

Pressure Cooker /

The invention relates to a pressure cooker with a container intended for receiving items to be cooked, which, with the aid of a cover which can be placed on the outwardly bent container edge and which is lockable with it, can be closed airtight, in which, by means of a closing mechanism provided on the cover at least two segment-like closure members, adapted arcuately to the circumferential contour of the container edge, acting distributively over the cover circumference and pivoted on the cover circumference, can be moved by an actuating device from an open position, in which the cover can be removed from the container, into a locked position extending underneath the container edge, in which the cover on its circumference, by interspersing an encircling sealing ring, is pressed against the container edge.

In such a pressure cooker known from DE 40 40 489 C2 on the cover a stationary U-form holding segment and, spaced apart from it, two arcuate clamping-segments are articulated on a pivot axis at the outer ends facing one another in the proximity of the holding segment. The holding segment and the clamping segments form a substantially circular arrangement. The holding segment is implemented such that it extends under the edge, turned outwardly, of the container and thus aligns the cover with respect to the container so that the clamping segments extend subsequently precisely under the turned-over edge. Opposite the holding segment on the free ends of the clamping segments brackets are provided which extend away from the clamping segments. These brackets are engaged by bolts of a closure lever. The clamping segments in their open position in the region of the brackets are spaced apart at an interval which corresponds to the spacing of the bolts. When the closure lever is pivoted the bolts move within the brackets. Since the spacing of the bolts is fixed, the clamping segments move during the locking process toward one another and, in the locked position, are disposed adjacent to each other. The length of the brackets is such that open position and locked position are precisely defined. This configuration is of disadvantage not only due to the stationary holding part but also

due to the fact that the arcuate clamping segments in the locked position have only an overlap, constant over their circumferential length, with the container edge if their articulation is already in the region of the container edge. The consequence of both is that the emplacement of the cover on the container presupposes an unaccustomed movement parallel and perpendicular to the container axis.

It is the task of the present invention to create a pressure cooker of the above cited type whose cover offers improved operating comfort and simultaneously high locking security.

This task is solved according to the invention thereby that overall several, in particular four, closure members are combined into several, in particular two, groups of closure elements of which two each are connected in the manner of hinges, and that the several, in particular two, ends of the two groups of closure members, in particular their adjacent two ends, during the closing are simultaneously guided obliquely inwardly toward one another and, during the opening, obliquely outwardly away from one another with the aid of the closing mechanism carrying along radially the hinges between the closure members.

In this way the cover can be emplaced through a simple movement coaxially to the container axis. A stationary holding segment is herein no longer a hindrance and, in the open position of the closing mechanism, no closure member is located, not even partially, in the region of the container edge. Rather, only after the cover has been placed perpendicularly onto the container and the sealing ring has been lightly compressed, are the closure members moved into the locked position in which they subsequently have an overlap with the container edge, which overlap is constant over their length.

In a special embodiment of the invention the oblique guidance of the ends of the several, in particular two, groups of closure members takes place with the aid of a pin/slot combination, a track-guided and/or a rotating track which can be realized in a simple manner such that it works reliably.

The pins can therein be provided as a component of the closing mechanism on the closure members and the slots in the cover.

The closing mechanism is advantageously actuated by a central actuation knob and/or an actuation device in the proximity of the edge, for example via a rotating track which, while of simple structure, permits simultaneously the comfortable operation of the closing mechanism.

In a further embodiment of the invention the closure members are supported in a U section-like outforming, preferably closed toward the outside, on the circumference of the cover so that they are not visible from the outside.

The closure members are therein guided radially, for example on the circumference of the cover, preferably in the U section-like outforming of the cover in order to ensure the reliable function of the closing and of the unlocking.

In particular the closure members can themselves be implemented as a U section with low weight which is open toward the container axis, wherein the lower shank of the U section intended for extending under the container edge is preferably longer than the upper shank so that with the free displacement path for the closure members the [lower shank of the U section] always extends securely under the container edge.

Further goals, characteristics, advantages and application capabilities of the invention are evident in the following description of embodiment examples in conjunction with the drawing. Therein all described and/or graphically depicted characteristics by themselves or in any combination form the subject matter of the invention even independently of their combination in individual claims or their reference back.

In the drawing depict:

- Fig. 1a and 1b schematically a partial vertical section of a pressure cooker comprising the invention in the region of the container edge, wherein the closure members in Figure 1a are in the locked position and in Figure 1b in the open position,
- Fig. 2a and 2b schematically the container of Figure 1a and 1b in top view wherein the relative position of the closure members with respect to the container edge is shown, and specifically in the locked

position (Fig. 2a) and in the open position (Fig. 2b).

The pressure cooker depicted in the drawing comprises a container 1 intended for receiving items to be cooked and a cover 3 which can be placed on the container edge 2 and locked with it in order to close the cooker airtight. The container edge 2 is bent outwardly. The cover 3 is equipped with a closing mechanism which, according to Figures 2a and 2b comprises four closure members acting distributively over the cover circumference. The closure members 4 are arcuately adapted to the circumferential contour of the container edge 2, implemented segment-like and supported displaceably or pivotably on the cover circumference. By an actuation device, for example disposed centrally, the closure members 4 can be moved from an open position, in which the cover 3 can be removed from the container 1 (Fig. 1b and 2b), into a locked position, in which the cover 3 is pressed with its circumference, by interspersing an encircling sealing ring 5, against the container edge 2. The closure members 4 extend in their locked position under the container edge 2 pressing the sealing ring 5 against the container edge 2. The sealing ring 5 is implemented in the form of a meander and held detachably with an upper arch segment in a correspondingly implemented groove 13 of the cover 3.

According to the invention the overall four closure members 4 are combined in two groups of two closure members 4 each, connected with one another via one hinge 10 each. The particular adjacent two ends 9 of the two groups of closure members 4 with the aid of the closing mechanism carrying along the hinges 10 between the closure members 4 radially inwardly or outwardly can be guided simultaneously together during closure obliquely inwardly toward one another and, during opening, obliquely outwardly away from one another. In this way the closure members 4 can be moved from a position (open position), in which they do not overlap the container edge at all into another position (locked position) in which they extend under the container edge 2 on its circumference with a uniform spacing closure member-edge to container edge. In the locked position the flow of force takes place from the container edge 2 over the closure members 4 onto the cover 3.

In Figures 2a and 2b the direction of movement, in which the individual parts

of the closure members 4 move relative to the container edge 2 during closing or opening, is indicated by arrows. It can be seen that the oblique guidance of ends 9 of the groups of closure members 4 takes place with the aid of a pin/slot combination 11, 12. The pins 11 are provided as components of the closing mechanism on the closure members 4 and the slots 12 in the cover 3. The closing mechanism (not indicated in the drawing) can comprise at least one rotary track operatable by a central actuation knob, with the aid of which, depending on the direction of rotation, the closure members 4 can be moved in the indicated direction of movement into the locked position as well as also into the open position.

The closure members 4 are supported in a U section-like outforming 6, open toward the inside, on the circumference of the cover 3 so that they are not visible from the outside. The closure members 4 can therein be guided radially on the circumference of the cover 3, in particular in the U section-like outforming 6 of cover 3.

The closure members 4 themselves are also implemented as a U section open toward the container axis. The lower shank 7 of the U section intended for extending under the container edge 2 is longer than the upper shank 8 so that the particular closure members 4, without impairing the movement path in the region of the upper shank 8, with their lower shank 7 can be moved into a secure overlap with the container edge 2 and a secure locking and sealing of the pressure cooker over the entire container circumference takes place.

List of Reference Numbers

- 1 Container
- 2 Container edge
- 3 Cover
- 4 Closure member
- 5 Sealing ring
- 6 Outforming
- 7 Shank
- 8 Shank
- 9 Ends
- 10 Hinge
- 11 Pins
- 12 Slots
- 13 Groove



Patent Claims

1. Pressure cooker with a container (1) intended for receiving items to be cooked, which can be closed airtight with the aid of a cover (3) which can be placed onto the container edge (2), bent outwardly, and which is lockable with it, in which, by means of a closing mechanism provided on the cover (3), at least two segment-like closure members (4) acting distributively over the cover circumference and adapted arcuately to the circumference contour of the container edge (2) and pivoted on the cover circumference can be moved by an actuation device from an open position, in which the cover (3) can be removed from the container (1), into a locked position extending under the container edge (2), in which by interspersing an encircling sealing ring (5) the cover (3) is pressed on its circumference against the container edge (2), characterized in that overall several, in particular four, closure members (4) are combined into several, in particular two, groups of two closure members (4) connected with each other in the manner of hinges and that the several, in particular two, groups of closure members (4), in particular their adjacent two ends (9), with the aid of the closing mechanism, while radially carrying along the hinges (10) between the closure members (4), are guided simultaneously during the closing obliquely inwardly toward one another and, during the opening, obliquely outwardly away from each other.
2. Pressure cooker as claimed in claim 1, characterized in that the oblique guidance of the ends (9) of the several, in particular two, groups of closure members (4) takes place with the aid of a pin/slot combination (11, 12), a track-guided and/or a rotating device.
3. Pressure cooker as claimed in claim 2, characterized in that the pins (11) are provided as components of the closing mechanism on the closure members (4) and the slots (12) are provided in the cover (3).



4. Pressure cooker as claimed in one of claims 1 to 3, characterized in that the closing mechanism is actuated at least by a central actuation knob and/or an actuation device disposed in the proximity of the edge.
5. Pressure cooker as claimed in one of claims 1 to 4, characterized in that the closure members (4) are supported in a U section-like outforming (6), preferably closed toward the outside, on the circumference of the cover (3).
6. Pressure cooker as claimed in one of claims 1 to 5, characterized in that the closure members (4) are guided radially on the circumference of the cover (3), preferably in the U section-like outforming (6) of the cover (3).
7. Pressure cooker as claimed in one of claims 1 to 6, characterized in that the closure members (4) are implemented as a U section.
8. Pressure cooker as claimed in claim 7, characterized in that the U section of the closure members (4) is open toward the container axis.
9. Pressure cooker as claimed in claim 8, characterized in that the lower shank (7), intended for extending under the container edge (2), of the U section of the closure members (4) is longer than the upper shank (8).