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ZHU et al.

(54) **MOP CLEANING DEVICE CAPABLE OF SEPARATING CLEAR WATER FROM WASTEWATER**

(71) Applicant: **JIANGSU ZHOU JIJIE INTELLIGENT TECHNOLOGY CO., LTD**, Suqian (CN)

(72) Inventors: **Chenhui ZHU**, Suqian (CN); **Kaifeng LU**, Suqian (CN)

(73) Assignee: **JIANGSU ZHOU JIJIE INTELLIGENT TECHNOLOGY CO., LTD**, Suqian (CN)

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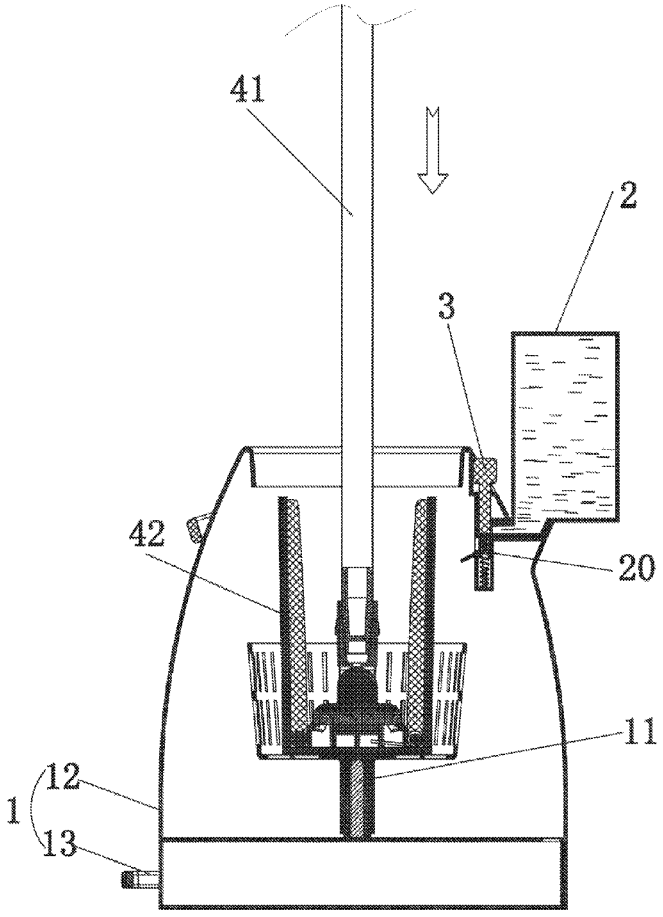
(57) **ABSTRACT**

A mop cleaning device capable of separating clear water from wastewater includes a rotary mop, a bucket, a clear water container, and a valve for controlling on-off of water outflow, wherein the rotary mop comprises a rotary mop rod and a mop head, and the rotary mop rod is connected to the mop head; a support body for supporting the mop to realize rotation is disposed on the bucket; the clear water container has a clear water outlet, the liquid level in the clear water container is higher than the clear water outlet for clear water to flow to the mop head from the clear water container, and the valve is connected to the clear water outlet.



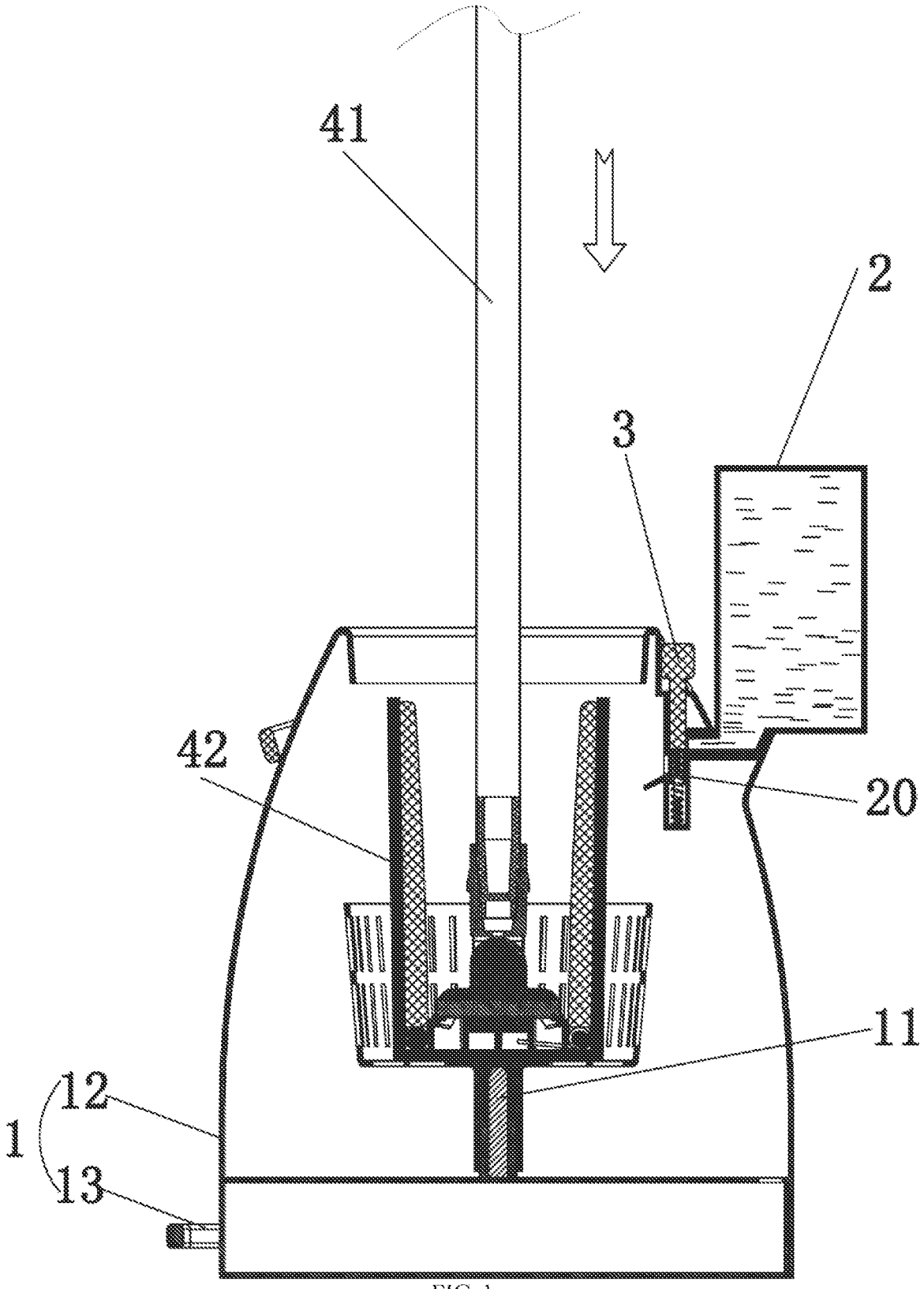


FIG. 1

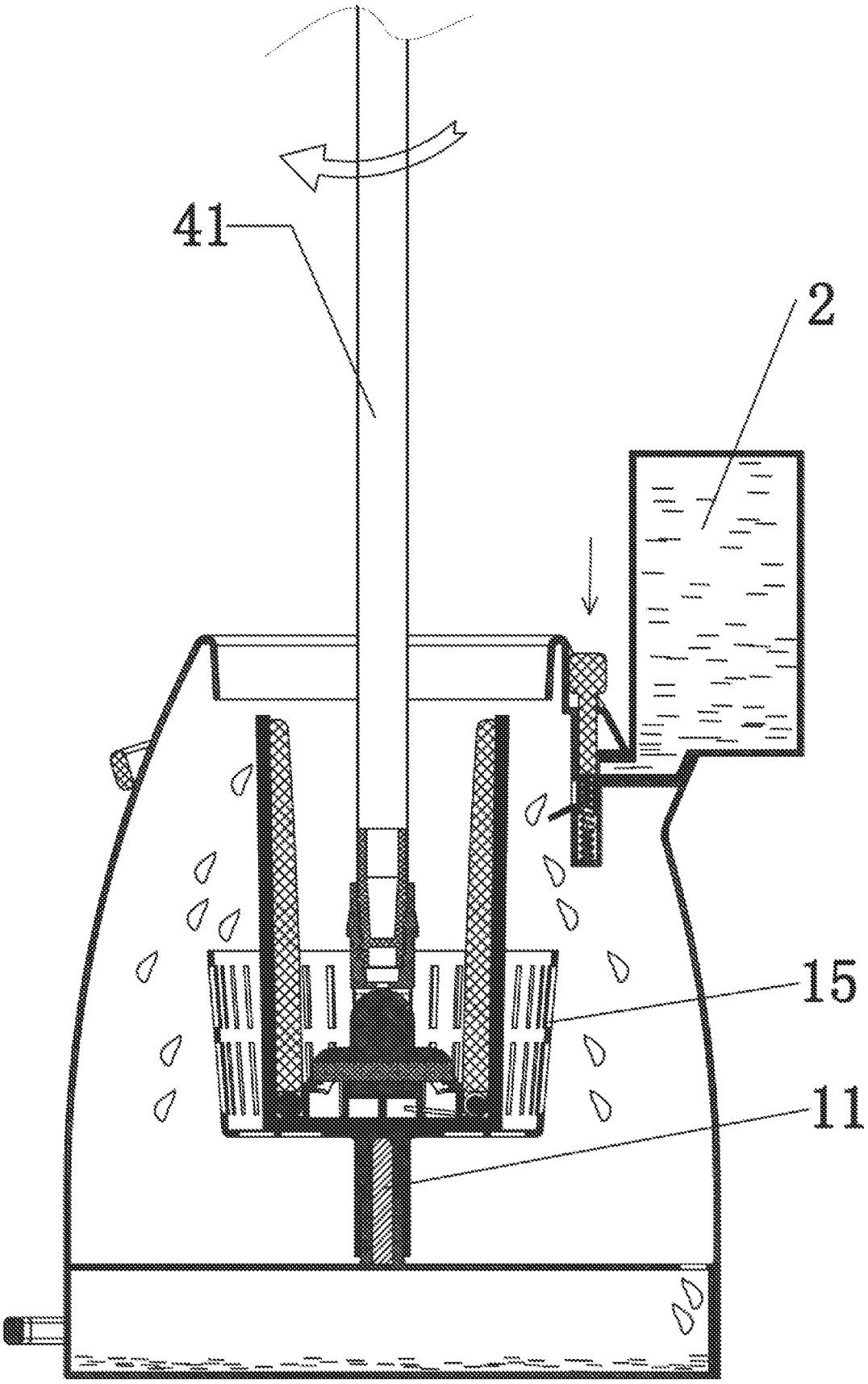


FIG. 2

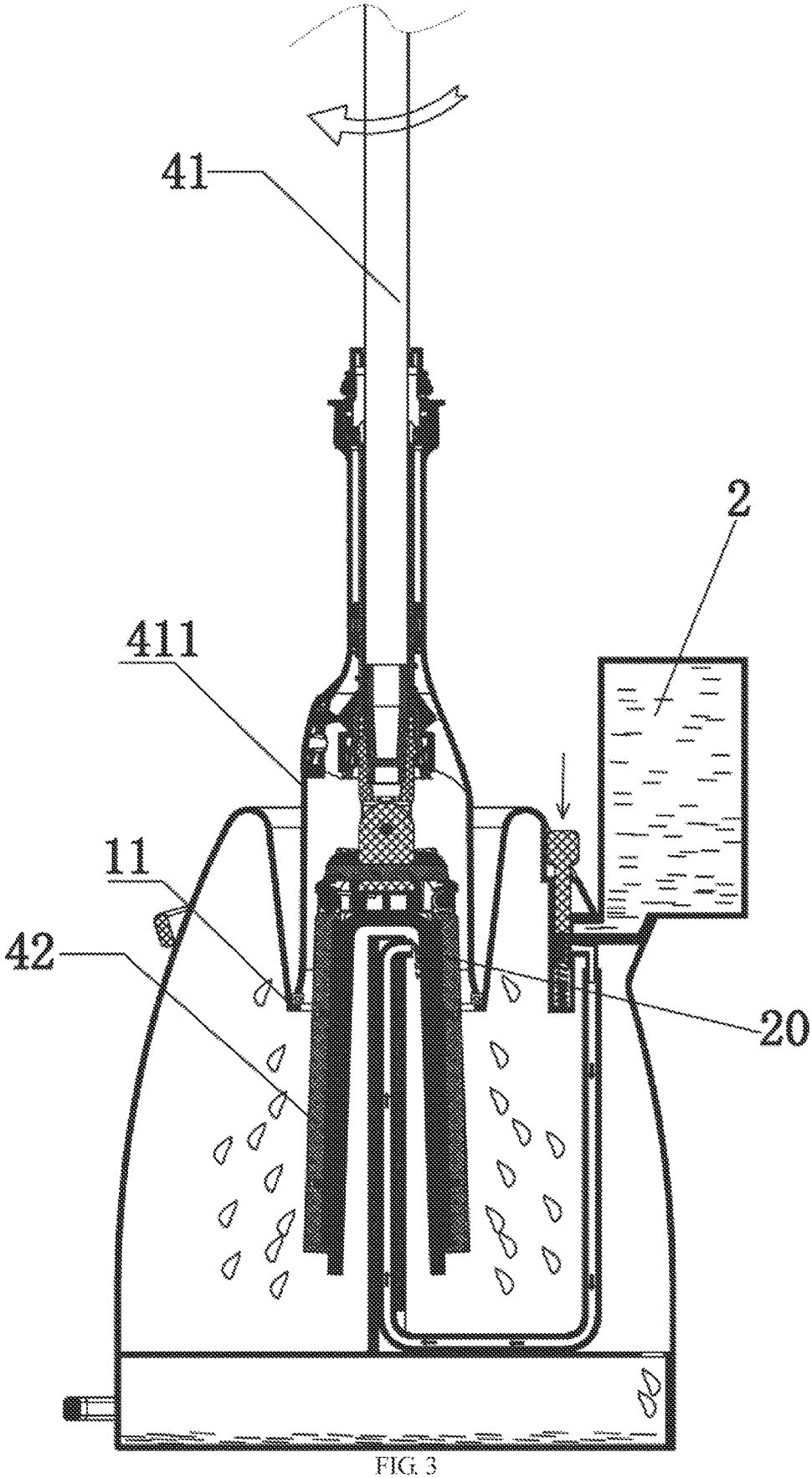


FIG. 3

MOP CLEANING DEVICE CAPABLE OF SEPARATING CLEAR WATER FROM WASTEWATER

CROSS REFERENCE TO THE RELATED APPLICATIONS

[0001] This application is the national stage entry of International Application No. PCT/CN2019/078702, filed on Mar. 19, 2019, which is based upon and claims priority to Chinese Patent Application No. 201820510936.2, filed on Apr. 11, 2018, Chinese Patent Application No. 201820610042.0, filed on Apr. 24, 2018, and Chinese Patent Application No. 201820629882.1, filed on Apr. 28, 2018 the entire contents of which are incorporated herein by reference.

TECHNICAL FIELD

[0002] The utility model relates to a mop cleaning device capable of separating clear water from wastewater, and belongs to the technical field of cleaning supplies.

BACKGROUND

[0003] According to a cleaning method for a cleaning tool disclosed by existing patent literature discloses, the cleaning tool comprises a mop rod and a mop head, a wiper is disposed on the mop head and is cleaned in a mop bucket, which has a clear water region for containing clear water and a wastewater region for containing wastewater; when the wiper is to be cleaned, clear water is extracted from the clear water region to clean the wiper, and wastewater generated after cleaning flows into the wastewater region. After cleaning is finished, wastewater generated during cleaning flows into the wastewater region to be separated from clear water, so that the purpose of separating the clear water from the wastewater is realized. In this technical solution, the clear water for cleaning the mop head is extracted through a pump, so that the structure is complicated, and on-off control of a water source is not available.

SUMMARY

[0004] The objective of the utility model is to overcome the aforesaid defects of the prior art by providing a mop cleaning device capable of separating clear water from wastewater, which is reasonable in structural design and can separate clear water from wastewater generated after mop cleaning.

[0005] The technical solution adopted by the utility model to settle the above technical issue is as follows: a mop cleaning device capable of separating clear water from wastewater comprises a rotary mop, a bucket, a clear water container, and a valve for controlling on-off of water outflow, wherein the rotary mop comprises a rotary mop rod and a mop head, and the rotary mop rod is connected to the mop head; a support body for supporting the mop to realize rotation is disposed on the bucket; the clear water container has a clear water outlet, the liquid level in the clear water container is higher than the clear water outlet so that clear water can flow to the mop head from the clear water container, and the valve is connected to the clear water outlet.

[0006] Furthermore, the support body is a support column, which is disposed on the bucket and supports the mop head.

[0007] Furthermore, the rotary mop rod is provided with a hanging sleeve, which is able to rotate with respect to the rotary mop rod in a circumferential direction and is limited with respect to the rotary mop rod in an axial direction, the support body is a support edge disposed on the bucket, and the hanging sleeve abuts against the support edge.

[0008] Furthermore, the rotary mop rod is provided with a hanging sleeve, which is able to rotate with respect to the rotary mop rod in a circumferential direction and is limited with respect to the rotary mop rod in an axial direction, the hanging sleeve is disposed around the rotary mop rod, the support body is a support edge disposed on the bucket, the hanging sleeve abuts against the support edge, a plane bearing is disposed between the hanging sleeve and the support edge, and the hanging sleeve is limited with respect to the rotary mop rod in the axial direction.

[0009] Furthermore, the mop cleaning device further comprises a spin-drying basket, which is rotatably disposed on the support column and encircles the mop head. Furthermore, the mop head comprises two side plates which can be folded upwards, and the clear water outlet is located outside the side plates.

[0010] Furthermore, the mop head comprises two side plates which can be folded downwards, and the clear water outlet is located inside the side plates.

[0011] Furthermore, the bucket comprises a main part and a wastewater sink, wherein the wastewater sink is disposed below the main part and is separated front the main part.

[0012] Furthermore, the bucket has a transparent visual part or is transparent.

[0013] Furthermore, the wastewater sink is transparent.

[0014] Compared with the prior art, the utility model has the following advantages and effects:

[0015] 1. Clear water can be separated from wastewater generated during mop cleaning, so that the mop can be washed with clear water every time; the clear water is artesian water, so that water outflow is easy.

[0016] 2. The foldable mop is adopted, so that the size of the bucket is greatly decreased; during cleaning, the mop head can be unfolded to improve the cleaning efficiency.

BRIEF DESCRIPTION OF THE DRAWINGS

[0017] FIG. **1** is a structural diagram of an embodiment in a cleaning condition.

[0018] FIG. **2** is a structural diagram of the embodiment in a spin-drying condition.

[0019] FIG. **3** is a structural diagram of a mop head which is turned downwards in the embodiment.

DETAILED DESCRIPTION OF THE EMBODIMENTS

[0020] The utility model is further expounded below in conjunction with the accompanying drawings and embodiments. Clearly, the following embodiments are merely for explaining the utility model, and are not intended to limit the utility model.

Embodiment

[0021] As shown in FIG. **1** to FIG. **3**, this embodiment provides a mop cleaning device capable of separating clear water from wastewater. The mop cleaning device comprises a rotary mop, a bucket **1**, a clear water container **2**, and a valve **3** for controlling on-off of water outflow, wherein the

rotary mop comprises a rotary mop rod **41** and a mop head **42**, and the rotary mop rod **41** is connected to the mop head **42**. The rotary mop rod **41** in this embodiment belongs to the prior art. For example, the rotary mop rod in this embodiment is any one of the technical solutions such as a ball-type rotary mop rod disclosed by Chinese Utility Model Patent Publication No. CN204071985U and a mop capable of vertically moving and being driven to rotate in one direction to be spin-dried disclosed by Chinese Utility Model Patent Publication No. CN201505105U.

[0022] In this embodiment, a support body **11** for supporting the mop to realize rotation is disposed on the bucket **1**; the clear water container **2** has a clear water outlet **20**, the liquid level in the clear water container **2** is higher than the clear water outlet **20** so that clear water can flow to the mop head **42** from the clear water container **2** via the clear water outlet **20**, and the valve **3** is connected to the clear water outlet **20** and controls on-off of water outflow. In this implementation, when the valve **3** is opened, the rotary mop rod **41** drives the mop head **42** to rotate, and clear water flows to the mop head **42** to wash the mop head **42**; and when the valve **3** is closed, the rotary mop rod **41** drives the mop head **42** to rotate to be spin-dried, wastewater generated during centrifugal spin-drying is collected in the bucket **1**, so that clear water is separated from wastewater generated during mop cleaning.

[0023] In this embodiment, the support body **11** is a support column, which is disposed on the bucket **1** and supports the mop head **42**. The rotary mop rod **41** can drive the mop head **42** to rotate with the support column as a rotation point. Further preferably, the mop cleaning device in this embodiment further comprises a spin-drying basket **15**, wherein the spin-drying basket **15** is rotatably disposed on the support column and partially or entirely encircles the mop head **42**. In this case, the spin-drying basket **15** is one part of the support body **11** and surrounds the mop head **42**.

[0024] In this embodiment, the rotary mop rod **41** is provided with a hanging sleeve **411**, which is able to rotate with respect to the rotary mop rod **41** in a circumferential direction and is limited with respect to the rotary mop rod **41** in an axial direction, the support body **11** is a support edge disposed on the bucket **1**, and the hanging sleeve **411** abuts against the support edge. The hanging sleeve **411** is assembled on the rotary mop rod **41** in an interference manner in the axial direction, thus being limited in the axial direction; the rotary mop rod **41** is a round rod, and a hole, allowing the rotary mop rod **41** to be disposed therein, of the hanging sleeve **411** is a round hole, so that the hanging sleeve **411** is able to rotate with respect to the rotary mop rod **41** in the circumferential direction and is limited with respect to the rotary mop rod **41** in the axial direction. The rotary mop rod **41** can drive the mop head **42** to rotate.

[0025] In this embodiment, the rotary mop rod **41** is provided with a hanging sleeve **411**, which is able to rotate with respect to the rotary mop rod **41** in a circumferential direction and is limited with respect to the rotary mop rod **41** in an axial direction, the support body **11** is a support edge disposed on the bucket **1**, the hanging sleeve **411** abuts against the support edge, a plane bearing **5** is disposed between the hanging sleeve **411** and the support edge, and the hanging sleeve **411** is limited with respect to the rotary mop head **41** in the axial direction. The hanging sleeve **411** is assembled on the rotary mop head **41** in an interference manner in the axial direction, thus being limited in the axial direction; the plane bearing **5** is disposed between the support edge and the hanging sleeve **411**, so that the rotary mop rod **41** can drive the foldable mop head **42** to rotate. In this technical solution, the mop head **42** may be suspended, so that the centrifugal spin-drying effect is greatly improved.

[0026] Preferably, the mop head **42** in this embodiment is a foldable mop head **42** and comprises two side plates which can be folded upwards, and the clear water outlet **20** is located outside the side plates. The foldable mop head **42** can be folded in use to improve the cleaning efficiency, and can be folded in the cleaning process to reduce the size of the bucket **1**.

[0027] As shown in FIG. **3**, preferably, the mop head **42** in this embodiment is a foldable mop head **42** and comprises two side plates which can be folded downwards, and the clear water outlet **20** is located inside the side plates.

[0028] In this embodiment, the bucket **1** comprises a main part **12** and a wastewater sink **13**, wherein the wastewater sink **13** is disposed below the main part **12** and is separated from the main part **12**. When wastewater is to be poured, the wastewater sink **13** can be taken out separately.

[0029] In this embodiment, the bucket **1** has a transparent visual part or is transparent. The water level can he observed through the transparent visual part.

[0030] In this embodiment, the wastewater sink **13** is transparent.

[0031] The above-described contents in the specification are merely for illustrating the utility model. Various modifications or supplements, or similar substitutions of the aforesaid specific embodiments obtained by those skilled in the art without departing from the contents in the specification of the utility model or going beyond the scope defined by the claims should also fall within the protection scope of the utility model.

What is claimed is:

1. A mop cleaning device capable of separating clear water from wastewater, comprising a rotary mop, a bucket, a clear water container, and a valve for controlling on-off of a water outflow, wherein the rotary mop comprises a rotary mop rod and a mop head, and the rotary mop rod is connected to the mop head; a support body for supporting the rotary mop and allowing the rotary mop to rotate is disposed on the bucket; the clear water container has a clear water outlet, a liquid level in the clear water container is higher than the clear water outlet for clear water to flow to the mop head from the clear water container, and the valve is connected to the clear water outlet.

2. The mop cleaning device according to claim **1**, wherein the support body is a support column, wherein the support column is disposed on the bucket and supports the mop head.

3. The mop cleaning device according to claim **1**, wherein the rotary mop rod is provided with a hanging sleeve, wherein the hanging sleeve is configured to rotate with respect to the rotary mop rod in a circumferential direction and the hanging, sleeve is limited with respect to the rotary mop rod in an axial direction, the support body is a support edge disposed on the bucket, and the hanging sleeve abuts against the support edge.

4. The mop cleaning device according to claim **1**, wherein the rotary mop rod is provided with a hanging sleeve, wherein the hanging sleeve is able to rotate with respect to the rotary mop rod in a circumferential direction and the hanging sleeve is limited with respect to the rotary mop rod

in an axial direction, the hanging sleeve is disposed around the rotary mop rod, the support body is a support edge disposed on the bucket, the hanging sleeve abuts against the support edge, a plane bearing is disposed between the hanging sleeve and the support edge, and the hanging sleeve is limited with respect to the rotary mop rod in the axial direction.

5. The mop cleaning device according to claim **2**, further comprising a spin-drying basket, wherein the spin-drying basket is rotatably disposed on the support column and encircles the mop head.

6. The mop cleaning device according to claim **1**, wherein the mop head comprises two side plates, wherein the two side plates are folded upwards, and the clear water outlet is located outside the two side plates.

7. The mop cleaning device according to claim **1**, wherein the mop head comprises two side plates, wherein the two side plates are folded downwards, and the clear water outlet is located inside the two side plates.

8. The mop cleaning device according to claim **1**, wherein the bucket comprises a main part and a wastewater sink, and the wastewater sink is disposed below the main part and the wastewater sink is separated from the main part.

9. The mop cleaning device according to claim **1**, wherein the bucket has a transparent visual part or the bucket is transparent.

10. The mop cleaning device according to claim **8**, wherein the wastewater sink is transparent.

11. The mop cleaning device according to claim **2**, wherein the mop head comprises two side plates, wherein the two side plates are folded upwards, and the clear water outlet is located outside the two side plates.

12. The mop cleaning device according to claim **3**, wherein the mop head comprises two side plates, wherein the two side plates are folded upwards, and the clear water outlet is located outside the two side plates.

13. The mop cleaning device according to claim **4**, wherein the mop head comprises two side plates, wherein the two side plates are folded upwards, and the clear water outlet is located outside the two side plates.

14. The mop cleaning device according to claim **5**, wherein the mop head comprises two side plates, wherein the two side plates are folded upwards, and the clear water outlet is located outside the two side plates.

15. The mop cleaning device according to claim **2**, wherein the mop head comprises two side plates, wherein the two side plates are folded downwards, and the clear water outlet is located inside the two side plates.

16. The mop cleaning device according to claim **3**, wherein the mop head comprises two side plates, wherein the two side plates are folded downwards, and the clear water outlet is located inside the two side plates.

17. The mop cleaning device according to claim **4**, wherein the mop head comprises two side plates, wherein the two side plates are folded downwards, and the clear water outlet is located inside the two side plates.

18. The mop cleaning device according to claim **5**, wherein the mop head comprises two side plates, wherein the two side plates are folded downwards, and the clear water outlet is located inside the two side plates.

19. The mop cleaning device according to claim **2**, wherein the bucket comprises a main part and a wastewater sink, and the wastewater sink is disposed below the main part and the wastewater sink is separated from the main part.

20. The mop cleaning device according to claim **3**, wherein the bucket comprises a main part and a wastewater sink, and the wastewater sink is disposed below the main part and the wastewater sink is separated from the main part.

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