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(54) SELF-CLEANING DUST-COLLECTING BASE AND DUST-COLLECTING SYSTEM

(57) A self-cleaning dust-collecting base and a dust-collecting system. The self-cleaning dust-collecting base comprises a self-cleaning dust-collecting base body (2000), and the self-cleaning dust-collecting base body (2000) comprises : a dust-collecting cavity (2100), an opening of which is arranged upwards and forwards at a top end of the self-cleaning dust-collecting base body (2000); and a dust-collecting cover (2800), which is detachably buckled onto the dust-collecting cavity (2100) to form a dust-collecting bin (3000) for accommodating a rubbish accommodation device, wherein at least a portion of the outer surface of the dust-collecting cover (2800) acts as a portion of the exterior surface of the self-cleaning dust-collecting base.

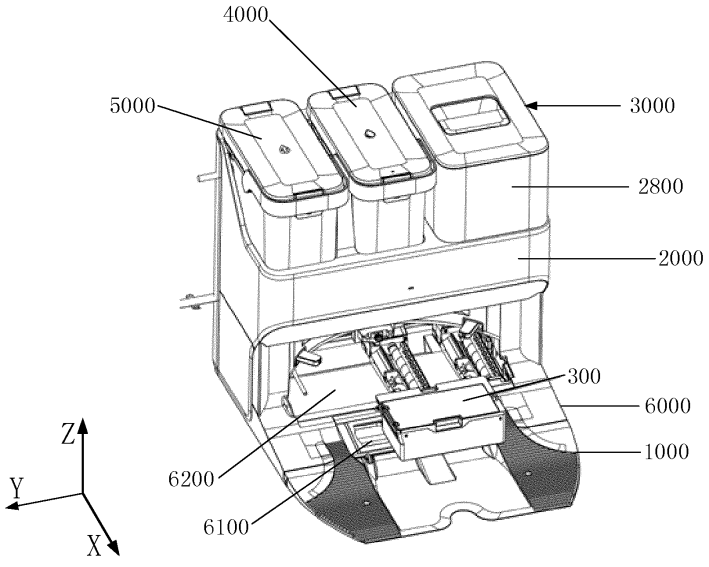

FIG. 1

EP 4 458 240 A1

Description

CROSS-REFERENCE TO RELATED APPLICATION

[0001] This application is based on and claims priority to Chinese Patent Application No. 202111675965.7, filed on December 31, 2021, the disclosure of which is herein incorporated by reference in its entirety.

TECHNICAL FIELD

[0002] The present disclosure relates to the field of cleaning robot technologies, and in particular to a self-cleaning dust collection seat and a dust collection system.

BACKGROUND ART

[0003] In recent years, with the development of science and technology, a variety of cleaning supplies have emerged, and these cleaning supplies reduce the burden of people' work in cleaning and sweeping, meet the needs of people and provide much convenience for people's lives. In these cleaning supplies, an automatic cleaning device is favored by people for its characteristic of high intelligence.

SUMMARY OF THE INVENTION

[0004] An embodiment of the present disclosure provides a self-cleaning dust collection seat, including a self-cleaning dust collection seat body. The self-cleaning dust collection seat body includes a dust collection chamber and a dust collection hood, wherein

[0005] the dust collection chamber, with an opening facing upward and forward, is arranged at a top end of the self-cleaning dust collection seat body;

the dust collection hood is detachably buckled on the dust collection chamber to form a dust collection bin for accommodating a garbage receiving device; and at least a part of an outer surface of the dust collection hood is used as a part of an exterior surface of the self-cleaning dust collection seat.

[0006] A dust collection system is also provided, including an automatic cleaning device and the self-cleaning dust collection seat described above.

BRIEF DESCRIPTION OF THE DRAWINGS

[0007] The accompanying drawings, which are incorporated into and constitute a part of the description, illustrate embodiments consistent with the present disclosure and, together with the description, serve to explain the principles of the present disclosure. Apparently, the accompanying drawings in the following descriptions show merely some embodiments of the present disclosure, and a person of ordinary skill in the art may still derive other drawings from these accompanying drawings without creative efforts. In the drawings:

FIG. 1 is a schematic diagram of an overall structure of a self-cleaning dust collection seat according to some embodiments of the present disclosure;
FIG. 2 is a schematic diagram of a main structure of the self-cleaning dust collection seat according to some embodiments of the present disclosure;
FIG. 3 is a schematic structural diagram of a dust collection chamber according to some embodiments of the present disclosure;
FIG. 4 is a schematic structural diagram of a dust collection hood according to some embodiments of the present disclosure;
FIG. 5 is a sectional view of the dust collection hood according to some embodiments of the present disclosure;
FIG. 6 is a schematic structural diagram of a dust bag support according to some embodiments of the present disclosure;
FIG. 7 is another schematic structural diagram of the dust bag support according to some embodiments of the present disclosure;
FIG. 8 is a schematic structural diagram of a dust bag according to some embodiments of the present disclosure;
FIG. 9 is another schematic structural diagram of the dust bag according to some embodiments of the present disclosure;
FIG. 9A is a schematic diagram of a partial structure of the dust bag according to some embodiments of the present disclosure;
FIG. 9B is a schematic structural diagram of a section in FIG. 9A;
FIG. 10 is a schematic diagram of a pre-assembled structure of the dust bag support and the dust bag according to some embodiments of the present disclosure;
FIG. 11 is a sectional view of an assembled structure of the dust bag support and the dust bag according to some embodiments of the present disclosure;
FIG. 12 is a schematic diagram of the assembled structure of the dust bag support and the dust bag according to some embodiments of the present disclosure; and
FIG. 13 is a sectional view of the dust bag support according to some embodiments of the present disclosure.

Reference numerals are described as below:

[0008] 1000-self-cleaning dust collection seat baseplate; 2000-self-cleaning dust collection seat body; 2100-dust collection chamber; 2131-first dust collection chamber side wall; 2132-second dust collection chamber side wall; 2134-dust collection chamber rear wall; 2140-

sealing gasket; 2150-circumferential inner wall; 2151-first side inner wall; 2152-second side inner wall; 2153-front inner wall; 2154-rear inner wall; 2700-water storage chamber; 2800-dust collection hood; 2810-dust collection hood cover body; 2811-pull handle portion; 2820-dust collection hood wall; 2821-first dust collection hood side wall; 2822-second dust collection hood side wall; 2823-dust collection hood front wall; 2824-dust collection hood rear wall; 2825-stopper; 2826-supporting rib; 3000-dust collection bin; 4000-clean water tank; 5000-sewage tank; 6000-body base; 6100-dust collection port; 6200-cleaning tank; 300-dust box; 2110-dust bag support; 2111-support side wall; 2112-dust outlet port; 2113-sliding baffle; 211131-sliding baffle protrusion; 2114-sliding groove; 21141-latch part; 2115-elastic component; 2120-dust bag; 2121-dust bag body; 2122-clamping plate; 21221-clamping plate opening; 21222-clamping plate slot; 21223-limiting component; 21224-flexible rubber ring; 2123-sliding plate; 21231-sliding plate opening; 21232-handle portion; 21233-sliding plate protrusion; and 21234-limiting bump (unlocking bump).

DETAILED DESCRIPTION

[0009] For clearer descriptions of the objectives, technical solutions, and advantages of the present disclosure, the present disclosure will be described in detail hereinafter with reference to the accompanying drawings. Apparently, the described embodiments are only part of embodiments of the present disclosure, rather than all of the embodiments. All other embodiments obtained by those of ordinary skill in the art based on the embodiments of the present disclosure without creative work shall fall within the protection scope of the present disclosure.

[0010] The terms used in the embodiments of the present disclosure are only intended to describe specific embodiments rather than to limit the present disclosure. The singular forms "a", "said" and "the" used in the embodiments and the appended claims of the present disclosure are also intended to include the plural forms, and unless otherwise indicated clearly in the context, the term "plurality" generally includes at least two.

[0011] It should be understood that the term "and/or" used herein describes an association relationship between associated objects, indicating three relationships. For example, A and/or B, can be expressed as: A exists alone, A and B exist concurrently, and B exists alone. The symbol"/" used herein generally indicates an "OR" relationship between contextual objects.

[0012] It should be understood that although the terms first, second, third, etc. may be used for description in the embodiments of the present disclosure, the descriptions should not be limited to these terms. These terms are only intended for a distinguishing purpose. For example, without departing from the scope of the embodiments of the present disclosure, first may also be referred to as second, and similarly, second may also be referred to as first.

[0013] It should also be noted that the term "including", "include" or any other variants thereof is intended to cover a non-exclusive inclusion, such that an article or apparatus that includes a series of elements includes not only those elements but also other elements that are not specifically listed, or further includes elements that are inherent to such an article or apparatus. An element that is defined by the phrase "including a ..." does not exclude the presence of additional same elements in the article or device that includes the apparatus.

[0014] The embodiments of the present disclosure will be described in detail below with reference to the accompanying drawings.

[0015] In the related arts, due to a limited capacity of a dust box of an automatic cleaning device, a user often needs to bend down to clean the dust box, resulting in the poor user experience. Therefore, an embodiment of the present disclosure provides a self-cleaning dust collection seat. By means of a dust collection system, garbage in the dust box of the automatic cleaning device is collected into a dust collection bin of the self-cleaning dust collection seat, thereby reducing the number of times the user has to deal with the garbage and improving the user experience. Specifically, by taking the self-cleaning dust collection seat according to the embodiment of the present disclosure as an example, FIG. 1 schematically shows a schematic diagram of an overall structure of the self-cleaning dust collection seat, and FIG. 2 schematically shows a schematic structural diagram of a self-cleaning dust collection seat body from which a sewage tank, a clean water tank and a dust collection hood are removed in the present disclosure.

[0016] In order to describe a behavior of the self-cleaning dust collection seat more clearly, the direction definition is as follows: the self-cleaning dust collection seat may be calibrated by the following three axes as defined, which are perpendicular to each other: a transverse axis Y, a front-rear axis X and a central vertical axis Z. A direction opposite to an arrow denoting the front-rear axis X, i.e., a direction in which the automatic cleaning device enters the self-cleaning dust collection seat, is marked as "rearward", and a direction of the arrow denoting the front-rear axis X, i.e., a direction in which the automatic cleaning device leaves the self-cleaning dust collection seat is marked as "forward". The transverse axis Y is substantially in a width direction of the self-cleaning dust collection seat body. The vertical axis Z is in a direction extending upward from a bottom surface of the self-cleaning dust collection seat.

[0017] As shown in FIG. 1, a direction in which a self-cleaning dust collection seat baseplate 1000 protrudes from a self-cleaning dust collection seat body 2000 is forward, and a direction of a rear wall of the self-cleaning dust collection seat body 2000 is rearward. A dust collection bin 3000 is located on a left side of the self-cleaning dust collection seat, a clean water tank 4000 is located on a right side of the dust collection bin 3000, and a sewage tank 5000 is located on a right side of the clean water tank

4000.

[0018] As shown in FIG. 1, the self-cleaning dust collection seat provided by the embodiment includes the self-cleaning dust collection seat baseplate 1000 and the self-cleaning dust collection seat body 2000. The self-cleaning dust collection seat baseplate 1000 and the self-cleaning dust collection seat body 2000 are detachably connected. Specifically, the self-cleaning dust collection seat baseplate 1000 is detachably connected to a body base 6000 at a lower portion of the self-cleaning dust collection seat body 2000. The mode of detachable connection can facilitate transportation and maintenance.

[0019] The self-cleaning dust collection seat body 2000 is configured to collect garbage in a dust box of an automatic cleaning device. In some embodiments, components such as the dust collection bin 3000, the clean water tank 4000 and the sewage tank 5000 may also be arranged side by side on the self-cleaning dust collection seat body 2000.

[0020] As shown in FIG. 2, the self-cleaning dust collection seat body 2000 includes a water storage chamber 2700 and a dust collection chamber 2100. The water storage chamber 2700, with an opening facing upward and forward, is arranged at a top of the self-cleaning dust collection seat body 2000, and the water storage chamber may further include a clean water bin for accommodating the clean water tank 4000 and a sewage bin for accommodating the sewage tank 5000. The dust collection chamber 2100, with an opening facing upward and forward, and the water storage chamber 2700 are arranged side by side at a top end of the self-cleaning dust collection seat body 2000. The dust collection chamber 2100 is provided with a dust collection hood 2800 that matches the opening of the dust collection chamber 2100, and the dust collection hood 2800 is detachably buckled on the dust collection chamber 2100. The dust collection chamber 2100 and the dust collection hood 2800 jointly form the dust collection bin 3000 for accommodating a garbage receiving device. At least a part of an outer surface of the dust collection hood 2800 serves as a part of an exterior surface of the self-cleaning dust collection seat. The water storage chamber 2700 and the dust collection chamber 2100 are designed to face upward and forward to facilitate mounting and dismounting of the sewage tank 5000, the clean water tank 4000 and the dust collection hood 2800.

[0021] The body base 6000 is arranged at the lower portion of the self-cleaning dust collection seat body 2000. In some embodiments, the body base 6000 is integrally arranged at the lower portion of the self-cleaning dust collection seat body 2000. The body base 6000 also abuts against the self-cleaning dust collection seat baseplate 1000. Specifically, the self-cleaning dust collection seat baseplate 1000 and the body base 6000 are arranged in sequence in a second direction, where the second direction is a direction opposite to the arrow of the front-rear axis X.

[0022] A dust collection port 6100 is formed in the body base 6000 and substantially located at an edge of the body base 6000 connected to the self-cleaning dust collection seat baseplate 1000. The dust collection port 6100 is configured to be butted with a dust outlet of the automatic cleaning device, and the garbage in the dust box 300 of the automatic cleaning device is entered the dust collection chamber 2100 of the self-cleaning dust collection seat body 2000 via the dust collection port 6100. In some embodiments, a sealing rubber gasket is also arranged around the dust collection port 6100 and configured to seal the dust collection port 6100 butted with the dust outlet of the automatic cleaning device so as to avoid leakage of the garbage.

[0023] In some embodiments, the body base 6000 further includes a cleaning tank 6200. The cleaning tank 6200 is configured to clean cleaning components on the automatic cleaning device, for example, to replenish a wet cleaning module of the automatic cleaning device with a cleaning fluid, and/or to accommodate sundries removed from the wet cleaning module, and/or to collect sewage generated in the process of cleaning the wet cleaning module, so as to facilitate subsequent treatment of the sundries and sewage. In some embodiments, the cleaning tank 6200 is arranged behind the dust collection port 6100.

[0024] In some embodiments, the self-cleaning dust collection seat further includes an air duct, one end of which is in communication with the dust collection port 6100 of the body base 6000, and the other end of which is in communication with the dust collection chamber 2100. When the self-cleaning dust collection seat is in a state of dust collection, sufficient negative pressure is formed in the dust collection bin 3000 to suck the garbage in the dust box 300 to a dust bag in the dust collection chamber 2100 via the dust collection port 6100 and the air duct.

[0025] Referring to FIG. 2 and FIG. 3, in some embodiments, the dust collection chamber 2100 includes a dust collection chamber rear wall 2134 and a pair of opposite dust collection chamber side walls. The dust collection chamber side walls further include a first dust collection chamber side wall 2131 and a second dust collection chamber side wall 2132, the first dust collection chamber side wall 2131 is close to an outer wall of the self-cleaning dust collection seat body 2000, and the first dust collection chamber side wall 2131 and the second dust collection chamber side wall 2132 are arranged opposite to each other and both adjoin the dust collection chamber rear wall 2134.

[0026] Specifically, an end face of the dust collection chamber side wall may be of an arc structure, and a height of the dust collection chamber side wall may be gradually reduced along the arrow direction of the front-rear axis X. The height of the dust collection chamber side wall is equal to that of the dust collection chamber rear wall 2134 at a point where the dust collection chamber side wall adjoins the dust collection chamber rear wall 2134. The dust collection chamber side wall adopts the arc-shaped structure with a low front and a high back,

which can facilitate the placement and removal of the dust collection hood 2800 and improve the aesthetic degree to a certain extent.

[0027] In some embodiments, the first dust collection chamber side wall 2131, the second dust collection chamber side wall 2132, and the dust collection chamber rear wall 2134 are of an integrated structure with the self-cleaning dust collection seat body 2000, so that the stability of the dust collection chamber 2100 can be improved and the dust collection chamber 2100 can be prevented from shaking relative to the self-cleaning dust collection seat body 2000.

[0028] In some embodiments, the dust collection chamber 2100 further includes a circumferential inner wall 2150, and the circumferential inner wall 2150 extends from a bottom wall of the dust collection chamber 2100 in a direction away from the self-cleaning dust collection seat body 2000. The dust collection chamber rear wall 2134 and the dust collection chamber side wall are arranged around the circumferential inner wall 2150 and spaced apart from the circumferential inner wall 2150. The circumferential inner wall 2150 may be of different heights everywhere. In some embodiments, the height of the circumferential inner wall 2150 may be gradually reduced along the arrow direction of the front-rear axis X, and the structural design with the low front and high back of the circumferential inner wall 2150 can facilitate placement and removal of the dust collection hood 2800.

[0029] In some embodiments, the circumferential inner wall 2150 may be of a closed-loop structure, and further includes a front inner wall 2153, a first side inner wall 2151, a rear inner wall 2154 and a second side inner wall 2152 connected end to end in sequence. The front inner wall 2153 is opposite to the rear inner wall 2154, and the first side inner wall 2151 is opposite to the second side inner wall 2152. In addition, respective inner walls of the circumferential inner wall 2150 may also be in correspondence with the dust collection chamber rear wall 2134 and the dust collection chamber side wall. Specifically, the first side inner wall 2151 and the first dust collection chamber side wall 2131 are located on the same side and spaced apart from each other, the rear inner wall 2154 and the dust collection chamber rear wall 2134 are located on the same side and spaced apart from each other, and the second side inner wall 2152 and the second dust collection chamber side wall 2132 are located on the same side and spaced apart from each other.

[0030] In some embodiments, the circumferential inner wall 2150 and a bottom wall of the dust collection chamber 2100 are of an integrated structure, so that the stability of the circumferential inner wall 2150 can be improved.

[0031] In some embodiments, the dust collection chamber 2100 further includes a sealing gasket 2140, the sealing gasket 2140 is arranged around the circumferential inner wall 2150, and the dust collection chamber rear wall 2134 and the dust collection chamber side wall are arranged around the sealing gasket 2140. In some embodiments, the sealing gasket 2140 is of a closed-loop structure, and a width at each part of the sealing gasket 2140 is equal to or slightly larger than an interval between the circumferential inner wall 2150 and the dust collection chamber rear wall 2134, and an interval between the circumferential inner wall 2150 and the dust collection chamber side wall, so that the sealing gasket 2140 may be in close contact with the circumferential inner wall 2150, the dust collection chamber rear wall 2134 and the dust collection chamber side wall. The sealing gasket 2140 may be made from various natural or synthetic rubbers. By means of the sealing gasket 2140, the dust collection chamber 2100 may be in close fit with the dust collection hood 2800 buckled on the dust collection chamber 2100 to form the closed dust collection bin 3000.

[0032] In some embodiments, a dust bag support 2110 is also arranged in the dust collection chamber 2100, and the dust bag support 2110 is configured to mount the dust bag. The dust bag support 2110 is arranged inside the dust collection chamber 2100, and extends from the bottom of the dust collection chamber in a direction away from the self-cleaning dust collection seat body 2000. The dust bag support 2110 may be arranged on the circumferential inner wall 2150 of the dust collection chamber 2100 by means of a fixing component, for example, a screw, or fixed to the bottom wall of the dust collection chamber by the bottom of the dust bag support 2110. In some embodiments, the dust bag support 2110 is arranged at the first side inner wall 2151, and a side wall of the dust bag support 2110 away from the dust collection chamber 2100 may be integrally formed with the first side inner wall 2151, so that the stability of the dust bag support 2110 can be improved. The dust bag support 2110 has a hollow cavity inside, and the hollow cavity serves as a part of the air duct of the self-cleaning dust collection seat, for example, as a tail end of the air duct. The dust bag support 2110 includes a support side wall facing towards the inside of the dust collection bin 3000, the support side wall is provided with a dust outlet port, the dust outlet port is in communication with the dust collection port 6100 through the air duct, and the air duct is configured to guide the garbage into the dust collection bin 3000, for example, into the dust bag in the dust collection bin 3000. The dust outlet port is configured to be in communication with an inlet of the dust bag, to collect the garbage into the dust bag.

[0033] Referring to FIG. 4 and FIG. 5, in some embodiments, the dust collection hood 2800 includes a dust collection hood cover body 2810 and a dust collection hood wall 2820. The dust collection hood cover body 2810 is located above the dust collection hood wall 2820, and the dust collection hood wall 2820 extends from the dust collection hood cover body 2810 in a direction away from the dust collection hood cover body 2810. The dust collection hood cover body 2810 and the dust collection hood wall 2820 jointly enclose an accommodation space.

In response to the dust collection hood 2800 being buckled on the dust collection chamber 2100, the circumferential inner wall 2150 is accommodated in the accommodation space, and a free end of the dust collection hood wall 2820 away from the dust collection hood cover body 2810 is attached to the sealing gasket 2140 to form the closed dust collection bin 3000.

[0034] In some embodiments, the dust collection hood wall 2820 further includes a dust collection hood front wall 2823, a first dust collection hood side wall 2821, a dust collection hood rear wall 2824 and a second dust collection hood side wall 2822, which are connected end to end in sequence. The dust collection hood front wall 2823 and the dust collection hood rear wall 2824 are arranged opposite to each other, and the first dust collection hood side wall 2821 and the second dust collection hood side wall 2822 are arranged opposite to each other.

[0035] In response to the dust collection hood 2800 being buckled on the dust collection chamber 2100, at least a part of the first dust collection hood side wall 2821 is sandwiched between the first dust collection chamber side wall 2131 and the first side inner wall 2151, at least a part of the second dust collection hood side wall 2822 is sandwiched between the second dust collection chamber side wall 2132 and the second side inner wall 2152, and the dust collection hood rear wall 2824 is sandwiched between the dust collection chamber rear wall 2134 and the rear inner wall 2154.

[0036] In some embodiments, the dust collection hood 2800 further includes a pull handle portion 2811, and the pull handle portion 2811 is arranged on a side of the dust collection hood cover body 2810 away from the dust collection hood wall 2820. The pull handle portion 2811 may be a pull ring, a pull rod, a handle or other structures arranged on the dust collection hood cover body 2810. By providing the pull handle portion 2811, it is possible to make the placement and removal of the dust collection hood 2800 more convenient, and it is convenient for the user to replace the garbage in the dust collection bin 3000 daily.

[0037] In some embodiments, the dust collection hood 2800 further includes a stopper 2825. The stopper 2825 is arranged on the dust collection hood wall 2820, and the stopper 2825 may cooperate with a limiting portion arranged in the dust collection chamber 2100, such that the dust collection hood 2800 is firmly buckled on the dust collection chamber 2100 without shaking. The limiting portion may be arranged on at least one of the dust collection chamber rear wall 2134 and the dust collection chamber side wall. The stopper 2825 and the limiting portion are arranged in pairs and match each other. In the embodiment shown in FIG. 4, the stopper 2825 is arranged on the second dust collection hood side wall 2822, and the limiting portion corresponding to the stopper 2825 is arranged on the second dust collection chamber side wall 2132. The stopper 2825 abuts against the limiting portion in response to the dust collection hood 2800 being buckled on the dust collection chamber 2100.

[0038] In some embodiments, at least one of the dust collection chamber bottom wall, the circumferential inner wall 2150 and the dust collection hood wall 2820 is provided with a supporting rib 2826. The supporting rib 2826 may be of a strip-shaped structure that protrudes outward relative to a surface. In the embodiment shown in FIG. 4, the supporting rib 2826 is at least arranged on an inner surface of the second dust collection hood side wall 2822, and a plurality of supporting ribs 2826 are arranged on the inner surface of the second dust collection hood side wall 2822. By providing the supporting rib 2826, the dust bag in the dust collection bin 3000 may be prevented from being attached to the dust collection chamber bottom wall, the circumferential inner wall 2150 and/or the dust collection hood wall 2820, so as to avoid affecting the airflow out of the dust bag due to the attachment.

[0039] The present disclosure further provides a dust collection system, including an automatic cleaning device and the self-cleaning dust collection seat described in the foregoing embodiments.

[0040] By means of the design that the dust collection hood is buckled on the dust collection chamber upside down, the dust collection hood and the dust collection chamber are combined more closely under the action of a fan, which further improves the dust collection efficiency. The exposed design of the dust collection hood makes it convenient for the user to observe the situation inside the hood more intuitively and deal with the dust collection chamber in a more timely manner, e.g., to replace the dust bag.

[0041] In the related art, due to a limited capacity of a dust box of an automatic cleaning device, the user often needs to bend down to clean the dust box, resulting in poor user experience. Therefore, the embodiment of the present disclosure provides the self-cleaning dust collection seat. By means of a dust collection system, the garbage in the dust box of the automatic cleaning device is collected into the dust collection bin of the self-cleaning dust collection seat by, and by providing the dust bag support and the dust bag in the dust collection bin, the garbage in the dust box is substantively transferred to the dust bag located in the dust collection bin without leakage, reducing the number of times the user has to deal with the garbage and improving the user experience. In addition, the dust bag adopts a design that a clamping plate matches a sliding plate. When the dust bag is removed from the dust bag support, the sliding plate is in a closed position, preventing the garbage in the dust bag from being scattered in the dust collection bin.

[0042] Specifically, by taking the self-cleaning dust collection seat according to the embodiment of the present disclosure as an example, FIG. 1 schematically shows a schematic diagram of an overall structure of the self-cleaning dust collection seat, and FIG. 2 schematically shows a schematic structural diagram of a self-cleaning dust collection seat body from which a sewage tank, a clean water tank and a dust collection hood are removed in the present disclosure.

[0043] As shown in FIG. 1, a direction in which a self-cleaning dust collection seat baseplate 1000 protrudes from a self-cleaning dust collection seat body 2000 is forward, and a direction of a rear wall of the self-cleaning dust collection seat body 2000 is rearward. A dust collection bin 3000 is located on a left side of the self-cleaning dust collection seat, a clean water tank 4000 is located on a right side of the dust collection bin 3000, and a sewage tank 5000 is located on a right side of the clean water tank 4000.

[0044] The self-cleaning dust collection seat body 2000 is configured to collect garbage in a dust box of an automatic cleaning device. In some embodiments, components such as the dust collection bin 3000, the clean water tank 4000 and the sewage tank 5000 may also be arranged side by side on the self-cleaning dust collection seat body 2000. Specifically, as shown in FIG. 2, the self-cleaning dust collection seat body 2000 includes a water storage chamber 2700 and a dust collection chamber 2100. The water storage chamber 2700, with an opening facing upward and forward, is arranged at a top of the self-cleaning dust collection seat body 2000, and the water storage chamber may further include a clean water bin for accommodating the clean water tank 4000 and a sewage bin for accommodating the sewage tank 5000. The dust collection chamber 2100, with an opening facing upward and forward, and the water storage chamber 2700 are arranged side by side at a top end of the self-cleaning dust collection seat body 2000. The dust collection chamber 2100 is provided with a dust collection hood 2800 that matches the opening of the dust collection chamber 2100, and the dust collection hood 2800 is detachably buckled on the dust collection chamber 2100. The dust collection chamber 2100 and the dust collection hood 2800 jointly form the dust collection bin 3000. The water storage chamber 2700 and the dust collection chamber 2100 are designed to face upward and forward to facilitate mounting and dismounting of the sewage tank 5000, the clean water tank 4000 and the dust collection hood 2800.

[0045] The body base 6000 is arranged at the lower portion of the self-cleaning dust collection seat body 2000. In some embodiments, the body base 6000 is integrally arranged at the lower portion of the self-cleaning dust collection seat body 2000. The body base 6000 also abuts against the self-cleaning dust collection seat baseplate 1000. Specifically, the self-cleaning dust collection seat baseplate 1000 and the body base 6000 are arranged in sequence in a second direction, where the second direction is a direction opposite to the arrow of the front-rear axis X.

[0046] A dust collection port 6100 is formed in the body base 6000 and substantially located at an edge of the body base 6000 connected to the self-cleaning dust collection seat baseplate 1000. The dust collection port 6100 is configured to be butted with a dust outlet of the automatic cleaning device, and the garbage in the dust box 300 of the automatic cleaning device is entered the dust collection chamber 2100 of the self-cleaning dust collection seat body 2000 via the dust collection port 6100. In some embodiments, a sealing rubber gasket is also arranged around the dust collection port 6100 and configured to seal the dust collection port 6100 butted with the dust outlet of the automatic cleaning device so as to avoid leakage of the garbage.

[0047] In some embodiments, the body base 6000 further includes a cleaning tank 6200. The cleaning tank 6200 is configured to clean cleaning components on the automatic cleaning device, for example, to replenish a wet cleaning module of the automatic cleaning device with a cleaning fluid, and/or to accommodate sundries removed from the wet cleaning module, and/or to collect sewage generated in the process of cleaning the wet cleaning module, so as to facilitate subsequent treatment of the sundries and sewage. In some embodiments, the cleaning tank 6200 is arranged behind the dust collection port 6100.

[0048] In some embodiments, the self-cleaning dust collection seat further includes an air duct, one end of which is in communication with the dust collection port 6100 of the body base 6000, and the other end of which is in communication with the dust collection chamber 2100. When the self-cleaning dust collection seat is in a state of dust collection, sufficient negative pressure is formed in the dust collection bin 3000 to suck the garbage in the dust box 300 to a dust bag in the dust collection chamber 2100 via the dust collection port 6100 and the air duct.

[0049] FIG. 6 is a schematic structural diagram of a dust bag support according to some embodiments of the present disclosure, in which a sliding baffle is in a first position; and FIG. 7 is a schematic structural diagram of a dust bag support according to some embodiments of the present disclosure, in which the sliding baffle is in a second position.

[0050] Referring to FIGS. 1-2, in some embodiments, the self-cleaning dust collection seat further includes a dust bag support 2110, and the dust bag support 2110 is configured to mount the dust bag. The dust bag support 2110 is arranged in the dust collection bin 3000, for example, arranged on an inner side wall of the dust collection bin 3000 by means of a fixing component, for example, a screw, or fixed to a bottom surface of the dust collection bin 3000 by the bottom of the dust bag support 2110.

[0051] The dust bag support 2110 has a hollow cavity inside, and the hollow cavity serves as a part of the air duct of the self-cleaning dust collection seat, for example, as a tail end of the air duct.

[0052] The dust bag support 2110 includes a support side wall 2111 facing towards the inside of the dust collection bin 3000, and the support side wall 2111 is provided with a dust outlet port 2112. The dust outlet port 2112 is in communication with the dust collection port 6100 through the air duct, and the air duct is configured to guide the garbage into the dust collection bin 3000, for example, into the dust bag in the dust collection bin 3000.

The dust outlet port 2112 is configured to be in communication with an inlet of the dust bag, to collect the garbage into the dust bag.

[0053] The dust bag support 2110 further includes a sliding baffle 2113 capable of sliding on the support side wall 2111. The sliding baffle 2113 is configured to be switchable between a first position and a second position. The sliding baffle 2113 shields the dust outlet port 2112 in response to the sliding baffle 2113 being in the first position, and the sliding baffle 2113 exposes the dust outlet port 2112 in response to the sliding baffle 2113 being in the second position. Since the dust bag is a consumable item, it can be detachably mounted with the dust bag support 2110. With this design, when the dust bag is not mounted in the dust bag support 2110, since the sliding baffle 2113 shields the dust outlet port 2112 and isolates the dust collection bin 3000 from the air duct, a suction force generated by the fan cannot enter the air duct from the dust collection bin, which prevents the garbage from entering the dust collection bin 3000 not provided with the dust bag.

[0054] FIG. 8 is a schematic structural diagram of a dust bag according to some embodiments of the present disclosure, in which a sliding plate is in a closed position. FIG. 9 is a schematic structural diagram of a dust bag according to some embodiments of the present disclosure, in which the sliding plate is in an open position. FIG. 9A is a schematic diagram of a partial structure of the dust bag according to some embodiments of the present disclosure. FIG. 9B is a schematic structural diagram of a section in FIG. 9A. FIG. 9A shows a section of the dust bag, and the dust bag is not shown in FIG. 9 or FIG. 9B.

[0055] In some embodiments, as shown in FIGS. 8-9B, the present disclosure further provides a dust bag 2120, and the dust bag 2120 is configured to be detachably mounted on the dust bag support 2110 to collect the garbage.

[0056] The dust bag 2120 includes a dust bag body 2121, a clamping plate 2122 and a sliding plate 2123. The dust bag body 2121 is made of, for example, a material that is breathable but can filter fine particles, such as a non-woven fabric or a paper material, and the dust bag body 2121 is configured to accommodate the garbage. The clamping plate 2122 is fixedly connected to the dust bag body 2121. The clamping plate 2122 is provided with a clamping plate opening 21221, and the clamping plate opening 21221 serves as an inlet of the dust bag body 2121. The sliding plate 2123 is slidably connected to the clamping plate 2122 and is configured to be switched between the closed position and the open position. The sliding plate 2123 shields the clamping plate opening 21221 in response to the sliding plate 2123 being in the closed position, and the sliding plate 2123 exposes the clamping plate opening 21221 in response to the sliding plate 2123 being in the open position.

[0057] Specifically, as shown in FIGS. 8 and 6, the sliding plate 2123 is provided with a sliding plate opening 21231. In response to the sliding plate 2123 being in the closed position, an orthographic projection of the sliding plate opening 21231 on the clamping plate 2122 does not coincide with the clamping plate opening 2821, and the sliding plate 2123 shields the clamping plate opening 22121, as shown in FIG. 8. In response to the sliding plate 2123 being in the open position, an orthographic projection of the sliding plate opening 21231 on the clamping plate 2122 at least partially coincides with the clamping plate opening 21221, and the sliding plate 2123 exposes at least a part of the clamping plate opening 21221 through the sliding plate opening 21231, as shown in FIG. 9.

[0058] In some embodiments, a dimension of the sliding plate opening 21231 is, for example, larger than that of the clamping plate opening 21221, and the orthographic projection of the sliding plate opening 21231 on the clamping plate 2122 covers the clamping plate opening 21221 in response to the sliding plate 2123 being in the closed position. In some embodiments, the dimension of the sliding plate opening 21231 is, for example, smaller than that of the clamping plate opening 21221, and the orthographic projection of the sliding plate opening 21231 on the clamping plate 2122 falls into the clamping plate opening 21221 in response to the sliding plate 2123 being in the closed position. In some embodiments, the dimension of the sliding plate opening 21231 is, for example, equal to that of the clamping plate opening 21221, and the orthogonal projection of the sliding plate opening 21231 on the clamping plate 2122 substantially coincides with the clamping plate opening 21221 in response to the sliding plate 2123 being in the closed position.

[0059] The sliding fit between the sliding plate 2123 and the clamping plate 2122 allows the inlet of the dust bag to be closed to prevent the garbage in the dust bag from leakage.

[0060] In some embodiments, as shown in FIGS. 8-9B, an edge of the clamping plate opening 21221 is provided with a flexible rubber ring 21224 that protrudes toward the sliding plate 2123. In response to the sliding plate 2123 being in the open position, the flexible rubber ring 21224 passes through the sliding plate opening 21231 and protrudes in a direction away from the sliding plate 2123, so that when the sliding plate opening 21231 is butted with the clamping plate opening 21221, a slit at the butt joint between the two openings of the sliding plate 2123 and the clamping plate 2122 is blocked to make the sliding plate opening 21231 and the clamping plate opening 21221 be butted with each other in a sealing manner. In response to the sliding plate 2123 being not in the open position, for example, being in the closed position, at least a part of the flexible rubber ring 21224 may be squeezed between the sliding plate 2123 and the clamping plate 2122 to increase the friction therebetween, so that the sliding plate 2123 and the clamping plate 2122 can only slide relative to each other under the action of a certain external force, and the sliding plate 2123 can be stably

kept in the closed position to prevent the garbage in the dust bag from being scattered.

[0061] In some embodiments, as shown in FIGS. 8 and 9, the sliding plate 2123 is capable of sliding relative to the clamping plate 2122 in a first direction M. The sliding plate 2123 includes a limiting bump 21243 arranged on at least one side of the sliding plate 2123, for example, on two sides of the sliding plate 2123. The number of limiting bumps 21243 is, for example, two, which protrude from the sliding plate 2123 in a second direction perpendicular to the first direction M. The clamping plate 2122 includes limiting components 21223 arranged at two ends of the clamping plate 2122 in the first direction and configured to block the limiting bumps 21233 in the first direction M so as to prevent the sliding plate 2123 from disengaging from the clamping plate 2122. The number of limiting components 21223 is, for example, four, which are symmetrically distributed on two sides of the clamping plate 2122. When the sliding plate 2123 slides relative to the clamping plate 2122, the limiting bumps 21233 may only move between the corresponding limiting components 21223 located at the two ends of the clamping plate 2122 in the first direction.

[0062] In some embodiments, the sliding plate 2123 further includes a handle portion 21232 disposed at an end of the sliding plate in the first direction M and configured to facilitate the holding of an operator to move the sliding plate 2123.

[0063] The dust bag 2120 is configured to be detachably mounted on the dust bag support 2110. In response to the dust bag 2120 being mounted on the dust bag support 2110, the sliding baffle 2123 is in the second position to expose the dust outlet port, the sliding plate is in the open position, and the clamping plate opening 21221 is butted with the dust outlet port 2112. Based on the above arrangement, when the dust bag support 2110 is not mounted in the dust bag 2120, the sliding baffle 2113 is in the first position and shields the dust outlet port 2112, and a suction force generated by the fan cannot enter the air duct from the dust collection bin, preventing the garbage from entering the dust collection bin 3000 not provided with the dust bag 2120.

[0064] When the dust bag 2120 is removed from the dust bag support 2110, the sliding plate 2123 is in the closed position to prevent the garbage in the dust bag from being scattered in the dust collection bin. Moreover, the sealed dust bag also prevents the garbage in the dust bag from being scattered to an external environment.

[0065] When the dust bag 2120 is not mounted in the dust bag support 2110, the sliding plate 2123 shields the clamping plate opening 21221 of the clamping plate 2122, so that when the dust bag is mounted in the dust bag support 2110, the sliding baffle 2113 may be pushed from the first position to the second position and fixed in the second position under the cooperation of the sliding plate 2123 and the clamping plate 2122. When the dust bag 2120 is withdrawn from the dust bag support 2110, the sliding plate 2123 shields the clamping plate opening 21221 to avoid leakage of the garbage. The clamping plate opening 21221 (i.e., the inlet of the dust bag) is butted with the dust outlet port 2112 after the dust bag support 2110 is provided with the dust bag 2120. Under the action of the airflow provided by the fan, the garbage in the dust box of the automatic cleaning device may be collected into the dust bag body 2121 through the dust collection port 6100 on the body base 6000, the air duct in the self-cleaning dust collection seat, the dust outlet port 2112 on the dust bag support 2110 and the clamping plate opening 21221 on the dust bag 2120 in sequence.

[0066] FIG. 10 is a schematic diagram of a pre-assembling of the dust bag support and the dust bag according to some embodiments of the present disclosure, and FIG. 11 is a schematic diagram of an assembled structure of the dust bag support and the dust bag according to some embodiments of the present disclosure.

[0067] In some embodiments, as shown in FIGS. 6-11, the dust bag support 2110 includes a sliding groove 2114, and at least a part of the sliding baffle 2113 is located in the sliding groove 2114, so that the sliding baffle 2113 is capable of sliding in an extension direction X' of the sliding groove 2114, and then being switched between the first position and the second position. The number of sliding grooves 2114 is, for example, one or more. As shown in FIGS. 6-11, the number of sliding grooves 2114 is, for example, two, which are respectively arranged at two opposite ends of the support side wall 2111 of the dust bag support 2110. The two sliding grooves 2114 respectively accommodate the two opposite ends of the sliding baffle 2113, so that the sliding baffle 2113 is capable of sliding in the extension direction X' of the sliding groove 2114.

[0068] As shown in FIGS. 6-11, the clamping plate 2122 and the sliding plate 2123 of the dust bag 2120 are configured to be insertable into the sliding groove 2114, slide in the extension direction X' of the sliding groove 2114, and push the sliding baffle 2113 to slide in the extension direction X' of the sliding groove, so that the dust bag 2120 is mounted in the dust bag support 2110. Specifically, two ends of the clamping plate 2122 of the dust bag 2120 and two ends of the sliding plate 2123 of the dust bag 2120 may be respectively inserted into the two chutes 2114 described above. In response to the dust bag 2120 being mounted on the dust bag support 2110, the sliding plate 2123 is in the open position to expose the clamping plate opening 21221, and the sliding baffle 2113 is in the second position to expose the dust outlet port 2112, so that the clamping plate opening 21221 is butted with the dust outlet port 2112.

[0069] As shown in FIG. 10, in the process of mounting the dust bag 2120 in the dust bag support 2110, the dust bag 2120 moves relative to the dust bag support 2110 in the extension direction X' of the sliding groove 2114. When the dust bag 2120 is mounted in the dust bag support 2110, the clamping plate 2122 and the sliding plate 2123 of the dust bag 2120 face towards the support side wall 2111 of the dust bag support 2110. In the

process of inserting the clamping plate 2122 and the sliding plate 2123 into the sliding groove 2114 in the extension direction X' of the sliding groove 2114, the sliding baffle 2113 may be pushed to move from the first position to the second position.

[0070] In some embodiments, a sliding baffle protrusion 21131 is arranged at a lower end of the sliding baffle 2113, and the sliding baffle protrusion 21131 is a strip-shaped protrusion along a lower edge of the sliding baffle 2113 toward the dust collection bin 3000. The lower end of the sliding plate 2123 may abut against the sliding baffle protrusion 21131 after the sliding plate 2123 is inserted into the sliding groove 2114. By the lower end of the sliding plate 2123 and the sliding baffle protrusion 21131 abutting against each other, the sliding baffle 2113 may also be pushed to slide in the extension direction X' of the sliding groove when the sliding plate 2123 slides downward in the extension direction X' of the sliding groove 2114. In some embodiments, a sliding plate protrusion 21233 is also arranged at a lower end of the sliding plate 2123, and the sliding plate protrusion 21233 may be a strip-shaped protrusion along a lower edge of the sliding plate 2123 toward the dust collection bin 3000. The sliding plate protrusion 21233 may exactly abut against an upper side of the sliding baffle protrusion 21131 after the sliding plate 2123 is inserted into the sliding groove 2114. By the sliding plate protrusion 21233 and the sliding baffle protrusion 21131 abutting against each other, the sliding baffle 2113 may also be pushed to slide in the extension direction X' of the sliding groove when the sliding plate 2123 slides downward in the extension direction X' of the sliding groove 2114.

[0071] FIG. 11 is a sectional view of an assembled structure of the dust bag support and the dust bag according to some embodiments of the present disclosure, and FIG. 12 is a schematic diagram of an assembled structure of the dust bag support and the dust bag according to some embodiments of the present disclosure.

[0072] As shown in FIG. 11 and FIG. 12, a latch part 21141 such as an elastic latch is arranged inside the sliding groove 2114, which may move in an approximate arc line as shown by an arrow in FIG. 12. The clamping plate 2122 is provided with a clamping plate slot 21222 that matches the latch part 21141, and the latch part 21141 is clamped into the clamping plate slot 21222 in response to the dust bag 2120 being mounted on the dust bag support 2110. The clamping plate 2122 slides to a clamping position in the extension direction X' of the sliding groove 2114, the clamping plate opening 21221 is butted with the dust outlet port 2112, and the latch part 21141 is cooperatively clamped with the clamping plate slot 21222, so that the dust bag 2120 is fixed to the dust bag support 2110.

[0073] A limiting bump 212234 on the sliding plate 2123 also serves as an unlocking bump 21234, and is also referred to as the unlocking bump 21234, and is configured to squeeze, during withdrawal of the sliding plate 2123 from the sliding groove 2114, the latch part 21141 to cause the latch part 21141 to disengage from the clamping plate slot 21222, so as to release the clamping plate 2122 from the latch part 21141 and make the dust bag 2120 successfully disengage from the dust bag support 2110. In some embodiments, the unlocking bump 21234 also has a limiting function and cooperates with the limiting component 21223 on the clamping plate 2122 to prevent the sliding plate 2123 from disengaging from the clamping plate 2122.

[0074] In some embodiments, as shown in FIG. 13, the dust bag support 2110 is provided with an elastic component 2115 such as a spring. The elastic component 2115 is connected to the sliding baffle 2113, and is configured to make the sliding baffle 2113 have a tendency to be in the first position. When the sliding baffle 2113 is not subjected to an external force, the sliding baffle 2113 is in the first position under the action of the elastic component 2115, so that the sliding baffle 2113 shields the dust outlet port 2112. In some embodiments, the elastic component 2115 is located inside the dust bag support 2110, and an extension direction of the elastic component 2115 is substantively the same as that of the sliding groove 2114. The elastic component 2115 has one end fixed to an upper portion of the dust bag support 2110, and the other end connected to the sliding baffle 2113. The number of elastic components 2115 may be one or more. When the number of elastic components 2115 is, for example, two, the two elastic components may be respectively arranged at two opposite ends of the dust bag support 2110.

[0075] The process of mounting and dismounting the dust bag 2120 and the dust bag support 2110 will be described in detail below.

[0076] When the dust bag support 2110 is not provided with the dust bag 2120, the sliding baffle 2113 on the dust bag support 2110 is in the first position and shields the dust outlet port 2112, and the sliding plate 2123 on the dust bag 2120 is in the closed position and shields the clamping plate opening 2122, which are just the state as shown in FIG. 8. In the process of mounting the dust bag 2120 in the dust bag support 2110, the clamping plate 2122 and the sliding plate 2123 are inserted into the sliding groove 2114 in the extension direction X' of the sliding groove 2114, and when a user holds the handle portion 21232 of the sliding plate 2123 to push the dust bag 2120 into the sliding groove 2114, the sliding plate 2123 gradually moves from the closed position to the open position relative to the clamping plate 2122, such that the sliding plate opening 21231 on the sliding plate 2123 is aligned with the clamping plate opening 21221 on the clamping plate 2122. Meanwhile, the clamping plate 2122 and the sliding plate 2123 push the sliding baffle 2113 to move from the first position to the second position, so that the sliding baffle 2113 exposes the dust outlet port 2112. When the clamping plate 2122 slides to a clamping position in the extension direction X' of the sliding groove 2114, the clamping plate opening 21221 is butted with the dust outlet port 2112, and the latch part

21141 is cooperatively clamped with the clamping plate slot 21222, so that the dust bag 2120 is fixed to the dust bag support 2110. In this case, the flexible rubber ring 21224 on the dust bag passes through the sliding plate opening 21231 and abuts against an edge of the dust outlet port 2112, so that the clamping plate opening 21221 of the dust bag is butted with the dust outlet port 2112 of the dust bag support in a sealing manner, so as to avoid leakage of the garbage during dust collection.

[0077] When the dust bag 2120 is removed from the dust bag support 2110, the operator holds the handle portion 21232 of the sliding plate 2123 to gradually withdraw the sliding plate 2123 from the sliding groove 2114 of the dust bag support 2110. In this process, the sliding plate 2123 gradually moves from the open position to the closed position relative to the clamping plate 2122, so that the sliding plate 2123 shields the clamping plate opening 21221. Moreover, the unlocking bump 21234 on the sliding plate 2123 squeezes the latch part 21141, so that the latch part 21141 disengages from the clamping plate slot 21222. Meanwhile, due to the interaction between the unlocking bump 21234 and the limiting component 21223 on the clamping plate 2122, the handle portion 21232 of the sliding plate 2123 can be continuously pulled to withdraw the sliding plate 2123 and the clamping plate 2122 from the sliding groove 2114 of the dust bag support 2110. The dust bag 2120 disengages from the dust bag support 2110, and the sliding baffle 2113 returns to the first position under the action of the elastic component, so that the sliding baffle 2113 shields the dust outlet port 2112.

[0078] The present disclosure further provides a dust collection system, including an automatic cleaning device and the self-cleaning dust collection seat described in the foregoing embodiments.

[0079] According to the self-cleaning dust collection seat provided by the embodiment of the present disclosure, the garbage in the dust box of the automatic cleaning device is collected into the dust collection bin of the self-cleaning dust collection seat by means of the dust collection system; and by providing the dust bag support and the dust bag in the dust collection bin, the garbage in the dust box is basically transferred into the dust bag located in the dust collection bin without leakage, thus reducing the frequency of garbage disposal by the user and improving the user experience.

[0080] Finally, it should be noted that the various embodiments in the description are described in a progressive manner, each embodiment focuses on the differences from other embodiments, and the same or similar parts between the various embodiments may be referred to each other.

[0081] The above embodiments are only intended to illustrate, instead of limiting, the technical solutions of the present disclosure. Although the present disclosure has been described in detail with reference to the foregoing embodiments, it should be understood by those of ordinary skill in the art that modifications may still be made to the technical solutions described in the foregoing embodiments, or equivalent substitutions may be made for some of the technical features; and these modifications or substitutions do not deviate the nature of the corresponding technical solutions from the spirit and scope of the technical solutions of the embodiments of the present disclosure.

Claims

1. A self-cleaning dust collection seat, comprising a self-cleaning dust collection seat body, wherein the self-cleaning dust collection seat body comprises a dust collection chamber and a dust collection hood;

   wherein the dust collection chamber, with an opening facing upward and forward, is arranged at a top end of the self-cleaning dust collection seat body;
   wherein the dust collection hood is detachably buckled on the dust collection chamber to form a dust collection bin for accommodating a garbage receiving device; and
   wherein at least a part of an outer surface of the dust collection hood is used as a part of an exterior surface of the self-cleaning dust collection seat.

2. The self-cleaning dust collection seat according to claim 1, wherein the dust collection chamber comprises:

   a dust collection chamber rear wall;
   a pair of opposite dust collection chamber side walls, adjoining the dust collection chamber rear wall; and
   a circumferential inner wall extended from a dust collection chamber bottom wall in a direction away from the self-cleaning dust collection seat body,
   wherein the dust collection chamber rear wall and the dust collection chamber side walls are arranged around the circumferential inner wall and spaced apart from the circumferential inner wall.

3. The self-cleaning dust collection seat according to claim 2, wherein the dust collection hood comprises a dust collection hood cover body, and a dust collection hood wall extended from the dust collection hood cover body in a direction away from the dust collection hood cover body;

   wherein an accommodation space is enclosed by the dust collection hood cover body and the dust collection hood wall; and
   wherein the circumferential inner wall is accom-

modated in the accommodation space in response to the dust collection hood being buckled on the dust collection chamber.

4. The self-cleaning dust collection seat according to claim 3, wherein the self-cleaning dust collection seat body further comprises:
a sealing gasket arranged around the circumferential inner wall, wherein the dust collection chamber rear wall and the dust collection chamber side walls are arranged around the sealing gasket, and in response to the dust collection hood being buckled on the dust collection chamber, a free end of the dust collection hood wall away from the dust collection hood cover body is attached to the sealing gasket to form a closed dust collection bin.

5. The self-cleaning dust collection seat according to claim 3 or claim 4, wherein:

the dust collection chamber side walls comprise a first dust collection chamber side wall and a second dust collection chamber side wall;
the dust collection hood wall comprises a dust collection hood front wall, a first dust collection hood side wall, a dust collection hood rear wall and a second dust collection hood side wall connected end to end in sequence;
the circumferential inner wall comprises a front inner wall, a first side inner wall, a rear inner wall and a second side inner wall connected end to end in sequence; and
in response to the dust collection hood being buckled on the dust collection chamber, at least a part of the first dust collection hood side wall is sandwiched between the first dust collection chamber side wall and the first side inner wall, at least a part of the second dust collection hood side wall is sandwiched between the second dust collection chamber side wall and the second side inner wall, and the dust collection hood rear wall is sandwiched between the dust collection chamber rear wall and the rear inner wall.

6. The self-cleaning dust collection seat according to claim 3 or claim 4, wherein a pull handle portion is arranged on a side of the dust collection hood cover body away from the dust collection hood wall.

7. The self-cleaning dust collection seat according to claim 3 or claim 4, further comprising a limiting portion arranged on at least one of the dust collection chamber rear wall and the dust collection chamber side walls; the dust collection hood further comprises a stopper arranged on the dust collection hood wall; and the stopper is abutted against the limiting portion in response to the dust collection hood being buckled on the dust collection chamber.

8. The self-cleaning dust collection seat according to claim 3 or claim 4, wherein at least one of the dust collection chamber bottom wall, the circumferential inner wall and the dust collection hood wall is provided with a supporting rib.

9. The self-cleaning dust collection seat according to claim 3 or claim 4, further comprising:

a dust bag support arranged in the dust collection bin and configured to mount a dust bag,
wherein a hollow cavity is provided inside the dust bag support, and the hollow cavity is used as a part of an air duct of the self-cleaning dust collection seat.

10. The self-cleaning dust collection seat according to claim 9, wherein the dust bag support is extended from a bottom of the dust collection chamber in a direction away from the self-cleaning dust collection seat body.

11. A dust collection system, comprising an automatic cleaning device and a self-cleaning dust collection seat,

wherein the self-cleaning dust collection seat comprises a self-cleaning dust collection seat body, and the self-cleaning dust collection seat body comprises a dust collection chamber and a dust collection hood;
wherein the dust collection chamber, with an opening facing upward and forward, is arranged at a top end of the self-cleaning dust collection seat body;
wherein the dust collection hood is detachably buckled on the dust collection chamber to form a dust collection bin for accommodating a garbage receiving device; and
wherein at least a part of an outer surface of the dust collection hood is used as a part of an exterior surface of the self-cleaning dust collection seat.

12. The dust collection system according to claim 11, wherein the dust collection chamber comprises:

a dust collection chamber rear wall;
a pair of opposite dust collection chamber side walls, adjoining the dust collection chamber rear wall; and
a circumferential inner wall extended from a dust collection chamber bottom wall in a direction away from the self-cleaning dust collection seat body,
wherein the dust collection chamber rear wall and the dust collection chamber side walls are arranged around the circumferential inner wall

and spaced apart from the circumferential inner wall.

13. The dust collection system according to claim 12, wherein the dust collection hood comprises a dust collection hood cover body, and a dust collection hood wall extended from the dust collection hood cover body in a direction away from the dust collection hood cover body;

wherein an accommodation space is enclosed by the dust collection hood cover body and the dust collection hood wall; and
wherein the circumferential inner wall is accommodated in the accommodation space in response to the dust collection hood being buckled on the dust collection chamber.

14. The dust collection system according to claim 13, wherein the self-cleaning dust collection seat body further comprises:
a sealing gasket arranged around the circumferential inner wall, wherein the dust collection chamber rear wall and the dust collection chamber side walls are arranged around the sealing gasket, and in response to the dust collection hood being buckled on the dust collection chamber, a free end of the dust collection hood wall away from the dust collection hood cover body is attached to the sealing gasket to form a closed dust collection bin.

15. The dust collection system according to claim 13 or claim 14, wherein:

the dust collection chamber side walls comprise a first dust collection chamber side wall and a second dust collection chamber side wall;
the dust collection hood wall comprises a dust collection hood front wall, a first dust collection hood side wall, a dust collection hood rear wall and a second dust collection hood side wall connected end to end in sequence;
the circumferential inner wall comprises a front inner wall, a first side inner wall, a rear inner wall and a second side inner wall connected end to end in sequence; and
in response to the dust collection hood being buckled on the dust collection chamber, at least a part of the first dust collection hood side wall is sandwiched between the first dust collection chamber side wall and the first side inner wall, at least a part of the second dust collection hood side wall is sandwiched between the second dust collection chamber side wall and the second side inner wall, and the dust collection hood rear wall is sandwiched between the dust collection chamber rear wall and the rear inner wall.

16. The dust collection system according to claim 13 or claim 14, wherein a pull handle portion is arranged on a side of the dust collection hood cover body away from the dust collection hood wall.

17. The dust collection system according to claim 13 or claim 14, wherein the self-cleaning dust collection seat further comprises a limiting portion arranged on at least one of the dust collection chamber rear wall and the dust collection chamber side walls; the dust collection hood further comprises a stopper arranged on the dust collection hood wall; and the stopper is abutted against the limiting portion in response to the dust collection hood being buckled on the dust collection chamber.

18. The dust collection system according to claim 13 or claim 14, wherein at least one of the dust collection chamber bottom wall, the circumferential inner wall and the dust collection hood wall is provided with a supporting rib.

19. The dust collection system according to claim 13 or claim 14, wherein the self-cleaning dust collection seat further comprises:

a dust bag support arranged in the dust collection bin and configured to mount a dust bag,
wherein a hollow cavity is provided inside the dust bag support, and the hollow cavity is used as a part of an air duct of the self-cleaning dust collection seat.

20. The dust collection system according to claim 19, wherein the dust bag support is extended from a bottom of the dust collection chamber in a direction away from the self-cleaning dust collection seat body.

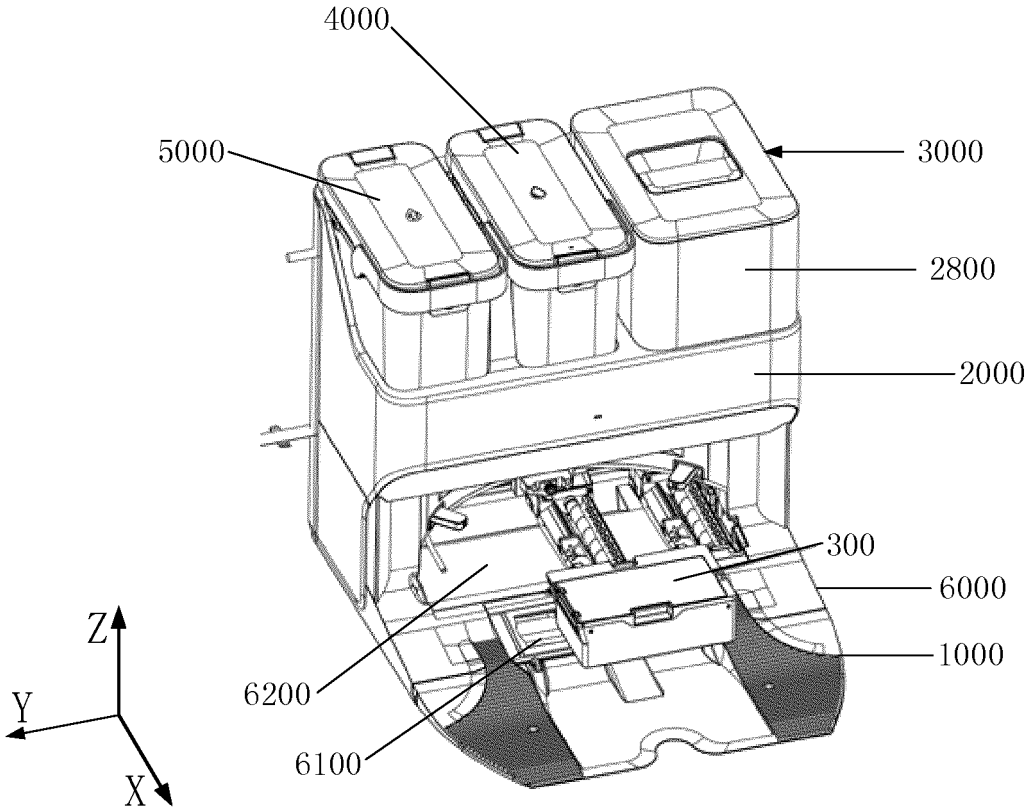
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FIG. 1

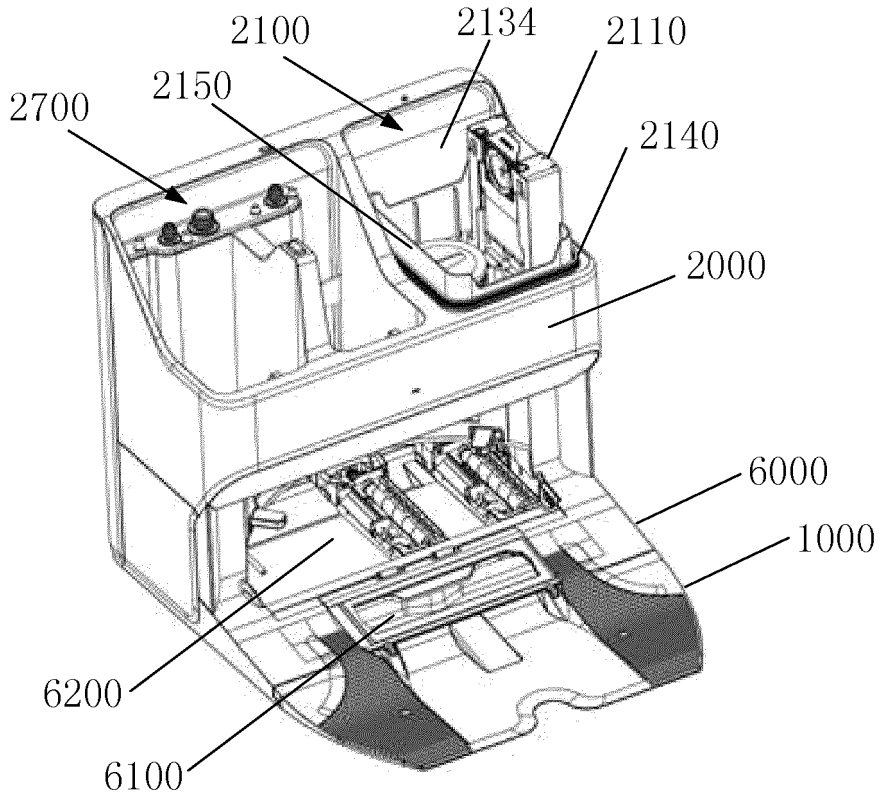
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FIG. 2

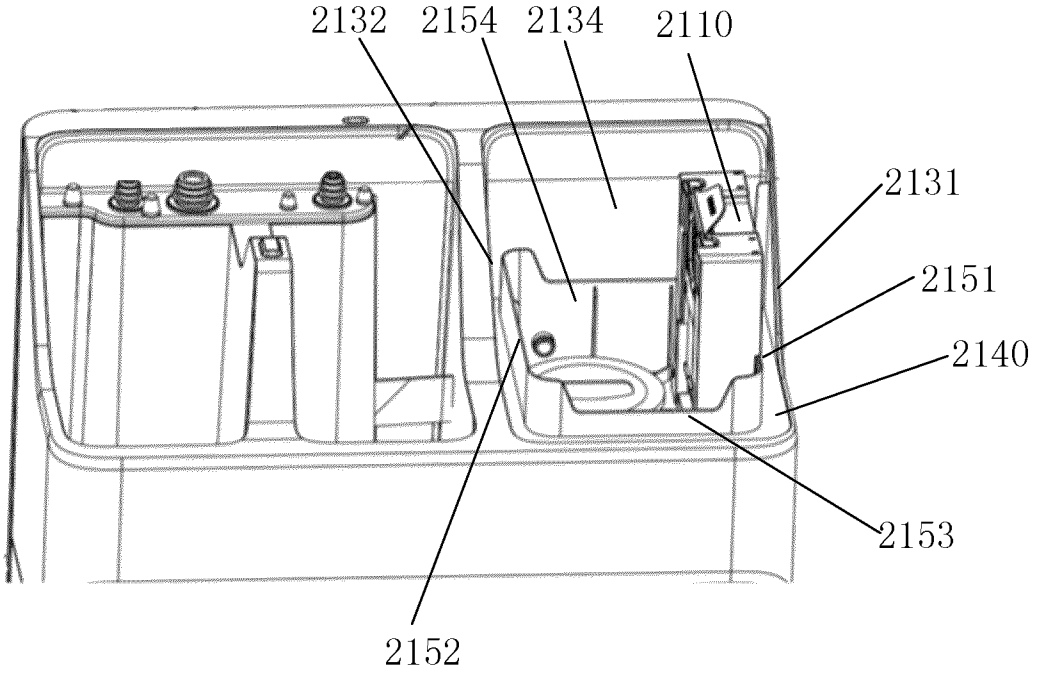

FIG. 3

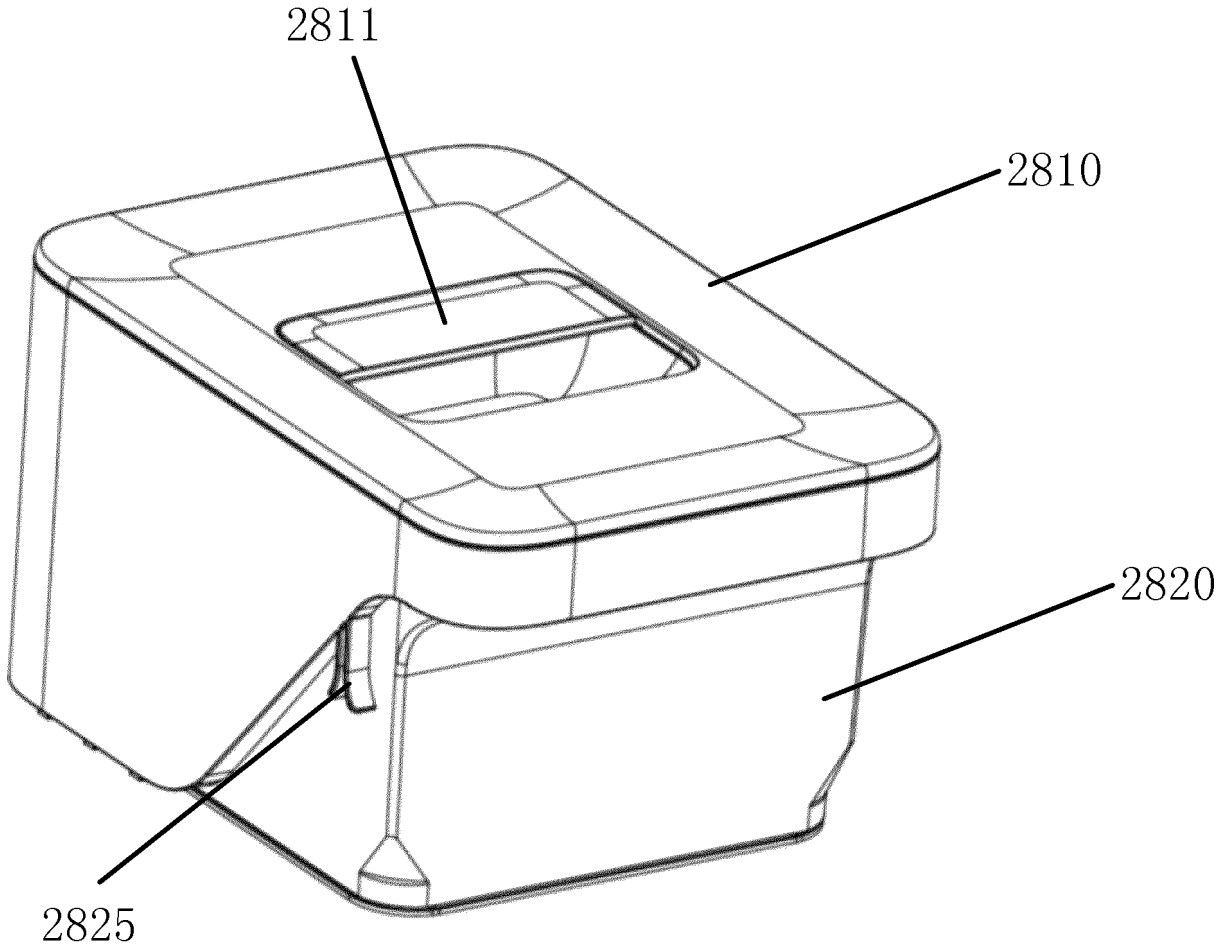

FIG. 4

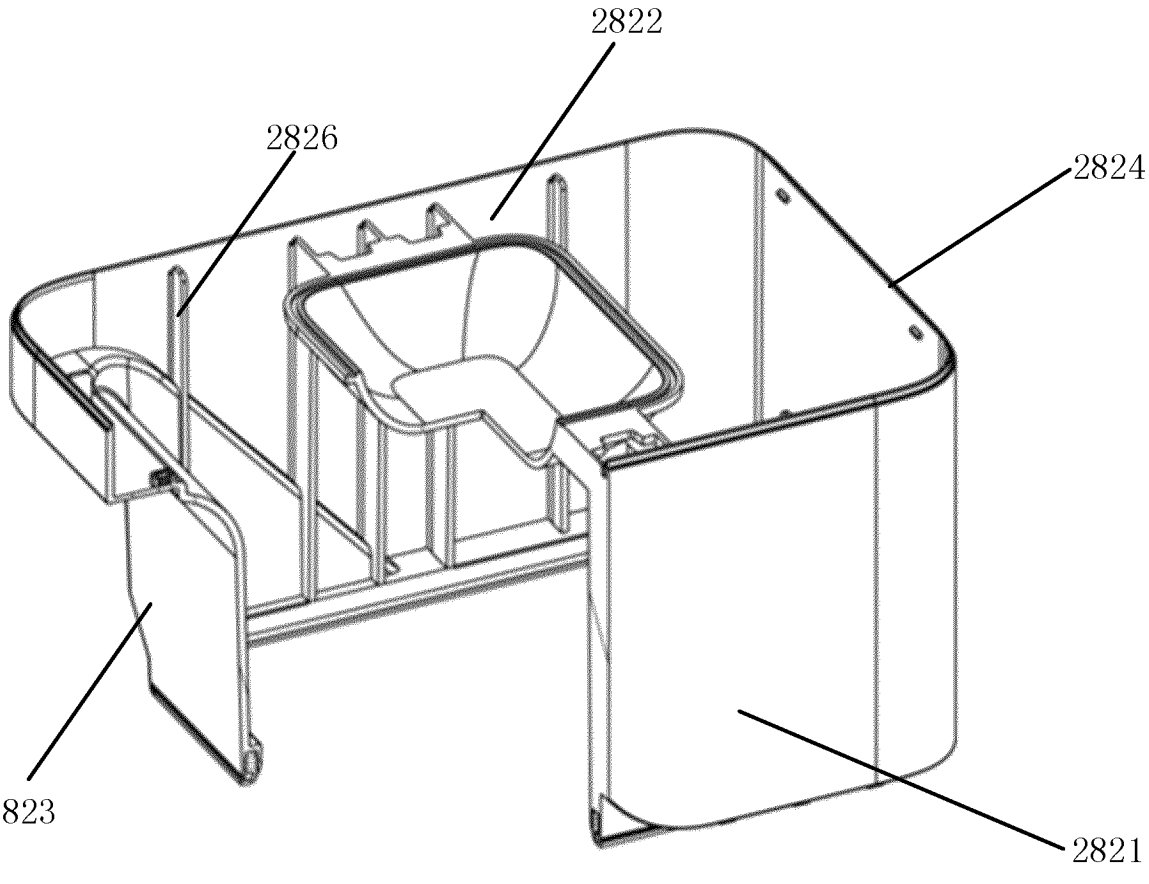

FIG. 5

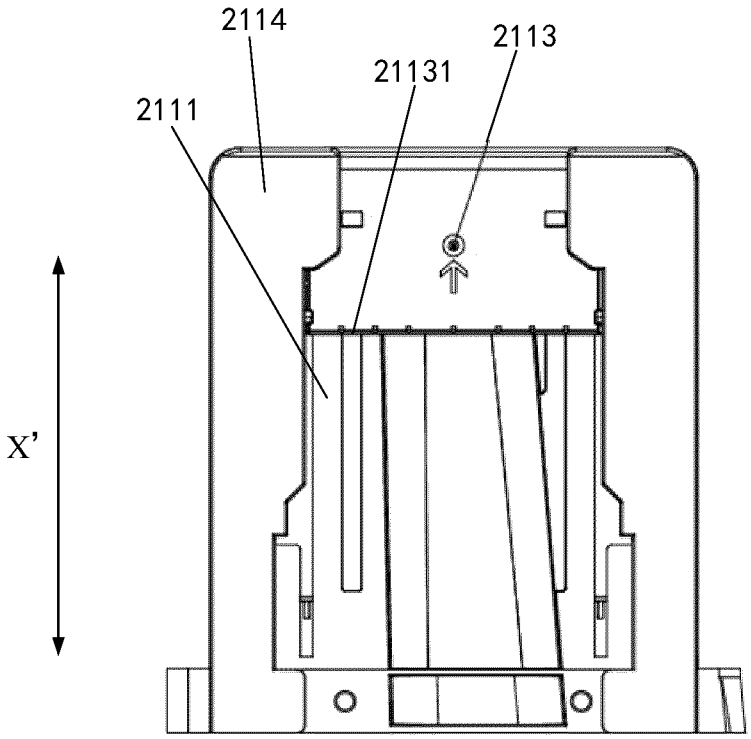

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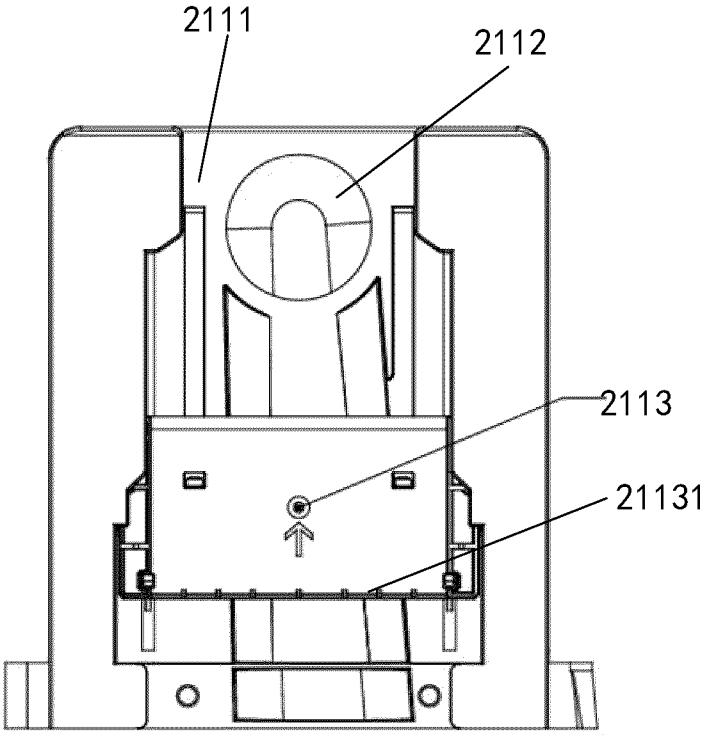
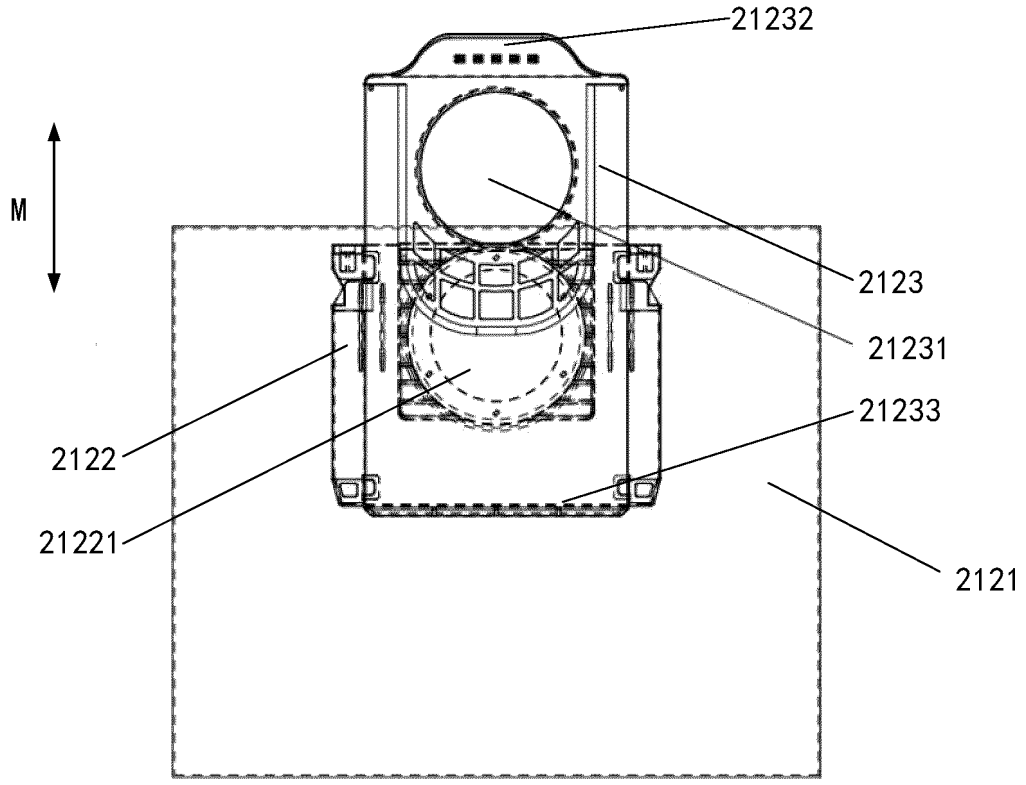
FIG. 6



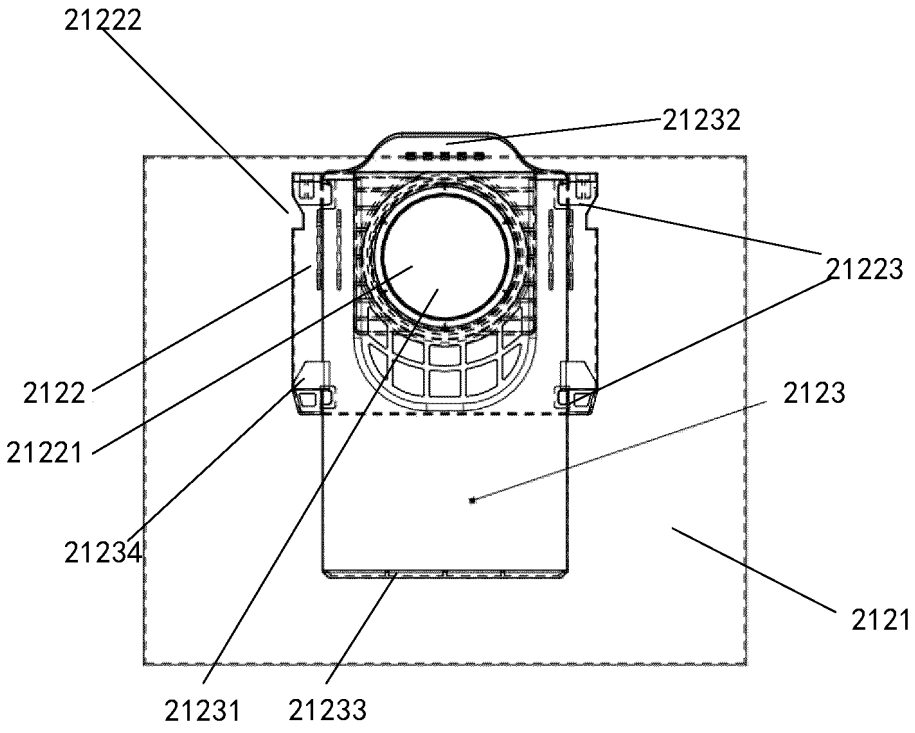
2110

FIG. 7



2120

FIG. 8



2120

FIG. 9

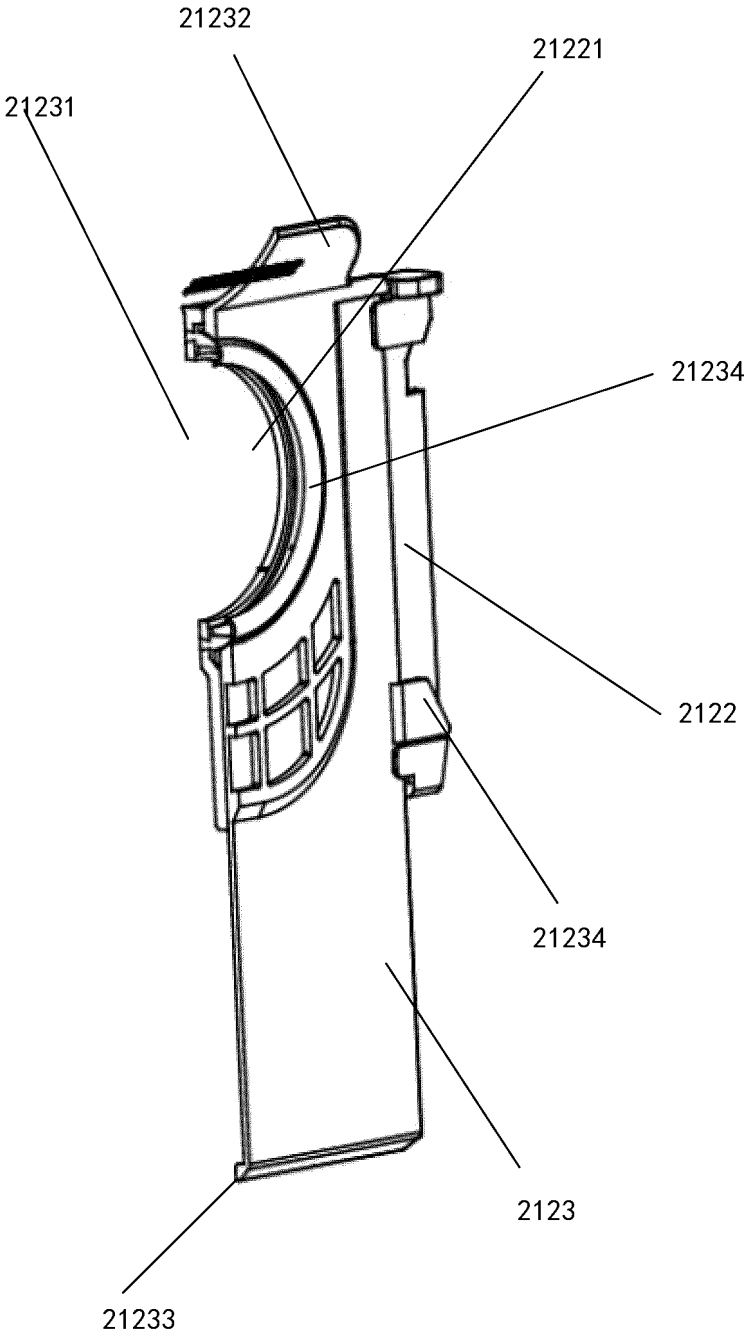


FIG. 9A

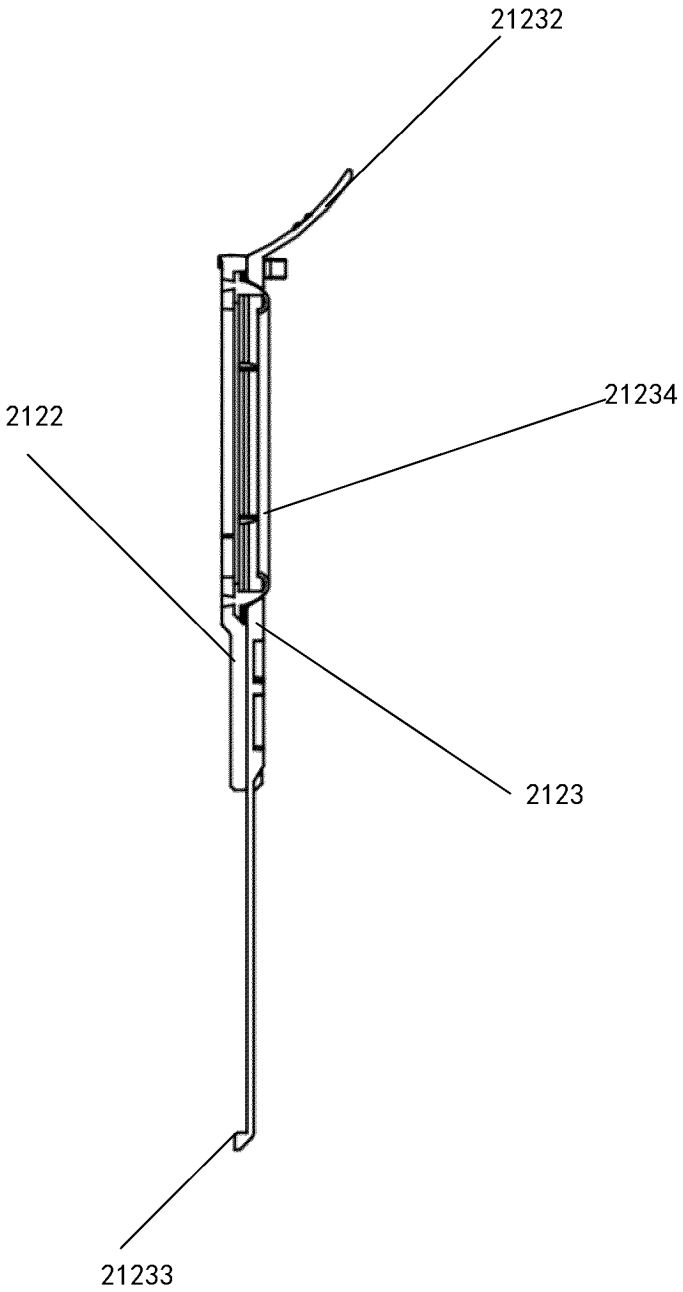


FIG. 9B

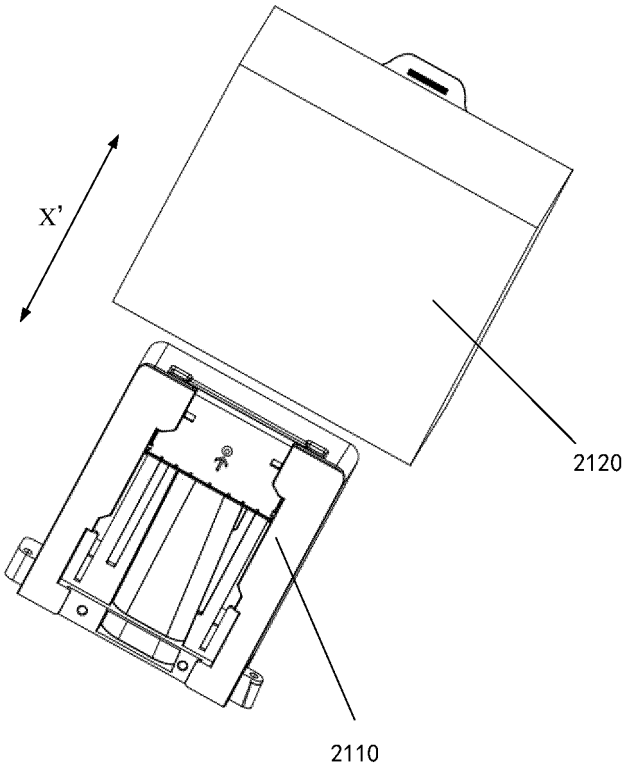


FIG. 10

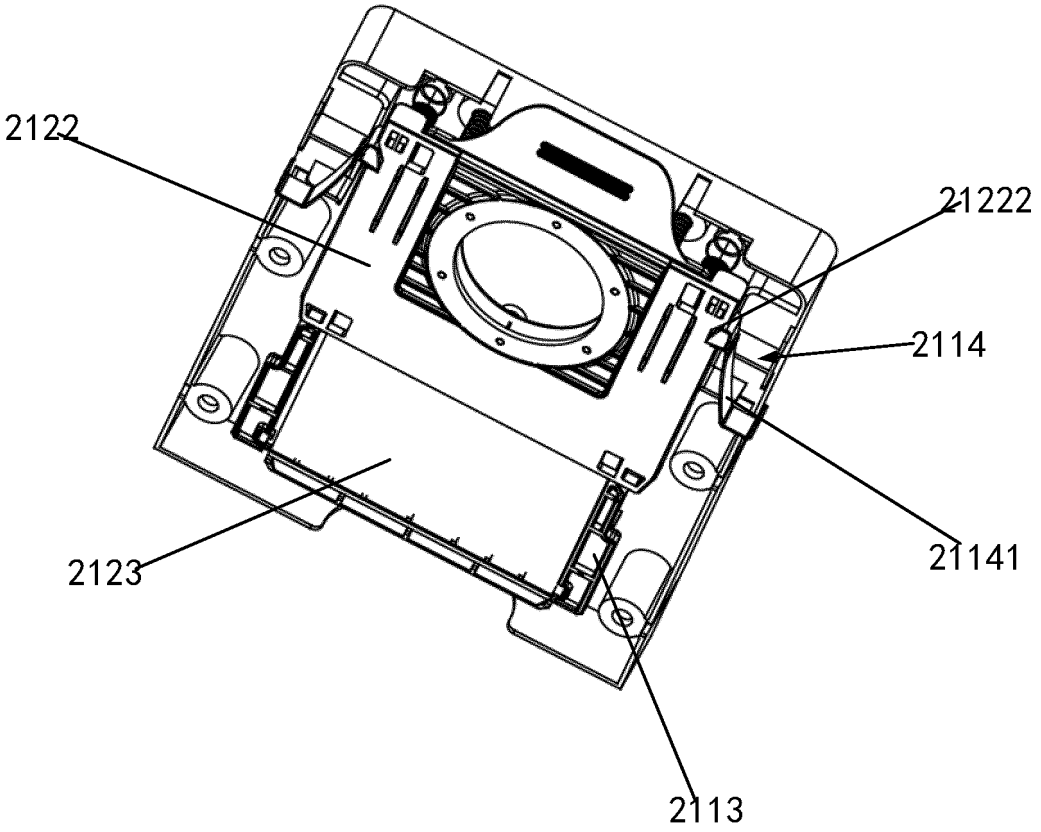


FIG. 11

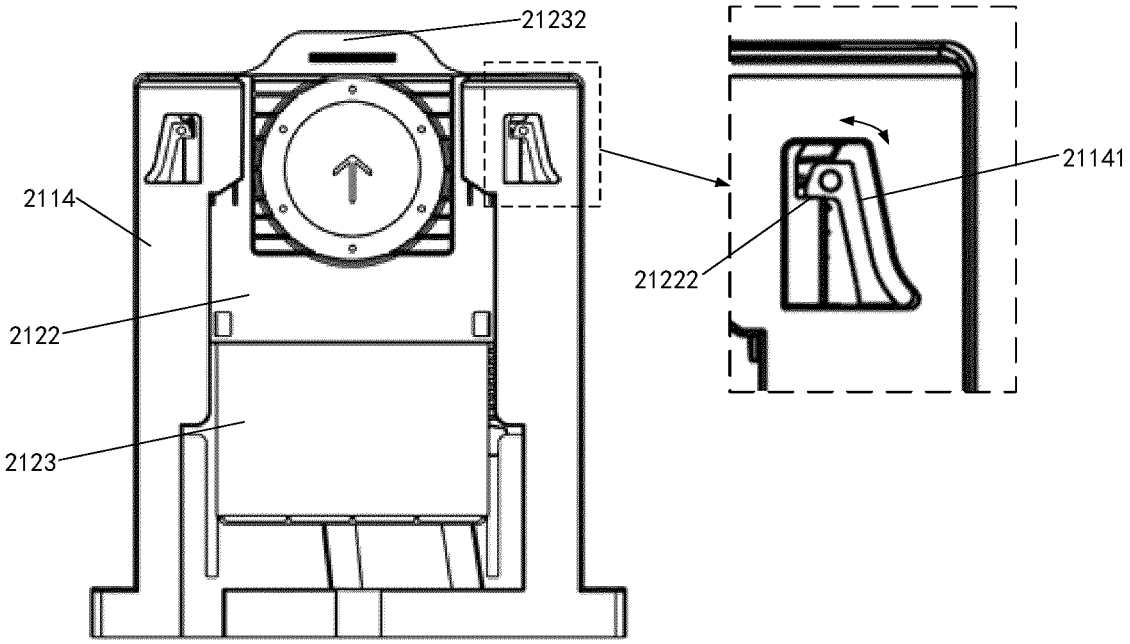
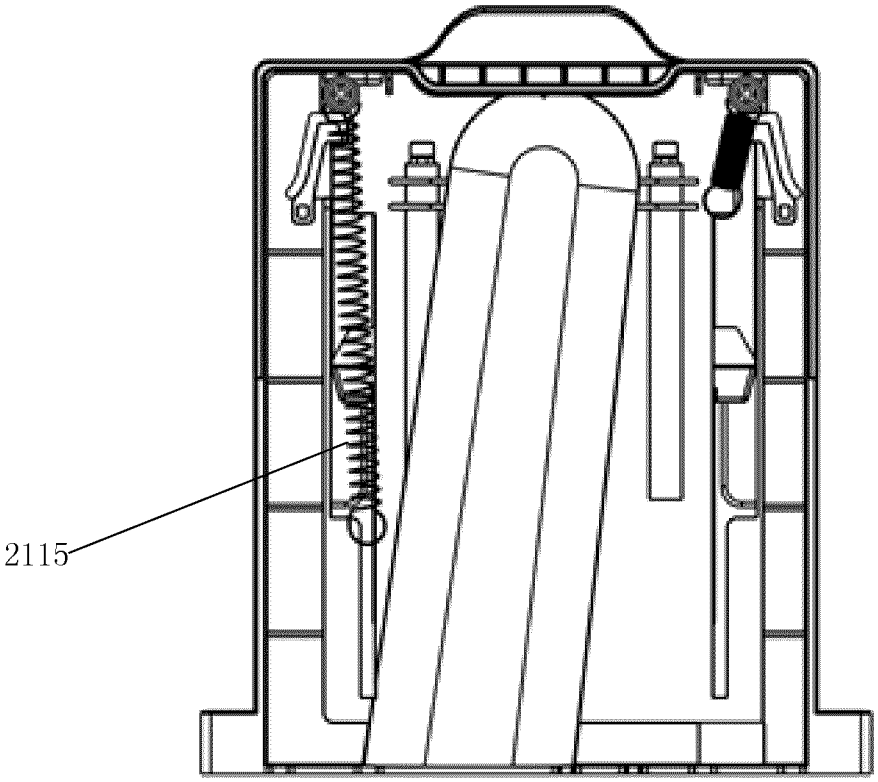


FIG. 12



2110

FIG. 13

INTERNATIONAL SEARCH REPORT

International application No.
PCT/CN2022/109782

A. CLASSIFICATION OF SUBJECT MATTER

A47L 11/40(2006.01)i

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

A47L11; A47L13; A47L9

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

CNABS, CNTXT, ENTXTC, ENTXT, VEN, CNKI: 基站, 基座, 回充座, 充电座, 充电坞, 充电站, 集尘, 灰尘, 垃圾, 屑, 袋, 夹, 卡, 罩, 盖, base station, dust, dirt+, collect+, bag?, middle, cover

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
PX	CN 216495159 U (BEIJING ROBOROCK TECHNOLOGY CO., LTD.) 13 May 2022 (2022-05-13) description, paragraphs 58-94, and figures 1-10	1-20
PX	CN 216495158 U (BEIJING ROBOROCK TECHNOLOGY CO., LTD.) 13 May 2022 (2022-05-13) description, paragraphs 49-91, and figures 1-10	1-20
PX	CN 114587213 A (BEIJING ROBOROCK TECHNOLOGY CO., LTD.) 07 June 2022 (2022-06-07) description, paragraphs 49-70, and figures 1-10	1-20
PX	CN 114587214 A (BEIJING ROBOROCK TECHNOLOGY CO., LTD.) 07 June 2022 (2022-06-07) description, paragraphs 58-79, and figures 1-10	1-20
Y	CN 113679315 A (SHENZHEN SILVER STAR INTELLIGENT TECHNOLOGY CO., LTD.) 23 November 2021 (2021-11-23) description, paragraphs 46-57, and figures 1-8	1-20

☑ Further documents are listed in the continuation of Box C. ☑ See patent family annex.

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
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"O" document referring to an oral disclosure, use, exhibition or other means
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"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
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"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
21 September 2022	**11 October 2022**
Name and mailing address of the ISA/CN **China National Intellectual Property Administration (ISA/CN)** **No. 6, Xitucheng Road, Jimenqiao, Haidian District, Beijing 100088, China** Facsimile No. **(86-10)62019451**	Authorized officer Telephone No.

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/CN2022/109782

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	CN 214706244 U (WUHAN HONGXIN TECHNOLOGY DEVELOPMENT CO., LTD.) 12 November 2021 (2021-11-12) description, paragraphs 30-33, and figures 1-3	1-20
A	CN 213787180 U (SHENZHEN SILVER STAR INTELLIGENT TECHNOLOGY CO., LTD.) 27 July 2021 (2021-07-27) entire document	1-20
A	CN 113384198 A (GUANGZHOU COAYU ROBOT CO., LTD.) 14 September 2021 (2021-09-14) entire document	1-20
A	US 2021282617 A1 (SHENZHEN SILVER STAR INTELLIGENT TECHNOLOGY CO., LTD. et al.) 16 September 2021 (2021-09-16) entire document	1-20
A	WO 2021208608 A1 (DREAME INNOVATION TECHNOLOGY (SUZHOU) CO., LTD.) 21 October 2021 (2021-10-21) entire document	1-20

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INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.
PCT/CN2022/109782

Patent document cited in search report	Publication date (day/month/year)	Patent family member(s)	Publication date (day/month/year)
CN 216495159 U	13 May 2022	None	
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CN 114587213 A	07 June 2022	None	
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CN 113679315 A	23 November 2021	CN 215993870 U	11 March 2022
CN 214706244 U	12 November 2021	None	
CN 213787180 U	27 July 2021	None	
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REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- CN 202111675965 **[0001]**