



- (51) International Patent Classification:
A47L 13/58 (2006.01) A47L 13/20 (2006.01)
- (21) International Application Number:
PCT/US2012/058705
- (22) International Filing Date:
4 October 2012 (04.10.2012)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
201120379087.X 8 October 2011 (08.10.2011) CN
- (71) Applicant: 3M INNOVATIVE PROPERTIES COMPANY [US/US]; 3M Center, Post Office Box 33427, Saint Paul, Minnesota 55133-3427 (US).
- (72) Inventor; and
- (73) Applicant (for US only): ZENG, Feng [CN/CN]; 8 Xing Yi Road, Maxdo Centre 38/F, Shanghai 200336 (CN).
- (74) Agents: ADAMSON, Trisha D. et al.; 3M Center Office of Intellectual Property Counsel, Post Office Box 33427, Saint Paul, Minnesota 55133-3427 (US).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV,

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(54) Title: CENTRIFUGALLY-DEHYDRATING BUCKET

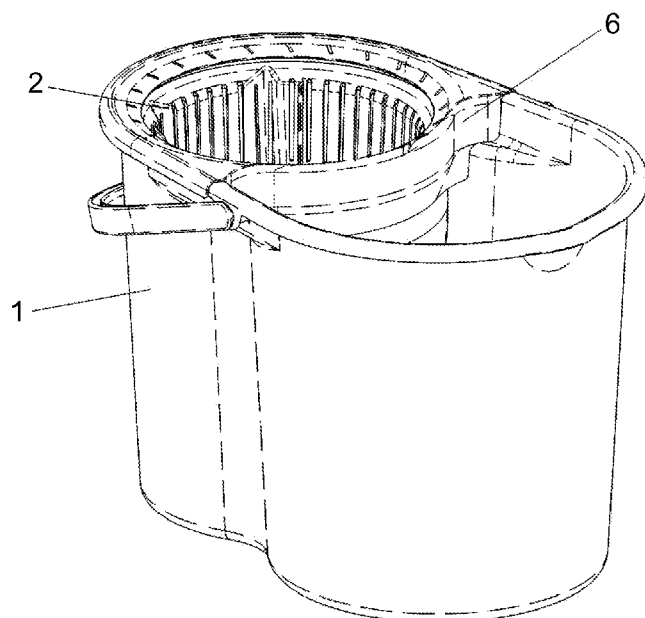


FIG. 1

(57) Abstract: The present utility model relates to a centrifugally-dehydrating bucket. The bucket comprises a bucket body, a spin basket provided in the bucket body to receive a hydrated object, a supporting member provided in the bucket body to support the spin basket, and a spin shaft pivotably connecting the spin basket with the supporting member, wherein the spin basket has an opening at its top and has a drain in its inner wall and its bottom, and the inner wall of the spin basket is provided with a groove fitted to a shape of the hydrated object. The bucket can be used with various hydrated objects with different shapes by means of an improved construction in order to enhance compatibility, expand application range and improve cleaning efficiency.



MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, **Published:**

SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,

GW, ML, MR, NE, SN, TD, TG).

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CENTRIFUGALLY-DEHYDRATING BUCKET

BACKGROUND OF THE UTILITY MODEL

1. Field of the utility model

5 The present utility model relates to a centrifugally-dehydrating bucket, and in particular, to a centrifugally-dehydrating bucket cooperating with a domestic rotation cleaning head.

2. Description of the Related Art

10 In the prior art, a dehydrating bucket cooperates with a cleaning tool to achieve dehydration function of a domestic cleaning product. Such dehydrating bucket generally comprises a bucket body configured to store water, a spin basket and a rotation connection shaft configured to connect the bucket body with the spin basket. The spin basket can be freely rotated about the rotation connection shaft when driven by an external force. In use, a circular disc-shaped cleaning head cooperates with the spin basket. With driven by the external force, the cleaning head is rotated at a high speed along with the spin basket to realize dehydration under the action of a centrifugal force. However, the conventional bucket can only
15 be used with the circular disc-shaped cleaning head. In practice, the cleaning head may have various shapes. In order to improve utilization efficiency of the dehydrating bucket, it is desired to provide a centrifugally-dehydrating bucket compatible with and suitable to various shapes and types of cleaning heads.

SUMMARY OF THE UTILITY MODEL

20 In view of above, an object of the present utility model is to provide a centrifugally-dehydrating bucket, with good compatibility, for various shapes and types of cleaning heads. With an improved inner wall construction of the spin basket, the dehydrating bucket can achieve dehydration of various cleaning heads with different shapes and thus expand the application range of the dehydrating bucket.

The above object can be achieved by the following aspects:

25 In accordance with an aspect of the present utility model, there is provided a centrifugally-dehydrating bucket comprising a bucket body, a spin basket provided in the bucket body to receive a hydrated object, a supporting member provided in the bucket body to support the spin basket, and a spin shaft pivotably connecting the spin basket with the supporting member, wherein the spin basket has an opening at its top and has a drain in its inner wall and its bottom, and the inner wall of the spin
30 basket is provided with a groove to receive at least part of a perimeter edge shape of the hydrated object.

In an embodiment, the spin basket may be generally circular and the groove may be a recess in the inner periphery of the circular spin basket.

In an embodiment, the groove may be formed by a curved surface or a folded plane projecting from or depressed in the inner wall.

5 In a further embodiment, the inner wall of the spin basket may generally be an arc-shaped surface and may be provided with one or more grooves which correspond in position to vertexes of the shape of a noncircular hydrated object in a level plane.

In a further embodiment, the inner wall of the spin basket may generally be formed as an arc-shaped surface and may be provided with four grooves which correspond in position to four vertexes of a rectangle.

10 In a further embodiment, the grooves may be provided in an upper part, a middle part or a lower part of a surface of the inner wall of the spin basket.

In an embodiment, different grooves may be provided in an upper part, a middle part and a lower part of a surface of the inner wall of the spin basket, respectively.

In a further embodiment, a blocking member may be provided in a lower part of the spin basket, the blocking member having a top surface perpendicular to the spin shaft to block the hydrated object.

15 In an embodiment, more than one blocking members which have coplanar top surfaces may be provided in the lower part of the spin basket.

In an embodiment, the centrifugally-dehydrating bucket may further comprise a water retaining shelf which is fixed to the bucket body and is arranged around an opening of the spin basket.

In an embodiment, the hydrated object may be a cleaning head.

20 In a further embodiment, the bucket body may further comprise a water receiving chamber which contains a plurality of projections at its bottom to facilitate cleaning of the hydrated object.

25 With the above configurations, the spin basket of the dehydrating bucket can be allowed to receive various hydrated objects with different shapes, and the centrifugally-dehydrating bucket has an enhanced compatibility, an expanded application range and an improved cleaning efficiency, in particular if various cleaning tools are needed to operate simultaneously.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a schematic perspective view showing a centrifugally-dehydrating bucket according to an embodiment of the present utility model;

30 Fig. 2 shows the inner construction of the centrifugally-dehydrating bucket according to an embodiment of the present utility model;

Fig. 3 shows the centrifugally-dehydrating bucket, which cooperates with a circular cleaning head, according to an embodiment of the present utility model;

Fig. 4 shows the centrifugally-dehydrating bucket, which cooperates with a rectangular cleaning head, according to an embodiment of the present utility model;

5 Fig. 5 is an exploded view of the centrifugally-dehydrating bucket illustrated in Fig. 1; and

Fig. 6 is a top view of the centrifugally-dehydrating bucket illustrated in Fig. 1.

DETAILED DESCRIPTION OF THE EMBODIMENTS

Specific embodiments of the present utility model will be described hereinafter in detail with
10 reference to the accompanying drawings. In the drawings and description, like reference numerals refer to like parts. The embodiments are described below in order to explain the general concept of the present utility model without limitations on the scope of the utility model.

The centrifugally-dehydrating bucket according to an embodiment of the present utility model may comprise a bucket body 1, a spin basket 2, a supporting member 3 and a spin shaft 4, as illustrated in
15 Figs. 1-2. The spin basket 2 is provided in the bucket body 1 to receive a hydrated object 10. The supporting member 3 is provided in the bucket body 1 to support the spin basket 2. The supporting member 3 may be a separate member in a bottom or an inner wall of the bucket body 1, or may be integrated with the bucket body 1, for example, formed by a projection of the bottom or the inner wall of the bucket body 1. The spin shaft 4 pivotably connects the spin basket 2 with the supporting member 3 to
20 allow the spin basket 2 to rotate about the spin shaft 4 with respect to the supporting member 3. The spin shaft 4 may be connected mechanically with the spin basket 2 and the supporting member 3, for example, by a bearing or the like.

The spin basket 2 has an opening at its top and has a drain 21 in its inner wall 22 and its bottom, as illustrated in Fig. 3. The drain 21 may be formed as elongated holes for guiding water separated from
25 the hydrated object to downwardly flow out of the spin basket 2. The drain 21 may also be formed as any other shape, such as circle and square shape, as long as it can guide the water to flow out from the spin basket.

When the hydrated object 10 is put in the spin basket 2, an external force may be applied to the hydrated object 10, the spin shaft 4 or the spin basket 2 to drive the spin basket 2 to rotate along with the
30 hydrated object 10. By means of a centrifugal force produced by the rotation, the water is thrown off from the hydrated object 10 and then flows out through the drain 21 in the inner wall and/or the bottom of the spin basket 2 in order to dehydrate the hydrated object 10.

The inner wall 22 of the spin basket 2 may be provided with a groove 23. The groove 23 is fitted to the shape of the hydrated object 10, so that the hydrated object 10 can be positioned in the spin basket

2. The groove 23 may receive at least part of a perimeter edge of the hydrated object 10 to limit the position of the hydrated object 10 and prevent it from being rotated with respect to the spin basket 2. For example, if the hydrated object 10, for example the cleaning head, has a circular or elliptical shape, the groove 23 may be formed by a curved surface which corresponds to part of the shape of the hydrated object 10. If the hydrated object 10 is polygonal, the groove 23 may be formed by a folded plane projecting from or depressed in the inner wall 22, which corresponds to part of the shape of the hydrated object 10. Furthermore, if the shape of the hydrated object 10 is more complicated, for example formed by several straight line sections and curve line sections connected with each other, the groove 23 may be formed by a curved surface or a folded plane projecting from or depressed in the inner wall 22, which corresponds to part of the complicated shape. In an embodiment, the spin basket 2 may be generally circular and the groove 23 may be a recess in the inner periphery of the circular spin basket 2.

The hydrated object 10 may be defined on the inner wall of the spin basket 2 by the groove 23 to prevent the hydrated object 10 from being detached from the spin basket 2 or sliding relative to it during the rotation of the spin basket 2, and thus the dehydration efficiency can be improved. Generally, the hydrated object 10, for example the cleaning head has a circular shape, and thus the inner wall of the spin basket 2 may be formed as a circumferential surface corresponding to the circular shape. In this circumstance, the hydrated object 10 can be defined by the inner wall of the spin basket 2 without the groove as it is fitted to the general shape of the inner wall of the spin basket 2. However, in practice, the hydrated object 10 may have various shapes. Therefore, the provision of the groove 23 can significantly enlarge the application range of the spin bucket.

For example, the inner wall 22 of the spin basket 2 may generally be formed as an arc-shaped surface and may be provided with one or more grooves 23. The grooves 23 are positioned corresponding to vertexes of the shape of a noncircular hydrated object in a level plane. In this way, the dehydrating bucket may not only be used with a circular hydrated object, for example by means of the general shape of the inner wall 22 of the spin basket 2, but also be used with the noncircular hydrated object, such as triangle, rectangular, pentagon and hexagon, for example by means of the grooves 23. One hydrated object 10 with a certain shape is not necessary to be fitted to all of the grooves 23 in the inner wall of the spin basket 2. Instead, it only needs to be fitted to part of the grooves 23 to define the spin basket 2. Certainly, the hydrated object 10 also may be fitted to all of the grooves 23.

In order to allow the dehydrating bucket to be used with both typical rectangular and circular hydrated objects, the inner wall of the spin basket 2 may generally be an arc-shaped surface and may be provided with at least four grooves 23. Four grooves 23 are positioned corresponding to four vertexes of a rectangle. Fig. 3 schematically shows the circumstance in which the centrifugally-dehydrating bucket according to the embodiment cooperates with the circular hydrated object. Fig. 4 schematically shows the circumstance in which the centrifugally-dehydrating bucket according to the embodiment cooperates with the rectangular hydrated object.

In order to allow the dehydrating bucket to be used with more kinds of the hydrated object 10, the grooves 23 may be arranged in parallel at different level planes. For example, the grooves 23 may be provided only in an upper part of a surface of the inner wall of the spin basket 2, and a middle part and a lower part of the surface of the inner wall of the spin basket 2 may be formed as an entire circumferential surface. In this way, the circular hydrated object may be defined by the middle part or the lower part of the surface of the inner wall of the spin basket 2, and the noncircular hydrated object may be defined by the upper part of the surface of the inner wall of the spin basket 2. Similarly, the grooves 23 may also be provided in the middle part or the lower part of the surface of the inner wall of the spin basket 2. In addition, different forms of grooves 23 may be provided in the upper part, the middle part and the lower part of the surface of the inner wall of the spin basket 2, respectively, such that the hydrated object 10 with different shapes can be defined at different positions of the inner wall of the spin basket 2 in a vertical direction.

In an embodiment, a blocking member 5, for example a stop dog or a blocking plate, may be provided in a lower part of the spin basket 2, and the blocking member 5 has a top surface perpendicular to the spin shaft 4 to block the hydrated object 10. The blocking member 5 may be configured such that the plane in which the hydrated object 10 is located can be perpendicular to the spin shaft 4, which can efficiently prevent the hydrated object 10 from wobbling due to unbalance to improve the efficiency of the centrifugal dehydration. The blocking member 5 may be a single member, or may be a plurality of members which have coplanar top surfaces. The blocking member 5 may be integrated with the spin basket 2, or may be a separate member from the spin basket 2.

In an embodiment, the centrifugally-dehydrating bucket may further comprise a water retaining shelf 6, as shown in Figs. 1, 2 and 5. The water retaining shelf 6 may be fixed to the bucket body 1 and arranged around an opening of the spin basket 2. The water retaining shelf 6 can prevent the water from being splashed out of the bucket through the opening of the spin basket 2 during the rotation of the spin basket 2 so as to avoid unnecessary contamination.

In an embodiment, the bucket body 1 may further comprise a water receiving chamber 7. The water receiving chamber 7 may accommodate rinsing water to rinse the hydrated object 10. The water receiving chamber 7 may contain a plurality of projections 8 at its bottom. The projections 8 can facilitate cleaning of the hydrated object 10 by impacts of the rinsing water to the hydrated object 10 and frictions between the rinsing water and the hydrated object 10.

The above embodiments can be combined to form new ones. The new embodiments also fall within the scope of the present utility model. The hydrated object according to the present utility model may comprise any cleaning part of various cleaning tools, such as a mop head of a domestic mop, a cleaning head of a glass cleaner or the like.

Although the above embodiments of the present utility model have been described with reference to the accompanying drawings, the skilled person in the art would appreciate that the embodiments showed in the drawings are only examples of the present utility model without limiting the scope of the present utility model.

- 5 Although the general concept and some specific embodiments of the present utility model have been described and illustrated, modifications to the above embodiments can be carried out without departing the spirit and the principle of the present utility model. The scope of the present utility model is defined by the appended claims and their equivalents.

CLAIMS

1. A centrifugally-dehydrating bucket comprising:

a bucket body;

a spin basket provided in the bucket body to receive a hydrated object;

5 a supporting member provided in the bucket body to support the spin basket; and

a spin shaft pivotably connecting the spin basket with the supporting member,

characterized in that the spin basket has an opening at its top and has a drain in its inner wall and its bottom, and the inner wall of the spin basket is provided with a groove to receive at least part of a perimeter edge of the hydrated object.

10 2. The bucket according to claim 1, characterized in that the spin basket is generally circular and the groove is a recess in the inner periphery of the circular spin basket.

3. The bucket according to claim 1, characterized in that the groove is formed by a curved surface or a folded plane projecting from or depressed in the inner wall.

15 4. The bucket according to claim 1, characterized in that the inner wall of the spin basket is generally an arc-shaped surface and is provided with one or more grooves which correspond in position to vertexes of the shape of a noncircular hydrated object in a level plane.

5. The bucket according to claim 1, characterized in that the inner wall of the spin basket is generally formed as an arc-shaped surface and is provided with four grooves which correspond in position to four vertexes of a rectangle.

20 6. The bucket according to any one of claims 1-5, characterized in that the groove is provided in an upper part, a middle part or a lower part of a surface of the inner wall of the spin basket.

7. The bucket according to any one of claims 1-5, characterized in that different grooves are provided in an upper part, a middle part and a lower part of a surface of the inner wall of the spin basket, respectively.

25 8. The bucket according to any one of claims 1-5, characterized in that a blocking member is provided in a lower part of the spin basket, the blocking member having a top surface perpendicular to the spin shaft to block the hydrated object.

9. The bucket according to claim 8, characterized in that more than one blocking members which have coplanar top surfaces are provided in the lower part of the spin basket.

10. The bucket according to any one of claims 1-5, characterized in that the centrifugally-dehydrating bucket further comprises a water retaining shelf which is fixed to the bucket body and arranged around an opening of the spin basket.

11. The bucket according to any one of claims 1-5, characterized in that the hydrated object is a cleaning head.

12. The bucket according to any one of claims 1-5, characterized in that the bucket body comprises a water receiving chamber which contains a plurality of projections at its bottom to facilitate cleaning of the hydrated object.

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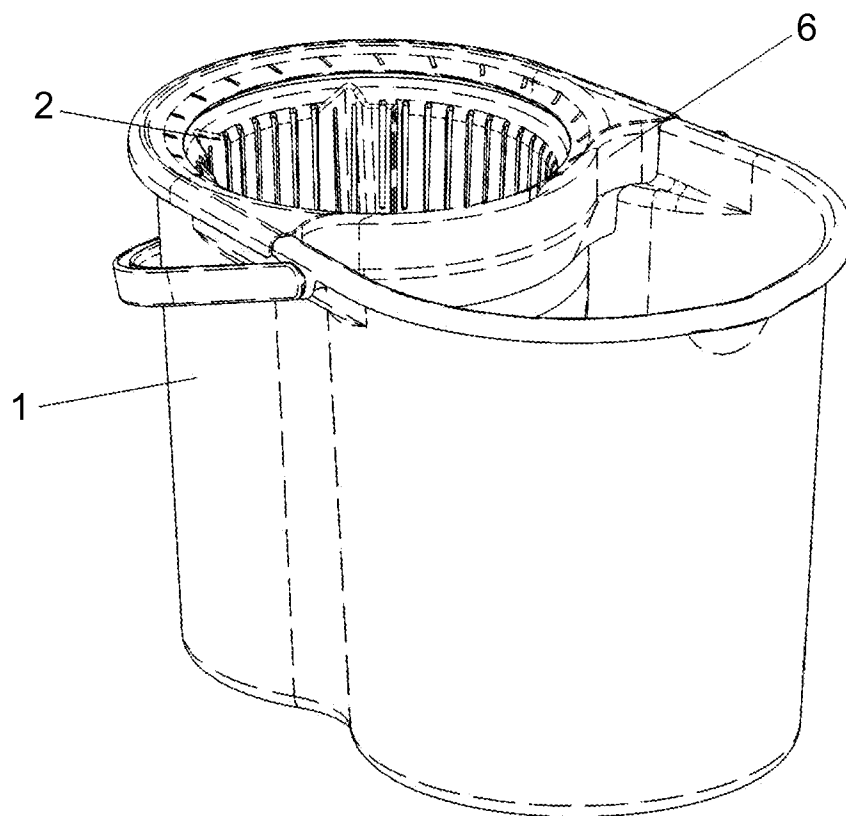


FIG. 1

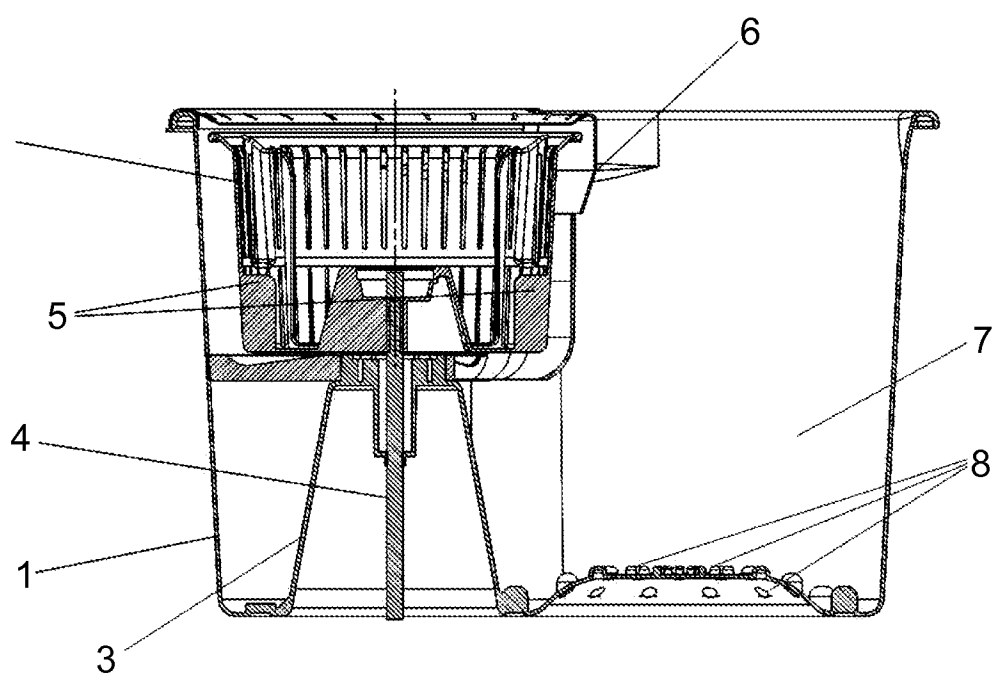


FIG. 2

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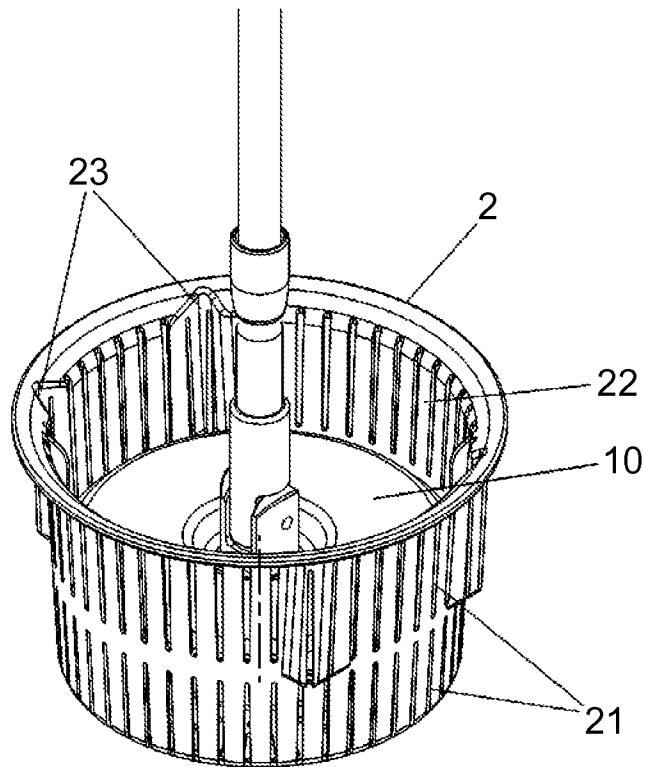


FIG. 3

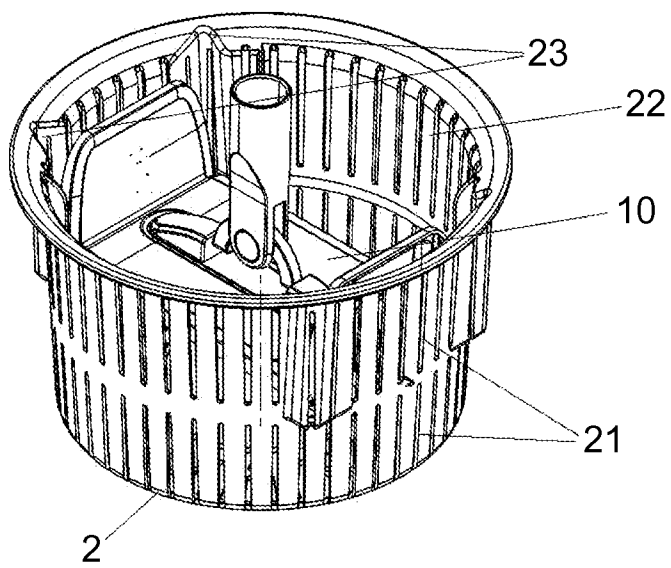


FIG. 4

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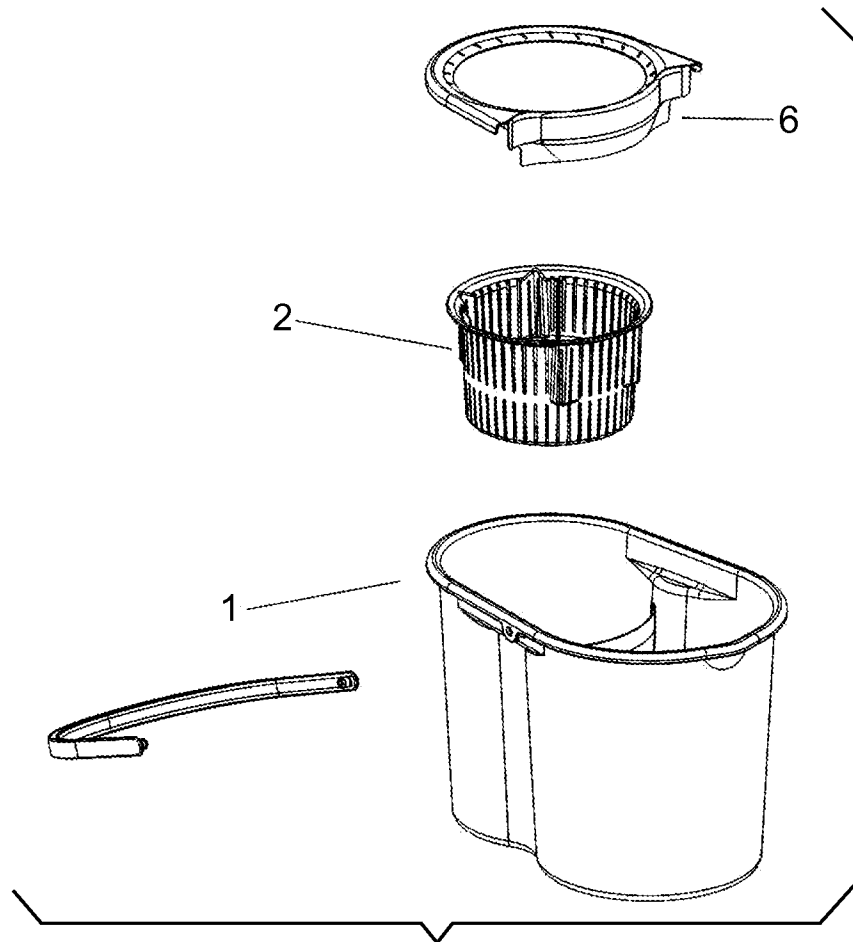


FIG. 5

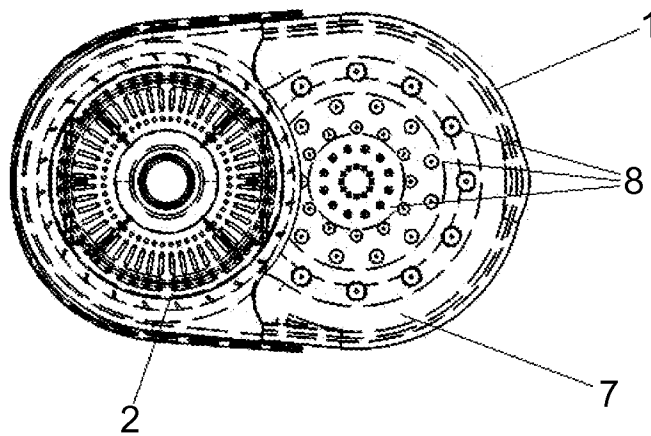


FIG. 6