiment according to Fig. 5 and 6 differs from the embodiment described above merely in a variation of the movement device for raising and lowering the ash container 3. In order to understand this further embodiment, essentially only the variations
10 compared with the first embodiment will be described in the following, meaning that reference can otherwise be made to the preceding description. Elements of the embodiments that are structurally and functionally identical are denoted by correspondingly identical reference numerals.
- 15 In the second embodiment according to Fig. 5 and Fig. 6, a rigid lever 8 that protrudes outwardly from the swivel fork 20 is provided on said swivel fork, which lever can be swivelled together with the swivel fork 20 directly about the swivel pin 14, as shown by the double-ended arrow 22. The lever 8 passes through a slot housing 24 that is fastened to the mechanism carrier 4. As can be
20 seen in Fig. 6, the slot housing 24 comprises a vertical longitudinal slot 26 that provides the lever 8 with a degree of swivelling freedom that is limited at the top and bottom. The slot housing 24 has a circular contour on the outer side 28 thereof that is on the right in Fig. 5, the swivel pin 14 forming the circle centre of said contour. A clamp plate 30 that is mounted so as to be axially slidable on
25 the lever rod 8 is supported on said curved outer surface 28, which clamp plate is pre-tensioned against the outer side 28 of the slot housing 24 by means of a compression spring 32 that is supported on the clamp plate 30 at one end and on a fixed collar 34 of the lever rod 8 at the other end. The clamped connection between the clamp plate 30 and the outer side 28 of the slot housing 24 on
30 which said clamp plate acts holds the lever 8, and thus also the ash container 3, in the respectively adjusted swivel position. In order to change this swivel position, the clamp plate 30 can be manually pulled away from the surface 28 against the action of the spring 32, such that the lever 8 can then be easily

swivelled about the swivel pin 14. The clamp plate 30 that is then again released in its clamping position then ensures that the selected new swivel position is maintained.

- 5 It should be noted that the clamping mechanism 30, 32, 34 can be replaced by a clamping screw for example, which screw is engaged in an external thread to be provided on the lever rod 8, and can be tensioned against the slot housing 28 or released therefrom instead of the clamp plate 30.
- 10 A further variant that is not shown provides for it to be possible for the lever 8 as a whole to be hung in the mechanism carrier 4 or unhooked from the mechanism carrier 4 together with the ash container. For this purpose, the mechanism carrier comprises a link for detachably receiving hinge pins that are provided on the bracket 5 and define the swivel pin 14.

Patentkrav

1. Grillindretning (1) med en grillbrændebeholder (2) til et grillfyr og en på grillbrændebeholderen (2) fastgjort eller fastgørlig askebeholder (3) med en
 5 askeindgang, hvorved askeindgangen er rettet op imod grillbrændebeholderen (2), og
 hvorved lufttilførslen fra omgivelsens luft til grillfyret er indstillelig ved hjælp af en relativ bevægelse imellem askebeholderen (3) og grillbrændebeholderen (2), hvorved den relative bevægelse foregår i lodret retning og er indstillelig ved
 10 hjælp af den lodrette bevægelse af en form og/eller en dimensionering af mindst en luftgennemstrømningsbane, som er begrænset i det mindste ved hjælp af askebeholderen (3) og grillbrændebeholderen (2), hvorved der til udførelsen af den relative bevægelse imellem askebeholderen (3) og grillbrændebeholderen (2) er fastgjort en bevægelsesindretning (5, 8, 16, 17) med en bevægelig
 15 holdeindretning (5) til askebeholderen (3) direkte eller indirekte på grillbrændebeholderen (2), hvorved holdeindretningen (5) omfatter en omkring en vandret omdrejningsakse (14) drejelig svinggaffel, som er svingbart lejret i forhold til grillbrændebeholderen (2), med to gaffelben som imellem sig optager og bærer askebeholderen (3), således at en svingbevægelse af svinggaflen
 20 (20) har en respektiv lodret bevægelseskomponent til løftning og sænkning af askebeholderen (3), og at bevægelsesindretningen (5, 8, 16, 17) omfatter et aktiveringsled (8) til svingning af svinggaflen (20) omkring omdrejningsaksen (14),

kendetegnet ved, at

- 25 bevægelsesindretningen (5, 8, 16, 17) omfatter et skrue-drev (8, 16), som påvirker holdeindretningen (5),
 hvilket skrue-drev er aktiverbart ved drejning af aktiveringsledet (8) med henblik på at svinge svinggaflen (8) omkring omdrejningsaksen (14) og derved at indstille askebeholderen (3) lodret i forhold til grillbrændebeholderen (2).

30

2. Grillindretning ifølge krav 1, **kendetegnet ved, at** askebeholderen (3) er aftagelig og hængslet i et ophæng på svinggaflen (20), således at den kan oprettes vandret under tyngdekraftens virkning omkring en parallelt med

svinggaflens (20) omdrejningsakse (14) forløbende hængselakse, når svinggaflen (20) svinges omkring omdrejningsaksen (14).

3. Grillindretning ifølge krav 1 eller 2, så vidt sidstnævnte er afhængigt af krav 5 2, **kendetegnet ved, at** bevægelsesindretningen er således indrettet, at skrue-drevet (8, 16) påvirker holdeindretningen (5) kun løst berørende uden indbyrdes indgreb, således at der imellem skrue-drevet (8, 16) og holdeindretningen (5) kan overføres trykkræfter til at svinge svinggaflen (20) omkring omdrejningsaksen (14).

10

4. Grillindretning ifølge krav 1 eller et af de i krav 3 til 4, der henviser hertil, **kendetegnet ved, at** skrue-drevet (8, 16) omfatter en med et udvendigt gevind forsynet krumtapspindel (8) som aktiveringsled og en møtrik (16), som gennemtrænges af krumtapspindelen (8) og står i gevindindgreb hermed.

15

5. Grillindretning ifølge krav 4, **kendetegnet ved, at** møtrikken (16) er fastgjort i forhold til grillbrændebeholderen (2), og krumtapspindelen (8) er drejeligt lejret heri, således at den ved sin drejning er lineært bevægelig frem og tilbage som følge af skruevirkningen med henblik på at svinge svinggaflen (20).

20

6. Grillindretning ifølge krav 4, **kendetegnet ved, at** krumtapspindelen (8) ved en aksial ende ligger løst an ved endesiden på holdeindretningen (5) og med sin anden ende drejer væk fra holdeindretningen (5), hvorved krumtapspindelen (8) på denne udadragende ende har et 25 krumtapaktiveringsgreb (9).

7. Grillindretning ifølge krav 2 eller et hertil tilbagevisende krav, **kendetegnet ved, at** der er tilvejebragt en hængslet, løsbar ophængningsforbindelse imellem askebeholderen (3) og svinggaflen (20) ved hjælp af opadtil åbne 30 randudsparinger (6) i svinggaflen (20) og deri drejeligt optagede stifter (7) på askebeholderen.

8. Grillindretning ifølge et af de foregående krav, **kendetegnet ved** en på grillbrændebeholderen (2) fastgjort mekanismebærer, hvorpå svinggaflen (20) er svingbart fastholdt omkring omdrejningsaksen (14).
- 5 9. Grillindretning ifølge et af de foregående krav, **kendetegnet ved, at** i det mindste aktiveringsledet (8) er termisk afskærmet over for grillbrændebeholderen (2) ved hjælp af et varmeskjold (10).
- 10 10. Grillindretning ifølge et af de foregående krav, **kendetegnet ved, at** luftgennemstrømningsbanen omfatter en luftgennemstrømningsåbning i form af mindst et afsnit af en lodret ringspalte mellem askebeholderen (2) og grillbrændebeholderen (3).
- 15 11. Grillindretning ifølge et af de foregående krav, **kendetegnet ved, at** luftgennemstrømningsbanen forløber igennem et lodret drøvleafsnit mellem et lodret afsnit (11) af grillbrændebeholderen (2) og et lodret afsnit af askebeholderen (3).
- 20 12. Grillindretning ifølge et af de foregående krav, **kendetegnet ved, at** en lodret højde af det lodrette drøvleafsnit af luftgennemstrømningsbanen er indstillelig.
- 25 13. Grillindretning (1) ifølge et af de foregående krav, **kendetegnet ved, at** grillbrændebeholderen (2) har et askeudløb med et afsnit (11) med mindst delvis lodret forløb, som i en maksimalt hævet stilling af askebeholderen (3) radialt udvendigt er omgivet af sidstnævnte på en måde som aflukker gennemstrømningsbanen.
- 30 14. Grillindretning ifølge krav 13, **kendetegnet ved, at** afsnittet (11) af askeudgangen er en ringformet periferivæg på askeudgangen, som rager nedad fra grillbrændebeholderen (2), og at askebeholderen (3) ved sin øvre rand (12) er forkrøppet tragtformet, radialt udad.

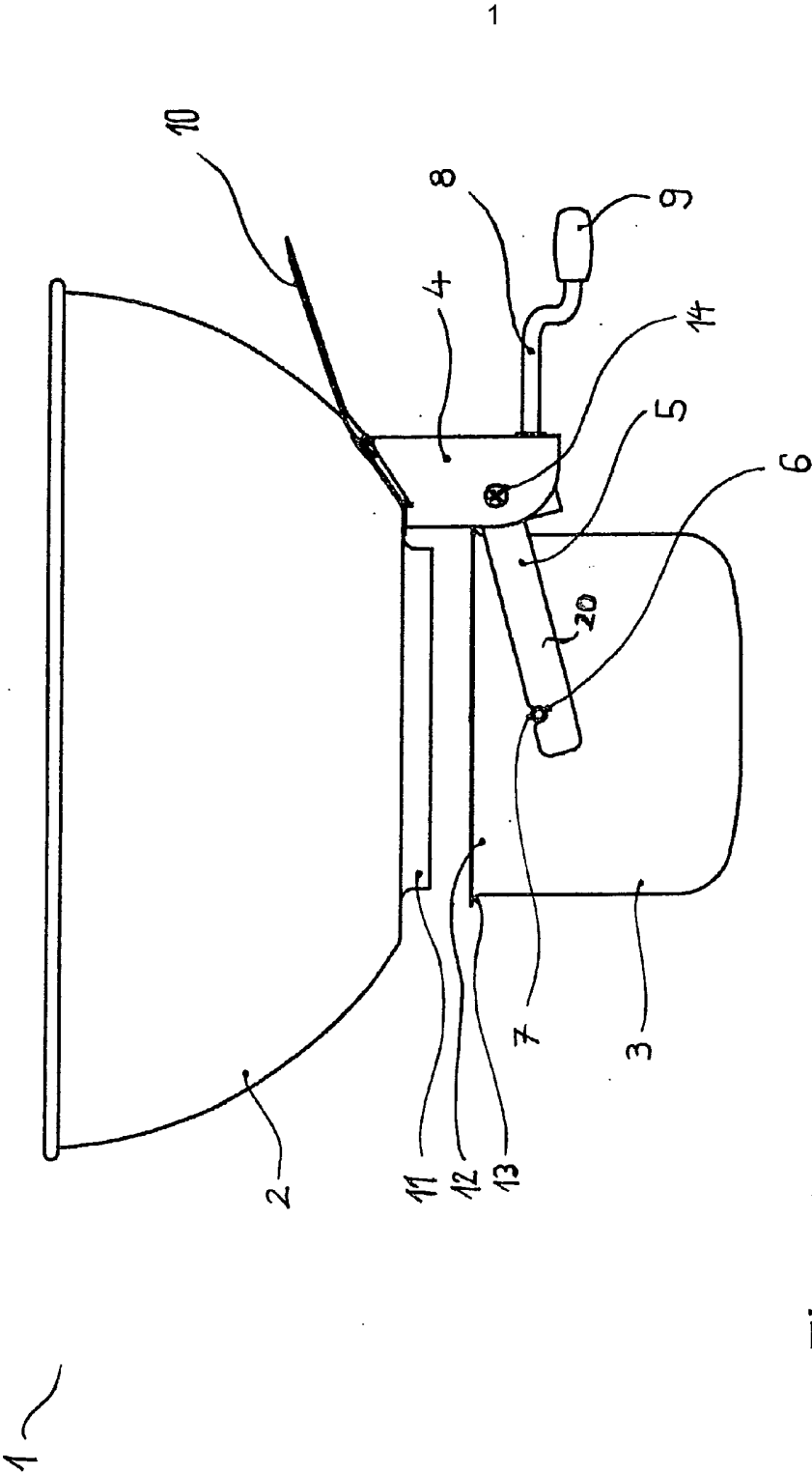


Fig. 1

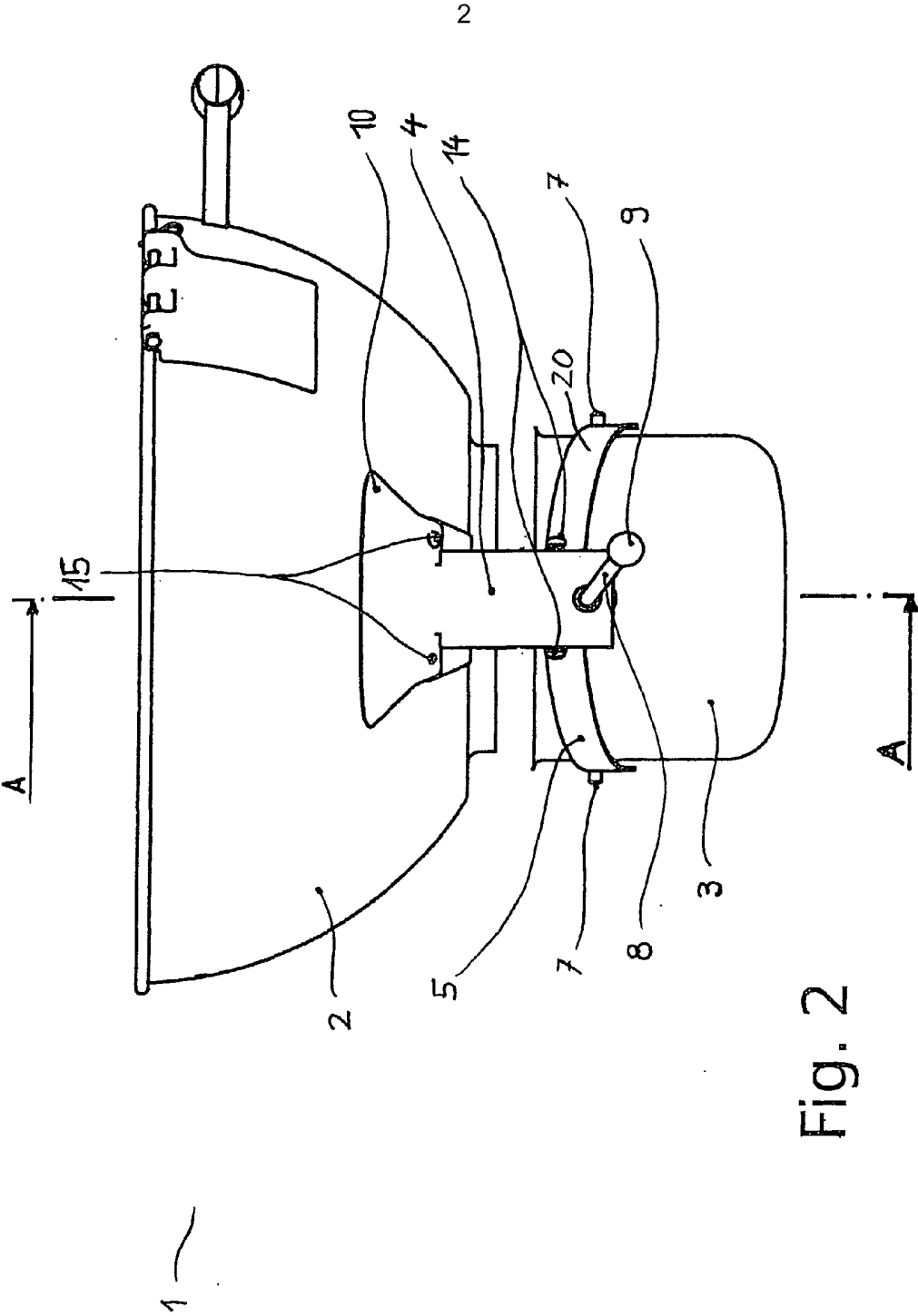


Fig. 2

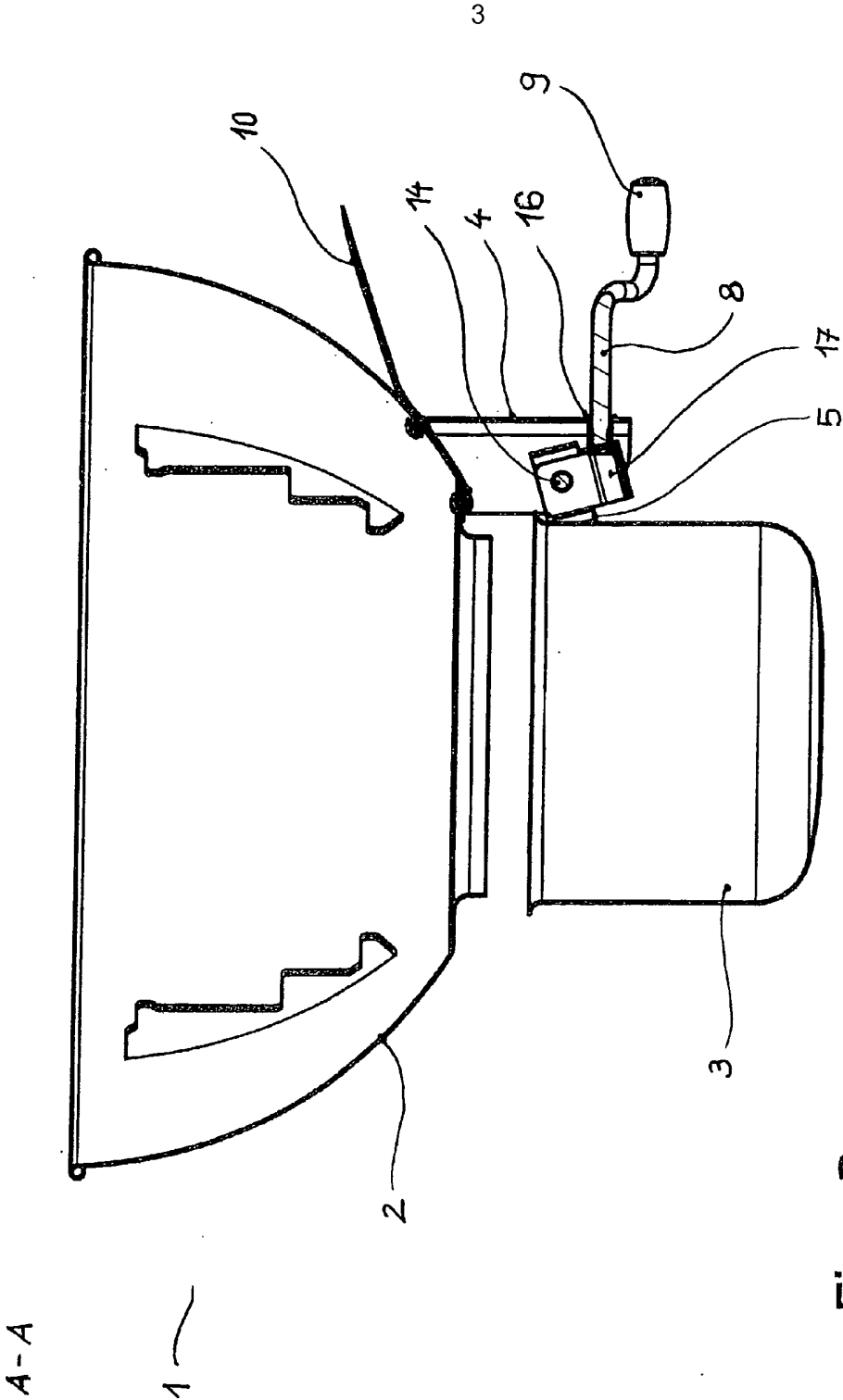


Fig. 3

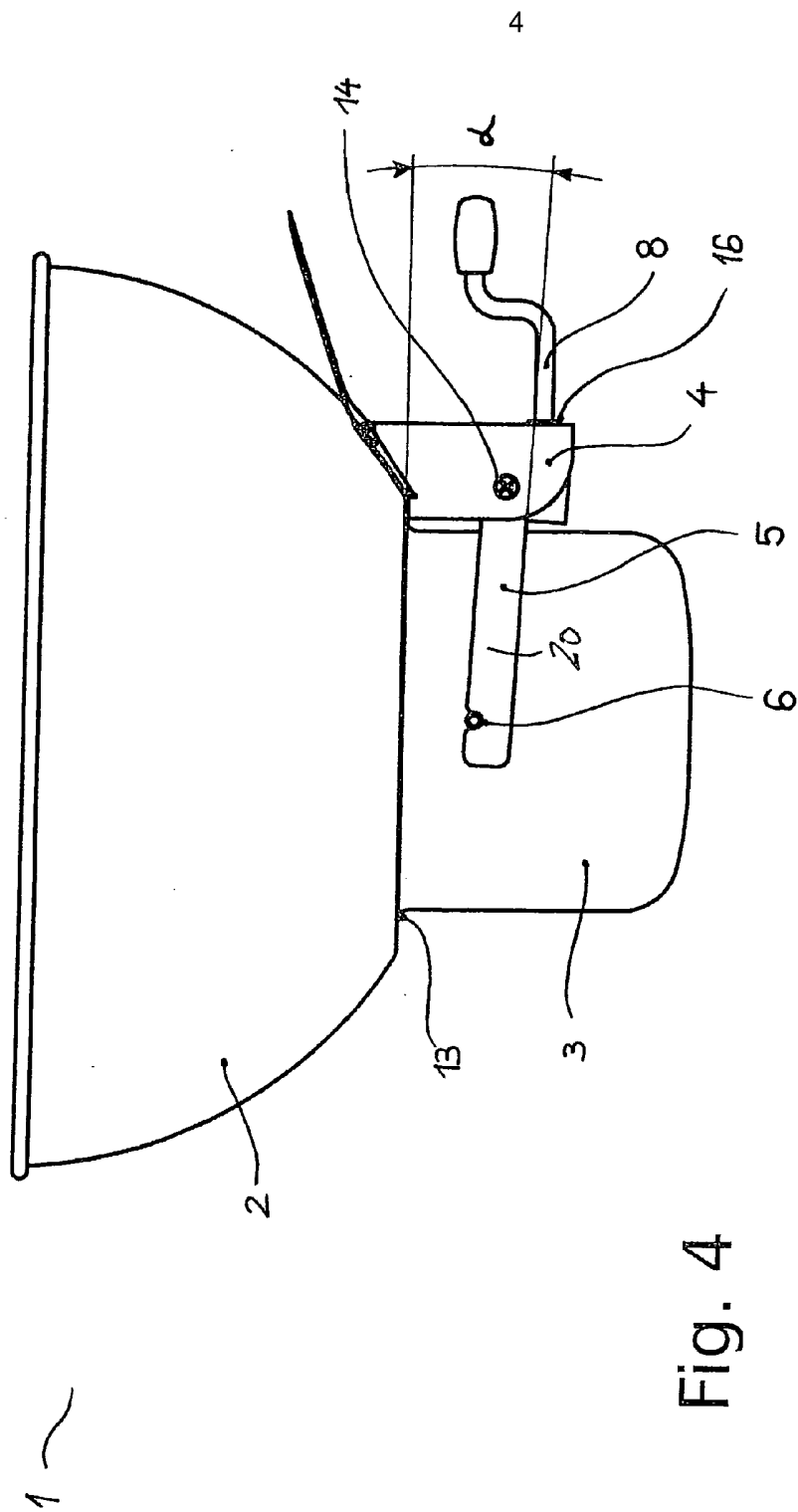


Fig. 4

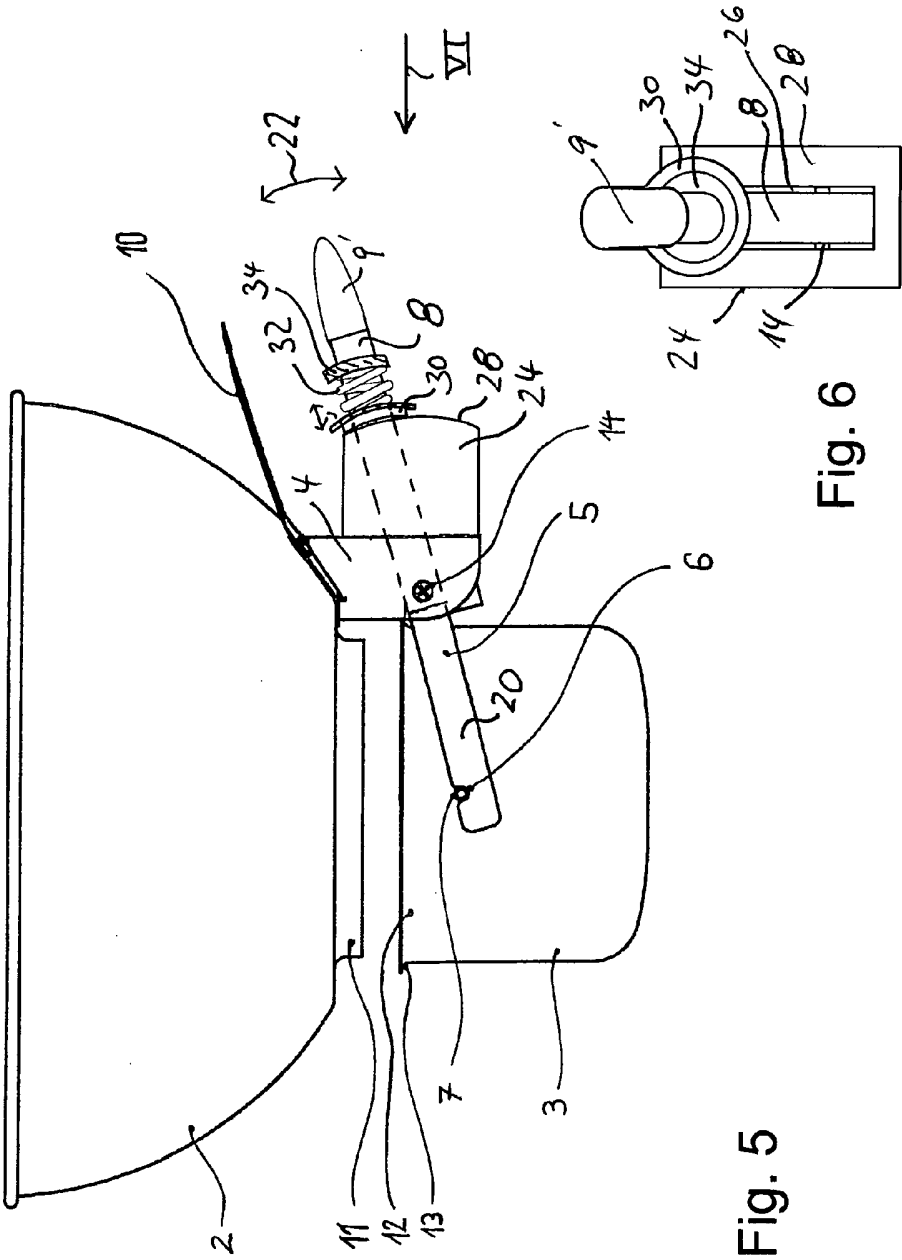


Fig. 5

Fig. 6