

Description

The invention relates to a microwave apparatus for preparing food, with a pot-, dish- or pan-like receptacle for food, surrounding a part of the cooking space, which receptacle is able to be placed on the lower part, as well as with an upper part connected to the lower part by an intermediate piece, which surrounds the other part of the cooking space, and in the operating position of the lower part overlaps like a hood, wherein in the operating closed position the upper edge of the receptacle lies against the outlet of microwave radiation in a sealing manner on the upper part.

DE-A-2 259 310 discloses a microwave heating apparatus for gastronomy, in the lower part of which receptacles for the accommodation of food requiring heating or cooking are suspended. The lower part can be set under a hood containing the microwave generator, which is mounted either lowerably on a casing lid or swivellably on a casing wall.

The microwave apparatus depicted and described in FR-A-2 265 042 has a cooking space inclined obliquely forwards in a basal casing which can be closed at the front by a swivellable lid in a manner such that a substantially rectangular complete cooking space is formed.

In a microwave apparatus disclosed in DE-A-3 034 962, the receptacle is either pushed into the operating position on guides in an upper part or placed on a vertically movable plate in a lower part. Both facilities require careful handling to bring the receptacle into the operating position. Moreover, when the receptacle has been pushed into or placed on the basic unit it is more or less completely inaccessible from above, which is disadvantageous, particularly when the standing area for the receptacle in the lower part is itself adapted as a hot-plate, so that the food in the microwave apparatus can be heated not only by the microwaves but also or independently by the hot-plate, in which case the inside of the receptacle should be easily accessible.

The object of the present invention is to modify a microwave apparatus of the type initially referred to in such

a manner that it is compact and thus easy to transport, readily installable in minimum space, simple to handle and superior with reference to the accessibility of the receptacle in its position on the standing area of the lower part.

According to the invention, this object is substantially achieved in a microwave apparatus of the type initially referred to, characterised in that the lower part and the upper part are flexibly connected to each other to such an extent that, because of a relative swivelling of the lower part and upper part, the upper part in a resting closed position - when the receptacle is removed - abuts or almost abuts the lower part in the region of the standing area for the receptacle. Thus in the open position the receptacle is simply placed on the allotted area of the standing area in the lower part. If the food contained in the receptacle is to be treated with microwaves, the upper part is simply swivelled down into the operating closed position, in which it abuts the upper edge of the receptacle and thereby closes the cooking space against the escape of microwaves and moreover also against the free escape of steam. If the receptacle is to be taken out of the basic unit, to add another ingredient to the food or for example to stir the food, the upper part need only be swivelled up so that the inside of the receptacle becomes accessible and the receptacle and contents can also easily be removed from the basic unit. The upper part is left in the opening position when the standing area for the receptacle in the lower part forms a hot-plate and cooking is to be carried out with the hot-plate alone. In this way, the microwave apparatus combines two functions with easy access to the receptacle. The microwave apparatus of the invention can moreover be accommodated in a space-saving manner with its parts in a resting closed position, when it is not required for use. This is ensured by the nature of the swivelling action between the lower part and the upper part, whereby the upper part can not only brought into an operating closed position relative to the lower part, in which the upper part lies on the upper edge of the receptacle standing on the lower part, but can

also be further swivelled until the upper part abuts or almost abuts the lower part in the resting closed position, i.e., when the receptacle has been removed.

So that the upper part can abut over a large area on either the edge of receptacle in the operating closed position or the lower part in the resting closed position, a further feature of the invention is characterised in that the lower part and the upper part can swivel about different axes, and in that the axes are arranged parallel to each other and displaced from each other, in that after the swivelling of the upper part as well as the lower part from the operating closed position the upper part, in a resting closed position - when the receptacle is removed - abuts or almost abuts the lower part in the region of the standing area for the receptacle. In this connection, the one axis lies close to the contact plane in the region of the upper edge of the receptacle when present in the basic unit, and the other axis lies close to the plane of the standing space in the lower part for the receptacle.

The swivelling mechanism is preferably arranged so that the main planes of the lower part and the upper part, in the operating closed position as well as in the resting closed position, extend parallel or almost parallel to each other and in the opening position perpendicular or almost perpendicular to each other. Nevertheless, the inside of the receptacle becomes accessible and it becomes possible to remove the receptacle from the basic unit after swivelling through small angles. The upper part should preferably be swivellable relative to the lower part through an angle of at least 30° to reach an opening position. For the purposes of good microwave sealing, the parallelity in the closed positions should preferably be ensured both when the upper part lies on the upper edge of the receptacle for the operation of the microwave apparatus, and also when, for the purposes of space saving when the receptacle has been removed from the basic unit, the lower part and the upper part are swivelled relatively the one to the other into the resting closed position, in which they abut directly the one on the other.

The intermediate piece preferably has a coupling body connecting the lower part with the upper part, said body containing both the axes.

It is further of particular advantage when the intermediate piece has a backwards extending foot as a spacer and when in further development of this feature the length of the part of the spacer projecting above the lower part in the resting closed position is somewhat greater than the height of the upper part. Thus it can be ensured in this way that whilst the microwave apparatus can be pushed against a wall as closely as possible but not so close that the upper part can no longer be swivelled up into its, for example, vertical position. Then to attain the resting closed position the lower part need only be swivelled up about the other axis, so that in the resting closed position the microwave apparatus can be set up in a minimum space with the main planes of the upper part and the lower part parallel to each other and vertical, for example at the rear of a kitchen working surface and the front working surface is not obstructed. When the microwave apparatus is next required for use, the lower part and the upper part can be swivelled forwards again into their operating positions, one after the other.

The spacer can for example also serve as an abutment for the upper part and/or the lower part in the opening position and/or the vertical resting closed position.

Further objects, features, advantages and possible applications of the present invention will be disclosed in the following description of a typical embodiment, with reference to the annexed drawing. In this connection, all the features described and/or depicted in the drawing constitute objects of the present invention, either singly or in any logical combination, even if they are not summarised in the Claims or back-references.

In the drawing:

Figure 1 is a schematic side elevation of the microwave apparatus of the invention, with the upper part in the opening position and the receptacle in place,

Figure 2 shows the microwave apparatus of Figure 1, partly sectioned, after swivelling the upper part forwards to lie in the operating closed position on the upper edge of the receptacle, and

Figure 3 is a schematic side elevation of the microwave apparatus of Figure 1, after removing the receptacle and also swivelling the lower part into the vertical position (resting closed position) to lie against the upper part.

The microwave apparatus 1 shown in the drawing consists of a lower part 2 and an upper part 3, which are swivellable relative to each other about two axes A and B lying at the rear, located parallel to each other and to the main planes H and I of the lower part 2 and the upper part 3, and staggered the one relative to the other. The upper part 3 is shown in Figure 1 in the substantially vertical opening position (the opening angle can alternatively be smaller, but should preferably not be less than 30°), in which a pot-, dish- or pan-like receptacle 5 for the food requiring preparation can be placed on the top standing area 7 formed by the lower part 2. Thus the receptacle 5 can be handled independently of the main unit formed by the lower part 2, the upper part 3 and an intermediate piece 4 which connects them together. With the upper part 3 in the opening position shown in Figure 1, not only can the receptacle 5 easily be placed on the standing area 7 and be removed therefrom, but also its contents are still directly accessible from above at the front. After swivelling the upper part 3 down into the operating closed position shown in Figure 2, the upper part 3, which overlaps the lower part 2 and the receptacle 5 like a hood and forms the remainder of the cooking space for microwave treatment apart from the inside of the receptacle 5, lies against and parallel to the upper edge of the receptacle 5 in a sealing manner which prevents the undesirable escape of the microwave radiation. When the food is ready, the apparatus can be swivelled back into the opening position

shown in Figure 1. In this position, the food contained in the receptacle 5 is accessible, and moreover the receptacle 5 can easily be removed bodily, in order for example to serve up the prepared food. If, though this is not specifically illustrated in the drawing, the standing area 7 for the receptacle 5 on the lower part 2 takes the form of a hot-plate, ordinary processes can be carried out directly and freely in the microwave apparatus 1 set up in the opening position shown in Figure 1, with the aid of the receptacle 5 matching the hood-like upper part 3 or any other receptacle whatever, for example a conventional saucepan.

If it is required to stow the microwave apparatus 1 away in minimum space, because it will not be used for a more or less extended period, the lower part 2 of the apparatus is also swivelled up, after removing the receptacle 5 therefrom, to lie against the upper part 3 as shown in Figure 3. But whereas the upper part 3 is swivelled relative to the lower part 2 about an axis B in such a manner that the hood-like upper part 3 in its operating closed position lies substantially level with the upper edge 6 of the receptacle 5, the lower part 2 is swivelled up about an axis A disposed obliquely below and behind the axis B, so that the standing area 7 of the lower part 2 abuts or almost abuts the vertically disposed upper part 3. The effects of the two axes A and B disposed in a coupling body 8 are such that in the resting closed position shown in Figure 3 the lower part 2 and the upper part 3 are no longer separate by the gap required to accommodate the receptacle 5 but lie directly together.

To ensure that sufficient space is available in front of a wall W against which the microwave apparatus 1 is set up to accommodate the upper part 3 when swivelled up into the vertical position to occupy minimum space, the coupling body 8 has a rearwardly extending foot 10 as a spacer 9. The length of the spacer 9 projecting beyond the rearward end of the lower part 2 is somewhat greater than the height h of the upper part 3. Thus in the resting position shown in Figure 3, the microwave apparatus 1 is positioned as close as possible

to and therefore in a space-saving manner in front of the wall W.

Thus the invention as a whole provides microwave apparatus which is easy to handle, versatile and compact.

List of Reference Numbers:

- | | | |
|----|---------------------|-------------------------|
| 1. | microwave apparatus | |
| 2 | lower part | |
| 3 | upper part | |
| 4 | intermediate piece | |
| 5 | receptacle | |
| 6 | edge | |
| 7 | standing area | |
| 9 | spacer | 8. hinge body <i>eb</i> |
| 10 | foot | |
| A | axis | |
| B | axis | |
| H | main plane | |
| I | main plane | |
| W | wall | |
| h | height | |

Annexed: 1 sheet of drawings with Figures 1 to 3

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CLAIMS

1. A microwave apparatus for preparing food, with a lower part (2), a pot-, dish-, or pan-like receptacle (5) for food, surrounding a part of the cooking space, which receptacle is able to be placed on the lower part (2), as well as with an upper part (3) connected to the lower part (2) by an intermediate piece (4), which surrounds the other part of the cooking space, and in the operating position of the lower part (2) overlaps like a hood, wherein in the operating closed position the upper edge (6) of the receptacle (5) lies against the outlet of microwave radiation in a sealing manner on the upper part (3), characterised in that the lower part (2) and upper part (3) are flexibly connected to each other to such an extent that, because of a relative swivelling of the lower part (2) and upper part (3), the upper part (3), in a resting closed position - when the receptacle (5) is removed - abuts or almost abuts the lower part (2) in the region of the standing area (7) for the receptacle (5).
2. A microwave apparatus according to Claim 1, characterised in that the lower part (2) and the upper part (3) are able to be swivelled against each other around different axes (A, B respectively), and in that the axes (A,B) are arranged parallel to each other and displaced from each other, in that after the swivelling of the upper part (3) as well as the lower part (2) from the operating closed position the upper (3), in a resting closed position - when the receptacle (5) is removed - abuts or almost abuts the lower part (2) in the region of the standing area (7) for the receptacle (5).



3. A microwave apparatus according to Claim 1 or 2, characterised in that the main planes (H,I) of lower part (2) and upper part (3), in the operating closed position as well as in the resting closed position, extend parallel or almost parallel to each other and in the opening position perpendicular or almost perpendicular to each other.
4. A microwave apparatus according to Claim 2 or 3, characterised in that the intermediate piece (4) has a coupling body (8) connecting the lower part (2) with the upper part (3), said body containing both axes (A,B).
5. A microwave apparatus according to one of Claims 1 to 4, characterised in that the intermediate piece (4) has a backwards extending foot (10) as a spacer (9).
6. A microwave apparatus according to Claim 5, characterised in that the length of the part of the spacer (9) projecting above the lower part (2) in the resting closed position is somewhat greater than the height of the upper part (3).
7. A microwave apparatus according to Claim 5 or 6, characterised in that the spacer (9) serves as an abutment for the upper part (3) and/or lower part (2) in the opening position and/or closing position.

