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(71) Applicants:
• **Jiangsu Midea Cleaning Appliances Co., Ltd.**
Suzhou Jiangsu 215100 (CN)
• **Midea Group Co., Ltd.**
Foshan, Guangdong 528311 (CN)

(72) Inventors:
• **CAO, Xiuchao**
Suzhou, Jiangsu 215100 (CN)
• **LIU, Zhigang**
Suzhou, Jiangsu 215100 (CN)
• **WANG, Qi**
Suzhou, Jiangsu 215100 (CN)
• **ZHANG, Chenzhou**
Suzhou, Jiangsu 215100 (CN)
• **BU, Hengfeng**
Suzhou, Jiangsu 215100 (CN)

(74) Representative: **RGTH**
Patentanwälte PartGmbB
Mönckebergstraße 11
20095 Hamburg (DE)

(54) **DUST COLLECTION BASE STATION, BASE STATION ASSEMBLY, AND CLEANING SYSTEM**

(57) The present application relates to the technical field of cleaning appliances. Provided are a dust collection station (1), a station assembly, and a cleaning system. The dust collection station comprises a station body (11), an opening and closing cover (2), a mounting frame (3) and a normally closed unit (4). The station body (11) has a first collection cavity (11a) and a collection port (11b) capable of communicating with the first collection cavity (11a). The opening and closing cover (2) is connected to the station body (11) to open or close the collection port (11b). The mounting frame (3) is configured to mount a dust collection member (5) and is mounted on the station body (11), the mounting frame (3) can switch from a first position (3a) to a second position (3b), so that the opening and closing cover

(2) can close the collection port (11b) in the case of being separated from the dust collection member (5), and the mounting frame (3) can switch from the second position (3b) to the first position (3a), so that the opening and closing cover (2) opens the collection port (11b) under the action of the dust collection member (5). The normally closed unit (4) is arranged on the station body (11), and the normally closed unit (4) is configured to keep the opening and closing cover (2) in the position of closing the collection port (11b) when the mounting frame (3) is located in the second position (3b). The embodiments of the present application can effectively solve the problem in the related art of dust and sundries damaging a base station.

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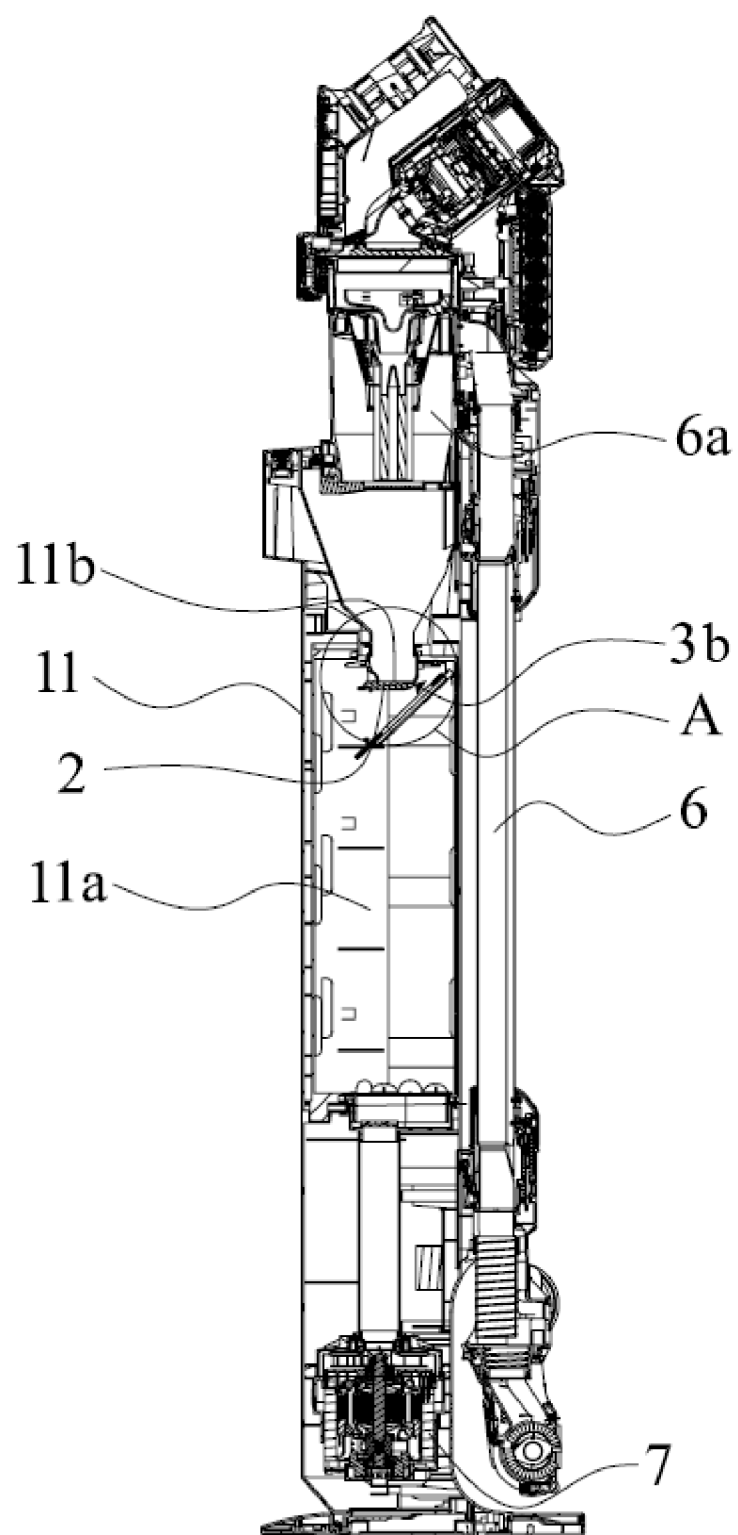


FIG. 1

Description

CROSS-REFERENCE TO RELATED APPLICATION

[0001] This application claims priorities to Chinese patent application No. 202311708941.6 filed on December 13, 2023 and Chinese patent application No. 202323484080.6 filed on December 20, 2023, the disclosures of which are hereby incorporated by reference in their entireties.

TECHNICAL FIELD

[0002] The application relates to the field of cleaning appliances, and in particular to a dust collection station, a station assembly and a cleaning system.

BACKGROUND

[0003] With the continuous development of science and technology, more and more cleaning devices are used in homes, hotels, offices, large conference rooms or other places to free people's hands. A separable dust collection system is a cleaning system which is relatively popular among users. This cleaning system usually consists of a station and a cleaning device which are separable from each other.

[0004] In the related art, there is a situation where the station is damaged by dust and sundry items.

SUMMARY

[0005] In view of this, embodiments of the application are desired to provide a dust collection station, a station assembly and a cleaning system, to alleviate the situation where the station is damaged by dust and sundry items.

[0006] In order to achieve the above purpose, according to a first aspect of the embodiments of the application, there is provided a dust collection station, the dust collection station comprises a station body, an opening and closing cover, a mounting frame and a normally closed unit.

[0007] The station body is provided with a first collection cavity and a collection port capable of communicating with the first collection cavity.

[0008] The opening and closing cover is connected to the station body to open or close the collection port.

[0009] The mounting frame is configured to mount a dust collection member, and the mounting frame is mounted to the station body, here the mounting frame located at a first position allows the dust collection member to receive dust discharged from the collection port, the mounting frame is capable of switching from the first position to a second position, to allow the opening and closing cover to close the collection port in case that the opening and closing cover is separated from the dust collection member, and the mounting frame is

capable of switching from the second position to the first position, to allow the opening and closing cover to open the collection port under an action of the dust collection member.

[0010] The normally closed unit is arranged on the station body, and the normally closed unit is configured to keep the opening and closing cover at a position of closing the collection port when the mounting frame is located at the second position.

[0011] According to a second aspect of the embodiments of the application, there is provided a cleaning system, the cleaning system comprises a station, a cleaning device and a second fan component.

[0012] The station is provided with a second collection cavity.

[0013] The cleaning device is provided with a dust collection cavity configured to collect dust and sundry items, and the cleaning device is configured to discharge the dust and sundry items in the dust collection cavity into the second collection cavity at a dust discharging position.

[0014] The second fan component is capable of switching between a third position and a fourth position, here when the second fan component is located at the third position, the second fan component is detachably connected to the station, and the second fan component is capable of sucking the second collection cavity to be in a negative pressure, such that the dust in the dust collection cavity is discharged into the second collection cavity; and when the second fan component is located at the fourth position, the second fan component is detachably connected to the cleaning device, and the second fan component is capable of sucking the dust collection cavity to be in a negative pressure, such that the dust collection cavity collects dust and sundry items.

[0015] The dust collection station according to the embodiments of the application is provided with the opening and closing cover, the mounting frame and the normally closed unit. The opening and closing cover may be kept at a position of closing the collection port under an action of the normally closed unit. The mounting frame is configured to mount and connect to the dust collection member, and the mounting frame may be switched between the first position and the second position. After the dust collection member is mounted to the mounting frame, the mounting frame is switched from the second position to the first position, and the dust collection member contacts and cooperates with the opening and closing cover such that the collection port is in an open state, and the dust and sundry items in the cleaning device may be smoothly discharged to the dust collection station and thus may be collected by the dust collection member. In case that the user does not mount the dust collection member, the opening and closing cover is in a state of closing the collection port, and the dust and sundry items in the cleaning device cannot enter the first collection cavity of the station

body through the collection port, such that the embodiments of the application may solve the problem of damaging the dust collection station by the dust and sundry items.

BRIEF DESCRIPTION OF THE DRAWINGS

[0016]

FIG. 1 is a schematic structural diagram of a cleaning system according to an embodiment of the application, in which an opening and closing cover is located at a second position.

FIG. 2 is a partially enlarged view at a position A of FIG. 1.

FIG. 3 is a schematic structural diagram of a mounting frame according to an embodiment of the application.

FIG. 4 is a schematic structural diagram of a station assembly according to an embodiment of the application, in which an opening and closing cover is located at a first position.

FIG. 5 is a schematic assembly diagram of a dust collection member and a mounting frame according to an embodiment of the application.

FIG. 6 is a simplified schematic diagram of abutment between a dust collection member and a bump according to an embodiment of the application.

FIG. 7 is a schematic structural diagram of a cleaning system according to an embodiment of the application, in which a second fan component is located at a third position.

FIG. 8 is a schematic structural diagram of a cleaning system according to an embodiment of the application, in which a second fan component is located at a fourth position.

FIG. 9 is a partially enlarged view at a position B of FIG. 7.

FIG. 10 is a partially enlarged view at a position C of FIG. 8.

FIG. 11 is a schematic structural diagram of a second fan component according to an embodiment of the application.

FIG. 12 is a schematic assembly diagram of a conductive terminal and a first power supply terminal according to an embodiment of the application.

FIG. 13 is a schematic assembly diagram of a cleaning device and a station according to an embodiment of the application.

FIG. 14 is a schematic assembly diagram of a conductive terminal and a second power supply terminal according to an embodiment of the application.

FIG. 15 is a partially enlarged view at a position D of FIG. 12.

Explanations of reference numerals:

[0017] 1. station; 1a. second collection cavity; 1b. mounting cavity; 1c. first opening; 1d. third position; 1e. second opening; 1f. exhaust direction; 11. station body; 11a. first collection cavity; 11b. collection port; 11c. avoidance groove; 12. first guide member; 12a. preset direction; 12b. guide surface; 13. first power supply terminal; 130. first conductive sheet; 14. body; 2. opening and closing cover; 2a. first rotation center; 2b. driving part; 20. bump; 21. opening and closing cover body; 3. mounting frame; 3a. first position; 3b. second position; 3c. second rotation center; 3d. mounting groove; 30. main body; 30a. avoidance cavity; 31. hook; 4. normally closed unit; 5. dust collection member; 50. hard edge; 51. dust collection member body; 6. cleaning device; 6a. dust collection cavity; 6b. fourth position; 60. second power supply terminal; 600. second conductive sheet; 61. cleaning main body; 610. second guide member; 62. handle; 63. positioning member; 63a. positioning cavity; 64. air inlet member; 7. first fan component; 8. second fan component; 80. plug-in member; 81. abutment member; 82. conductive terminal; 820. third conductive sheet; 83. flexible member; 84. fan component body.

DETAILED DESCRIPTION

[0018] It should be noted that the embodiments of the application and technical features in the embodiments may be combined with each other without conflict, and detailed descriptions in specific implementations should be understood as explanations of the application and should not be considered as undue limitations on the application.

[0019] The application will be further described in detail below with reference to the drawings and specific embodiments. Terms "first\second" involved in the embodiments of the application are only intended to distinguish similar objects and do not represent a specific order of the objects. It may be understood that "first\second" may be interchanged with a specific order or sequence if allowable, such that the embodiments of the application described here may be implemented in an order other than that illustrated or described here.

[0020] As a portion of the creative concept of the application, it needs to analyze reasons why a station is damaged by dust and sundry items in the related art before describing the embodiments of the application, and technical solutions of the embodiments of the application are obtained through reasonable analysis.

First implementation:

[0021] In the related art, a dust collection member is mounted in the station to collect dust and sundry items discharged from a cleaning device to the station, and after the dust collection member has collected the dust

and sundry items, the dust collection member is removed to discard the dust and sundry items. During usage, a situation where after removing the dust collection member, the user forgets to replace the dust collection member with a new one and directly starts a process of discharging the dust from the cleaning device to the station, may occur. As a result, the dust and sundry items are directly discharged from interior of the cleaning device to interior of the station, and the dust and sundry items may directly enter a fan, a control unit or other devices of the station, thereby causing damage to the station.

[0022] An embodiment of the application provides a cleaning system, the cleaning system comprises a dust collection station and a cleaning device 6. The cleaning device 6 is provided with a dust collection cavity 6a, and the dust collection cavity 6a is configured to collect dust and sundry items. The cleaning device 6 may be located at a dust discharging position to discharge the dust and sundry items in the dust collection cavity 6a to the dust collection station.

[0023] An embodiment of the application further provides a station assembly, the station assembly comprises a dust collection station and a dust collection member 5. The dust collection member 5 may be mounted onto the dust collection station.

[0024] Exemplarily, the dust collection member 5 is a dust bag.

[0025] In an embodiment, the cleaning device 6 comprises a housing, a floor brush, a suction motor and a battery. The dust collection cavity 6a is formed in the housing, the battery is configured to supply power to the suction motor, and the floor brush is configured to collect dust and sundry items from the external environment.

[0026] An embodiment of the application further provides a dust collection station, and with reference to FIG. 1 to FIG. 6, the dust collection station comprises a station body 11, an opening and closing cover 2, a mounting frame 3 and a normally closed unit 4. The station body 11 is provided with a first collection cavity 11a and a collection port 11b which may be communicated with the first collection cavity 11a. The opening and closing cover 2 is connected to the station body 11 to open or close the collection port 11b. The mounting frame 3 is configured to mount a dust collection member 5. The mounting frame 3 is mounted to the station body 11, and the mounting frame 3 located at a first position 3a allows the dust collection member 5 to receive dust discharged from the collection port 11b. The mounting frame 3 may be switched from the first position 3a to a second position 3b, to allow the opening and closing cover 2 to close the collection port 11b in case that the opening and closing cover 2 is separated from the dust collection member 5. The mounting frame 3 may be switched from the second position 3b to the first position 3a, to allow the opening and closing cover 2 to open the collection port 11b under an action of the

dust collection member 5. The normally closed unit 4 is arranged on the station body 11, and the normally closed unit 4 is configured to keep the opening and closing cover 2 at a position of closing the collection port 11b when the mounting frame 3 is located at the second position 3b.

[0027] In the embodiment, the dust collection station is provided with the opening and closing cover 2, the mounting frame 3 and the normally closed unit 4. The opening and closing cover 2 may be kept at a position of closing the collection port 11b under an action of the normally closed unit 4. The mounting frame 3 is configured to mount and connect to the dust collection member 5, and the mounting frame 3 may be switched between the first position 3a and the second position 3b. After the dust collection member 5 is mounted to the mounting frame 3, the mounting frame 3 is switched from the second position 3b to the first position 3a, and the dust collection member 5 contacts and cooperates with the opening and closing cover 2 such that the collection port 11b is in an open state, and the dust and sundry items in the cleaning device 6 may be smoothly discharged to the dust collection station and thus may be collected by the dust collection member 5. In case that the user does not mount the dust collection member 5, the opening and closing cover 2 is in a state of closing the collection port 11b, and the dust and sundry items in the cleaning device 6 cannot enter the first collection cavity 11a of the station body 11 through the collection port 11b, such that the embodiment of the application may solve the problem of damaging the dust collection station by the dust and sundry items.

[0028] It should be noted that the dust and sundry items comprise dust, particles, hairs, paper scraps, debris, water droplets, or other solid and/or liquid sundry items with a density greater than that of air.

[0029] In an embodiment, the dust collection station comprises a first fan component 7 and a motor. Both the first fan component 7 and the motor are mounted in the station body 11. The first fan component 7 is configured to generate a suction airflow such that the dust and sundry items in the cleaning device 6 may be discharged to the station body 11. The motor is configured to connect to an external power source to charge the cleaning device 6.

[0030] In an embodiment, the dust collection member 5 is mounted to the mounting frame 3, and the dust collection member 5 is located in the first collection cavity 11a. The dust collection member 5 may be mounted to the mounting frame 3, and the mounting frame 3 may be switched from the second position 3b to the first position 3a, such that the opening and closing cover 2 opens the collection port 11b under an action of the dust collection member 5.

[0031] In an embodiment, with reference to FIG. 6, the dust collection member 5 comprise a dust collection member body 51 and a hard edge 50 connected to each other, the hard edge 50 is located at an opening

of the dust collection member body 51, and the hard edge 50 is configured to contact and cooperate with the opening and closing cover 2.

[0032] In the embodiment, the dust collection member 5 comprises the hard edge 50 configured to contact and cooperate with the opening and closing cover 2, and when the opening and closing cover 2 is driven to open, the opening and closing cover 2 abuts against the hard edge 50, and the dust collection member 5 may open the opening and closing cover 2 relatively stably, to open the collection port 11b.

[0033] It may be understood that the embodiment of the application is not limited to the dust collection member 5 comprising the dust collection member body 51 and the hard edge 50 to cooperate with the opening and closing cover 2. In an embodiment, during installation of the dust collection member 5, a tension force of a bag opening of the dust collection member body 51 occurs when the dust collection member body 51 is tensioned, the tension force of the bag opening itself cooperates with the opening and closing cover 2, such that the opening and closing cover 2 opens the collection port 11b.

[0034] It should be noted that types of the dust collection member 5 are not limited in the embodiment of the application. The dust collection member 5 may be an air-permeable dust collection member 5 or an airtight dust collection member 5. Furthermore, the dust collection member 5 may be a disposable dust collection member 5 or a reusable dust collection member 5.

[0035] In an embodiment, the dust collection cavity 6a, the collection port 11b and the first collection cavity 11a are sequentially arranged from top to bottom, when the cleaning device 6 is located at the dust discharging position.

[0036] In the embodiment, the dust collection cavity 6a, the collection port 11b and the first collection cavity 11a are sequentially arranged from top to bottom. In a dust discharging process, a direction in which the dust and sundry items enter the first collection cavity 11a from the dust collection cavity 6a through the collection port 11b is substantially parallel to a gravity direction of the dust and sundry items, and the dust and sundry items may be collected by the dust collection member 5 relatively smoothly, thereby increasing a dust discharging efficiency.

[0037] The application further provides a cleaning system, the cleaning system comprises a station assembly and a cleaning device 6. The cleaning device 6 may be located at a dust discharging position to discharge the dust and sundry items in the dust collection cavity 6a to the dust collection member 5 mounted in the dust collection station.

[0038] Exemplarily, when the cleaning device 6 is located at the dust discharging position, and the dust collection member 5 is mounted to the mounting frame 3, then the mounting frame 3 is switched from the second position 3b to the first position 3a to open the col-

lection port 11b, and the dust collection cavity 6a is communicated with the dust collection member 5. The cleaning device 6 may discharge the dust and sundry items in the dust collection cavity 6a to interior of the dust collection member 5, thereby achieving dust collection by the dust collection member 5.

[0039] Exemplarily, when the cleaning device 6 is located at the dust discharging position, and the dust collection member 5 is not mounted to the mounting frame 3, then no matter the mounting frame 3 is located at the first position 3a or the second position 3b, the opening and closing cover 2 is in a state of closing the collection port 11b under an action of the normally closed unit 4, and the cleaning device 6 cannot discharge the dust and sundry items in the dust collection cavity 6a to the first collection cavity 11a.

[0040] In an embodiment, with reference to FIG. 1 and FIG. 2, the opening and closing cover 2 is rotatably connected to the station body 11, and/or the mounting frame is movably mounted to the station body.

[0041] In the embodiment, the opening and closing cover 2 is rotatably connected to the station body 11, and there is a relatively stable movement process of the opening and closing cover 2. The opening and closing cover 2 may close the collection port 11b relatively accurately under an action of the mounting frame 3.

[0042] In an embodiment, with reference to FIG. 2 and FIG. 3, the opening and closing cover 2 comprises a bump 20 and an opening and closing cover body 21 connected to each other, a rotation center of rotatably connecting the opening and closing cover body 21 to the station body 11 is a first rotation center 2a, the bump 20 is located at a side of a target surface facing away from the collection port 11b, the opening and closing cover body 21 is located at a side of the target surface facing the collection port 11b, the first rotation center 2a is located in the target surface, and the target surface is parallel to a dust discharging direction of the collection port 11b when the opening and closing cover 2 is in a closed state.

[0043] In the embodiment, the rotation center of rotatably connecting the opening and closing cover body 21 to the station body 11 is located between the bump 20 and the opening and closing cover body 21. When the mounting frame 3 is switched from the second position 3b to the first position 3a, the dust collection member 5 drives the bump 20 to rotate around the first rotation center 2a, thereby driving the opening and closing cover body 21 to open the collection port 11b. This is a simple driving mode, and no complex driving device is required to allow the opening and closing cover 2 to open the collection port 11b.

[0044] Exemplarily, the bump 20 is integrally molded with the opening and closing cover body 21.

[0045] It may be understood that the embodiment of the application is not limited to integrally molding the bump 20 with the opening and closing cover body 21. In an embodiment, the bump 20 and the opening and

closing cover body 21 are made separately, and the bump 20 and the opening and closing cover body 21 are mounted together after they are made, to form an integral body.

[0046] In an embodiment, with reference to FIG. 2 and FIG. 4, the mounting frame 3 is rotatably connected to the station body 11, and a rotation direction in which the mounting frame 3 is switched from the second position 3b to the first position 3a is the same as a rotation direction in which the opening and closing cover 2 is switched from a closed state to an open state.

[0047] In the embodiment, the mounting frame 3 is rotatably connected to the station body 11. The mounting frame 3 may be switched between the first position 3a and the second position 3b by rotation, and there is a relatively accurate movement of the mounting frame 3. During rotation of the mounting frame 3 from the second position 3b to the first position 3a, the dust collection member 5 contacts with the opening and closing cover 2, thereby driving the opening and closing cover 2 to rotate in the same direction as the mounting frame 3.

[0048] Exemplarily, a rotation center of rotatably connecting the mounting frame 3 to the station body 11 is a second rotation center 3c. The second rotation center 3c is located at a side of an avoidance cavity 30a facing away from a hook 31, in an arrangement direction of the hook 31 and the avoidance cavity 30a.

[0049] It may be understood that the application is not limited to rotatably connecting the mounting frame 3 to the station body 11. In an embodiment, the mounting frame 3 may move close to or away from the opening and closing cover 2 in the dust discharging direction of the collection port 11b, to achieve switching between the first position 3a and the second position 3b.

[0050] In an embodiment, with reference to FIG. 2, the normally closed unit 4 is an elastic member, the elastic member is arranged between the station body 11 and the opening and closing cover 2, and the elastic member may apply an elastic force to the opening and closing cover 2, such that the opening and closing cover 2 is in the closed state without being subject to an external force.

[0051] In the embodiment, the normally closed unit 4 is an elastic member, and the normally closed unit 4 may apply an elastic force to the opening and closing cover 2, such that the opening and closing cover 2 closes the collection port 11b without being subject to an external force. When the mounting frame 3 is switched from the first position 3a to the second position 3b, the dust collection member 5 is separated from the opening and closing cover 2, and the elastic member may drive the opening and closing cover 2 to rotate, thereby closing the collection port 11b. It is unnecessary for the user to manually rotate the opening and closing cover 2 to close the collection port 11b, which alleviates a situation where the user's hands become

dirty.

[0052] Exemplarily, the elastic member is a torsion spring, an end of the torsion spring is arranged on the station body 11, and another end of the torsion spring is arranged on the opening and closing cover 2.

[0053] It may be understood that the embodiment of the application is not limited to using an elastic member as the normally closed unit 4. In an embodiment, the normally closed unit 4 is a Velcro, a loop side of the Velcro is arranged on one of the opening and closing cover 2 and the station body 11, and a hook side of the Velcro is arranged on another one of the opening and closing cover 2 and the station body 11. In a process of switching the mounting frame 3 from the second position 3b to the first position 3a, the loop side and the hook side adhere to each other, such that the opening and closing cover 2 is in a state of closing the collection port 11b.

[0054] In an embodiment, with reference to FIG. 4 and FIG. 5, the mounting frame 3 comprises a main body 30 and a hook 31 connected to each other, the main body 30 is movably mounted to the station body 11, the main body 30 may be switched from the first position 3a to the second position 3b, and the hook 31 is configured to snap-fit with the station body 11, to allow the mounting frame 3 to be maintained at the first position 3a.

[0055] In the embodiment, the mounting frame 3 comprises the main body 30 and the hook 31 connected to each other, and the main body 30 is maintained at the first position 3a by snap-fitting the hook 31 with the station body 11. The hook 31 is snap-fitted with the station body 11, such that the mounting frame 3 may be maintained at the first position 3a relatively accurately, and this is a simple connection mode.

[0056] It may be understood that the embodiment of the application is not limited to the mounting frame 3 comprising the main body 30 and the hook 31 connected to each other. In an embodiment, one of the mounting frame 3 and the station body 11 is formed with a mounting block capable of generating an elastic deformation, and another one of the mounting frame 3 and the station body 11 is formed with a groove capable of cooperating with the mounting block. In a process of switching the mounting frame 3 from the second position 3b to the first position 3a, the mounting block cooperates with the groove by the elastic deformation, such that the mounting frame 3 may be maintained at the first position 3a.

[0057] In an embodiment, the main body 30 is formed with an avoidance cavity 30a, and when the mounting frame 3 is located at the first position 3a, a projection region of the opening and closing cover 2 is located within a projection region of the avoidance cavity 30a in the dust discharging direction of the collection port 11b. During rotation of the opening and closing cover 2, the avoidance cavity 30a may alleviate a situation of interference between the opening and closing cover 2

and the mounting frame 3.

[0058] Exemplarily, the main body 30 is formed with a mounting groove 3d, an opening of the mounting groove 3d faces the avoidance cavity 30a, and the dust collection member 5 may be partially located in the mounting groove 3d to achieve installation of the dust collection member 5.

[0059] In an embodiment, with reference to FIG. 3, the opening and closing cover 2 is formed with a driving part 2b, the driving part 2b is configured to cooperate with the dust collection member 5 to open the collection port 11b, the station body 11 is formed with an avoidance groove 11c, the avoidance groove 11c is configured to avoid the driving part 2b, a shape of the avoidance groove 11c is adapted to a shape of the driving part 2b, and the driving part 2b is at least partially located in the avoidance groove 11c when the opening and closing cover 2 is located at the first position 3a.

[0060] In the embodiment, the station body 11 is formed with that avoidance groove 11c adapted to the shape of the driving part 2b. The driving part 2b is at least partially located in the avoidance groove 11c when the opening and closing cover 2 is located at the first position 3a. In a process of discharging the dust from the cleaning device 6 to the dust collection member 5, a groove wall of the avoidance groove 11c may alleviate shaking of the opening and closing cover 2, thereby increasing a service life of the opening and closing cover 2.

[0061] Exemplarily, the driving part 2b is formed on the bump 20.

Second implementation:

[0062] An embodiment of the application provides a cleaning system, and with reference to FIG. 7 to FIG. 15, the cleaning system comprises a station 1, a cleaning device 6 and a second fan component 8. The station 1 is provided with a second collection cavity 1a. The cleaning device 6 is provided with a dust collection cavity 6a configured to collect dust and sundry items, and the cleaning device 6 is configured to discharge the dust and sundry items in the dust collection cavity 6a into the second collection cavity 1a at a dust discharging position. The second fan component 8 may be switched between a third position 1d and a fourth position 6b. When the second fan component 8 is located at the third position 1d, the second fan component 8 is detachably connected to the station 1, and the second fan component 8 may suck the second collection cavity 1a to be in a negative pressure, such that the dust in the dust collection cavity 6a is discharged into the second collection cavity 1a. When the second fan component 8 is located at the fourth position 6b, the second fan component 8 is detachably connected to the cleaning device 6, and the second fan component 8 may suck the dust collection cavity 6a to be in a negative pressure, such that the dust collection cavity

6a collects dust and sundry items.

[0063] In the embodiment, the cleaning system comprises the second fan component 8 which may be switched between the third position 1d and the fourth position 6b. When the cleaning device 6 is required to perform a dust suction operation, the second fan component 8 is located at the fourth position 6b, and the second fan component 8 is detachably connected to the cleaning device 6. When the cleaning device 6 performs self-cleaning, the dust and sundry items in the dust collection cavity 6a are discharged to the second collection cavity 1a, the second fan component 8 is located at the third position 1d, and the second fan component 8 is detachably connected to the station 1. It is unnecessary for settings of the third position 1d and the fourth position 6b to be adapted to each other to make the third position 1d and the fourth position 6b set relatively closely. The third position 1d may be set at a suitable position based on actual usage requirements. According to the embodiment of the application, a problem that the position of the third position 1d in the cleaning system is limited by that of the fourth position 6b, may be solved effectively.

[0064] It should be noted that the dust and sundry items comprise dust, particles, hairs, paper scraps, debris, water droplets, or other solid and/or liquid sundry items with a density greater than that of air.

[0065] In an embodiment, the station 1 further comprises a dust bag, a filter and a motor arranged in a body 14. The dust bag may conveniently clean the dust and sundry items discharged from the cleaning device 6 to the station 1, the filter is configured to prevent the dust and sundry items from diffusing in the station 1, and the motor is configured to connect to an external power source to charge the cleaning device 6.

[0066] In an embodiment, the cleaning device 6 further comprises a housing, a floor brush and a battery. The dust collection cavity 6a is formed in the housing, the battery is configured to supply power to the second fan component 8, and the floor brush is configured to collect dust and sundry items from the external environment.

[0067] In an embodiment, with reference to FIG. 10, the station 1 is provided with a mounting cavity 1b and a first opening 1c communicated with each other, the second fan component 8 moves into or out of the mounting cavity 1b through the first opening 1c, and the second fan component 8 is located in the mounting cavity 1b when the second fan component 8 is located at the third position 1d.

[0068] In the embodiment, the station 1 is provided with the mounting cavity 1b and the first opening 1c, and the second fan component 8 may move into the mounting cavity 1b through the first opening 1c. The first opening 1c may guide the second fan component 8 to move to the third position 1d. When the second fan component 8 moves to the third position 1d, the second fan component 8 is located in the mounting cavity 1b,

and the mounting cavity 1b may conceal the second fan component 8, to alleviate influences of the external environment on the second fan component 8, and increase aesthetics of the cleaning system.

[0069] In an embodiment, with reference to FIG. 8, FIG. 10 and FIG. 13, the station 1 comprises a body 14 and a first guide member 12, and the second collection cavity 1a, the mounting cavity 1b and the first opening 1c are all formed in the body 14. The first guide member 12 is connected to the body 14, and the first guide member 12 is at least partially located in the mounting cavity 1b.

[0070] In the embodiment, the station 1 is provided with the first guide member 12 connected to the body 14, the first guide member 12 may alleviate a situation where the second fan component 8 is inclined during installation, to ensure accurate installation of the fan, and the first guide member 12 may guide the installation of the second fan component 8, guide a correct direction of mounting the second fan component 8, and simplify mounting operations.

[0071] It may be understood that the first guide member 12 may be configured to guide the second fan component 8 to move to the third position 1d.

[0072] In an embodiment, with reference to FIG. 10, the first guide member 12 is a guide groove, and the second fan component 8 is provided with a plug-in member 80 configured to cooperate with the guide groove.

[0073] In the embodiment, the first guide member 12 is the guide groove, and the second fan component 8 is provided with the plug-in member 80 configured to cooperate with the first guide member 12. The first guide member 12 may play a role of guiding the second fan component 8 through cooperation between the plug-in member 80 and the guide groove, and this guide structure is simple. The plug-in member 80 is formed on the second fan component 8, which may reduce an area occupied by the guide structure on the second fan component 8, such that it is unnecessary to provide a relatively large size of the second fan component 8 to accommodate the guide structure. Furthermore, the plug-in member 80 cooperates with the first guide member 12, which may alleviate vibrations generated by the second fan component 8 during operation.

[0074] It may be understood that the guide groove may guide movement of the plug-in member 80, such that the second fan component 8 moves to the third position 1d.

[0075] Exemplarily, with reference to FIG. 10, the first guide member 12 comprises two straight plates arranged at an interval, and the guide groove is formed in a gap between the two straight plates.

[0076] Exemplarily, during movement of the second fan component 8 to the third position 1d, a portion of the second fan component 8 abuts between the two straight plates.

[0077] In an embodiment, with reference to FIG. 11,

the second fan component 8 is provided with an abutment member 81, an arrangement direction of the abutment member 81 and the plug-in member 80 is arranged to intersect with a length direction of the plug-in member 80, and the second fan component 8 is located at the third position 1d when the abutment member 81 abuts against the first guide member 12.

[0078] In the embodiment, the second fan component 8 is provided with the abutment member 81, and the second fan component 8 is located at the third position 1d when the abutment member 81 abuts against the first guide member 12. The abutment member 81 may be configured to indicate that the second fan component 8 is mounted in place, which further allows the second fan component 8 to be located at the third position 1d accurately.

[0079] Exemplarily, the abutment member 81 may be in a shape of a rectangular plate or a triangular plate.

[0080] In an embodiment, with reference to FIG. 11, there are two first guide members 12, the two first guide members 12 are arranged at an interval in a preset direction 12a, and the preset direction 12a is arranged to intersect with length directions of the first guide members 12.

[0081] In the embodiment, there are two first guide members 12, and the two first guide members are arranged at an interval. The two first guide members 12 cooperate with the plug-in member 80, to make the second fan component 8 more stable after the second fan component 8 is mounted, such that the second fan component 8 may be mounted in the station 1 quickly.

[0082] In an embodiment, with reference to FIG. 11, the abutment member 81 is located between the two first guide members 12 in an arrangement direction of the two first guide members 12. The abutment member 81 separates the two first guide members 12 from each other, to alleviate a relatively close distance between the two first guide members 12, and make the second fan component 8 more stable during movement of the second fan component 8 to the third position 1d.

[0083] In an embodiment, with reference to FIG. 11, two ends of the abutment member 81 are connected to the two first guide members 12 respectively in an arrangement direction of the two first guide members 12. The abutment member 81 and the two first guide members 12 are connected to each other to increase rigidity of the abutment member 81 and the first guide members 12, thereby improving stability during installation.

[0084] Exemplarily, with reference to FIG. 11, a length direction of the abutment member 81 is arranged orthogonally to the length direction of the plug-in member.

[0085] In an embodiment, with reference to FIG. 10, a guide surface 12b is formed at an end of the first guide member 12 facing the first opening 1c, and the guide surface 12b is inclined toward the first opening 1c from top to bottom.

[0086] In the embodiment, the guide surface 12b is

formed at an end of the first guide member 12 facing the first opening 1c, the second fan component 8 enters the first guide member 12 through the guide surface 12b during movement of the second fan component 8 to the third position 1d, and the guide surface 12b is inclined toward the first opening 1c from top to bottom. The second fan component 8 moves from a lower end of the guide surface 12b to an upper end of the guide surface 12b, which facilitates installation of the second fan component 8.

[0087] In an embodiment, with reference to FIG. 11 to FIG. 15, the station 1 is provided with a first power supply terminal 13, the cleaning device 6 is provided with a second power supply terminal 60, the second fan component 8 is provided with a conductive terminal 82, the first power supply terminal 13 is electrically connected to the conductive terminal 82 when the second fan component 8 is located at the third position 1d, and the second power supply terminal 60 is electrically connected to the conductive terminal 82 when the second fan component 8 is located at the fourth position 6b.

[0088] In the embodiment, the station 1 is provided with the first power supply terminal 13, and the cleaning device 6 is provided with the second power supply terminal 60. Each of the first power supply terminal 13 and the second power supply terminal 60 may be electrically connected to the conductive terminal 82 of the second fan component 8 respectively, to supply power to the second fan component 8. The second fan component 8 may be supplied with power without providing an independent power supply. The second fan component 8 has a light weight, which facilitates disassembly and movement of the second fan component 8.

[0089] In an embodiment, the first power supply terminal 13 is detachably connected to the conductive terminal 82, and the second power supply terminal 60 is detachably connected to the conductive terminal 82.

[0090] In the embodiment, a detachable connection between the second fan component 8 and the station 1 and a detachable connection between the second fan component 8 and the cleaning device 6 may be achieved by a detachable connection between the first power supply terminal 13 and the conductive terminal 82 and a detachable connection between the second power supply terminal 60 and the conductive terminal 82 respectively, to avoid arrangement of additional detachable structures and achieve a simple structure.

[0091] Exemplarily, with reference to FIG. 11, the first power supply terminal 13 is located at a side opposite to the first opening 1c.

[0092] Exemplarily, the first guide member 12 extends in an arrangement direction of the first opening 1c and the first power supply terminal 13.

[0093] Exemplarily, with reference to FIG. 11, the conductive terminal 82 is located at a side opposite to the abutment member 81.

[0094] In an embodiment, the first power supply terminal 13 is snap-fitted with the conductive terminal

82 when the abutment member 81 abuts against the first guide member 12. The abutment member 81 abuts against the first guide member 12, which may alleviate interference between the first power supply terminal 13 and the conductive terminal 82 during movement of the second fan component 8 to the third position 1d.

[0095] In an embodiment, with reference to FIG. 12 and FIG. 14, the first power supply terminal 13 is snap-fitted with the conductive terminal 82 when the second fan component 8 is located at the third position 1d, and/or the second power supply terminal 60 is snap-fitted with the conductive terminal 82 when the second fan component 8 is located at the fourth position 6b.

[0096] In the embodiment, the first power supply terminal 13 is snap-fitted with the conductive terminal 82 in a process of supplying power from the station 1 to the second fan component 8. The second power supply terminal 60 is snap-fitted with the conductive terminal 82 in a process of supplying power from the cleaning device 6 to the second fan component 8. This is a stable electrical connection mode, and may alleviate a situation where the conductive terminal 82 and the power supply terminal are disconnected from each other during connection there-between, and the operation process is more stable, such that the second fan component 8 may be maintained at the third position 1d or the fourth position 6b better.

[0097] In an embodiment, with reference to FIG. 14 and FIG. 15, the first power supply terminal 13 comprises multiple first conductive sheets 130 arranged at an interval, the second power supply terminal 60 comprises multiple second conductive sheets 600 arranged at an interval, the conductive terminal 82 comprises multiple third conductive sheets 820 arranged at an interval, each of the first conductive sheets 130 is snap-fitted in a gap between correspondingly adjacent ones of the third conductive sheets 820 when the first power supply terminal 13 is snap-fitted with the conductive terminal 82, and each of the second conductive sheets 600 is snap-fitted in a gap between correspondingly adjacent ones of the third conductive sheets 820 when the second power supply terminal 60 is snap-fitted with the conductive terminal 82.

[0098] In the embodiment, the first power supply terminal 13 is snap-fitted with the conductive terminal 82 by the first conductive sheets 130 and the third conductive sheets 820, to achieve an electrical connection there-between. The second power supply terminal 60 is snap-fitted with the conductive terminal 82 by the second conductive sheets 600 and the third conductive sheets 820, to achieve an electrical connection there-between. This is a simple snap-fitting mode, and the conductive sheets contact with each other to achieve an electrical connection there-between, which increases the conductive area and makes the conductive process more stable.

[0099] In an embodiment, with reference to FIG. 14, the cleaning device 6 comprises a cleaning main body

61, a handle 62 and a positioning member 63, the positioning member 63 is connected to the cleaning main body 61, and two ends of the handle 62 are arranged on the positioning member 63 and the cleaning main body 61 respectively. When the second fan component 8 is located at the fourth position 6b, the positioning member 63 is sleeved onto an outer side of the second fan component 8, and the positioning member 63 is configured to position the second fan component 8.

[0100] Exemplarily, a positioning cavity 63a is formed in the positioning member, and the second fan component 8 passes through the positioning cavity 63a.

[0101] In the embodiment, the cleaning device 6 is provided with the positioning member 63 to position and mount the second fan component 8, and the second fan component 8 passes through the positioning cavity 63a formed in the positioning member 63 when the second fan component 8 is located at the fourth position 6b. The positioning member 63 allows the second fan component 8 to be mounted to the cleaning main body 61 quickly.

[0102] In an embodiment, with reference to FIG. 14, the second fan component 8 is provided with a first contact surface configured to contact with the cleaning main body 61, the cleaning main body 61 is provided with a second contact surface configured to contact with the second fan component 8, and the first contact surface fits with the second contact surface when the second fan component 8 is located at the fourth position 6b. The first contact surface and the second contact surface fit with each other, which may increase a contact area between the second fan component 8 and the positioning member 63, increase a friction force between the second fan component 8 and the positioning member 63, and make the operation state more stable.

[0103] In an embodiment, with reference to FIG. 9, the cleaning device 6 is formed with a second guide member 610, the second fan component 8 is movably arranged on the second guide member 610, and the second guide member 610 is configured to guide the second fan component 8 to move to the fourth position 6b.

[0104] In the embodiment, the cleaning device 6 is formed with the second guide member 610 to guide the second fan component 8 to move to the fourth position 6b. The second guide member 610 may alleviate a situation of inclination of the second fan component 8 during installation, and ensure accurate installation of the second fan component 8.

[0105] Exemplarily, when the second fan component 8 is located at the fourth position 6b, a portion of the second fan component 8 is located at a side of the positioning member 63 facing the second guide member 610.

[0106] In an embodiment, with reference to FIG. 13, the station 1 is further provided with a second opening 1e communicated with the second collection cavity 1a,

and the third position 1d is located at a side of the second collection cavity 1a facing the second opening 1e. When the second fan component 8 is located at the third position 1d, the second fan component 8 sucks the second collection cavity 1a to be in the negative pressure through the second opening 1e, such that the dust and sundry items in the dust collection cavity 6a are discharged into the second collection cavity 1a; and when the cleaning device 6 is located at the dust discharging position, the second opening 1e is located between the third position 1d and the fourth position 6b in an exhaust direction 1f of the second opening 1e.

[0107] In the embodiment, the station 1 is provided with the second opening 1e communicated with the second collection cavity 1a, the second fan component 8 may suck the second collection cavity 1a to be in the negative pressure through the second opening 1e, and the second opening 1e is located between the third position 1d and the fourth position 6b in the exhaust direction 1f of the second opening 1e. The third position 1d, the second opening 1e and the fourth position 6b are arranged sequentially, such that there is a relatively short air passage through which a suction force generated by the second fan component 8 flows, which alleviates weakening of the suction force. The second fan component 8 may quickly suck the second collection cavity 1a to be in a negative pressure with a size sufficient to extract the dust and sundry items from the cleaning device 6, which further increases efficiency of discharging the dust from the cleaning device 6 to the station 1.

[0108] In an embodiment, with reference to FIG. 13, the dust collection cavity 6a, the second collection cavity 1a and the third position 1d are sequentially arranged from top to bottom, when the cleaning device 6 is located at the dust discharging position.

[0109] In the embodiment, the dust collection cavity 6a, the second collection cavity 1a and the third position 1d are sequentially arranged from top to bottom, when the cleaning device 6 is located at the position of discharging the dust to the station 1. The second fan component 8 is located at the third position 1d, the second fan component 8 sucks the second collection cavity 1a to be in the negative pressure, and a direction of a suction force generated by the second collection cavity 1a on the dust and sundry items in the dust collection cavity 6a is substantially parallel to the gravity direction of the dust and sundry items, which increases a dust discharging efficiency of the dust and sundry items entering the second collection cavity 1a from the dust collection cavity 6a.

[0110] Exemplarily, with reference to FIG. 13, the third position 1d, the second opening 1e and the fourth position 6b are sequentially arranged from top to bottom, when the cleaning device 6 is located at the dust discharging position.

[0111] In an embodiment, with reference to FIG. 12, the second fan component 8 comprises a fan compo-

nent body 84 and a flexible member 83, and the flexible member 83 is configured to connect to the cleaning device 6 or the station 1. The flexible member 83 may generate an elastic deformation, and the flexible member 83 abuts against the station 1 when the second fan component 8 is located at the third position 1d, to increase a friction force between the second fan component 8 and the station 1, to ensure sealing performance. The flexible member 83 is interference-fitted with the cleaning device 6 when the fan is located at the fourth position 6b, to increase a friction force between the second fan component 8 and the cleaning device 6, to ensure sealing performance.

[0112] Exemplarily, material of the flexible member is silicone or rubber.

[0113] Exemplarily, the conductive terminal 82 is formed on the fan component body 84, and the flexible member 83 is located at a side of the fan component body 84 facing away from the conductive terminal 82.

[0114] Exemplarily, the plug-in member 80 is formed on the fan component body 84.

[0115] Exemplarily, the abutment member 81 is formed on the fan component body 84.

[0116] It may be understood that the second fan component 8 needs to overcome a friction force between the flexible member 83 and the station 1, when the second fan component 8 moves to the third position 1d or moves out of the station 1 from the third position 1d.

[0117] Exemplarily, when the second fan component 8 is located at the fourth position 6b, the flexible member 83 abuts against an outer side of the cleaning device 6 through the elastic deformation, such that a seal is formed between the second fan component 8 and the cleaning device 6.

[0118] Exemplarily, when the second fan component 8 is located at the fourth position 6b, the flexible member 83 abuts against an inner side of the cleaning device 6 through the elastic deformation, such that a seal is formed between the second fan component 8 and the cleaning device 6.

[0119] In an embodiment, with reference to FIG. 9, the cleaning device 6 further comprises an air inlet member 64, the air inlet member 64 is arranged on the cleaning main body 61, and the air inlet member 64 is located at a side of the dust collection cavity 6a facing the positioning member 63. The air inlet member 64 is configured to abut against the flexible member 83. The cleaning device 6 is provided with the air inlet member 64 to abut against the flexible member 83, which alleviates a situation where the flexible member 83 needs to generate a large deformation to form a seal with the cleaning device 6, such that it is relatively simple to mount the second fan component 8 to the cleaning device 6.

[0120] It should also be noted that terms "comprise", "comprising" or any other variants thereof are intended to cover a non-exclusive inclusion, such that a process, method, article or device comprising a series of ele-

ments comprises not only those elements, but also other elements which are not listed explicitly, or elements which are inherent to such process, method, article or device. In the absence of further limitations, various embodiments/implementations defined by a sentence "comprise..." provided in the application may be combined with each other without conflict.

[0121] The above descriptions are only preferred embodiments of the application, and are not intended to limit the application. For those skilled in the art, the application may have various modifications and variations. Any modification, equivalent replacement, improvement or the like made within the spirit and principle of the application, should fall within the scope of protection of the application.

Claims

1. A dust collection station, comprising:

a station body, provided with a first collection cavity and a collection port capable of communicating with the first collection cavity;

an opening and closing cover, connected to the station body to open or close the collection port;

a mounting frame, configured to mount a dust collection member, and mounted to the station body, wherein the mounting frame located at a first position allows the dust collection member to receive dust discharged from the collection port, the mounting frame is capable of switching from the first position to a second position, to allow the opening and closing cover to close the collection port in case that the opening and closing cover is separated from the dust collection member, and the mounting frame is capable of switching from the second position to the first position, to allow the opening and closing cover to open the collection port under an action of the dust collection member; and a normally closed unit, arranged on the station body, and configured to keep the opening and closing cover at a position of closing the collection port when the mounting frame is located at the second position.

2. The dust collection station of claim 1, wherein the opening and closing cover is rotatably connected to the station body, and/or the mounting frame is movably mounted to the station body.

3. The dust collection station of claim 2, wherein the opening and closing cover comprises a bump and an opening and closing cover body connected to each other, a rotation center of rotatably connecting the opening and closing cover body to the sta-

tion body is a first rotation center, the bump is located at a side of a target surface facing away from the collection port, the opening and closing cover body is located at a side of the target surface facing the collection port, the first rotation center is located in the target surface, and the target surface is parallel to a dust discharging direction of the collection port when the opening and closing cover is in a closed state.

4. The dust collection station of claim 2, wherein the mounting frame is rotatably connected to the station body, and a rotation direction in which the mounting frame is switched from the second position to the first position is the same as a rotation direction in which the opening and closing cover is switched from a closed state to an open state.

5. The dust collection station of any one of claims 1 to 4, wherein the normally closed unit is an elastic member arranged between the station body and the opening and closing cover and capable of applying an elastic force to the opening and closing cover, such that the opening and closing cover is in the closed state without being subject to an external force.

6. The dust collection station of any one of claims 1 to 4, wherein the mounting frame comprises a main body and a hook connected to each other, the main body is movably mounted to the station body and is capable of switching from the first position to the second position, and the hook is configured to snap-fit with the station body, to allow the mounting frame to be maintained at the first position.

7. The dust collection station of any one of claims 1 to 4, wherein the opening and closing cover is formed with a driving part configured to cooperate with the dust collection member to open the collection port, the station body is formed with an avoidance groove configured to avoid the driving part, a shape of the avoidance groove is adapted to a shape of the driving part, and the driving part is at least partially located in the avoidance groove when the opening and closing cover is located at the first position.

8. A station assembly, comprising:

a dust collection station of any one of claims 1 to 7; and
a dust collection member, mounted to the mounting frame and located in the first collection cavity, wherein the dust collection member is capable of mounting to the mounting frame, and the mounting frame is capable of switching from the second position to the first position,

such that the opening and closing cover opens the collection port under an action of the dust collection member.

9. The station assembly of claim 8, wherein the dust collection member comprises a dust collection member body and a hard edge connected to each other, the hard edge is located at an opening of the dust collection member body and is configured to contact and cooperate with the opening and closing cover.

10. A cleaning system, comprising:

a dust collection station of any one of claims 1 to 7; and
a cleaning device, provided with a dust collection cavity configured to collect dust and sundry items, and capable of locating at a dust discharging position to discharge the dust and sundry items in the dust collection cavity to the dust collection station.

11. A cleaning system, comprising:

a station, provided with a second collection cavity;
a cleaning device, provided with a dust collection cavity configured to collect dust and sundry items, and configured to discharge the dust and sundry items in the dust collection cavity into the second collection cavity at a dust discharging position; and
a second fan component, capable of switching between a third position and a fourth position, wherein when the second fan component is located at the third position, the second fan component is detachably connected to the station, and is capable of sucking the second collection cavity to be in a negative pressure, such that the dust in the dust collection cavity is discharged into the second collection cavity; and when the second fan component is located at the fourth position, the second fan component is detachably connected to the cleaning device, and is capable of sucking the dust collection cavity to be in a negative pressure, such that the dust collection cavity collects dust and sundry items.

12. The cleaning system of claim 11, wherein the station is provided with a mounting cavity and a first opening communicated with each other, the second fan component moves into or out of the mounting cavity through the first opening, and the second fan component is located in the mounting cavity when the second fan component is located at the third position.

13. The cleaning system of claim 12, wherein the station comprises:

a body, wherein the second collection cavity, the mounting cavity and the first opening are formed in the body; and
a first guide member, connected to the body, and at least partially located in the mounting cavity.

14. The cleaning system of claim 13, wherein the first guide member is a guide groove, and the second fan component is provided with a plug-in member configured to cooperate with the guide groove.

15. The cleaning system of claim 14, wherein the second fan component is provided with an abutment member, an arrangement direction of the abutment member and the plug-in member is arranged to intersect with a length direction of the plug-in member, and the second fan component is located at the third position when the abutment member abuts against the first guide member.

16. The cleaning system of claim 13, wherein there are two first guide members, the two first guide members are arranged at an interval in a preset direction, and the preset direction is arranged to intersect with length directions of the first guide members.

17. The cleaning system of claim 13, wherein a guide surface is formed at an end of the first guide member facing the first opening, and is inclined toward the first opening from top to bottom.

18. The cleaning system of any one of claims 11 to 17, wherein the station is further provided with a second opening communicated with the second collection cavity, and the third position is located at a side of the second collection cavity facing the second opening; when the second fan component is located at the third position, the second fan component sucks the second collection cavity to be in the negative pressure through the second opening, such that the dust and sundry items in the dust collection cavity are discharged into the second collection cavity; and when the cleaning device is located at the dust discharging position, the second opening is located between the third position and the fourth position in an exhaust direction of the second opening.

19. The cleaning system of claim 18, wherein the dust collection cavity, the second collection cavity and the third position are sequentially arranged from top to bottom, when the cleaning device is located at the dust discharging position.

20. The cleaning system of any one of claims 11 to 17, wherein the station is provided with a first power supply terminal, the cleaning device is provided with a second power supply terminal, the second fan component is provided with a conductive terminal, the first power supply terminal is electrically connected to the conductive terminal when the second fan component is located at the third position, and the second power supply terminal is electrically connected to the conductive terminal when the second fan component is located at the fourth position.

21. The cleaning system of claim 20, wherein the first power supply terminal is snap-fitted with the conductive terminal when the second fan component is located at the third position, and/or the second power supply terminal is snap-fitted with the conductive terminal when the second fan component is located at the fourth position.

22. The cleaning system of claim 21, wherein the first power supply terminal comprises a plurality of first conductive sheets arranged at an interval, the second power supply terminal comprises a plurality of second conductive sheets arranged at an interval, the conductive terminal comprises a plurality of third conductive sheets arranged at an interval, each of the first conductive sheets is snap-fitted in a gap between correspondingly adjacent ones of the third conductive sheets when the first power supply terminal is snap-fitted with the conductive terminal, and each of the second conductive sheets is snap-fitted in a gap between correspondingly adjacent ones of the third conductive sheets when the second power supply terminal is snap-fitted with the conductive terminal.

23. The cleaning system of any one of claims 11 to 17, wherein the cleaning device comprises a cleaning main body, a handle and a positioning member, the positioning member is connected to the cleaning main body, two ends of the handle are arranged on the positioning member and the cleaning main body respectively, and the positioning member is sleeved onto an outer side of the second fan component and is configured to position the second fan component when the second fan component is located at the fourth position.

24. The cleaning system of claim 23, wherein the cleaning device is formed with a second guide member, the second fan component is movably arranged on the second guide member, and the second guide member is configured to guide the second fan component to move to the fourth position.

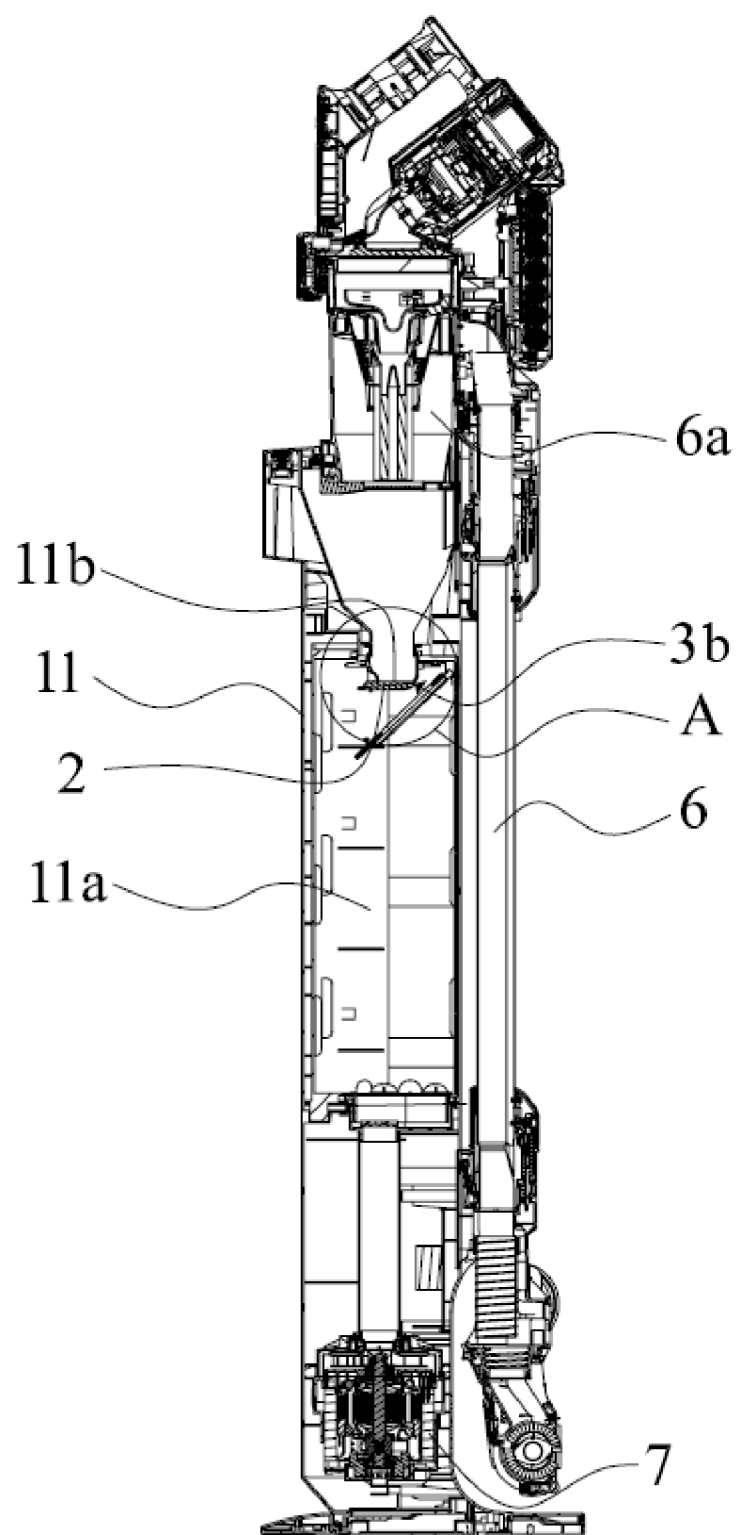


FIG. 1

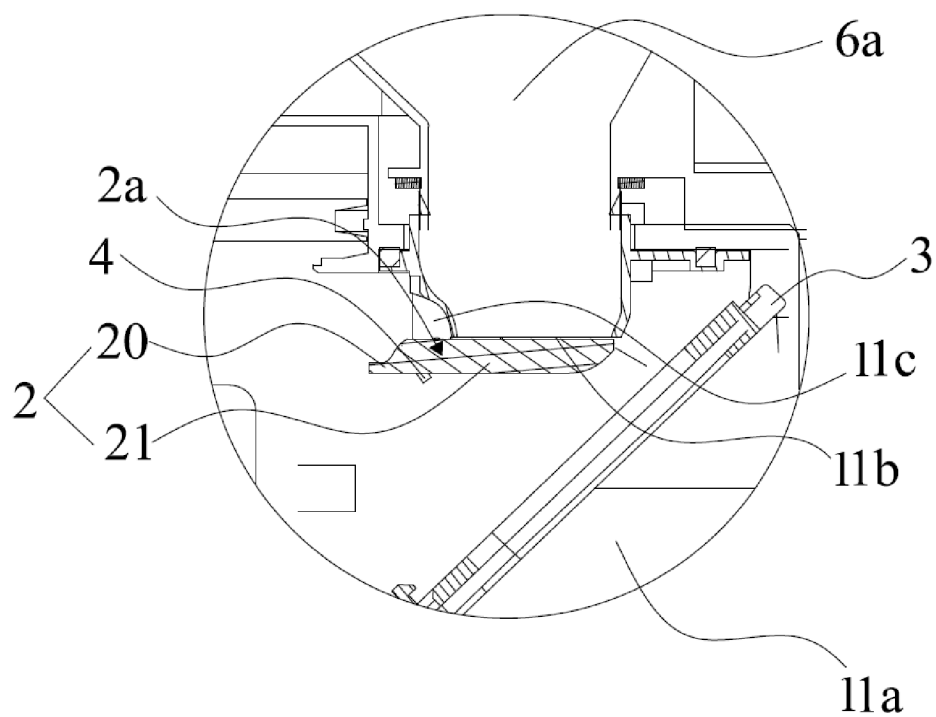


FIG. 2

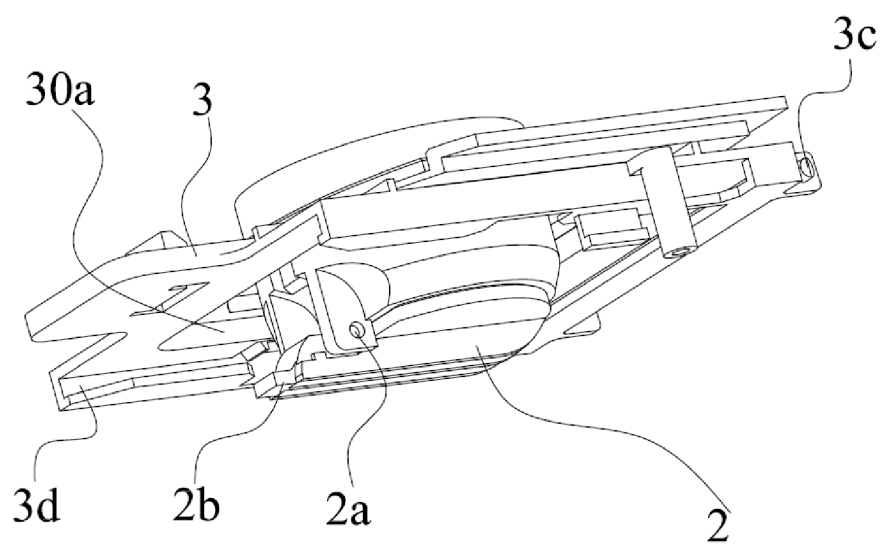


FIG. 3

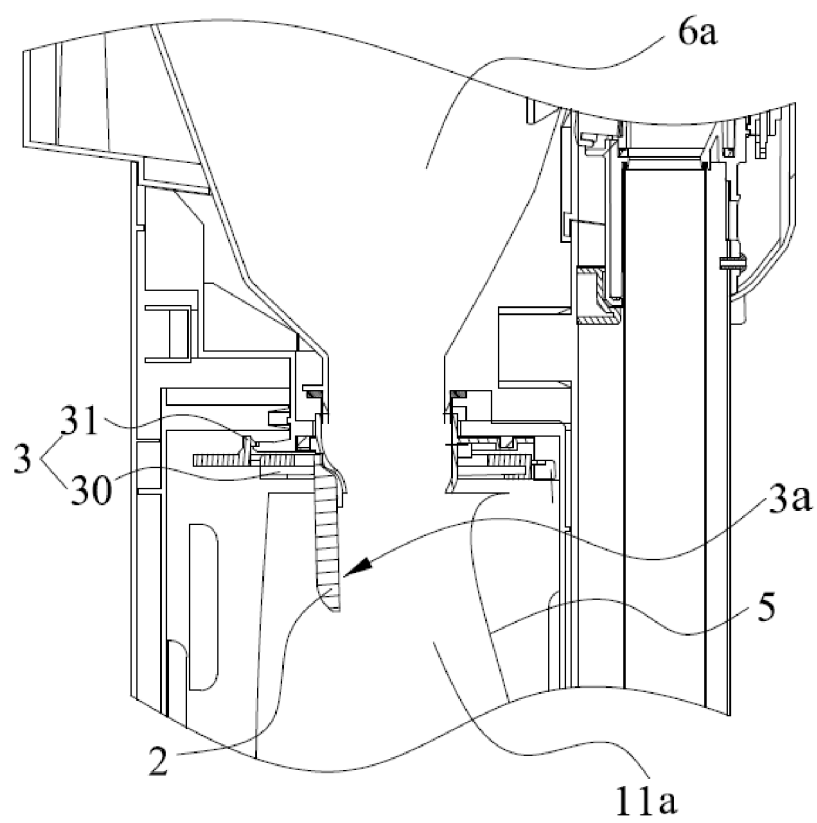


FIG. 4

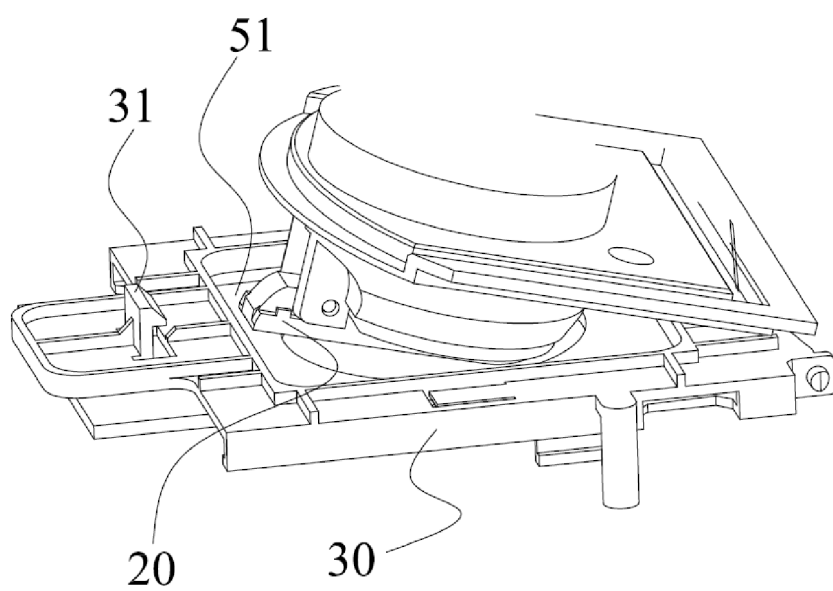


FIG. 5

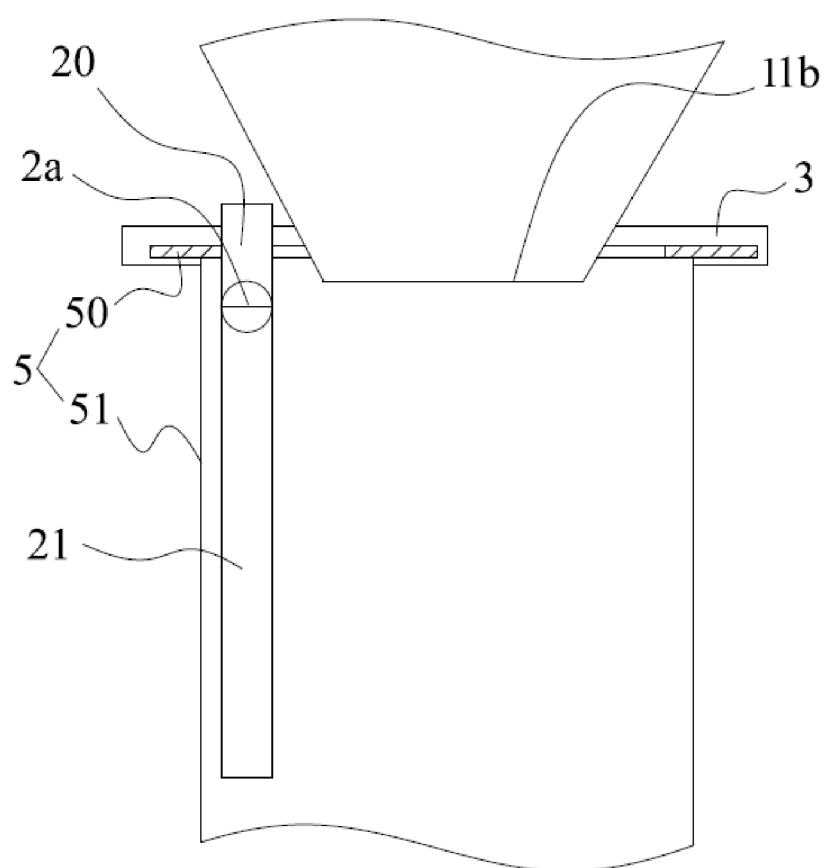


FIG. 6

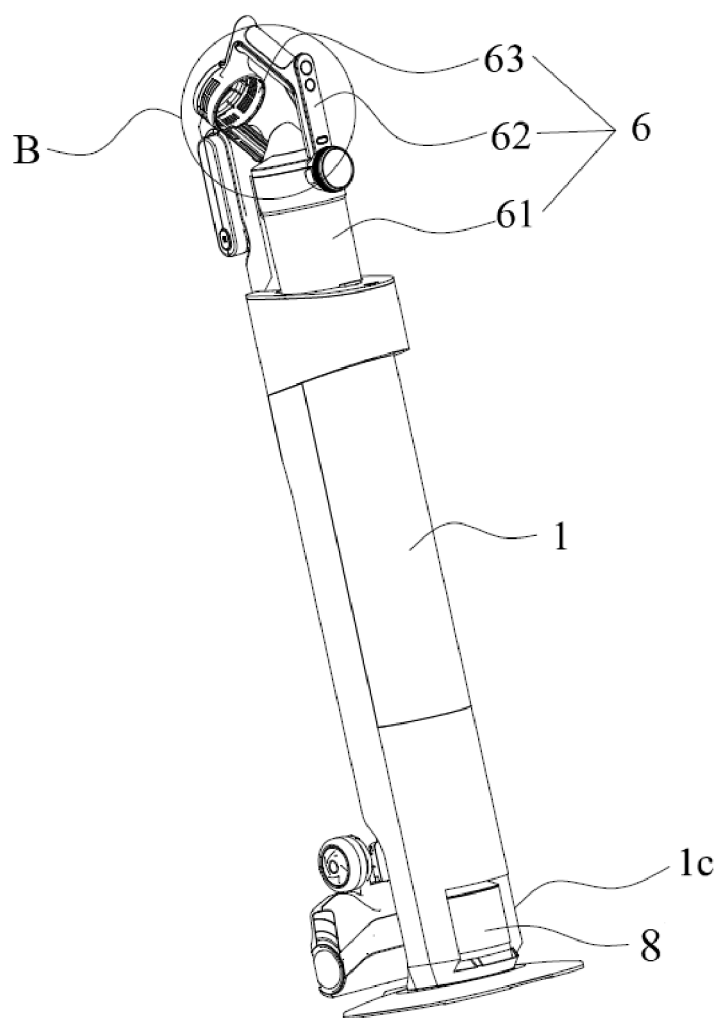


FIG. 7

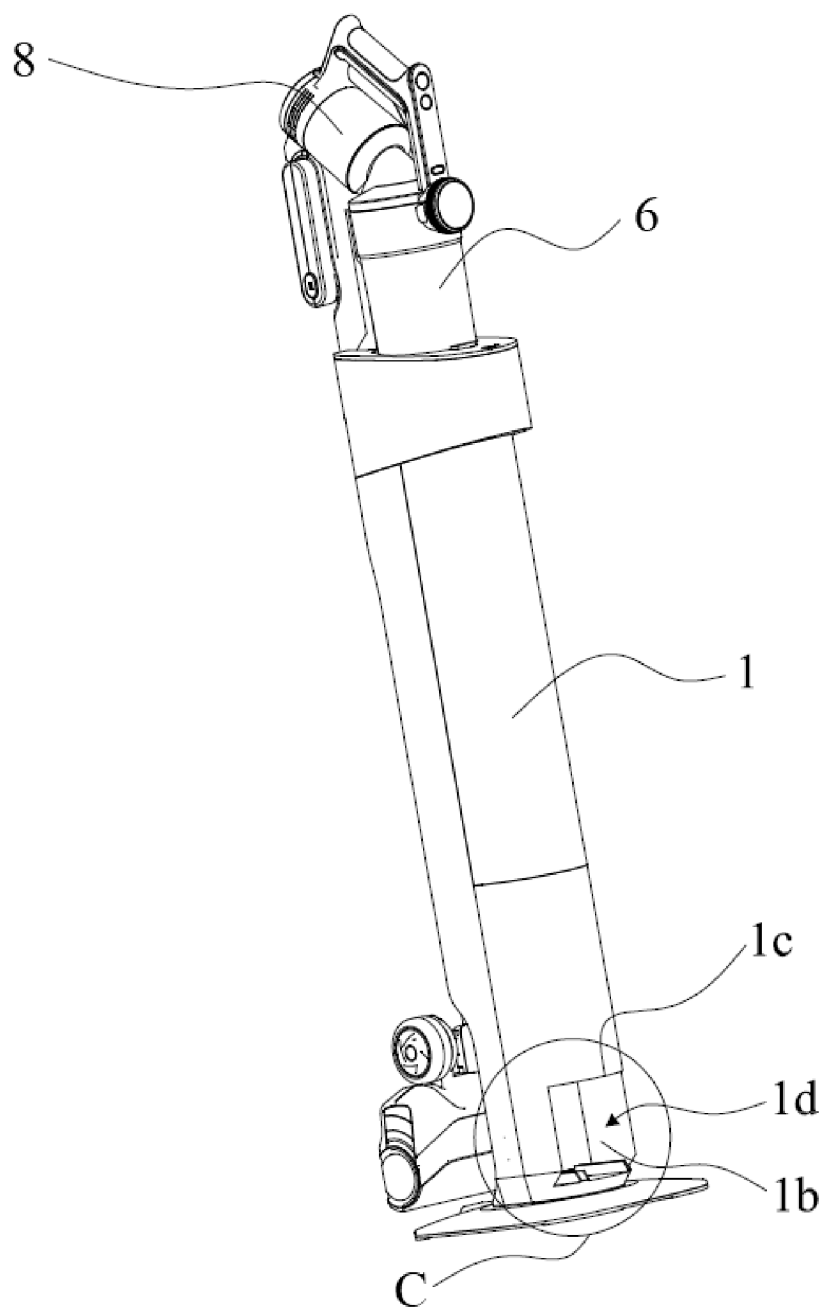


FIG. 8

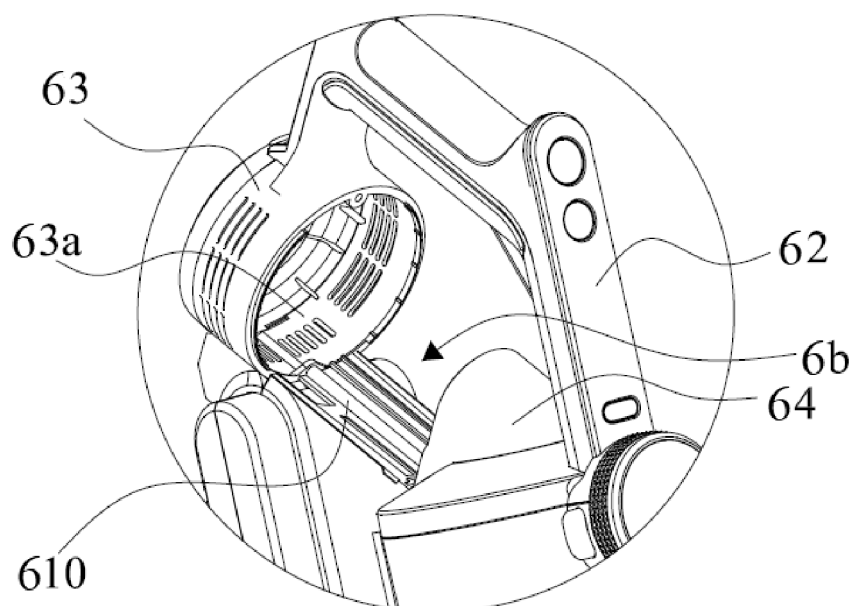


FIG. 9

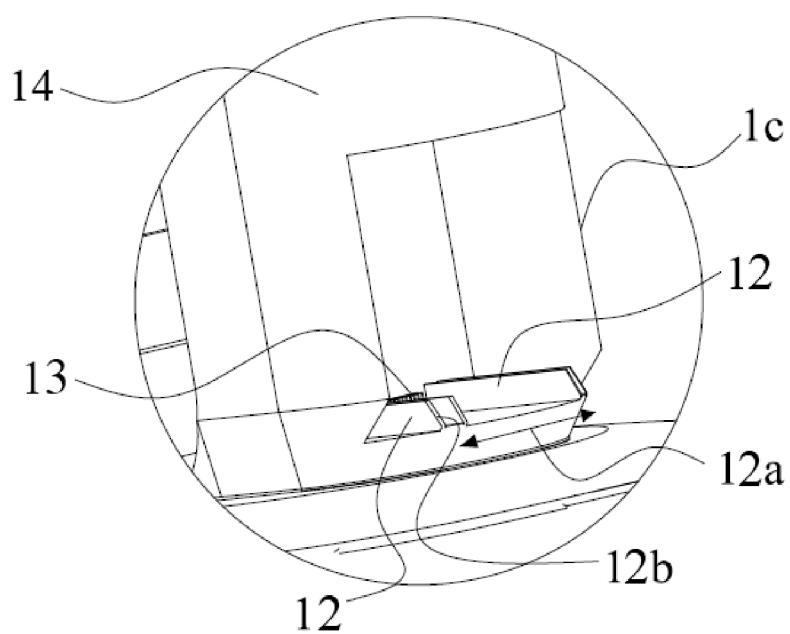


FIG. 10

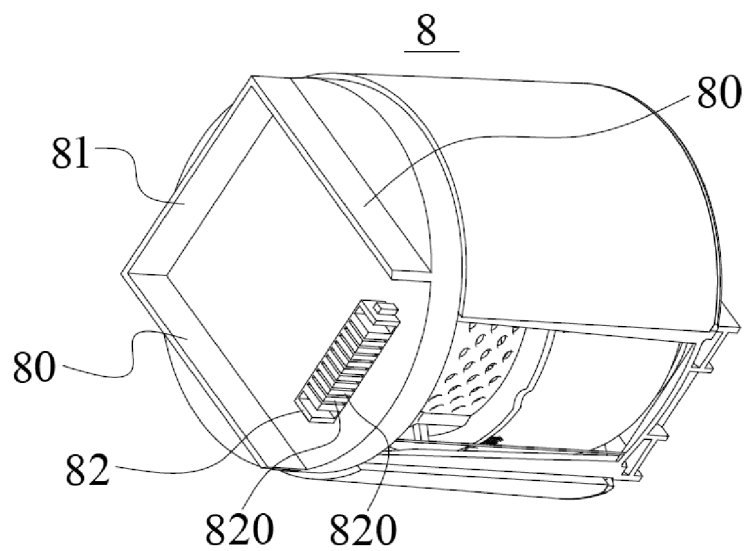


FIG. 11

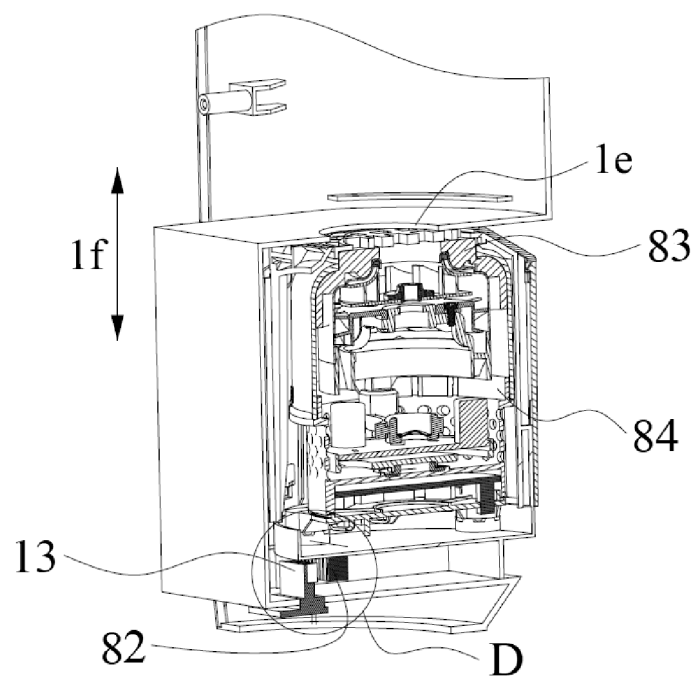


FIG. 12

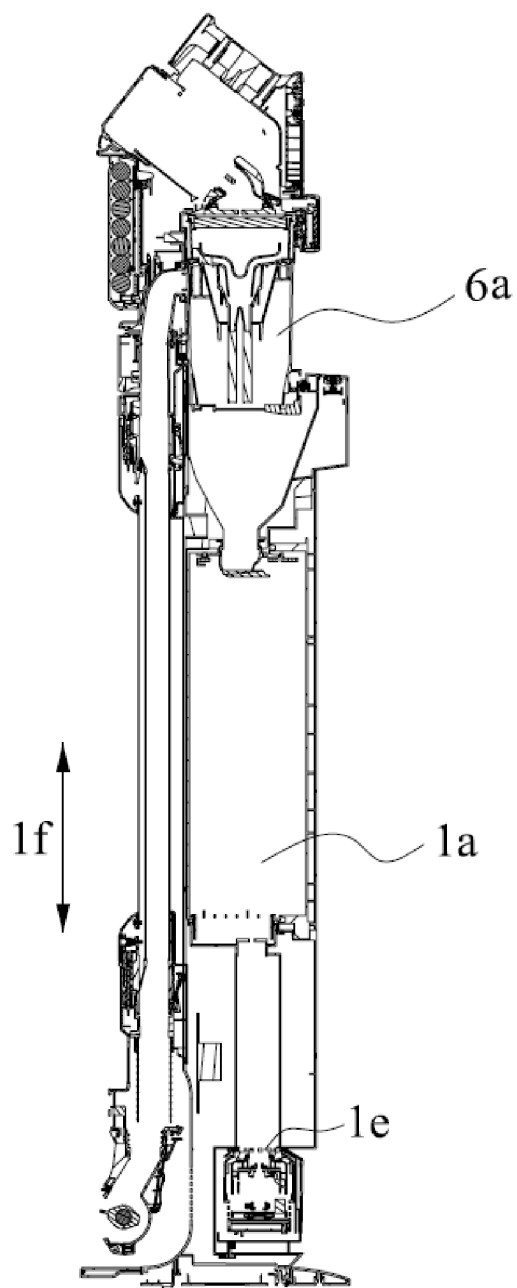


FIG. 13

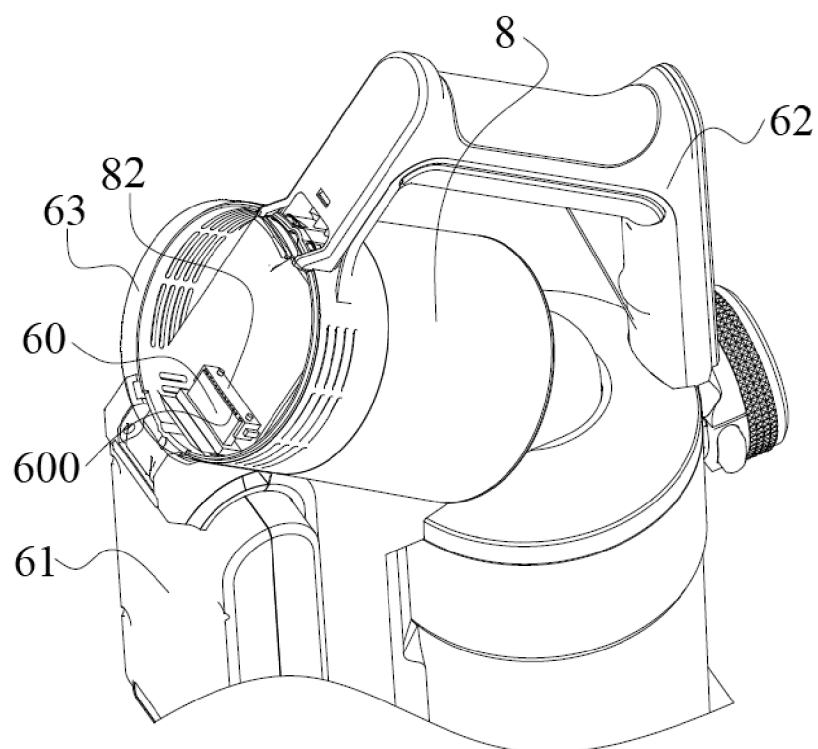


FIG. 14

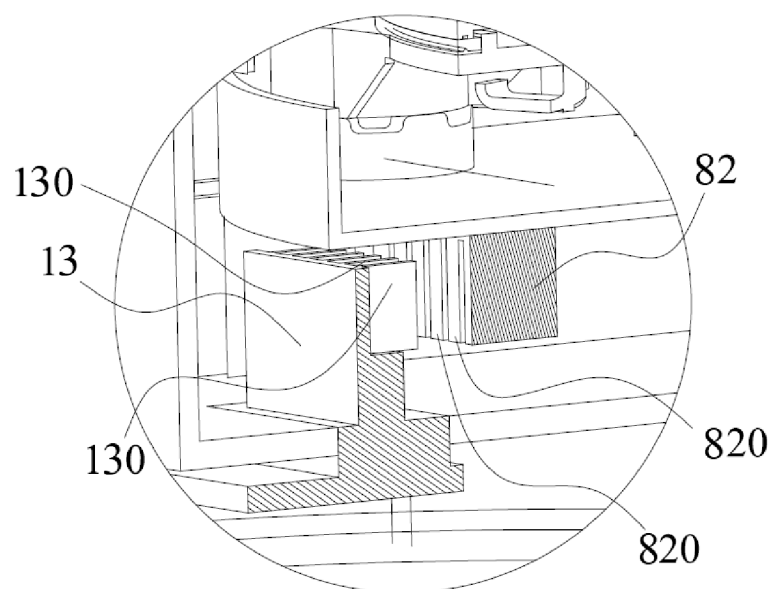


FIG. 15

INTERNATIONAL SEARCH REPORT

International application No.

PCT/CN2024/137457

A. CLASSIFICATION OF SUBJECT MATTER

A47L9/22(2006.01)i; A47L11/40(2006.01)i; A47L11/00(2006.01)i; A47L9/28(2006.01)i; A47L9/00(2006.01)i; A47L5/12(2006.01)i; A47L9/10(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)

IPC:A47L9/-,A47L11/-,A47L5/-

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)

CNKI, CNTXT, WOTXT, USTXT, ENTXTC: 集尘, 基站, 清洁, 吸尘, 除尘, 集尘腔, 位置, 切换, 盖, 架, 开, 风机, dust, collect, base, station, clean, open, close, cover, port, mount, frame, main, body, cavity

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	CN 115607039 A (PROCENIC POLYTRON TECHNOLOGIES INC.) 17 January 2023 (2023-01-17) description, paragraphs [0038]-[0049], and figures 1-6	11-24
PX	CN 221980666 U (JIANGSU MIDEA CLEANING APPLIANCES CO., LTD. et al.) 12 November 2024 (2024-11-12) claims 1-10, description, paragraphs [0005]-[0062], and figures 1-6	1-10
A	WO 2022095551 A1 (DREAME INNOVATION TECHNOLOGY (SUZHOU) CO., LTD.) 12 May 2022 (2022-05-12) description, page 6, line 5 from the bottom to page 16, line 5 from the bottom, and figures 5-15	1-24
A	CN 113017484 A (MEIZHI ZONGHENG TECHNOLOGY CO., LTD.) 25 June 2021 (2021-06-25) entire document	1-24
A	CN 115227134 A (SUZHOU JIANDAN YOUWEI TECHNOLOGY CO., LTD.) 25 October 2022 (2022-10-25) entire document	1-24

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

* Special categories of cited documents:	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"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
"D" document cited by the applicant in the international application	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"E" earlier application or patent but published on or after the international filing date	"&" document member of the same patent family
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	
"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

05 March 2025

Date of mailing of the international search report

17 March 2025

Name and mailing address of the ISA/CN

China National Intellectual Property Administration (ISA/
CN)
China No. 6, Xitucheng Road, Jimenqiao, Haidian District,
Beijing 100088

Authorized officer

Telephone No.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/CN2024/137457

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	CN 212066637 U (DONGGUAN XINSU TECHNOLOGY CO., LTD. DALINGSHAN BRANCH) 04 December 2020 (2020-12-04) entire document	1-24
A	CN 217907665 U (BEIJING ROBOROCK TECHNOLOGY CO., LTD.) 29 November 2022 (2022-11-29) entire document	1-24
A	US 2023180983 A1 (SAMSUNG ELECTRONICS CO., LTD.) 15 June 2023 (2023-06-15) entire document	1-24

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/CN2024/137457

Patent document cited in search report			Publication date (day/month/year)	Patent family member(s)	Publication date (day/month/year)
CN	115607039	A	17 January 2023	None	
CN	221980666	U	12 November 2024	None	
WO	2022095551	A1	12 May 2022	None	
CN	113017484	A	25 June 2021	None	
CN	115227134	A	25 October 2022	None	
CN	212066637	U	04 December 2020	None	
CN	217907665	U	29 November 2022	None	
US	2023180983	A1	15 June 2023	None	

REFERENCES CITED IN THE DESCRIPTION

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