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Description

[0001] The present disclosure relates to spinning devices for drying wet food, such as salad spinners, and more particularly to braking systems for reducing or stopping the rotation of the spinning/device.

Background

[0002] Various types of salad spinners are known for drying, or otherwise removing moisture, from salad and other foods. Such devices generally include some type of a bowl, a cover and a basket, which may also have a lid, adapted to spin within the bowl by some type of mechanical actuator. The centrifugal forces caused by the rotational velocity of the basket relative to the bowl, causes water and moisture within the food or salad to be separated and collected within the bowl. Mechanical actuators typically used on salad spinners have included hand crank mechanisms, pull strings and pump/screw mechanisms, for example.

[0003] Generally, these devices have relied on frictional interaction between bearing surfaces, for example, to allow the rotation of the basket to a stop after it has been spun to dry food. Such devices generally have not included a braking structure for stopping the spinning of the basket. In such cases, the user must typically wait until the spinning basket stops before removing the cover of the container and lid from the basket to access to the food within the basket. A braking structure is desirable so that a user would not have to open the cover to manually stop a spinning basket or to wait for bearing surface friction to eventually stop the basket.

[0004] Referring to FIGS. 1-2, exemplary devices for drying food are reproduced, in part, from Figs. 20 and 3, respectively, of U.S. Patent No. 6,018,883 to Mulhauser (incorporated herein), to show the basic features of a salad spinner of the type to which the disclosure herein may be generally applied, although the present invention may be applied as well to other types of similar spinning devices and structures and is not limited to food drying or salad spinners. Devices of this general nature, like that of another exemplary device shown in FIG. 2 from U.S. Patent No. 5,992,309 to Mulhauser et. al (incorporated herein), include a salad spinner 20, a drive assembly 30 adapted and collected within the bowl. The container and lid from the basket to access to the food within the basket. A braking structure is desirable so that a user would not have to open the cover to manually stop a spinning basket or to wait for bearing surface friction to eventually stop the basket.

[0006] The basket 26 in FIG. 2 includes a plurality of latitudinal, coaxial circular ribs 42 connected by a plurality of longitudinal ribs 44 of various lengths. The ribs 42 and 44 cooperate to define a plurality of various sized, generally rectangular apertures 46, which are sized and shaped to allow liquid to pass therethrough. The basket 26 also includes a bottom 48 having a cone-shaped projection 50 at its center which sits atop cone-shaped projection 54 to form a rotational bearing. The ribs 42 and 44 together form a sidewall 52 terminating at an top edge 54.

[0007] The lid 28 in FIG. 2 includes a cylindrical peripheral sidewall 56 having a plurality of ribs 58 projecting outwardly therefrom. The lid 28 includes a generally convex annular surface portion 60 connected to the circular sidewall 56, a frustoconical shaped central portion 62 depending from the annular surface portion 60, a radially inwardly extending bottom surface portion 64 integral with the lower end of the frustoconical shaped surface portion 62 and a tubular, upwardly projecting portion 66 integral and substantially coaxial with the bottom surface portion 64. The upwardly projecting portion 66 varies in diameter and includes shoulder surfaces 68, 70 formed thereon. The upwardly projecting portion 66 also includes a slot 71 disposed above shoulder surface 70. The circular sidewall 56 of lid 28 is adapted to be releasably coupled to top edge 54 of basket 26. In an embodiment, the lid 28 is adapted to be releasably coupled to top edge 54 with a mesh engagement with ribs 58.

[0008] As seen further in FIG. 2, the cover 24 includes a cylindrical sidewall 76 having an outer diameter substantially equal to the inner diameter of the top edge 38 of the bowl 22, thereby forming a releasable connection therebetween, such as, for example, a simple abutment or loose friction fit. In an embodiment, the releasable connection may simply allow the cover 24 to rest on the bowl 22 and be disposable thereon. The cover 24 also includes an upper surface portion 78, a depending, substantially cylindrical central surface portion 80, an annular bottom surface portion 82 and a generally cylindrical upwardly projecting portion 84 disposable coaxially about a portion of the upwardly projecting portion 66 of the lid 28. The upwardly projecting portion 84 has a radially inturned end 86 at its upper end which abuts shoulder surface 68 of upwardly projecting portion 66. The upwardly projecting portion 84 includes a plurality of axial ribs 88 projecting radially outwardly therefrom. The upper ends of ribs 88...
The drive assembly 30 of FIG. 2 includes a linearly reciprocating handle structure 94 (or plunger assembly) moveable along vertical axis A. The reciprocating handle structure 94 includes a disc shaped upper end 96, or button structure, and a coaxial cylindrical sidewall 98 depending therefrom. The drive assembly 30 includes a conversion mechanism for converting the reciprocating movement of the handle structure 94 to rotary motion of the basket 26. The conversion mechanism 104 includes an elongated helical screw shaft 106 coaxial with the handle structure 94 and connected at one end to the disc shaped upper end 96, preferably by a pin 107 (shown in Fig. 4 of the '833 Patent). The elongated helical screw shaft 106 extends a slight distance below the lower end of the cylindrical sidewall 98. The drive assembly 30 in FIG. 2 also includes a helical compression spring 128 seated against the disc shaped upper end portion 96 of the reciprocating handle structure 94.

As mentioned previously, FIG. 1 shows an alternative salad spinner 20A from the '883 Patent which is substantially identical to the salad spinner 20 shown in Fig. 1 from that patent, except that a brake assembly 300 is provided in a slightly modified cover 24A to stop rotation of the basket 26.

The apparatus described in U.S. Patent No. 6,018,883 includes a least one type of braking mechanism for use in a food spinner. The braking mechanism is carried by the bowl cover and engages the basket cover to stop rotation of the basket assembly. A brake pad is configured for applying friction against the basket cover upon application of the braking mechanism. This type of breaking mechanism imparts an off-center downward force upon the cover of a spinning basket. Such a force may increase wear on certain bearing surfaces of the basket and/or mechanical actuator and may not be efficient for stopping rotation of the basket. Furthermore, the apparatus described in U.S. patent application No. 2006/0207441 A1 comprises a similar type of braking mechanism. The braking mechanism is carried by the bowl cover and engages a ring arranged in an opening of the basket cover to stop rotation of the basket assembly. A brake pad is configured for applying friction against the ring upon application of the braking mechanism. This type of breaking mechanism also imparts an off-center downward force upon the cover of a spinning basket (via the ring). Such a force may increase wear on certain bearing surfaces of the basket and/or mechanical actuator and may not be efficient for stopping rotation of the basket.

Summary

The present disclosure provides a device for drying food and other items. The device includes a bowl having a bottom wall and a sidewall terminating in a top edge, a cover removably coupled to the top edge of the bowl, a basket assembly including a basket and a removable lid disposed in the bowl and rotateable relative to the bowl about an axis, and a brake assembly carried by the cover and engageable with the lid for stopping rotation of the basket assembly. The cover includes a button having a caliper like structure operably coupled to the button that moves downwardly when pressed so that two fingers of the structure move towards each other to clamp and frictionally engage an annular upstanding ridge on the lid, thereby reducing and/or stopping rotational movement of the basket. The fingers and the upstanding ridge extend substantially parallel to the axis of rotation of the spinning basket and the fingers can be compressed together against the ridge as they extend through a guide channel of the brake assembly.

Brief Description of the Drawings

The disclosure is illustrated in the figures of the accompanying drawings which are meant to be exemplary and not limiting, in which like references are intended to refer to like or corresponding parts, and in which:

Fig. 1 is a perspective view of a typical food spinning apparatus according to the PRIOR ART, for which the present invention can be incorporated;

FIG 2 is a are cross sectional view of a typical food spinning apparatus according to the PRIOR ART, for which the present invention can be incorporated;

Fig. 3 is a cross sectional view of a typical food spinning apparatus incorporating an embodiment of the present invention;

Fig. 4 is a top view of a typical food spinning apparatus bowl cover incorporating an embodiment of the present invention;

Fig 5A - Fig. 5D are cross sectional views of a brake mechanism for a food spinning apparatus according to an illustrative embodiment of the present invention; and

Fig. 6 is a cross sectional view of an embodiment of the present inventions showing the brake mechanism in a braking condition.

Detailed Description

While this disclosure is susceptible of embodiments in many different forms, there is shown in the drawings and will herein be described in detail a preferred embodiment of the disclosure with the understanding that the present disclosure is to be considered as an exemplification of the principles of the disclosure and is not intended to limit the broad aspect of the disclosure to embodiments illustrated.

Referring to FIG. 3, the present invention includes some elements similar to those in FIGS. 1 and 2 and, for that reason among others, some of those elements shown in FIG. 3 are correspondingly numbered with their generally corresponding elements in FIGS. 1
and 2. The main (but not the only) differences between the salad spinner 20B shown in FIG. 3 and the salad spinners 20A and 20 shown respectively in FIGS. 1 and 2 concern the brake actuator assembly 400 in the modified bowl cover 24B and the modified basket lid 28B on the modified basket 26A that stops rotational movement of the modified basket 26A.

[0016] More particularly, concerning the embodiment of FIG. 3, the salad spinner 20B includes a drive member 30 with a reciprocating handle structure 94. While the salad spinner 20B is illustrated and described with a pump-like mechanism of the type shown in the aforementioned patents, the salad spinner 20B of the present invention can be used with, and is therefore not limited to, any particular type of mechanism for effectuating rotational movement of the basket 26A within the bowl 22.

The bowl cover 24B is further modified, as can be seen from the top view of FIG. 4, to accommodate the drive assembly 30 and the brake actuator assembly 400. As compared to the concave annular surface portion 60 of the basket lid cover 28 shown in FIG. 2, the modified basket lid cover 28B of FIG. 3 has an angled annular surface portion 60B to allow engagement of brake actuator assembly 400 to stop and/or reduce rotational movement of the basket 26A, as shown in more detail in FIGS. 5A-5D and FIG. 6.

[0017] Referring to FIGS. 5A-5D, an embodiment of the brake actuator assembly 400 of the present invention is shown in more detail, which includes, in FIG. 5A, a brake button actuator 410, brake button 430, brake button finger or arm assembly 440, brake button guide channel member 470, and a basket lid including a generally annular upstanding ridge 494. FIG. 5B depicts an aperture 402 in the bowl cover 24B, which is adapted to receive brake actuator assembly 400, that includes cylindrical side wall 404 with inner and bottom surface portions 406, 408 to properly position brake button actuator 410 and brake button guide channel member 470 (shown in FIG. 5D) in aperture 402. FIG. 5C depicts a brake button actuator 410, made of a flexible and/or resilient material, such as a plastic, as including a circular top wall 412 with lower surface portion 414, and annular side and vertical walls 418, 420, with the vertical wall 420 including positioning ledge 422 with outer and inner surface portions 424, 426 to help fixedly position brake button actuator 410 between bottom surface portion 408 of cylindrical sidewall 404 of cover aperture 402, end walls 402 of lower body member 480 of brake button guide channel member 470, and support member 488 of lower body member 480 of brake button guide channel member 470, as shown in FIG. 5D. Although vertical wall 420 of brake button actuator 410 is fixedly positioned in cover aperture 402, (and thus fixedly positions the button actuator 410 as a whole in basket lid cover 28B), both circular top wall 412 and annular sidewall 418 of button actuator 410 are not fixedly positioned within the open area of aperture 402. More particularly, because the diameter of circular top wall 412 is less than the diameter of the lower area of annular sidewalk 418 where it meets with vertical wall 420 and because of the outwardly sloping nature of annular sidewalk 418 as it transitions from circular top wall 412 to vertical wall 420, the intersection point 413 between circular top wall 412 and annular sidewalk 418 acts as a hinge when downward pressure is applied to circular top wall 412 (for example, by a user's finger) due to the resilient material from which these walls are made, (as shown in FIG. 6). Likewise, when the downward pressure is released, the so called hinge at intersection point 413 and the flexible and resilient material of circular top wall 442 and annular sidewalk 418 act together to apply a biasing force to bias both walls to their original, non-braking position as shown in FIG. 5C.

[0018] FIG. 5C further shows brake button 430, made also of a flexible and/or resilient material, such as a plastic, as including top arch member 432 with upper and lower surface portions 434, 436 and transition ledges 438 at a substantially 90 degree orientation to the end of top arc member 432 that lead to button finger or arm assembly 440. Top arc member 432 is attached at the apex of its upper surface portion 434 to the axial midpoint of lower surface portion 436 of circular top wall 442 so that brake button finger or arm assembly 440, as a whole, moves vertically and axially with circular top wall 412 and annular sidewalk 418 of button actuator 410, when downward pressure is released from circular top wall 442, to return brake button finger or arm assembly 440, circular top wall 412, and annular sidewalk 418, thereby biasing the brake assembly of the present invention to a non-braking condition, as shown in FIG. 5C. The button finger or arm assembly 440 further includes upper angled cam portions 442, lower caliper-like fingers 448, and positioning post 456 centrally located at the apex of top arc member 432 and attached at its upper surface portion 448 to lower surface portion 414 of top arch member 432, so that positioning post 456 extends substantially along parallel to the central axis of rotation A of basket 26A and is in substantial vertical alignment with basket lid annular upstanding ridge 494, as shown in FIG. 5D. Button fingers 448, like upstanding ridge 494 shown in FIG. 5D, also extend substantially along parallel to the central axis of rotation A. Upper angled cam portions 442 of button finger or arm assembly 440 shown in FIG. 5C include outer and inner surface portions 444, 446, lower button fingers 448 include outer and inner surface portions 445, 446, and positioning post 456 includes lower and side surface portions 460, 462.

[0019] FIG. 5D shows brake button guide channel member 470 as including a central axial guide portion 493 for slidably receiving the positioning post 456 of the brake button finger or arm assembly 440, and an outer axial guide portion 486 for slidably receiving the upper angled cam portions 442 and the lower button fingers 448 of the brake button finger or arm assembly 440. The guide channel member 470 further includes lower body member 482 with top surface portion 483, and a support member 488 with a cam actuator 490 extending into the
More particularly, FIG. 6 shows the button fin-

of the basket 26A, as shown in FIG. 6.

the upstanding ridge 494 and stop and/or reduce rotation

downwardly through the guide channel member 470 to

the upstanding ridge 494 as the button fingers 448 move

together against the outer surface portions 496, 498 of

portions 452 of the button fingers 448 can be compressed

outer axial guide portion 486 so that the inner surface

portions 452 of the button fingers 448 can be compressed
together against the outer surface portions 496, 498 of
the upstanding ridge 494 as the button fingers 448 move
downwardly through the guide channel member 470 to

a braking position to frictionally engage, pinch or clamp
the upstanding ridge 494 and stop and/or reduce rotation
of the basket 26A, as shown in FIG. 6.

[0020] More particularly, FIG. 6 shows the button fin-

gers 448 in their braking position resulting from the in-

wardly-directed forces exerted on the outer surface por-
tions 444 of the upper angled cam portions 442 as the
cam portions 442 ride over the cam actuators 490 that
project into the outer axial guide portion 486 of the guide
channel member 470, which is caused by depression of
brake button 430 with, for example, a user's finger. To
assure that effective and relatively even clamping forces
are applied by the button fingers 448 to the rapidly spin-
nning annular upstanding ridge 494 (both of which extend
substantially along the central axis of rotation A), the po-

sitioning post 456 is axially aligned with the upstanding
ridge 494 and the central axial guide portion 493 of the
guide channel member 470. Likewise, the "unbraking" of
brake button finger or arm assembly 440 and, thus, the
"unclamping" of button fingers 448 from annular upstand-
ing ridge 494, result from the resiliency of button actuator
410 and the sloped nature of its annular sidewall 418 and
its intersection point 413 with circular top wall 442, that
provide together a sufficient "springing" or biasing force
to return brake finger or arm assembly 440 to its original
position once finger pressure, for example, is removed
from button actuator 410.

[0021] A method for reducing a rotational speed of a
basket assembly disposed in a container is also dis-
closed. The container includes a bowl having a sidewall
terminating at an edge defining an opening and a cover
removably coupled to the bowl and substantially covering
the opening, wherein the basket assembly is rotateable
relative to the container about an axis of rotation. The
basket assembly includes a basket having a sidewall ter-
mminating at a top edge and a lid removably coupled to
the top edge of the basket. In an embodiment, the method
comprises causing the basket assembly to rotate relative
to the container, and axially translating a brake button
dispersed in the cover, thereby causing a pair of pinching
arms to frictionally engage an annular ridge disposed on
a top surface of the lid toward the cover, the ridge coax-
ially positioned about the axis of rotation. In an embodi-
ment, the step of axially translating a brake button dis-
persed in the cover includes applying downwardly direct-
ed force to the brake button.

Claims

1. A device for drying food (20B) comprising:
a container including a bowl (22) having a side-
wall (36) terminating at an edge (38) defining an
opening and a cover (24B) removably coupled
to the bowl and substantially covering the opening;
a basket assembly disposed in the bowl and ro-
tatable relative to the container about an axis of
rotation, the basket assembly including a basket
(26A) having a sidewall (52) with perforations
and terminating at a top edge (54) and a lid (28B)
releasably coupled to the top edge of the basket;
an upstanding generally annular ridge (494) ex-
tending from a top surface of the lid toward the
cover, the ridge disposed substantially coaxially
about the axis of rotation;
characterized in
a brake assembly including a brake button (430)
carried by the cover, wherein the brake button
is operably coupled to pinching arms (448) ex-
tending substantially parallel to the axis of rota-
tion and movable between a non-braking posi-
tion and a braking position wherein the pinching
arms frictionally engage the annular ridge (494)
on translation of the brake button (430) rela-
tive to the lid, wherein the pinching arms (448)
flex toward each other when moving toward the
braking position.

2. The device of claim 1, wherein axial translation of
the brake button (430) toward the lid (28B) causes
the pinching arms (448) to be disposed in the braking
position, wherein the pinching arms frictionally en-

gage the annular ridge (494) upon translation of the
brake button relative to the lid.

3. The device of claim 1, wherein the cover (24B) in-
cludes a guide channel (470) having at least one
cam surface, and wherein the pinching arms (448)
extend through the guide channel, the pinching arms
including ramped surfaces (444) adapted to abut the
cam surface of the guide channel.

4. The device of claim 1, further comprising an actuator
button (410) disposed over the brake button (430),
at least a portion of the actuator being a button mov-

able and adapted to abut the brake button to cause
the brake button to move toward the lid.

5. The device of claim 1, wherein the brake button (430)
and pinching arms (448) are biased to a non-braking
condition.

6. The device of claim 5, wherein the pinching arms are
constructed of a resilient material.

7. A method for reducing a rotational speed of a basket
assembly disposed in a container including a bowl
(22) having a sidewall (36) terminating at an edge
(38) defining an opening and a cover (24B) remov-
ably coupled to the bowl and substantially covering the opening, wherein the basket assembly is rotatable relative to the container about an axis of rotation, the basket assembly includes a basket (26A) having a sidewall (52) terminating at a top edge (54) and a lid (28B) removably coupled to the top edge of the basket, the method comprising:

causing the basket assembly to rotate relative to the container;
characterized in
axially translating a brake button (430) disposed in the cover 24B), thereby causing a pair of pinching arms (448), which extend parallel to the axis of rotation, to frictionally engage an upstanding annular ridge (494) disposed on a top surface of the lid.

8. The method of claim 7, wherein the step of axially translating a brake button (430) disposed in the cover (24B) includes applying a downwardly directed force to the brake button.

Patentansprüche

1. Vorrichtung zum Trocknen von Nahrungsmitteln (20B), umfassend:

- einen Behälter, der eine Schale (22) mit einer Seitenwand (36) aufweist, die an einer Kante (38) endet, die eine Öffnung definiert, wobei eine Abdeckung (24B) entfernbar mit der Schale verbunden ist und die Öffnung im Wesentlichen abdeckt;
- eine Korbanordnung, die in der Schale angeordnet ist und in Bezug auf den Behälter um eine Drehachse drehbar ist, wobei die Korbanordnung einen Korb (26A) mit einer Seitenwand (52) mit Perforationen aufweist und an einer oberen Kante (54) endet und ein Deckel (28B) losbar mit der oberen Kante des Korbs gekoppelt ist;
- einen aufrechten im Allgemeinen ringförmigen Kamm (494), der sich von einer oberen Oberfläche des Deckels zu der Abdeckung erstreckt, wobei der Kamm im Wesentlichen koaxial um die Drehachse angeordnet ist;
- gekennzeichnet durch

  - eine Bremsanordnung, die einen Bremsknopf (430) aufweist, der von der Abdeckung getragen wird, wobei der Bremsknopf betrieblich mit Klemmarmen (448) gekoppelt ist, die sich im Wesentlichen parallel zu der Drehachse erstrecken und zwischen einer Nicht-Bremsposition und einer Bremsposition beweglich sind, wobei die Klemmarme den ringförmigen Kamm (494) nach Übersetzung des Bremsknopfes (430) in Bezug auf den Deckel in Reibungseingriff bringen, wobei sich die Klemmarme (448) zueinander biegen, wenn sie sich in die Bremsposition bewegen.

2. Vorrichtung nach Anspruch 1, wobei eine axiale Übersetzung des Bremsknopfes (430) zu dem Deckel (28B) bewirkt, dass die Klemmarme (448) in der Bremsposition angeordnet werden, wobei die Klemmarme den ringförmigen Kamm (494) nach Übersetzung des Bremsknopfes in Bezug auf den Deckel in Reibungseingriff bringen.

3. Vorrichtung nach Anspruch 1, wobei die Abdeckung (24B) einen Führungskanal (470) mit mindestens einer Nockenoberfläche aufweist und wobei sich die Klemmarme (448) durch den Führungskanal erstrecken, wobei die Klemmarme geneigte Oberflächen (444) aufweisen, die ausgelegt sind, an die Nockenoberfläche des Führungskanalans anzuzuggrenzen.

4. Vorrichtung nach Anspruch 1, ferner umfassend einen Aktorknopf (410), der über dem Bremsknopf (430) angeordnet ist, wobei mindestens ein Abschnitt des Aktors ein Knopf ist, der beweglich und ausgelegt ist, an den Bremsknopf anzuzugrenzen, um zu bewirken, dass sich der Bremsknopf zu dem Deckel bewegt.

5. Vorrichtung nach Anspruch 1, wobei der Bremsknopf (430) und die Klemmarme (448) in einem Nicht-Bremszustand vorgespannt sind.

6. Vorrichtung nach Anspruch 5, wobei die Klemmarme aus einem elastischen Material gebildet sind.

7. Verfahren zum Verringern einer Drehzahl einer Korbanordnung, die in einem Behälter angeordnet ist, der eine Schale (22) mit einer Seitenwand (36) aufweist, die an einer Kante (38) endet, die eine Öffnung definiert, wobei eine Abdeckung (24B) mit einem Führungskanal (470) mit mindestens einer Nockenoberfläche aufweist und wobei sich die Klemmarme (448) durch den Führungskanal erstrecken, wobei die Klemmarme geneigte Oberflächen (444) aufweisen, die ausgelegt sind, an die Nockenoberfläche des Führungskanalans anzuzuggrenzen.

   Bewirken, dass sich die Korbanordnung in Bezug auf den Behälter dreht;
   gekennzeichnet durch

   axiales Übersetzen eines Bremsknopfes (430), der in der Abdeckung (24B) angeordnet ist, sodass bewirkt wird, dass ein Paar Klemmarme (448), die sich parallel zu der Drehachse erstrecken, einen aufrechten ringförmigen Kamm
Revendications

1. Dispositif pour déshydrater des aliments (20B), comprenant :

un récipient comprenant un bol (22) présentant une paroi latérale (36) se terminant sur un bord (38) définissant une ouverture, et un couvercle (24B) couplé de façon amovible au bol et couvrant essentiellement l’ouverture ;

un montage de panier disposé dans le bol et pouvant tourner par rapport au récipient sur un axe de rotation, le montage de panier comprenant un panier (26A) présentant une paroi latérale (52) avec des perforations et se terminant sur un bord supérieur (54), et un opercule (28B) couplé de façon amovible au bord supérieur du panier ;

une nervure annulaire généralement verticale (494) s’étendant d’une surface supérieure de l’opercule en direction du couvercle, la nervure étant disposée essentiellement coaxialement sur l’axe de rotation ;

caractérisé en

un montage de frein comprenant un bouton de freinage (430) porté par le couvercle, sachant que le bouton de freinage est couplé de façon opérationnelle à des bras de pincement (448) s’étendant essentiellement parallèlement à l’axe de rotation et mobiles entre une position de non-freinage et une position de freinage, sachant que les bras de pincement engagent la nervure annulaire (494) par friction lors de la translation du bouton de freinage (430) par rapport à l’opercule, sachant que les bras de pincement (448) fléchissent l’un vers l’autre lorsqu’ils se déplacent dans la position de freinage.

2. Dispositif selon la revendication 1, dans lequel la translation axiale du bouton de freinage (430) en direction de l’opercule (28B) fait que les bras de pincement (448) sont positionnés dans la position de freinage, sachant que les bras de pincement engagent la nervure annulaire (494) par friction lors de la translation du bouton de freinage par rapport au couvercle.

3. Dispositif selon la revendication 1, dans lequel le couvercle (24B) comprend un canal de guidage (470) présentant au moins une surface de came, et dans lequel les bras de pincement (448) s’étendent à travers le canal de guidage, les bras de pincement comprenant des surfaces inclinées (444) adaptées pour être adjacentes à la surface de came du canal de guidage.

4. Dispositif selon la revendication 1, comprenant en outre un bouton déclencheur (410) disposé au-dessus du bouton de freinage (430), au moins une partie du déclencheur étant un bouton mobile et adapté pour être adjacent au bouton de freinage pour que le bouton de freinage se déplace en direction du couvercle.

5. Dispositif selon la revendication 1, dans lequel le bouton de freinage (430) et les bras de pincement (448) sont décalés vers un état de non-freinage.

6. Dispositif selon la revendication 5, dans lequel les bras de pincement sont fabriqués en matériau résistant.

7. Procédé de réduction de la vitesse de rotation d’un montage de panier disposé dans un récipient comprenant un bol (22) présentant une paroi latérale (36) se terminant sur un bord (38) définissant une ouverture, et un couvercle (24B) couplé de façon amovible au bol et couvrant essentiellement l’ouverture, sachant que le montage de panier peut tourner par rapport au récipient sur un axe de rotation, le montage de panier comprend un panier (26A) présentant une paroi latérale (52) se terminant sur un bord supérieur (54), et un opercule (28B) couplé de façon amovible au bord supérieur du panier ; le procédé comprenant :

de faire tourner le montage de panier par rapport au récipient ;
caractérisé en

la translation axiale d’un bouton de freinage (430) disposé dans le couvercle (24B), ayant pour effet qu’une paire de bras de pincement (448) s’étendent parallèlement à l’axe de rotation, pour engager par friction une nervure annulaire (494) verticale disposée sur une surface supérieure du couvercle.

8. Procédé selon la revendication 7, dans lequel l’étape de translation axiale du bouton de freinage (430) disposé dans le couvercle (24B) comprend l’application d’une force dirigée vers le bas sur le bouton de freinage.
REFERENCES CITED IN THE DESCRIPTION

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