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(71) Applicant: **Kuhn Rikon AG**
8486 Rikon im Tösstal (CH)

(72) Inventors:
- **KÖSSL, Ulrich**
  6212 St. Erhard (CH)
- **HILTENBRAND, Valeria**
  8400 Winterthur (CH)

(74) Representative: **Detken, Andreas**
Isler & Pedrazzini AG
Giesshübelstrasse 45
Postfach 1772
8027 Zürich (CH)

(54) CUTTER FOR FRUITS OR VEGETABLES

(57) A device (1) for cutting fruits or vegetables comprises a guiding component (3; 4) comprising a circular guide opening (31; 41), and a rotating component (2) adapted to be rotatably received in the guide opening (31; 41) of the guiding component (3; 4) for rotation about a rotation axis (R). The rotating component (2) comprises at least one receiving cavity (21) adapted to receive a fruit or vegetable and having at least one cutting blade (22). The at least one receiving cavity (21) is arranged at a distance from the rotation axis (R) so as to cut a fruit or vegetable when the rotating component (2) is rotated about the rotation axis (R).

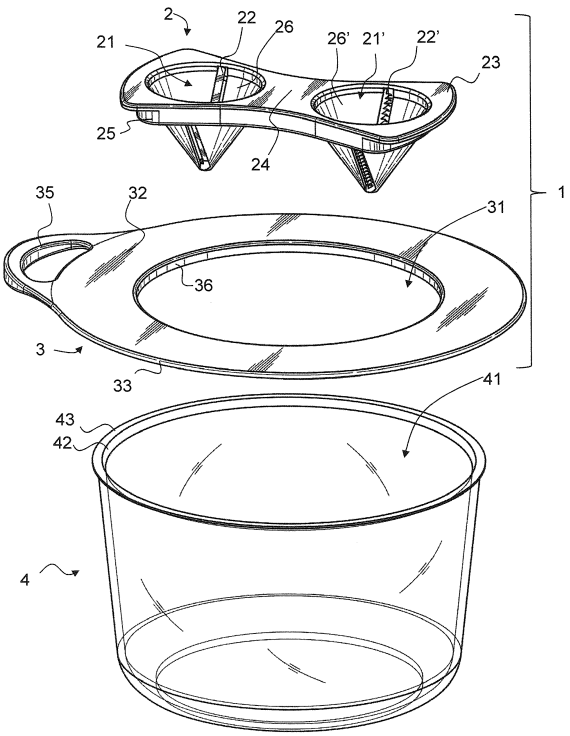


FIG. 1

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Description

TECHNICAL FIELD

[0001] The present invention relates to a device for cutting fruits or vegetables and to a method for cutting fruits or vegetables by means of such a device.

PRIOR ART

[0002] Many types of devices for cutting, peeling or slicing fruits or vegetables are known in the art. For example, motorized cutters such as the food processor disclosed in EP 3 028 615 A2 enable an easy processing of large amounts of fruits or vegetables.

[0003] There are occasions where it is desirable to process food in a manner that is appealing to a consumer. For example, when food is presented on a banquet or buffet table also aesthetic considerations become particularly important. In order to cut fruits or vegetables for decorative purposes, EP 2 218 561 A1 discloses a device for the spiral-shaped cutting of fruit and hard vegetables. The device comprises a funnel enclosing a cutting blade. If the fruit or vegetable is inserted into the funnel and is turned therein, spiral-shaped strips are removed from the fruit or vegetable. Although such a device allows cutting and comminuting the fruits or vegetables in a desired manner, the cutting of large amounts is difficult and very burdensome.

SUMMARY OF THE INVENTION

[0004] It is therefore an object of the present invention to provide a device and a method for cutting fruits or vegetables which overcomes the disadvantages of the state of the art. In particular, it is an object to provide a device that has a simple construction and which permits a facile processing of fruits or vegetables.

[0005] This object is achieved by a device according to claim 1 and by a method according to claim 15, respectively.

[0006] According to one aspect of the present invention, a device for cutting fruits or vegetables is provided which comprises a guiding component comprising a circular guide opening and a rotating component adapted to be rotatably received in the guide opening of the guiding component for rotation about a rotation axis. The rotating component comprises at least one receiving cavity adapted to receive a fruit or vegetable and having at least one cutting blade. The at least one receiving cavity is arranged at a distance from the rotation axis so as to cut a fruit or vegetable when the rotating component is rotated about the rotation axis.

[0007] Hence, in order to cut fruits or vegetables, the rotating component is placed into the circular guide opening of the guiding component. The rotating component is then manually rotated about the rotation axis along a circumferential direction within the guide opening by means of the inserted fruit or vegetable while the fruit or vegetable is always kept in the same orientation. Since the receiving cavity is arranged off-center with respect to the rotation axis, the fruit or vegetable rotates relative to the receiving cavity, and the cutting blade removes the strips from the fruit or vegetable during rotation. The fruit or vegetable thus acts in a similar manner as the handle of a crank.

[0008] Since this device comprises only a few components, in essence the guiding component and the rotating component, and due to the absence of any complex driving means such as drive motor, a device of a very simple design is provided. Furthermore, because solely movements similar to the movements for operating a crank with little manual force have to be carried out, an ergonomic and easy processing of the fruits or vegetables also in large amounts is enabled.

[0009] The receiving cavity is preferably defined by a hollow taper, wherein the cutting blade is arranged in a side surface of the taper.

[0010] Hence, the at least one receiving cavity adapted to receive a fruit or vegetable can be defined by an insert in the form of a hollow taper, funnel, cone or the like. Said hollow taper, funnel cone or the like is characterized by an open insert portion with a larger diameter and a closed end portion with a smaller diameter. The opening in the insert portion, which is located opposite to the tapered end located in the end portion, defines an insert opening through which the fruit or vegetable is inserted into the cavity.

[0011] The insert can be an integral part of the rotating component, i.e. the insert and the rotating component can be formed in one piece. Alternatively, it is also conceivable that the rotating component and the insert are constructed as individual parts which are subsequently assembled.

[0012] It is preferred to arrange one or more cutting blades in the side surface of the insert defining the receiving cavity, wherein each cutting blade preferably extends parallel to the side wall of the insert. For this purpose, one or more corresponding cutting recesses or cutting slits can be formed adjacent to the cutting blade in the side surface of the insert defining the receiving cavity, wherein the blade or blades are inserted into the cutting recesses or cutting slits. If exactly two cutting blades are provided in a receiving cavity, it is preferred to arrange them opposite to one other in the side wall of the insert. Furthermore, if the receiving cavity is defined by a hollow taper, funnel, cone or the like and comprises two or more cutting blades, it is preferred that these cutting blades run in a common plane with an axis of the taper, funnel, cone or the like.

[0013] The rotating component preferably comprises a second receiving cavity having at least one second cutting blade, wherein the second receiving cavity is arranged at a distance from the rotation axis so as to cut a fruit or vegetable when the rotating component is rotated about the rotation axis.

[0014] That is, the rotating component may comprise a second receiving cavity which is preferably defined by a hollow taper, funnel, cone or the like and comprises one or more cutting blades as described above with reference to the first receiving cavity. Each of the receiving cavities and consequently also each of the one or more cutting blades are then arranged offset from, i.e. off-center with respect to, the rotation axis. If two receiving cavities are provided on the rotating component, they are preferably arranged opposite each other and at a distance from the rotation axis. The distance between the rotation axis and the receiving cavity and the second receiving cavity, respectively, can be identical or different.

[0015] The second receiving cavity can define an insert opening having a second diameter that is equal to the diameter of the insert opening of the first receiving cavity. However, it is also possible that the insert opening of the second receiving cavity has a second diameter that is larger or smaller than the diameter of the insert opening of the first receiving cavity. The insert opening defined by the receiving cavity thereby corresponds to the opening of the insert defining said cavity and through which insert opening the fruit or vegetable is inserted into the cavity as mentioned above.

[0016] Hence, it is conceivable to provide the rotating component with receiving cavities whose geometric dimensions are identical. However, it is also conceivable to provide receiving cavities of different size and/or with insert openings of different diameters so that the device can process fruits or vegetables of different dimensions.

[0017] It should be noted that instead of just one receiving cavity or exactly two receiving cavities, it is conceivable to provide a plurality of receiving cavities which might have the same dimensions or different dimensions, respectively.

[0018] Each of the first cutting blade and/or the second cutting blade, if any, can be a straight cutting blade, or the cutting blade and/or the second cutting blade, if any, can be a waved or curled cutting blade.

[0019] A straight cutting blade is configured to cut fruits or vegetables into flat strips as the rotating component rotates within the guide opening of the guiding component. A waved or curled cutting blade is configured to cut fruits or vegetables into spiral strips as the rotating component rotates within the guide opening of the guiding component. For example, the waved or curled cutting blade can be provided in the form of a Julienne blade.

[0020] The one or more receiving cavities may comprise the same type of cutting blades, e.g. both the first receiving cavity and the second receiving cavity may both comprise straight or Julienne cutting blades, respectively. However, it is also possible that the receiving cavities comprise different types of blades, e.g. the first receiving cavity may comprise one or more straight cutting blades and the second receiving cavity may comprise one or more Julienne cutting blades.

[0021] The guiding component preferably comprises an inner guiding surface extending around the guide opening in a circumferential direction, wherein the inner guiding surface provides a rotary guide for guiding the rotation of the rotating component within the guide opening.

[0022] The rotating component can then comprise an outer guiding surface that, at least in areas, bears on the inner guiding surface of the guiding component in case of the rotating component being received in the guide opening, wherein a rotary guide (a rotary bearing) is provided by the inner guiding surface of the guiding component and the outer guiding surface of the rotating component.

[0023] By providing a corresponding outer guiding surface on the rotary component which, when the rotating component is placed within the guide opening, adjoins the inner guiding surface of the guiding component, the rotary motion of the rotating component within the guiding component around the rotation axis is guided.

[0024] It is preferred that the rotating component comprises an elongated support structure extending in a horizontal direction and having a length in said horizontal direction that is smaller than or equal to the diameter of the guide opening, such that the support structure can be fully received within the guide opening.

[0025] In this respect, the horizontal direction runs perpendicularly to a vertical direction, the vertical direction referring to the direction along which the rotating component is inserted into the guiding component. For example, the elongated support structure can have the form of a plate which has a large extension along the horizontal direction and a smaller extension along the vertical direction. In any case, at least parts of the rotating components should have dimensions that are equal to or smaller than the diameter of the guide opening so that it is possible to insert the rotating component into the guide opening of the guiding component.

[0026] The rotating component preferably comprises, at least in a certain area, a laterally protruding flange, which flange, in case of the rotating component being received in the guide opening, at least partially extends over an upper surface of the guiding component so as to vertically retain the rotating component within the guide opening.

[0027] Because at least parts of the rotating component, in particular the support structure, have dimensions which are equal to or smaller than the diameter of the guide opening, said flange prevents that the rotating component falls through the guide opening of the guiding component.

[0028] The flange can be provided in the form of a border which forms a continuation of the upper surface of the rotating component. That is, the flange can be seen as an extension of the upper surface of the rotating component which laterally extends from the rotating component along the plane defined by said upper surface. However, it is also possible that the flange takes other forms. For instance, the flange can be provided by means of a structure which vertically extends from the upper surface

of the guiding component and which structure comprises a bending or curvature that at least partially extends along and over the upper surface of the guiding component in case that the rotating component is received within the guide opening.

[0029] Depending on the particular shape of the rotating component, it is preferred that the flange extends completely or only partially around a circumference of the rotating component. For example, if the rotating component has a circular shape, a circular flange can be provided that fully surrounds the circular rotating component. If the rotating component has an elongated shape as defined above, the flange is preferably provided at least in the region of the end portions of the support structure adjoining the inner guiding surface of the guiding component if the rotating component is placed within the guide opening.

[0030] The guiding component can be provided in the form of a customary bowl or container adapted to receive the fruit or vegetable strips. In this case, the guide opening of the guiding component into which the rotating component is rotatably received corresponds to the opening of the bowl or container. The rotary guide is then provided by means of the inner circumferential surface (generating surface) of the upper edge of the bowl or container and the outer guiding surface of the rotating component. Hence, in order to cut fruits or vegetables, the rotating component is placed into the opening of the bowl or container, whereby the rotating component is retained within the opening by means of the flange protruding over the upper edge of the bowl or container.

[0031] Alternatively, it is possible to provide the guiding component in the form of a separate structure that is connectable to a bowl or container adapted to receive fruit or vegetables strips. In this case, the guiding component can be connected to or placed on a customary bowl or container and the rotating component is placed into the guide opening of the guiding component. Upon insertion of a fruit or vegetable into the receiving cavity, the rotating component is manually rotated about the rotation axis along the circumferential direction within the guide opening by means of the inserted fruit or vegetable. The thus removed strips are thereby collected in the bowl or container.

[0032] In the latter case, the guiding component can be essentially ring-shaped, wherein the guide opening corresponds to a ring opening of the ring-shaped guiding component. The inner guiding surface then corresponds to the inner circumferential surface of the ring opening.

[0033] It is also conceivable that the inner guiding surface is provided by means of said inner circumferential surface of the ring opening and by an additional guiding surface such as, for example, an inner generating surface of a rim which extends along the ring opening in the circumferential direction and which protrudes from the guiding component along the vertical direction. The inner guiding surface of the ring opening then preferably extends without a transition into the inner generating surface of the rim such that a single guiding surface is provided by means of the combined inner generating surfaces of the guide opening and the rim, respectively.

[0034] If a rotating component with an elongated support structure as described above is placed within the ring opening of the ring-shaped guiding component, the aforementioned rotary guide is then provided between the outer surface of the elongated support structure which bears on the circumferential inner surface of the ring opening, and where applicable also on the inner generating surface of the rim.

[0035] The guiding component may comprise, on a lower surface, a first retention structure, preferably in the form of one or more protrusions, which extends at least partially around the guide opening in the circumferential direction for retaining the guiding component on a bowl. The retention structure is preferably provided by means of protrusions in the shape of ring sections, which are equally distributed along the circumferential direction on the lower surface of the guiding component.

[0036] For using the device, the guiding component can simply be placed onto a conventional bowl or container as it can be found in any home. Said retention structure, which abuts against the upper edge of the bowl or container and thereby restrains the movement of the guiding component in the horizontal direction, is therefore provided in order to prevent the guiding component from slipping or dropping off from the bowl or container.

[0037] It is preferred that the guiding component comprises a second retention structure, preferably in the form of one or more protrusions, which extends at least partially around the guide opening in the circumferential direction, wherein the first retention structure is radially spaced apart from the second retention structure, such that the guiding component can be securely held on bowls of varying diameters.

[0038] For example, if the first retention structure is located close to the guide opening and the second retention structure is located at a distance from the guide opening and the first retention structure, a small bowl with a small diameter will be retained by means of the first retention structure and a large bowl with a large diameter will be retained by means of the second retention structure. The guiding component is thereby retained on the bowl or container by means of an abutment provided between the respective retention structure and the upper edge of the bowl. The retention structures therefore significantly reduce or even prevent the displacement of the guiding component on the container or bowl along the horizontal direction. A more stable and thereby facilitated mode of operation is enabled.

[0039] The guiding component preferably comprises a laterally protruding handle which can be gripped by a user. Said handle may extend from an outside circumference of the guiding component laterally outwards such that a user can easily grab the handle of the guiding component with one of his hands and rotate the rotating component within the guiding component with his other hand.

[0040] The rotating component, possibly with the exception of the one or more blades, and/or the guiding component can be made of plastic. For example, it is conceivable to construct each of the rotating component and the guiding component as a one-piece plastic injection-moulded part. The support structure and the one or more inserts defining the receiving cavities of the rotating component can thereby be formed integrally within a single process step. However, it is also possible to form the support structure and the inserts defining the one or more receiving cavities as individual parts which individual parts are then subsequently assembled. In the latter case, it is conceivable to arrange the insert defining the receiving cavity within a corresponding aperture formed in the support structure of the rotating component. The insert then preferably extends along the vertical direction completely through the aperture in the support structure and, with its tapered end, out of the support structure. In any case, the inserts defining the receiving cavities are preferably formed with one or more recesses, into which the cutting blade(s) are then inserted.

[0041] In a second aspect, a method for cutting fruits or vegetables by means of a device as described above is provided. The method comprises the steps of

- placing the rotating component within the guide opening of the guiding component,
- placing a fruit or vegetable into the at least one receiving cavity of the rotating component, and
- rotating the rotating component by means of the fruit or vegetable, wherein the at least one cutting blade arranged in the at least one receiving cavity of the rotating component cuts the fruit or vegetable.

[0042] Hence, in order to cut fruits or vegetables, the rotating component is placed into the guide opening of the guiding component and is manually rotated about the rotation axis along a circumferential direction within the guide opening by means of the inserted fruit or vegetable while the fruit or vegetable is always kept in the same orientation. The guiding component can correspond to a conventional container or bowl or to a preferably ring-shaped guiding component which is connectable to a container or bowl.

[0043] Since the receiving cavity is arranged off-center with respect to the rotation axis, the fruit or vegetable rotates relative to the receiving cavity, and the cutting blade removes the strips from the fruit or vegetable during rotation. The fruit or vegetable thus acts in a similar manner as the handle of a crank.

BRIEF DESCRIPTION OF THE DRAWINGS

[0044] Preferred embodiments of the invention are described in the following with reference to the drawings, which are for the purpose of illustrating the present preferred embodiments of the invention and not for the purpose of limiting the same. In the drawings,

Fig. 1 shows an exploded view of a device for cutting fruits or vegetables comprising a rotating component and a guiding component and a conventional bowl;

Fig. 2 shows a perspective view of the device connected to the bowl according to figure 1;

Fig. 3 shows a longitudinal sectional view through the device according to figure 2;

Fig. 4 shows a side view of the guiding component according to figure 1;

Fig. 5 shows a bottom view of the guiding component according to figure 1;

Fig. 6 shows a side view of the rotating component according to figure 1;

Fig. 7 shows a top view of the rotating component according to figure 1;

Fig. 8 shows a bottom view of the rotating component according to figure 1.

DESCRIPTION OF PREFERRED EMBODIMENTS

[0045] Figures 1 to 3 depict a device 1 for the straight or spiral-shaped cutting of fruits or vegetables such as apples, radishes, carrots, beets or cucumbers. Said device 1 is connectable to a conventional bowl 4 which is adapted to receive fruit or vegetable strips removed from the fruit or vegetable by the device 1.

[0046] The device 1 shown here comprises a guiding component 3 being connectable to the bowl or container 4 and a rotating component 2, which are shown in detail in Figures 4 and 5 and Figures 6 to 8, respectively. It should be noted that the device for cutting fruits or vegetables can alternatively be provided by means of the rotating component 2 only, where the rotating component 2 is directly received within the opening 41 of the bowl or container 4. Hence, explanations concerning the rotating component 2 being received within the guiding component 3 connectable to a container or bowl 4, which is hereinafter referred to as first variant, apply likewise to the rotating component 2 being received within a guiding component provided in the form of a container or bowl 4.

[0047] As follows from Figures 1 to 5, the guiding component 3 according to the first variant has an essentially ring-shaped design and comprises a circular guide opening 31, i.e. a ring-opening, into which the rotating component 2 can be rotatably received. Upon connection of the guiding component 3 to the bowl 4, the rotating component 2 is placed into the guide opening 31 of the guiding component 3 and a rotation of the rotating component 2 about a rotation axis R within the guide opening 31 is enabled.

[0048] For using the device 1, the guiding component 3 is simply placed onto a conventional bowl 4 or container as it can be found in any home. In order to prevent the guiding component 3 from slipping or dropping off from the bowl 4, the guiding component 3 comprises, on a lower surface 33, retention structures 34, 34', 34" in the

form of protrusions, which extend in sections around the guide opening 31 in a circumferential direction. In particular, the retention structures 34, 34', 34" have the form of ring components which are equally spaced along the circumferential direction of the guide opening 31. As best seen in Figures 4 and 5, the retention structures 34, 34', 34" are thereby radially spaced apart from each other, i. e. a first retention structure 34 is located close to the guide opening 31 and the further retention structures 34', 34" are radially spaced apart from the guide opening 31 and the first retention structure 34, respectively. This particular arrangement of the retention structures makes it possible that the guiding component 3 is connectable to different bowls 4 which have varying diameters. That is, if a small bowl with a small diameter is used for collecting the strips of a fruit or vegetable, the guiding component 3 will be retained on said bowl by means of the first retention structure 34 located close to the guide opening 31 and defining a small diameter. However, if a large bowl is used for collecting the strips, the guiding component 3 will be retained on said bowl by means of the retention structures 34', 34" located further away from the guide opening 31 and thus defining a larger diameter than the first retention structure 34. In Figure 3, the guiding component 3 is retained on the bowl 4 by means of an abutment provided between the second retention structure 34' of the guiding component 3 and an upper edge 43 of the bowl 4 that delimits an opening 41 of the bowl 4. Said second retention structure 34' thus limits the movement of the guiding component 2 in the horizontal direction.

[0049] In order to facilitate the use of the device 1, the guiding component 3 comprises a laterally protruding handle 35 which can be gripped by a user. In the present example the handle 35 has a tab-like design which extends from an outside circumference of the guiding component 3 laterally outwards.

[0050] A rotary guide for guiding the rotation of the rotating component 2 within the guide opening 31 of the guiding component 3 is provided. As follows from Figures 3 to 5, the guide opening comprises an inner guiding surface 36 extending completely around the guide opening 31 in the circumferential direction. Said inner guiding surface 36 merges into an inner generating surface of a rim 37. Said rim 37 protrudes from a lower surface 33 of the guiding component 3 along a vertical direction V and extends around the entire guide opening 31 in the circumferential direction. Thus, when the rotating component 2 is placed within the guide opening 31, the inner guiding surface 36 of the guide opening 31 and the inner generating surface of the rim 37 provide the rotary guide guiding the rotation of the rotating component 2 within the guiding component 3.

[0051] As best seen in Figures 6-8, the rotating component 2 comprises an elongated support structure 24 extending in the horizontal direction H. The support structure 24 is designed as a flat plate having an elongated form with a lower surface 27 and an upper surface 28. Furthermore, the support structure 24 comprises broadened end portions 29, 29' and an outer guiding surface 25 that, at least in areas, bears on the inner guiding surface 36 and the inner generating surface of the rim 37 when the rotating component 2 is received in the guide opening 31 of the guiding component 3. The rotary guide mentioned above is thus provided by the inner guiding surface 36 and the inner generating surface of the rim 37 and said outer guiding surface 25 of the rotating component 2.

[0052] At least parts of the rotating component 2 have to have dimensions that are equal to or smaller than the diameter of the guide opening 31 so that it is possible to place the rotating component 2 within the guide opening 31. In the example shown in the Figures, the support structure 24 of the rotating component 2 therefore has a length LR along the largest length extension in the horizontal direction H which is approximately equal to the diameter DG of the guide opening 31. To prevent falling of the rotating component 2 through the guide opening 31 into the bowl 4, the rotating component 2 comprises, at least in a certain area, a laterally protruding flange 23. The flange 23, in case of the rotating component 2 being received in the guide opening 31, at least partially extends over an upper surface 32 of the guiding component 3 so as to hold the rotating component 2 within the guide opening 31. In the example shown here, the flange 23 corresponds to a border that forms a continuation of the upper surface 28 in the region of the broadened end portions 29, 29' of the support structure 24. As best seen in Figure 3, the lower surface of the flange 23 lies upon the upper surface 32 of the guiding component 2 when the rotating component 2 is inserted into the guide opening 31.

[0053] The rotating component 2 shown in these Figures comprises two receiving cavities 21, 21' defined by inserts in the form of hollow tapers which extend completely through the support structure 24 along the vertical direction V. The inserts can be formed integrally with the support structure or they can be provided as individual parts that are inserted in corresponding openings provided in the support structure. Shown here is a rotating component 2 whose support structure 24 and inserts defining the receiving cavities 21, 21' are formed as one single part. The receiving cavities 21, 21' each have an insert opening 210, 210' through which the fruit or vegetable can be inserted into the cavity 21, 21'. The receiving cavities 21, 21' taper off towards their respective bottom, such that a fruit or vegetable inserted into the receiving cavity has to be inserted further and further through the insert opening into the receiving cavity the more fruit or vegetable cuts are removed from the fruit or vegetable. In these Figures, the receiving cavities 21, 21', i.e. their insert openings 210, 210', have equal diameters DR, DR'. However, it is conceivable to provide receiving cavities of different size and/or diameter so that fruits and vegetables of various dimensions can be processed by the same device 1.

[0054] Here, each receiving cavity 21, 21' comprises two cutting blades 22, 22' that are arranged in corresponding recesses formed in the side surfaces (generating surfaces) 26, 26 of the inserts defining the receiving cavities. The receiving cavities 21, 21' are arranged opposite each other in the region of the end portions 29, 29' of the support structure 24 as well as at a distance from the rotation axis R. That is to say, the receiving cavities 21, 21', and consequently also the cutting blades 22, 22', are arranged offset from, i.e. off-centered with respect to, the rotation axis R. This arrangement enables the cutting of a fruit or vegetable placed in the receiving cavity 21, 21' by rotating the rotating component 2 along the circumferential direction, wherein the rotating component 2 is rotated by means of the fruit or vegetable acting like the handle of a crank. In the present case, two cutting blades 22, 22' are arranged opposed to each other by about 180° with respect to the axis of the taper within each receiving cavity 21, 21'. The cutting blades 22, 22' extend parallel to the side surfaces 26, 26' along the entire length of the receiving cavities 21, 21'. The cutting blades 22 arranged within the first receiving cavity 21 correspond to straight cutting blades that are configured to cut fruits or vegetables into flat strips as the rotating component 2 is rotated within the guide opening 31 of the guiding component 3. On the other hand, the cutting blades 22' arranged within the second receiving cavity 21' are serrated cutting blades, preferably Julienne blades, which cut the fruits or vegetables into spiral strips. Although here exactly two cutting blades are shown per receiving cavity, it is to be understood that only one or a plurality of cutting blades can be provided in each receiving cavity.

LIST OF REFERENCE SIGNS

[0055]

1	cutter
2	rotating component
21 21'	receiving cavity
22, 22'	cutting blade
23	flange
24	support structure
25	guiding surface
26, 26'	side surface
27	lower surface
28	upper surface
29, 29'	end portion
210, 210'	insert opening
3	guiding component
31	guide opening
32	upper surface
33	lower surface
34, 34', 34'	protrusions
35	handle
36	guiding surface
37	rim
38	generating surface
4	bowl
41	opening
42	guiding surface
43	upper edge
R	rotation axis
H	horizontal direction
V	vertical direction
DG	diameter of guide opening
DR, DR'	diameter of receiving cavity
LR	length of rotating component

Claims

1. A device (1) for cutting fruits or vegetables comprising:

a guiding component (3; 4) comprising a circular guide opening (31; 41), and
a rotating component (2) adapted to be rotatably received in the guide opening (31; 41) of the guiding component (3; 4) for rotation about a rotation axis (R),
wherein the rotating component (2) comprises at least one receiving cavity (21) adapted to receive a fruit or vegetable and having at least one cutting blade (22), and
wherein the at least one receiving cavity (21) is arranged at a distance from the rotation axis (R) so as to cut a fruit or vegetable when the rotating component (2) is rotated about the rotation axis (R).

2. The device (1) according to claim 1, wherein the receiving cavity (21) is defined by a hollow taper, and wherein the cutting blade (22) is arranged in a side surface (26) of the taper.

3. The device (1) according to claim 1 or 2, wherein the rotating component (2) comprises a second receiving cavity (21') having at least one second cutting blade (22'), wherein the second receiving cavity (21') is arranged at a distance from the rotation axis (R) so as to cut a fruit or vegetable when the rotating component (2) is rotated about the rotation axis (R).

4. The device (1) according to claim 3, wherein the second receiving cavity (21') defines an insert opening (210') having a second diameter (DR') that is equal to the diameter (DR) of an insert opening (210) of the receiving cavity (21), or

wherein the insert opening (210') of the second receiving cavity (21') has a second diameter that is larger or smaller than the diameter of the insert opening (210) of the receiving cavity (21).

5. The device (1) according to any one of the preceding claims, wherein the cutting blade (22) and/or the second cutting blade (22'), if any, is a straight cutting blade, or

wherein the cutting blade (22) and/or the second cutting blade (22'), if any, is a waved or curled cutting blade.

6. The device (1) according to any one of the preceding claims, wherein the guiding component (3; 4) comprises an inner guiding surface (36; 42) extending around the guide opening (31; 41) in a circumferential direction, wherein the inner guiding surface (36; 42) provides a rotary guide for guiding the rotation of the rotating component (2) within the guide opening (31; 41).

7. The device (1) according to claim 6, wherein the rotating component (2) comprises an outer guiding surface (25) that, at least in areas, bears on the inner guiding surface (36; 42) of the guiding component (3; 4) in case of the rotating component (2) being received in the guide opening (31; 41), wherein the rotary guide is provided by the inner guiding surface (36; 42) of the guiding component (3; 4) and the outer guiding surface (25) of the rotating component (2).

8. The device (1) according to any one of the preceding claims, wherein the rotating component (2) comprises an elongated support structure (24) extending in a horizontal direction (H), wherein the elongated support structure (24) has a length (LR) in said horizontal direction (H) that is smaller than or equal to the diameter (DG) of the guide opening (31; 41), such that the support structure (24) can be fully received within the guide opening (31; 41).

9. The device (1) according to any one of the preceding claims, wherein the rotating component (2) comprises, at least in a certain area, a laterally protruding flange (23), which flange (23), in case of the rotating component (2) being received in the guide opening (31; 41), at least partially extends over an upper surface (32; 43) of the guiding component (3; 4) so as to vertically retain the rotating component (2) within the guide opening (31; 41).

10. The device (1) according to any one of the preceding claims, wherein the guiding component (3) is connectable to a bowl (4) adapted to receive fruit or vegetable strips.

11. The device (1) according to claim 10, wherein the guiding component (3) is essentially ring-shaped, and wherein the guide opening (31) corresponds to a ring opening of the ring-shaped guiding component (3).

12. The device (1) according to claim 10 or 11, wherein the guiding component (3) comprises, on a lower surface (33), a first retention structure (34), preferably in the form of one or more protrusions, which extends at least partially around the guide opening (31) in the circumferential direction for retaining the guiding component (3) on a bowl (4).

13. The device (1) according to claim 12, wherein the guiding component (3) comprises a second retention structure (34', 34"), preferably in the form of one or more protrusions, which extends at least partially around the guide opening (31) in the circumferential direction, wherein the first retention structure (34) is radially spaced apart from the second retention structure (34', 34"), such that the guiding component (3) is securely held on bowls (4) of varying diameters.

14. The device (1) according to any one of the preceding claims, wherein the guiding component (3) comprises a laterally protruding handle (35) which can be gripped by a user.

15. A method for cutting fruits or vegetables by means of a device (1) according to any one of the preceding claims, wherein the method comprises the steps of

- placing the rotating component (2) within the guide opening (31; 41) of the guiding component (3; 4),
- placing a fruit or vegetable into the at least one receiving cavity (21) of the rotating component (2), and
- rotating the rotating component (2) by means of the fruit or vegetable, wherein the at least one cutting blade (22) arranged in the at least one receiving cavity (21) of the rotating component (2) cuts the fruit or vegetable.

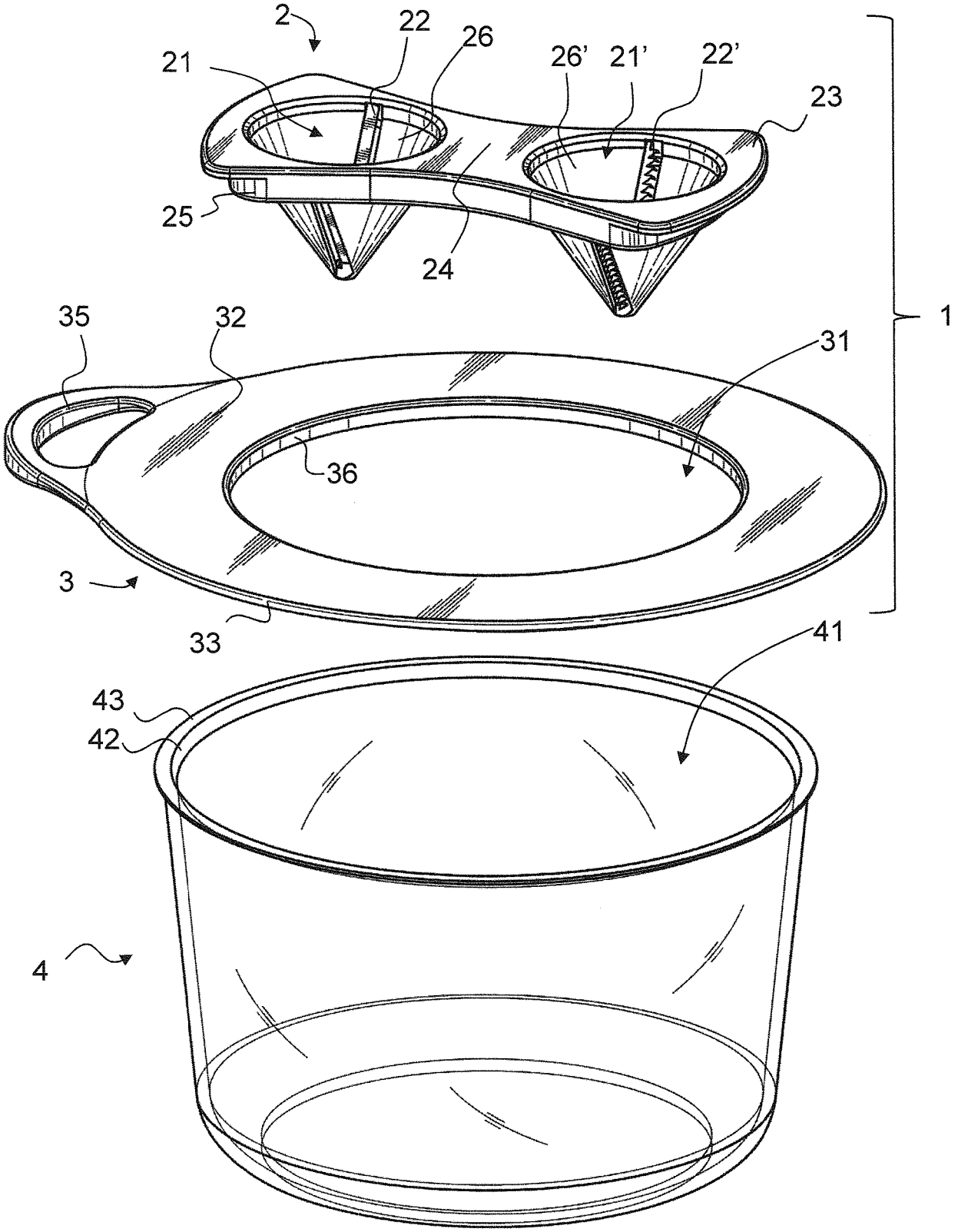


FIG. 1

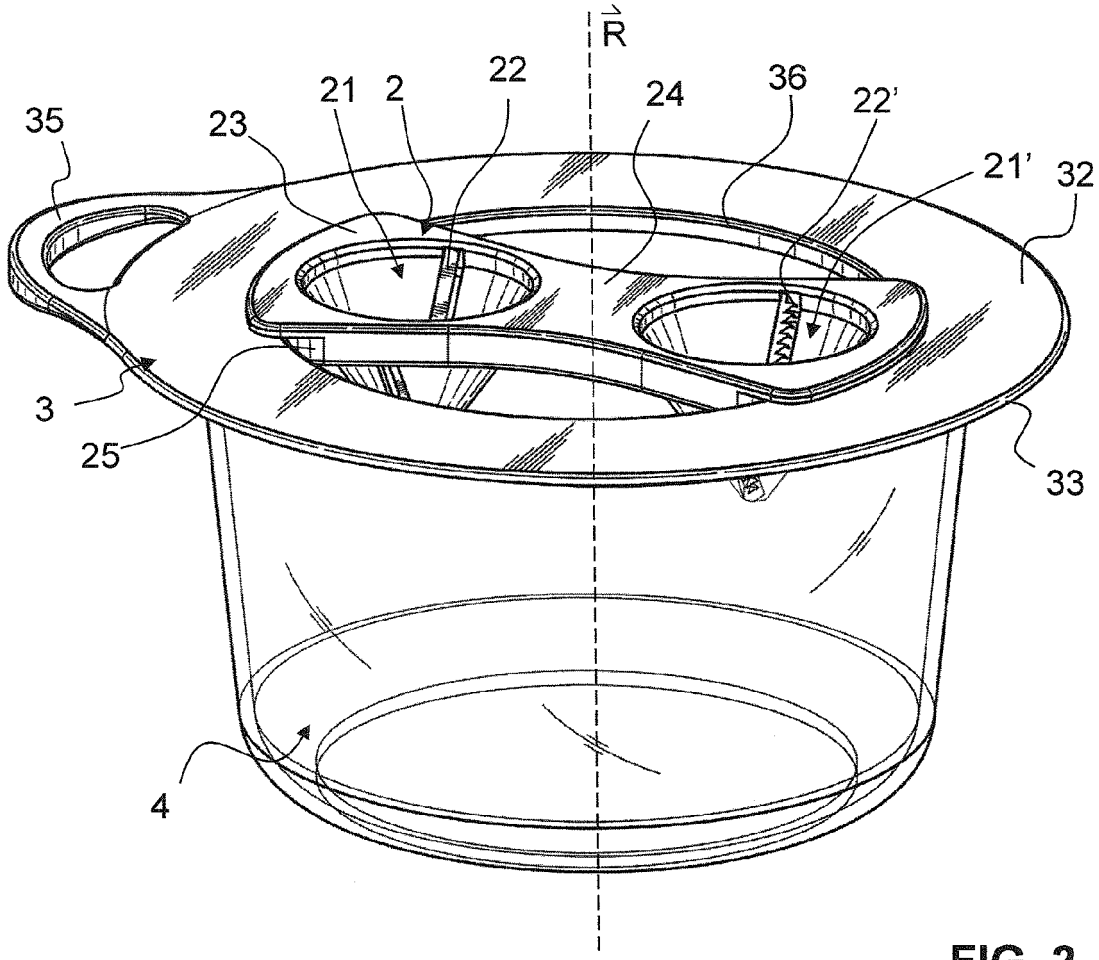

R
35
23
21
2
22
24
36
22'
21'
32
3
25
33
4

FIG. 2

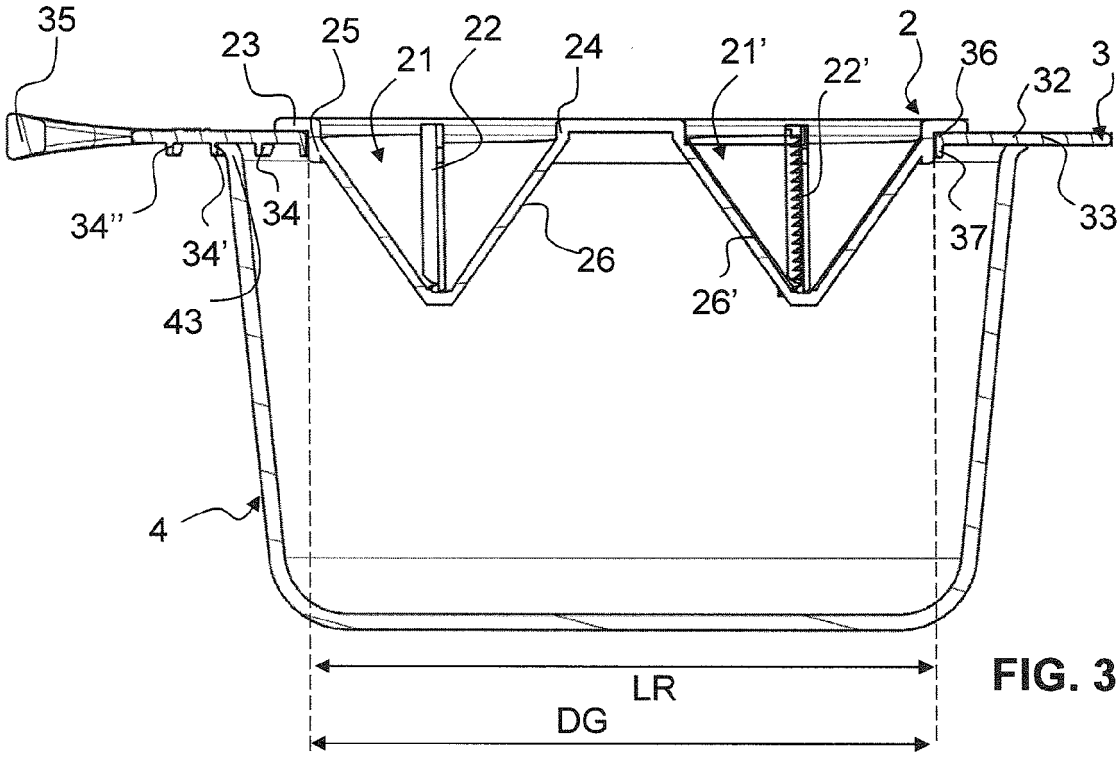

35
23
25
21
22
24
21'
2
22'
36
32
3
34''
34'
34
43
26
26'
37
33
4
LR
DG

FIG. 3

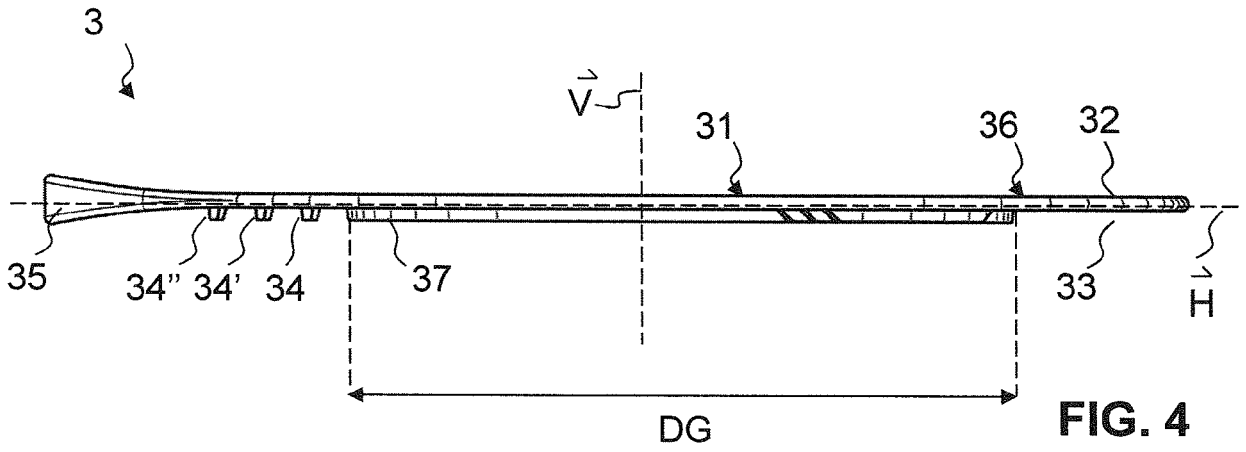


FIG. 4

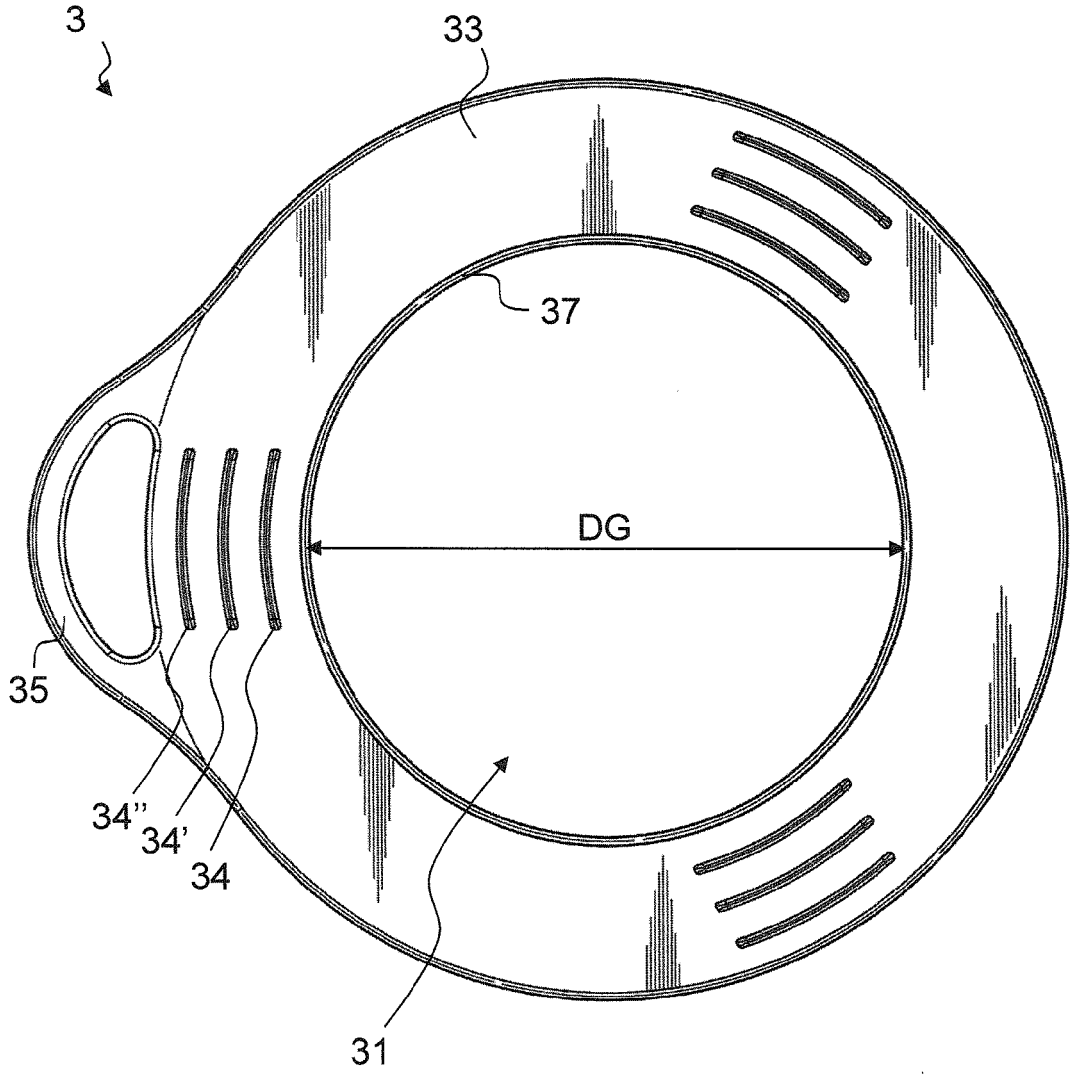


FIG. 5

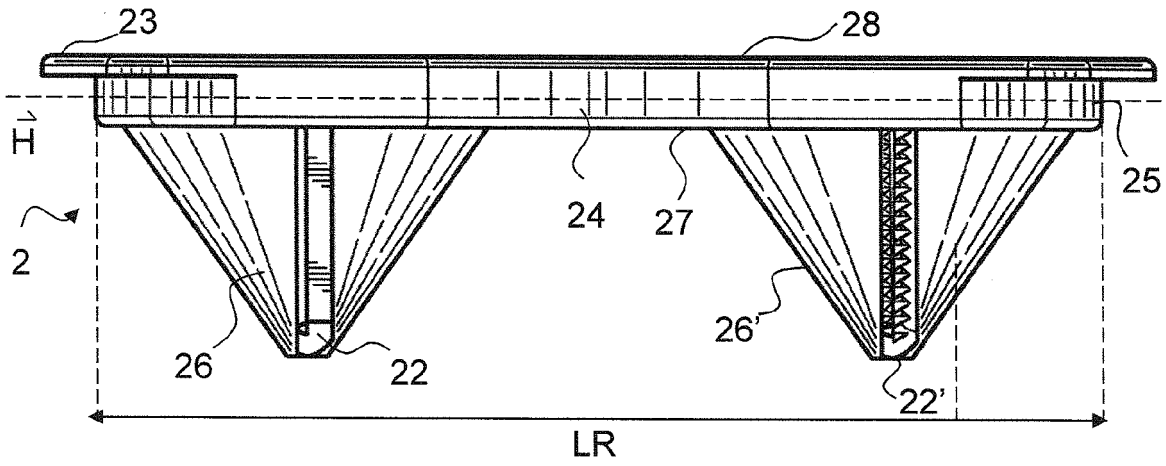


FIG. 6

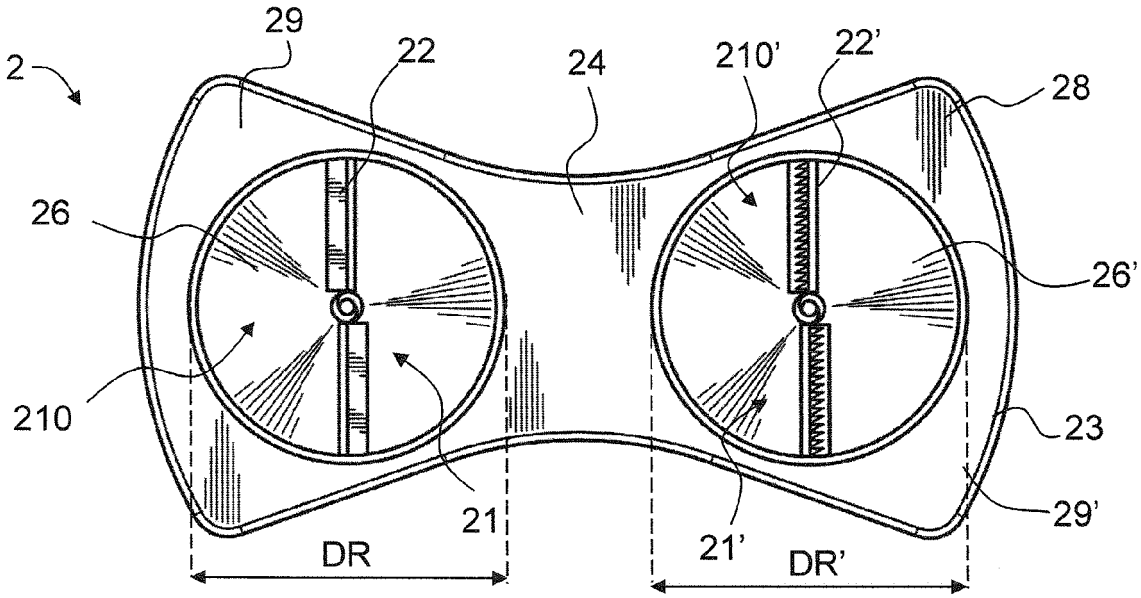


FIG. 7

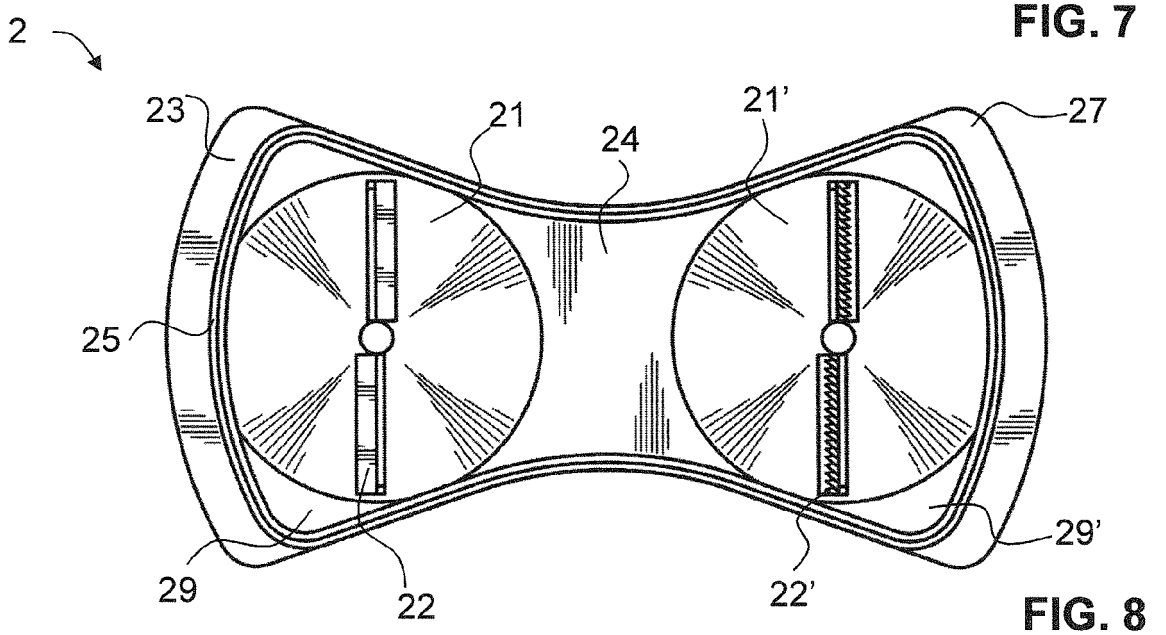


FIG. 8

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EUROPEAN SEARCH REPORT

Application Number
EP 17 15 4409

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	DE 10 2015 109403 A1 (GENIUS GMBH [DE]) 15 December 2016 (2016-12-15) * claim 1; figures 1,4 * -----	1-15	INV. B26D3/11 B26D3/26 A47J43/00
A	WO 2017/013337 A1 (SEB SA [FR]) 26 January 2017 (2017-01-26) * abstract; figure 7 * -----	1-15	

TECHNICAL FIELDS SEARCHED (IPC)

B26D
A47J

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	28 February 2017	Müller, Andreas

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28-02-2017

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