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(54) **AEROSOL GENERATION DEVICE**

(57) This application provides an aerosol generation device, including: a mouthpiece (1); an atomization assembly (2), including at least one atomizer (21) configured to heat a liquid substrate to generate an aerosol; and a holder (4), connected to the atomization assembly and configured to hold the atomization assembly. The holder is provided with an opening, and at least a part of the mouthpiece is accommodated in the opening to be connected to the holder. The mouthpiece is configured to be rotatable or movable relative to the holder between a disengaged position and at least one locking position, and the mouthpiece is removable from the holder when at the disengaged position, to remove the at least one atomizer through the opening. The disengagement of the mouthpiece from the opening is limited when the mouthpiece is at the locking position, to remain the atomizer in the atomization assembly.

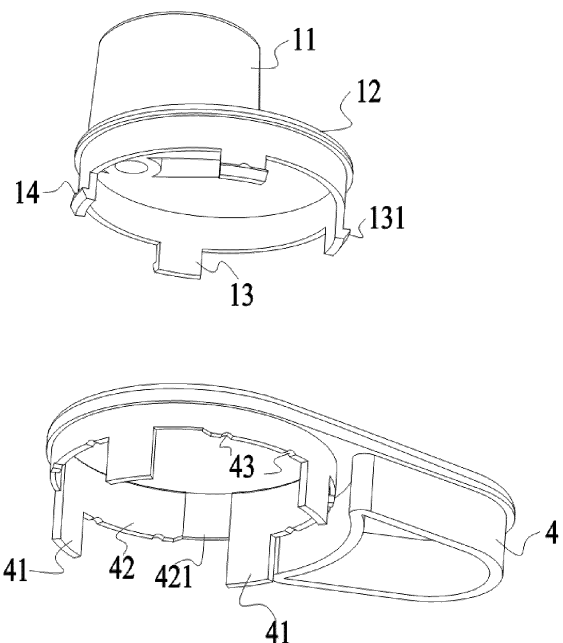


FIG. 5

Description

TECHNICAL FIELD

[0001] Embodiments of this application relate to the technical field of aerosol generation, and in particular, to an aerosol generation device.

BACKGROUND

[0002] An aerosol generation device is a device capable of atomizing a liquid preparation into an aerosol. The aerosol generation device usually includes a mouthpiece, an atomization assembly, and a power supply assembly. The atomization assembly includes an atomizer configured to generate an aerosol. However, in some existing aerosol generation devices, it may be difficult to remove the atomizer after the aerosol generation device is assembled.

SUMMARY

[0003] An objective of this application is to provide an aerosol generation device in which an atomizer in an atomization assembly can be easily removed.

[0004] The aerosol generation device provided in embodiments of this application includes:

- a mouthpiece;
- an atomization assembly, including at least one atomizer configured to heat a liquid substrate to generate an aerosol; and
- a holder, connected to the atomization assembly and configured to hold the atomization assembly, where the holder is provided with an opening, and at least a part of the mouthpiece is accommodated in the opening to be connected to the holder;
- the mouthpiece is configured to be rotatable or movable relative to the holder between a disengaged position and at least one locking position, and the mouthpiece is removable from the holder when at the disengaged position, to remove the at least one atomizer through the opening; and the disengagement of the mouthpiece from the opening is limited when the mouthpiece is at the locking position, to remain the atomizer in the atomization assembly.

[0005] In an example, the locking position includes a first position and a second position, the mouthpiece is configured to be rotatable or movable relative to the atomization assembly between the first position and the second position, when the mouthpiece is at the first position, a suction nozzle opening of the mouthpiece is in fluid communication with an air passage in the atomizer, and when the mouthpiece is at the second position, the mouthpiece seals the air passage in the atomizer.

[0006] In an example, the atomization assembly includes a plurality of atomizers independent of each other,

when the mouthpiece is at the first position, the suction nozzle opening of the mouthpiece is in communication with an air passage in only one of the atomizers, and when the mouthpiece is at the second position, the mouthpiece seals air passages in all the atomizers.

[0007] In an example, the atomization assembly includes a plurality of atomizers independent of each other; the locking position further includes a third position, when the mouthpiece is at the first position, the suction nozzle opening of the mouthpiece is in fluid communication with an air passage in one of the atomizers, and when the mouthpiece is at the third position, the suction nozzle opening of the mouthpiece is in fluid communication with an air passage in another atomizer.

[0008] In an example, the atomization assembly includes a plurality of atomizers independent of each other, and each of the atomizers is provided with an air passage tube; and the mouthpiece is configured to be insertable into the opening in a plurality of different orientations on a circumference and is connected to the holder, the rotation of the mouthpiece is limited within a predetermined angle range when the mouthpiece is inserted into the opening in one of the orientations, and a suction nozzle opening of the mouthpiece is in communication with the air passage tube in only one of the atomizers during the rotation of the mouthpiece within the predetermined angle range.

[0009] In an example, the mouthpiece includes a base plate that is accommodated in the opening and a suction nozzle extending from one side of the base plate, and an opening of the suction nozzle penetrates the base plate to be in communication with one of the atomizers.

[0010] In an example, the holder includes a wall defining the opening, the wall is provided with a plurality of guide grooves extending in a longitudinal direction, and the plurality of guide grooves define an orientation in which the mouthpiece is inserted into the opening.

[0011] In an example, the mouthpiece is provided with a first limiting portion, and the holder is provided with a plurality of second limiting portions; and the first limiting portion is located between two adjacent second limiting portions, and the first limiting portion is movable between two adjacent second limiting portions, to limit the rotation of the mouthpiece within the predetermined angle range.

[0012] In an example, the holder further includes a connecting portion located between two adjacent second limiting portions, and the first limiting portion has a snap portion thereon, where the snap portion is in interference fit with the connecting portion to limit the disengagement of the mouthpiece from the opening.

[0013] In an example, the aerosol generation device further includes a flexible member, and the flexible member is elastically abutted between the mouthpiece and the atomization assembly to provide friction that hinders the rotation or movement of the mouthpiece relative to the atomization assembly.

[0014] In an example, the mouthpiece is provided with

a first positioning portion, and the holder is provided with a second positioning portion; and the first positioning portion and the second positioning portion is interlocked to hinder movement of the mouthpiece relative to the atomization assembly.

[0015] In an example, the mouthpiece is provided with a first positioning portion, and the holder is provided with a second positioning portion; and the aerosol generation device is configured to generate a sensory prompt signal when the first positioning portion corresponds to the second positioning portion, to prompt the mouthpiece to enter the locking position.

[0016] In an example, the atomization assembly includes a plurality of atomizers independent of each other, and the atomization assembly is configured to be rotatable relative to the holder to selectively connect one of the atomizers to a power supply.

[0017] In an example, an outer side surface of the atomization assembly is partially exposed to an exterior of the holder, to provide an external operation to make the atomization assembly rotatable.

[0018] The aerosol generation device provided in embodiments of this application includes:

a mouthpiece, provided with a suction nozzle opening;

an atomization assembly, including a plurality of atomizers independent of each other, wherein the atomizer is configured to heat a liquid substrate to generate an aerosol, and each of the atomizers is provided with an air passage tube; and

a holder, connected to the atomization assembly and configured to hold the atomization assembly, where the holder is provided with an opening, and at least a part of the mouthpiece is accommodated in the opening;

the mouthpiece is configured to be insertable into the opening in a plurality of different orientations on a circumference and is connected to the holder, the rotation of the mouthpiece is limited within a predetermined angle range when the mouthpiece is inserted into the opening in one of the orientations, and the suction nozzle opening of the mouthpiece is in communication with the air passage tube in only one of the atomizer during the rotation of the mouthpiece within the predetermined angle range.

[0019] In the foregoing aerosol generation device, the mouthpiece is configured to be rotatable or movable relative to the holder between a disengaged position and at least one locking position, and the at least one atomizer can be removed when the mouthpiece is at the disengaged position; and the atomizer can be remained in the atomization assembly when the mouthpiece is at the locking position. Therefore, the atomizer can be easily removed or replaced.

BRIEF DESCRIPTION OF THE DRAWINGS

[0020] To describe the technical solutions of the embodiments of this application or in the related art more clearly, the following briefly introduces the accompanying drawings required for describing the embodiments or in the related art. In all the accompanying drawings, similar elements or parts are generally identified by similar reference numerals. In the accompanying drawings, the elements or parts are not necessarily drawn to actual scale.

FIG. 1 is a schematic diagram of an aerosol generation device according to an embodiment of this application;

FIG. 2 is a cross-sectional view of an aerosol generation device according to an embodiment of this application;

FIG. 3 is another cross-sectional view of an aerosol generation device according to an embodiment of this application;

FIG. 4 is a schematic exploded view of an aerosol generation device according to an embodiment of this application;

FIG. 5 is a schematic partial exploded view of an aerosol generation device according to an embodiment of this application;

FIG. 6 is another schematic exploded view of an aerosol generation device according to an embodiment of this application; and

FIG. 7 is another schematic exploded view of an aerosol generation device according to an embodiment of this application.

[0021] In the accompanying drawings:

1. Mouthpiece; 11. Suction nozzle; 12. Base plate; 13. First limiting portion; 131. Snap portion; 14. First positioning portion;
2. Atomization assembly; 21. Atomizer; 211. Accommodating cavity; 212. Atomization core; 213. Air passage tube; 214. Flexible member; 215. Second air hole; 22. Housing;
3. Power supply assembly; 31. Battery cell; 32. Output electrode;
4. Holder; 41. Second limiting portion; 42. Connecting portion; 421. Guide groove; 43. Second positioning portion; 44. First air hole;
5. Seal ring.

DETAILED DESCRIPTION

[0022] The technical solutions in the embodiments of this application are clearly and completely described below with reference to the accompanying drawings in the embodiments of this application. Apparently, the described embodiments are merely some rather than all of the embodiments of this application. Based on

the embodiments of this application, all other embodiments obtained by a person of ordinary skill in the art without creative efforts shall fall within the protection scope of this application.

[0023] The terms "first", "second", and "third" in this application are merely intended for a purpose of description, and shall not be understood as indicating or implying relative significance or implicitly indicating the number or order of indicated technical features. All directional indications (for example, upper, lower, left, right, front, and back) in the embodiments of this application are only used for explaining relative position relationships, movement situations, or the like among the various components in a specific posture (as shown in the accompanying drawings). If the specific posture changes, the directional indications change accordingly. In addition, terms "comprise", "include", and any variations thereof are intended to indicate non-exclusive inclusion. For example, a process, method, system, product, or device that includes a series of steps or units is not limited to the listed steps or units; and instead, further optionally includes a step or unit that is not listed, or further optionally comprises another step or unit that is intrinsic to the process, method, product, or device.

[0024] "Embodiment" mentioned in this specification means that particular features, structures, or characteristics described with reference to the embodiment may be included in at least one embodiment of this application. The term appearing at different positions of the specification may not refer to the same embodiment or an independent or alternative embodiment that is mutually exclusive with another embodiment. A person skilled in the art explicitly or implicitly understands that the embodiments described in this specification may be combined with other embodiments.

[0025] It should be noted that, when an element is referred to as "being fixed to" another element, the element may be directly on the another element, or an intervening element may be present. When an element is considered to be "connected to" another element, the element may be directly connected to the another element, or one or more intervening elements may exist between the element and the another element at the same time. The terms "vertical", "horizontal", "left", "right", and similar expressions used in this specification are merely used for purposes of illustration but not indicate a unique implementation.

[0026] Referring to FIG. 1 to FIG. 4, an embodiment of this application provides an aerosol generation device. The aerosol generation device includes a mouthpiece 1, a power supply assembly 3, and an atomization assembly 2 having one or more atomizers 21.

[0027] The mouthpiece 1 includes a base plate 12 and a suction nozzle 11 connected to the base plate 12. The suction nozzle 11 is provided with a suction nozzle opening penetrating the base plate 12. The suction nozzle 11 may be held in a mouth by a user. The user may inhale an aerosol provided by the atomizer 21 by inhaling the

suction nozzle 11. The aerosol may enter oral cavity of the user through the suction nozzle opening. The base plate 12 may be configured to support the suction nozzle 11. In an example, the base plate 12 may be connected to the suction nozzle 11 to form an integrated structure. For example, the base plate 12 may be integrally formed with the suction nozzle 11. Alternatively, for example, the base plate 12 and the suction nozzle 11 are formed separately, and then connected to each other through assembly to form an integrated structure, to remain relatively stationary. In an example, the base plate 12 and the suction nozzle 11 are connected after being formed separately, and the suction nozzle 11 is movable relative to the base plate 12.

[0028] Each atomizer 21 may have an accommodating cavity 211. The accommodating cavity 211 is configured to accommodate a liquid substrate that can be atomized to generate an aerosol. A volume of the accommodating cavity 211 may not exceed 5 ml, for example, the volume of the accommodating cavity 211 may be approximately 2 ml.

[0029] The liquid substrate may include a liquid including a tobacco-containing substance containing volatile tobacco aroma compounds, or may be a liquid including a non-tobacco substance. The liquid substrate may include water, chemical solution, solvent, ethanol, plant extract, spice, a fragrance, vitamin mixture, and the like. The spice may include areca nut extract, menthol, peppermint, spearmint oil, various fruity aroma ingredients, and the like, but is not limited thereto. The fragrance may include components that can provide various aromas or flavors to the user. The vitamin mixture may be a mixture of at least one of vitamin A, vitamin B, vitamin C, and vitamin E, but is not limited thereto. Based on different attributes of the liquid substrate, the aerosol generation device may be used in different fields, such as medical treatment and electronic aerosol atomization.

[0030] The "plurality of" means two or more. In the embodiment shown in FIG. 4, four atomizers 21 are provided, but this is not limited thereto. At least two of the plurality of atomizers 21 may be configured to accommodate different liquid substrates. The different liquid substrates include liquid substrates with different tastes or liquid substrates with different ingredients and ratios, so that the user may be provided with different inhalation experience by selecting the atomizer 21 in fluid communication with the mouthpiece 1. Certainly, in an embodiment, all the atomizers 21 accommodate the same liquid substrate.

[0031] Each atomizer 21 may further have an atomization core 212. The atomization core 212 is in fluid communication with the accommodating cavity 211. The atomization core 212 is configured to atomize the liquid substrate, to generate an aerosol. The atomization core 212 may include a liquid absorbing element and a heating element. The liquid absorbing element may be a porous body or a fiber that can absorb the liquid substrate and guide the liquid substrate into an atomization range of the

heating element. The heating element is configured to atomize at least a part of the liquid substrate on the liquid absorbing element to form the aerosol. The heating element may be combined on the liquid absorbing element, so that the heating element can be integrally formed with the heating element.

[0032] Each atomizer 21 may be further provided with an air passage tube 213. The air passage tube 213 provides at least a part of an airflow passage in which the atomization core 212 is in fluid communication with the mouthpiece 1. The aerosol generated by the atomization core 212 may enter the mouthpiece 1 through the airflow passage. The accommodating cavity 211 may be arranged around the air passage tube 213, or the air passage tube 213 may be arranged on one side of the accommodating cavity 211.

[0033] In an example, the atomizer 21 may have an atomization compartment in fluid communication with the accommodating cavity 211, the atomization core 212 is accommodated in the atomization compartment, the air passage tube 213 is in fluid communication with the atomization compartment, the mouthpiece 1 is located above the accommodating cavity 211, and the atomization compartment is located below the accommodating cavity 211.

[0034] Alternatively, in another example, at least a part of the atomization core 212 is arranged in the air passage tube 213, the air passage tube 213 is provided with a liquid guide hole, and the atomization core 212 is in fluid communication with the accommodating cavity 211 through the liquid guide hole. The liquid substrate in the accommodating cavity 211 may pass through the liquid guide hole to be absorbed by the liquid absorbing element and atomized by the heating element, or a part of the liquid absorbing element may pass through the liquid guide hole into the accommodating cavity 211 to absorb and deliver the liquid substrate.

[0035] Referring to FIG. 6 and FIG. 7, the aerosol generation device further includes a holder 4. The holder 4 is connected to the atomization assembly 2, and the holder 4 can protect the atomization assembly 2. In addition, the mouthpiece 1 may be connected to the holder 4. The mouthpiece 1 is configured to be rotatable or movable relative to the holder 4 between a disengaged position and at least one locking position. The mouthpiece 1 is removable from the holder 1 when at the disengaged position, to remove the at least one atomizer 21 in the atomization assembly 2. Connection of the mouthpiece 1 to the holder 4 is limited when the mouthpiece 1 is at the locking position, to remain the atomizer 21 in the atomization assembly 2.

[0036] When the mouthpiece 1 needs to be connected to the holder 4 or the atomization assembly 2, or when the one or more atomizers 21 need to be remained in the atomization assembly 2, the mouthpiece 1 may be rotated or moved from the disengaged position to the locking position. The mouthpiece 1 can block the one or more atomizers 21 from being removed from the atomization

assembly 2. When the mouthpiece 1 needs to be disengaged from the holder 4 or the atomization assembly 2, or when the one or more atomizers 21 need to be removed from the atomization assembly 2, the mouthpiece 1 may be rotated or moved from the locking position to the disengaged position, and then a force is applied to disengage the mouthpiece 1 from the holder 4.

[0037] It should be noted that, when the mouthpiece 1 is at the locking position relative to the holder 4, the mouthpiece 1 cannot be disengaged from the holder 4 in a direction perpendicular to rotation or movement of the mouthpiece 1 relative to the holder 4.

[0038] In some examples, one locking position is provided. In some examples, a plurality of locking positions are provided, and two adjacent locking positions are spaced from each other. In some examples, when the mouthpiece 1 is connected to the holder 4 and the mouthpiece 1 is at the locking position relative to the holder 4, the mouthpiece 1 may be rotated or moved.

[0039] In an embodiment provided in this application, when the mouthpiece 1 is at the locking position relative to the holder 4, the mouthpiece 1 is further configured to be rotatable or movable relative to the atomization assembly 2, so that the air passage tube 213 in the atomizer 21 corresponds to the suction nozzle opening of the suction nozzle 11 or to the base plate 12. When the air passage tube 213 in the atomizer 21 corresponds to the suction nozzle opening of the suction nozzle 11, the suction nozzle 11 is in fluid communication with the air passage tube 213 in the atomizer 21. Specifically, when the air passage tube 213 in the atomizer 21 corresponds to the suction nozzle opening of the suction nozzle 11, the air passage tube 213 in the atomizer 21 is in fluid communication with the suction nozzle opening of the suction nozzle 11. When the air passage tube 213 in the atomizer 21 corresponds to the base plate 12, the air passage tube 213 in the atomizer 21 is sealed by the base plate 12, so that the atomizer 21 cannot be inhaled by the user. In other words, when the air passage tube 213 in the atomizer 21 corresponds to the base plate 12, the air passage tube is in a locked state of a child lock. In this case, the aerosol generation device cannot generate the aerosol. Therefore, the mouthpiece 1 may be rotated or moved relative to the atomization assembly 2 to drive the base plate 12 to correspond to the air passage tube 213 in the atomizer 21, so that the atomizer 21 is in the locked state of the child lock and cannot be inhaled. In the schematic diagram shown in FIG. 2, the base plate 12 of the mouthpiece 1 corresponds to the air passage tube 213 in the atomizer 21.

[0040] Specifically, the locking position includes a first position and a second position, and the mouthpiece 1 is configured to be rotatable or movable relative to the atomization assembly 2 between the first position and the second position. When the mouthpiece 1 is rotated or moved to the first position, the suction nozzle opening is in communication with the air passage tube 213 in the atomizer 21. When the mouthpiece 1 is rotated or moved

to the second position, the air passage tube 213 in the atomizer 21 is sealed by the base plate. That is, when the mouthpiece 1 is at the second position, the atomizer 21 associated with the mouthpiece 1 is in the locked state of the child lock.

[0041] Based on the first aspect of this application, the child lock is unlocked by rotating or moving the suction nozzle 11 relative to the atomization assembly 2, so that the suction nozzle opening of the suction nozzle 11 is in fluid communication with the atomizer 21 associated with the suction nozzle 11.

[0042] The aerosol generated by the atomizer 21 may have two premises: First, the atomizer 21 is in fluid communication with the suction nozzle opening of the suction nozzle 11, and second, the power supply assembly 3 supplies power to the atomization core 212 of the atomizer 21. Therefore, when the mouthpiece 1 is at the second position, and the air passage tube 213 in the atomizer 21 is sealed by the base plate 12, an airflow passage between the atomizer 21 and the suction nozzle opening of the suction nozzle 11 is cut off, so that the atomizer 21 is not in fluid communication with the suction nozzle opening.

[0043] Based on this, in an embodiment, the aerosol generation device further includes a control circuit and an airflow detector. The airflow detector is configured to detect whether an airflow parameter in the airflow passage or in the air passage tube 213 reaches a threshold. The control circuit is configured to prohibit the power supply assembly 3 from supplying power to the atomizer 21 when the airflow parameter is beyond the threshold. The airflow parameter may be a velocity, a pressure, or a temperature of the airflow.

[0044] The airflow detector may directly detect the airflow parameter. For example, the airflow detector may be at least partially exposed in the airflow passage or in the air passage tube 213, so that the airflow detector can contact the airflow in the airflow passage or in the air passage tube 213.

[0045] The airflow detector may indirectly detect the airflow parameter. For example, a receiving cavity configured to receive the airflow detector is in fluid communication with the airflow passage or the air passage tube 213. A change in the airflow parameter in the airflow passage or in the air passage tube 213 causes an airflow fluctuation or a pressure change in the receiving cavity, so that the airflow detector can indirectly detect an airflow change in the airflow passage or in the air passage tube by detecting a velocity, a direction, or a pressure of the airflow in the receiving cavity.

[0046] When the atomizer 21 is in fluid communication with the suction nozzle opening of the suction nozzle 11, the user inhales the suction nozzle 11, causing an increase in an airflow velocity in the air flow passage or in the air passage tube 213, thereby causing a change in the airflow parameter in the airflow passage or in the air passage tube 213. When the airflow parameter reaches the threshold, the control circuit or the airflow detector

determines that the user is inhaling the aerosol generation device. Then, the control circuit controls the power supply 3 to supply power to the atomization core 212 of the atomizer 21, so that the atomizer 21 generates the aerosol, to meet an inhalation requirement of the user. When the airflow parameter is beyond the threshold, the control circuit or the airflow detector determines that the aerosol generation device is not inhaled by the user, or determines that the child lock of the aerosol generation device is not unlocked. Therefore, the control circuit prohibits the power supply assembly 3 from supplying power to the atomization core 212 of the atomizer 21, so that power can be saved, and the aerosol generation device can be prevented from being inhaled by inappropriate people.

[0047] According to a second aspect of this application, only one atomizer 21 is provided in the atomization assembly 2, so that the only one atomizer 21 in the atomization assembly 2 can be associated with the suction nozzle 11 of the mouthpiece 1. When the suction nozzle 11 is associated with the atomizer 21, the suction nozzle 11 can be located at the first position by rotating or moving the mouthpiece 1 relative to the holder 4, so that the suction nozzle opening of the suction nozzle 11 corresponds to the air passage tube 213 in the atomizer 21, and the suction nozzle opening of the suction nozzle 11 is in fluid communication with the air passage tube 213 in the atomizer 21. Alternatively, the suction nozzle 11 can be located at the second position, so that the base plate 12 corresponds to the air passage tube 213 in the atomizer 21, and the air passage tube 213 in the atomizer 21 associated with the suction nozzle 11 is sealed.

[0048] Therefore, by rotating or moving the mouthpiece 1 relative to the atomization assembly 1 or rotating or moving the mouthpiece 1 relative to the only atomizer 21 in the atomization assembly 1, the suction nozzle opening of the suction nozzle 11 can be in fluid communication with the air passage tube 213 in the atomizer 21 or the communication can be cut off, thereby completing locking and unlocking of the child lock.

[0049] In addition, when the aerosol generation device is temporarily not in use, by moving the mouthpiece 1 relative to the atomization assembly 1, the air passage tube 213 in the atomizer 21 is sealed by the base plate 12, achieving a dustproof effect.

[0050] According to a third aspect of this application, the atomization assembly 2 includes a plurality of atomizers 21 independent of each other. Each atomizer 21 can independently generate an aerosol. The suction nozzle 11 is configured to be selectively associated with one of the atomizers 21. When the suction nozzle 11 is associated with one of the atomizers 21, by rotating and moving the mouthpiece 1 relative to the atomizer 21 associated with the suction nozzle 11 between the first position and the second position, the suction nozzle opening of the suction nozzle 11 is brought into fluid communication with the air passage tube 213 in the atomizer 21 associated with the suction nozzle 11, or

the base plate 12 is brought into correspondence with the air passage tube 213 in the atomizer 21 associated with the suction nozzle 11, so that the suction nozzle 11 and the air passage tube 213 in the atomizer 21 associated with the suction nozzle 11 are sealed by the base plate 12. When the suction nozzle 11 is associated with any one of the atomizers 21, the suction nozzle 11 is at the locking position relative to the holder 4.

[0051] It should be noted that, when a plurality of atomizers 21 are provided, the holder 4 corresponding to each atomizer 21 has the first position and the second position that are associated with each atomizer 21. In other words, each atomizer 21 may have the first position and the second position that are associated with each atomizer 21. When the suction nozzle 11 of the mouthpiece 1 is associated with an atomizer 21, the suction nozzle 11 is associated with both the first position and the second position that are associated with the atomizer 21.

[0052] In an embodiment, the mouthpiece 1 is detachably connected to the atomization assembly 2, and the mouthpiece 1 has a plurality of connection orientations with the atomization assembly 2. The plurality of connection orientations may be set along a circumference or may be set along a line. When the mouthpiece 1 is connected to the atomization assembly 2 in different connection orientations, the suction nozzle 11 is associated with different atomizers 21. In this embodiment, after the mouthpiece 1 is connected to the atomization assembly 2 and/or the holder 4 in one of the connection orientations, when the mouthpiece 1 is rotated or moved to the first position relative to the atomizer 21 associated with the suction nozzle 11, the suction nozzle opening is in communication with the air passage tube 213 in the atomizer 21. When the mouthpiece 1 is rotated or moved to the second position relative to the atomizer 21 associated with the suction nozzle 11, the air passage tube 213 in the atomizer 21 is sealed by the base plate 12.

[0053] Therefore, the mouthpiece 1 may be first disengaged from the atomization assembly 2, and then a connection orientation between the mouthpiece 1 and the atomization assembly 2 is changed, so that the suction nozzle 11 is associated with a selected atomizer 21.

[0054] Alternatively, there may be a plurality of connection orientations between the mouthpiece 1 and the holder 4. Each connection orientation between the mouthpiece 1 and the holder 4 is separately matched with each atomizer 21 in the atomization assembly 2, so that the atomizer 21 associated with the suction nozzle 11 may be replaced by changing the connection orientation between the mouthpiece 1 and the holder 4. Therefore, the mouthpiece 1 may be detachably connected to the holder 4. The connection between the mouthpiece 1 and the atomization assembly 2 through the holder 4 includes: while being connected to the holder 4, the mouthpiece 1 is further directly connected to the atomization assembly 2; or the mouthpiece 1 is connected to the holder 4, and the atomization assembly 2 is connected to the holder 4, but the mouthpiece 1 and the atomization

assembly 2 are spaced apart and are not directly connected.

[0055] After the mouthpiece 1 is connected to the atomization assembly 2 and/or the holder 4 in one of the connection orientations, the suction nozzle 11 is rotatable or movable relative to the atomizer 21 associated with the suction nozzle 11 between the first position and the second position.

[0056] As an example, a stroke of the rotation or movement is limited, and the suction nozzle 11 can only be associated with the atomizer 21 matching the connection orientation, but cannot be associated with the atomizer 21 matching another connection orientation by rotating or moving the suction nozzle 11 relative to the atomization assembly 2 and/or the holder 4 while being connected to the atomization assembly 2 and/or the holder 4.

[0057] While the mouthpiece 1 is connected to the atomization assembly 2 and/or the holder 4, the rotation of the mouthpiece 1 is limited within a predetermined angle range. During the rotation of the mouthpiece 1 within the predetermined angle range, the suction nozzle opening of the mouthpiece 1 can only be in communication with an air passage tube 213 in one of the atomizers 21.

[0058] As an example, the stroke is not limited. While the mouthpiece 1 is connected to the atomization assembly 2 and/or the holder 4, the suction nozzle 11 can be associated with the atomizer 21 matching one connection orientation, and rotated or moved to be associated with the atomizer 21 matching another connection orientation. In other words, after the mouthpiece 1 is rotated or moved from the first position to the second position relative to the atomizer 21 associated with the mouthpiece 1, the mouthpiece 1 may further be rotated or moved in the original proceeding direction to the first position of the atomizer 21 matching the another connection orientation.

[0059] For example: When the mouthpiece 1 is at the locking position, the mouthpiece 1 is configured to be rotatable or movable to a third position relative to the atomization assembly or relative to the atomizer 21 currently associated with the mouthpiece 1. When the mouthpiece 1 is at the first position, the suction nozzle opening of the mouthpiece 1 is in fluid communication with the air passage tube 213 in one of the atomizers 21, and when the mouthpiece 1 is at the third position, the suction nozzle opening of the mouthpiece 1 is in fluid communication with the air passage tube 213 in another atomizer 21. The second position may be between the first position and the third position.

[0060] In an embodiment, both the mouthpiece 1 and the atomization assembly 2 is rotatable or movable relative to the holder 4, and the rotation or movement of the mouthpiece 1 relative to the holder 4 and the rotation or movement of the atomization assembly 2 relative to the holder 4 are independent of each other. When the suction nozzle 11 moves relative to the holder 4, the atomization assembly 2 may be stationary relative to the holder 4.

When the atomization assembly 2 moves relative to the holder 4, the suction nozzle 11 may be stationary relative to the holder 4. One selected atomizer 21 in the atomization assembly 2 may be associated with the suction nozzle 11 by rotating or moving the atomization assembly 2 relative to the mouthpiece 1 connected to the holder 4.

[0061] After the selected atomizer 21 in the atomization assembly 2 is associated with the suction nozzle 11 by rotating or moving the atomization assembly 2 relative to the mouthpiece 1 connected to the holder 4, the suction nozzle 11 is rotated or moved relative to the associated atomizer 21 between the first position and the second position. Alternatively, after the suction nozzle 11 is rotated or moved to an appropriate position relative to the atomizer 21 currently associated with the suction nozzle 11 between the first position and the second position, the suction nozzle 11 may be associated with another atomizer 21 in the atomization assembly 2 by rotating or moving the atomization assembly 2 relative to the mouthpiece 1 connected to the holder 4.

[0062] Based on this, there may be one or more connection orientations between the mouthpiece 1 and the holder 4, and the mouthpiece 1 may be connected to the atomization assembly 2 by being connected to the holder 4. However, the mouthpiece 1 is rotatable or movable relative to the atomizer 21 associated with the mouthpiece 1 between the first position and the second position by independently rotating or moving relative to the holder 4, so that the suction nozzle opening is in communication with the air passage tube 213 in the atomizer 21, or the air passage tube 213 in the atomizer 21 is sealed by the base plate 12. Therefore, the mouthpiece 1 is rotatable or movable relative to the holder 4 between the same first position and the same second position without changing the connection orientation between the mouthpiece 1 and the holder 4 regardless of which atomizer 21 the suction nozzle 11 is associated with.

[0063] In an embodiment, the power supply assembly 3 includes a battery cell 31 and an output electrode 32, and the battery cell 31 may be a lithium ion battery. Alternatively, the battery cell 31 may be a nickel-metal hydride battery, a nickel-cadmium battery, or a lithium-based battery, for example, a lithium cobalt battery, a lithium iron phosphate battery, a lithium titanate battery, or a lithium polymer battery. The control circuit 32 may control an output of the battery cell 31, for example, cause the battery cell 31 to output an alternating current or a direct current, or for example, cause the battery cell 31 to output a current or a voltage in the form of a pulse.

[0064] The battery cell 31 outputs power to the atomization assembly 2 through the output electrode 32, for the corresponding atomizer 21 to generate the aerosol.

[0065] The atomization assembly 2 is movable relative to the output electrode 32, so that the output electrode 32 is selectively electrically connected to one of the atomizers 21, thereby enabling the power supply assembly 3 to supply power to one of the atomizers 21. The atomizer 21 electrically connected to the output electrode 32 may be

replaced by moving the atomization assembly 2 relative to the output electrode 32. When the suction nozzle 11 is in fluid communication with the air passage tube 213 in the atomizer 21 associated with the suction nozzle 11, the suction nozzle 11 may correspond to the output electrode 32, and the atomizer 21 may be electrically connected to the output electrode 32.

[0066] Specifically, the atomization assembly 2 is further rotatable or movable relative to the holder 4 while being connected to the holder 4. An outer side surface of the atomization assembly 2 may be at least partially exposed outside the holder 4, thereby providing an external operation to rotate the atomization assembly 2.

[0067] As an example, referring to FIG. 2, FIG. 3, and FIG. 6, the output electrode 32 is connected to the holder 4. The atomization assembly 2 is rotatable or movable relative to the output electrode 32 by rotating or moving relative to the holder 4, so that the output electrode 32 is selectively electrically connected to one of the atomizers 21. When the atomization assembly 2 rotates or moves relative to the holder 4, the output electrode 32 may be stationary relative to the holder 4.

[0068] In an embodiment, when the mouthpiece 1 is at the second position of the atomizer 21 associated with the suction nozzle 11, or when the suction nozzle 11 is not in fluid communication with the air passage tube 213 in the atomizer 21 associated with the suction nozzle 11, the base plate 12 simultaneously abuts against all the atomizers 21, and seals the air passage tube 213 in all the atomizers 21, so that the suction nozzle opening of the suction nozzle 11 and the air passage tube 213 in all the atomizers 21 remain cut off.

[0069] When the mouthpiece 1 is at the first position of the atomizer 21 associated with the suction nozzle 11, or when the suction nozzle 11 is in fluid communication with the air passage tube 213 in the atomizer 21 associated with the suction nozzle 11, the base plate 12 may abut against the remaining atomizers 21 that are not associated with the suction nozzle 11, and seal the air passage tubes 213 in these atomizers 21, so that the suction nozzle opening of the suction nozzle 11 is only in communication with the air passage tube 213 in the associated atomizer 21.

[0070] Based on the first aspect, the second aspect, and/or the third aspect of this application, referring to FIG. 2 and FIG. 7, the atomization assembly 2 includes a housing 22. At least a part of the housing 22 arranged around the one or more atomizers 21 may be transparent, so that the atomizers 21 may be observed visually through the housing 22. At least a part of a wall defining the accommodating cavity 211 in the atomizer 21 may also be transparent, so that at least a part of the accommodating cavity 211 is visible. Vision may successively pass through the housing 22 and the wall defining the accommodating cavity 211 to observe the accommodating cavity 211 in the atomizer 21, for example, to observe a remaining amount of the liquid substrate in the accommodating cavity 211, to provide a basis for the user to

replace the atomizer 21 associated with the mouthpiece 1.

[0071] When only one atomizer 21 is provided in the atomization assembly 2, the housing 22 may form a wall defining the accommodating cavity 211, so that when at least a part of the housing 22 is transparent, at least a part of the accommodating cavity 211 can be directly observed. When the atomization assembly 2 includes a plurality of atomizers 21, the housing 22 may be provided with a special transparent window 221 corresponding to each atomizer 21, so that accommodating cavities 211 in different atomizers 21 can be observed through different windows 221.

[0072] It should be noted that, it is optional rather than mandatory that at least a part of the housing 22 arranged around the plurality of atomizers 21 is transparent.

[0073] Based on the first aspect, the second aspect, and/or the third aspect of this application, referring to FIG. 4, the holder 4 is at least partially arranged between the mouthpiece 1 and the atomization assembly 2, the mouthpiece 1 is connected to the holder 4, and the holder 4 is configured to limit the stroke of the rotation or movement of the mouthpiece 1 relative to the atomization assembly 2.

[0074] As an example, the holder 4 is provided with an opening, and at least a part of the mouthpiece 1 can be accommodated in the opening to be connected to the holder 4. When the mouthpiece 1 is removed from the holder 4, the opening is exposed, so that at least one atomizer 21 can be removed through the opening. When the mouthpiece 1 is at the locking position relative to the holder 4, the disengagement of the mouthpiece 1 from the opening is limited, and at least a part of the opening is blocked by the mouthpiece 1, so that the atomizer 21 can be retained in the atomization assembly 2.

[0075] At least a part of the base plate 12 may be accommodated in the opening. The suction nozzle 11 extends from one side of the base plate 12 and faces away from a direction of the opening in an extension direction. The suction nozzle opening of the suction nozzle 11 penetrates the base plate 12 to be in communication with one of the atomizers 21 in the atomization assembly 2.

[0076] As an example, referring to FIG. 4 and FIG. 5, the holder 4 is configured to limit a rotation angle of the mouthpiece 1 relative to the atomization assembly 2, so that after one of the connection orientations of the base plate 12 is inserted into an opening of the holder 4, the rotation of the mouthpiece 1 relative to the holder 4 is limited within a predetermined angle range, so that the mouthpiece 1 cannot be rotated by 360° relative to the holder 4. For example, after the mouthpiece 1 is connected to the holder 4 in one of the connection orientations, a maximum rotation angle of the mouthpiece 1 relative to the holder 4 is less than or equal to 90°. Alternatively, for example, after the mouthpiece 1 is connected to the holder 4 in one of the connection orientations, a maximum rotation angle of the mouthpiece 1

relative to the holder 4 is less than or equal to 180°.

[0077] The rotation angle of the mouthpiece 1 is limited by the holder 4, so that the mouthpiece 1 can only be associated with one of the atomizers 21, but cannot be rotated to be associated with another atomizer 21. In this way, when the user needs to lock the child lock, the suction nozzle 11 does not proceed beyond a locked position to be in fluid communication with the another atomizer 21 due to excessive rotation.

[0078] For example, referring to FIG. 5, one of the holder 4 and the mouthpiece 1 is provided with a first limiting portion 13, and the other is provided with a second limiting portion 41. When the mouthpiece 1 is connected to the holder 4, the first limiting portion 13 is located between two adjacent second limiting portions 41, and the first limiting portion 13 is limited to be rotatable or movable only between the two adjacent second limiting portions 41, so that the predetermined angle range is limited by the two adjacent second limiting portions 41.

[0079] In the embodiment shown in FIG. 5, the mouthpiece 1 includes the first limiting portion 13, the first limiting portion 13 is connected to the base plate 12, and the first limiting portion 13 may be integrally formed with the base plate 12. The holder 4 includes the second limiting portion 41.

[0080] As an example, the aerosol generation device further includes a connecting portion 42 between two adjacent second limiting portions 41. The connecting portion 42 may be integrally formed with the second limiting portion 41. Specifically, both the connecting portion 42 and the second limiting portion 41 may be components of the holder 4. The connecting portion 42 may be at least a part of a wall defining the opening of the holder 4. The wall may be provided with a plurality of guide grooves 421 extending in a longitudinal direction. The plurality of guide grooves 421 define an orientation of the opening through which the mouthpiece 1 is inserted into the holder 4.

[0081] The first limiting portion 13 is provided with a snap portion 131. The snap portion 131 may be a protrusion or a barb formed on the first limiting portion 13. The snap portion 131 may be an elastic piece or an elastic arm formed on the first limiting portion 13. The snap portion 131 may be integrally formed with the first limiting portion 13.

[0082] When the mouthpiece 1 is at the disengaged position or the locking position relative to the holder 4, the snap portion 131 is located between two adjacent second limiting portions 41 and the snap portion 131 is in interference fit, for example, a snap connection, with the connecting portion 42. Through the interference fit between the snap portion 131 and the connecting portion 42, the mouthpiece 1 is connected to the holder 4, and the disengagement of the mouthpiece 1 from the holder 4 is limited, or the disengagement of the mouthpiece 1 from the opening of the holder 4 is limited.

[0083] In the embodiment shown in FIG. 5 and FIG. 6, the guide groove 421 is provided on the connecting

portion 42. The guide groove 421 is configured to guide the snap portion 131 to be between two adjacent second limiting portions 41. Then, by rotating the mouthpiece 1 relative to the holder 4 in a first direction, the snap portion 131 is rotated relative to the connecting portion 42 in the first direction, thereby staggering the snap portion 131 from the guide groove 421. Therefore, the snap portion 131 is in interference fit with the connecting portion 42, to prevent the disengagement of the mouthpiece 1 from the holder 4 or from the atomization assembly 2. Then, by rotating the mouthpiece 1 relative to the holder 4 in a second direction opposite to the first direction, the snap portion 131 is rotated relative to the connecting portion 42 in the second direction opposite to the first direction, so that the snap portion 131 corresponds to the guide groove 421. In this case, the mouthpiece 1 is rotated or moved relative to the holder 4 from the locking position to the disengaged position. In this case, the mouthpiece 1 may be lifted in the longitudinal direction, to disengage the mouthpiece 1 from the holder 4 or the atomization assembly 2.

[0084] In other words, the mouthpiece 1 and the holder 4 or the atomization assembly 2 may be in a screwing connection. Through the screwing connection between the mouthpiece 1 and the holder 4 or the atomization assembly 2, the connection between the mouthpiece 1 and the holder 4 or the atomization assembly 2 is removable.

[0085] It should be noted that, alternatively, the connection between the mouthpiece 1 and the holder 4 or the atomization assembly 2 is removable in other manners than the screwing connection, for example, a snap connection between the mouthpiece 1 and the atomization assembly 2 or between the mouthpiece 1 and the holder 4, or a magnetic connection between the mouthpiece 1 and the atomization assembly 2 or between the mouthpiece 1 and the holder 4.

[0086] It should be noted that, after the mouthpiece 1 is connected to the holder 4 or the atomization assembly 2 and before the mouthpiece 1 is rotated relative to the holder 4 or the atomization assembly 2, the snap portion 131 on the mouthpiece 1 corresponds to the guide groove 421. This position is referred to as the disengaged position. Then, by rotating the mouthpiece 1, the snap portion 131 on the mouthpiece 1 is staggered from the guide groove 421, thereby entering the locking position.

[0087] The first position may be located between the disengaged position and the second position. Therefore, by rotating the mouthpiece 1 from the disengaged position, the mouthpiece 1 at the locking position may be rotated to the first position, and by continuing to rotate, the mouthpiece 1 may be rotated from the first position to the second position.

[0088] The second position may be located between the disengaged position and the first position. Therefore, by rotating the mouthpiece 1 from the disengaged position, the mouthpiece 1 at the locking position may be rotated to the second position, and by continuing to

rotate, the mouthpiece 1 may be rotated from the second position to the first position.

[0089] As an example, the connecting portion 42 includes two dents spaced apart, and the two dents respectively correspond to the first position and the second position. Correspondingly, the mouthpiece 1 may be provided with a protrusion. Referring to FIG. 4 and FIG. 5, a plurality of connecting portions 42 are provided, and the plurality of connecting portions 42 are distributed in a circumferential direction. Each connecting portion 42 may be associated with an atomizer 21. Therefore, when the mouthpiece 1 is rotated or moved to the first position relative to the atomizer 21 associated with the mouthpiece 1, the protrusion on the mouthpiece 1 corresponds to one dent of the connecting portion 42, and fit between the protrusion and the dent is used for defining the first position. When the mouthpiece 1 is rotated or moved to the second position relative to the atomizer 21 associated with the mouthpiece 1, the protrusion on the mouthpiece 1 corresponds to the other dent of the connecting portion 42, and fit between the protrusion and the dent is used for defining the second position. The fit between the protrusion and the dent further helps to retain the mouthpiece 1 at the first position or the second position more stably, or helps to warn the user that the mouthpiece 1 reaches the first position or the second position, so that the user stops continuing to rotate or move the mouthpiece 1 in the original proceeding direction.

[0090] Alternatively, one of the holder 4 and the mouthpiece 1 may be provided with a first positioning portion 14, and the other may be provided with a second positioning portion 43. The first position and the second position are positioned by using the first positioning portion 14 or the second positioning portion 43.

[0091] As an example, when the mouthpiece 1 is rotated or moved to the first position relative to the atomizer 21 associated with the mouthpiece 1, or when the mouthpiece 1 is in fluid communication with the air passage tube 213 in the atomizer 21 associated with the mouthpiece 1, the first positioning portion 14 and the second positioning portion 43 are interlocked, to hinder movement of the mouthpiece 1 relative to the atomization assembly 2, and help to maintain a stable fluid communication state between the suction nozzle 11 and the atomizer 21 associated with the suction nozzle 11. When the mouthpiece 1 is rotated or moved to the second position relative to the atomizer 21 associated with the mouthpiece 1, the first positioning portion 14 and the second positioning portion 43 are interlocked, so that the child lock maintains a stable locked state.

[0092] For example, referring to FIG. 5, the first positioning portion 14 is a component of the mouthpiece 1. Specifically, the first positioning portion 14 may be provided on the first limiting portion 13 of the mouthpiece 1. Each first limiting portion 13 may be provided with at least one first positioning portion 14, or at least one of the plurality of first limiting portions 13 is provided with the first positioning portion 14. The second positioning por-

tion 43 is a component of the holder 4. Specifically, the second positioning portion 43 may be provided on the connecting portion 42 of the holder 4. Each connecting portion 42 may be provided with at least one second positioning portion 43, or at least one of the plurality of connecting portions 42 is provided with the second positioning portion 43.

[0093] One of the first positioning portion 14 and the second positioning portion 43 may be a protrusion, and the other may be a dent matching the protrusion. When the protrusion is embedded in the dent, the relative movement between the mouthpiece 1 and the holder 4 can be prevented to some extent.

[0094] In the embodiment shown in FIG. 5, one connecting portion 42 is provided with two second positioning portions 43, and a first limiting portion 12 corresponding to the connecting portion 43 is provided with one first positioning portion 14. When the suction nozzle 11 is in stable fluid communication with the atomizer 21 associated with the suction nozzle 11, the first positioning portion 14 corresponds to and engages with one of the second positioning portions 43. When the child lock needs to maintain the stable locked state, the first positioning portion 14 corresponds to and engages with the other second positioning portion 43.

[0095] As an example, when the first positioning portion 14 corresponds to the second positioning portion 43, the aerosol generation device can generate a sensory prompt signal to prompt the mouthpiece 1 to enter the locking position, or prompt that the mouthpiece 1 is in fluid communication with the atomizer 21 associated with the mouthpiece 1, or prompt that the output electrode 32 is electrically connected to the atomizer 21 associated with the suction nozzle 11. The sensory prompt signal may be one or more of sound, light, and vibration. The sensory prompt signal may be a vibration signal or a sound signal generated when the first positioning portion 14 is moved to engage with the second positioning portion 43. Alternatively, a signal acquisition circuit on the control circuit may generate a change in an electrical parameter when the first positioning portion 14 is moved to correspond to the second positioning portion 43, and then the control circuit can control, based on the change in the electrical parameter, an LED light, a player, a motor, or the like to generate one or more signals of sound, light, and vibration.

[0096] Based on the first aspect, the second aspect, and/or the third aspect of this application, referring to FIG. 2 and FIG. 3, the aerosol generation device further includes a flexible member 214. The flexible member 214 elastically abuts against the mouthpiece 1 and the atomization assembly 2, to provide friction that hinders the rotation or movement of the mouthpiece 1 relative to the atomization assembly 2, which helps to prevent unexpected rotation or movement of the mouthpiece 1 relative to the atomization assembly 2, helps to maintain a stable fluid communication state between the suction nozzle 11 and the atomizer 21 associated with the suction nozzle

11, or helps to maintain a stable locked state of the child lock.

[0097] As an example, referring to FIG. 4 and FIG. 6, the flexible member 214 is combined on the atomizer 21, and the flexible member 214 includes a first air passage 2141 in fluid communication with the air passage tube 213. When the suction nozzle 11 corresponds to the only or one of the air passage tubes 213, the corresponding first air passage 2141 is in fluid communication with the air passage tube 213 and the suction nozzle 11. The aerosol in the air passage tube 213 can be transferred to the suction nozzle 11 through the first air passage 2141.

[0098] An upper end of the air passage tube 213 may be embedded in the flexible member 214. In an airflow direction, the first air passage 2141 is located downstream of the air passage tube 213, so that the flexible member 214 can be compressed and deformed by the mouthpiece 1 and elastically abut against the mouthpiece 1.

[0099] When the mouthpiece 1 is in interference fit with the holder 4 through the snap portion 131 and the connecting portion 42, the interference fit between the mouthpiece 1 and the holder 4 can provide a force for the atomizer 21 and the mouthpiece 1 to abut against the flexible member 214, and the force can compress and deform the flexible member 214.

[0100] When the mouthpiece 1 is rotated or moved to the second position, the flexible member 214 elastically abuts against the base plate 12 of the mouthpiece 1, so that the connection between the flexible member 214 and the base plate 12 is a sealed connection, which can prevent exchange and convection between the air passage tube 213 and the external air or the airflow in another air passage tube 213 through the first air passage 2141.

[0101] Based on the first aspect, the second aspect, and/or the third aspect of this application, referring to FIG. 6 and FIG. 7, the holder 4 includes an air intake passage in communication with the outside, and the holder 4 is provided with a first air hole 44 in fluid communication with the air intake passage. The first air hole 44 may be provided in parallel with two or more output electrodes 32, for example, may be provided between two or more output electrodes 32. Each atomizer 21 is provided with an independent second air hole 215, and the second air hole 215 is in fluid communication with the air passage tube 213 in the corresponding atomizer 21.

[0102] When the output electrode 32 is electrically connected to one of the atomizers 21, the first air hole 44 corresponds to the second air hole 215 on the atomizer 21 electrically connected to the output electrode 32, so that air can be transferred from the first air hole 44 to the corresponding second air hole 215.

[0103] A seal ring 5 may be provided at a periphery of the first air hole 44 or each second air hole 215, to ensure that when air in the first air hole 44 is transferred to the second air hole 215 on the atomizer 21 electrically connected to the output electrode 32, the air does not leak, which helps to improve the detection sensitivity and

accuracy of the airflow detector.

[0104] It should be noted that, the specification of this application and the accompanying drawings thereof illustrate preferred embodiments of this application, but this application is not limited to the embodiments described in the specification. Further, a person of ordinary skill in the art may make improvements or variations according to the foregoing description, and all the improvements and variations shall fall within the protection scope of the appended claims of this application.

Claims

1. An aerosol generation device, comprising:
 - a mouthpiece (1);
 - an atomization assembly (2), comprising at least one atomizer (21) configured to heat a liquid substrate to generate an aerosol; and
 - a holder (4), connected to the atomization assembly (2) and configured to hold the atomization assembly (2), wherein the holder (4) is provided with an opening, and at least a part of the mouthpiece (1) is accommodated in the opening to be connected to the holder (4), wherein:
 - the mouthpiece (1) is configured to be rotatable or movable relative to the holder (4) between a disengaged position and at least one locking position;
 - the mouthpiece (1) is removable from the holder (4) when at the disengaged position, to remove the at least one atomizer (21) through the opening; and
 - disengagement of the mouthpiece (1) from the opening is prevented when the mouthpiece (1) is at the locking position, to keep the atomizer (21) in the atomization assembly (2).
2. The aerosol generation device according to claim 1, wherein the locking position comprises a first position and a second position, and the mouthpiece (1) is configured to be rotatable or movable relative to the atomization assembly (2) between the first position and the second position, wherein when the mouthpiece (1) is at the first position, a suction nozzle opening of the mouthpiece (1) is in fluid communication with an air passage in the atomizer (21), and when the mouthpiece (1) is at the second position, the mouthpiece (1) seals the air passage in the atomizer (21).
3. The aerosol generation device according to claim 2, wherein the atomization assembly (2) comprises a plurality of atomizers (21) independent of each other,

wherein when the mouthpiece is at the first position, the suction nozzle opening of the mouthpiece (1) is in communication with an air passage in only one of the atomizers (21), and when the mouthpiece (1) is at the second position, the mouthpiece (1) seals air passages in all the atomizers (21).

4. The aerosol generation device according to claim 2, wherein:

the atomization assembly (2) comprises a plurality of atomizers (21) independent of each other; and
the locking position further comprises a third position, wherein:

when the mouthpiece (1) is at the first position, the suction nozzle opening of the mouthpiece (1) is in fluid communication with an air passage in one of the atomizers (21); and
when the mouthpiece (1) is at the third position, the suction nozzle opening of the mouthpiece (1) is in fluid communication with an air passage in another of the atomizers (21).

5. The aerosol generation device according to claim 1, wherein:

the atomization assembly (2) comprises a plurality of atomizers (21) independent of each other, and each of the atomizers (21) is provided with an air passage tube (213); and
the mouthpiece (1) is configured to be insertable into the opening in a plurality of different orientations on a circumference and connected to the holder (4), wherein:

rotation of the mouthpiece (1) is limited within a predetermined angle range when the mouthpiece (1) is inserted into the opening in one of the orientations; and
a suction nozzle opening of the mouthpiece (1) is in communication with the air passage tube (213) in only one of the atomizers (21) during the rotation of the mouthpiece (1) within the predetermined angle range.

6. The aerosol generation device according to claim 5, wherein:

the mouthpiece (1) comprises a base plate (12) that is at least partially accommodated in the opening, and further comprises a suction nozzle (11) extending from one side of the base plate

- (12); and
a suction nozzle opening of the mouthpiece (1) penetrates the base plate (12) to be in communication with one of the atomizers (21).
7. The aerosol generation device according to claim 5, wherein:
- the holder (4) comprises a wall defining the opening;
the wall is provided with a plurality of guide grooves (421) extending in a longitudinal direction; and
the plurality of guide grooves (421) define an orientation in which the mouthpiece (1) is inserted into the opening.
8. The aerosol generation device according to claim 5, wherein:
- the mouthpiece (1) is provided with a first limiting portion (13), and the holder (4) is provided with a plurality of second limiting portions (41); and
the first limiting portion (13) is located between two adjacent second limiting portions (41), and
the first limiting portion (13) is movable between two adjacent second limiting portions (41), to limit the rotation of the mouthpiece (1) within the predetermined angle range.
9. The aerosol generation device according to claim 8, wherein the holder (4) further comprises a connecting portion (42) located between two adjacent second limiting portions (41), and the first limiting portion (13) has a snap portion (131) thereon, wherein the snap portion (131) is in interference fit with the connecting portion (42) to prevent disengagement of the mouthpiece (1) from the opening.
10. The aerosol generation device according to claim 1, wherein the aerosol generation device further comprises a flexible member (214), and the flexible member (214) is elastically abutted between the mouthpiece (1) and the atomization assembly (2) to provide friction that hinders rotation or movement of the mouthpiece (1) relative to the atomization assembly (2).
11. The aerosol generation device according to claim 1, wherein:
- the mouthpiece (1) is provided with a first positioning portion (14), and the holder (4) is provided with a second positioning portion (43); and
the first positioning portion (14) and the second positioning portion (43) is interlocked to hinder movement of the mouthpiece (1) relative to the atomization assembly (2).
12. The aerosol generation device according to claim 1, wherein:
- the mouthpiece (1) is provided with a first positioning portion (14), and the holder (4) is provided with a second positioning portion (43); and
the aerosol generation device is configured to generate a sensory prompt signal when the first positioning portion (14) is aligned with the second positioning portion (43), to prompt the mouthpiece (1) to enter the locking position.
13. The aerosol generation device according to claim 1, wherein the atomization assembly (2) comprises a plurality of atomizers (21) independent of each other, and the atomization assembly (2) is configured to be rotatable relative to the holder (4) to selectively connect one of the atomizers (21) to a power supply.
14. The aerosol generation device according to claim 13, wherein an outer side surface of the atomization assembly (2) is partially exposed to an exterior of the holder (4), to provide an external operation to make the atomization assembly (2) rotatable.
15. An aerosol generation device, comprising:
- a mouthpiece (1), provided with a suction nozzle opening;
an atomization assembly (2), comprising a plurality of atomizers (21) independent of each other, wherein the atomizer (21) is configured to heat a liquid substrate to generate an aerosol, and each of the atomizers (21) is provided with an air passage tube (213); and
a holder (4), connected to the atomization assembly (2) and configured to hold the atomization assembly (2), wherein the holder (4) is provided with an opening, and at least a part of the mouthpiece (1) is accommodated in the opening,
wherein:
- the mouthpiece (1) is configured to be insertable into the opening in a plurality of different orientations on a circumference and connected to the holder (4);
rotation of the mouthpiece (1) is limited within a predetermined angle range when the mouthpiece (1) is inserted into the opening in one of the orientations; and
the suction nozzle opening of the mouthpiece (1) is in communication with the air passage tube (213) in only one of the atomizers (21) during the rotation of the mouthpiece (1) within the predetermined angle range.

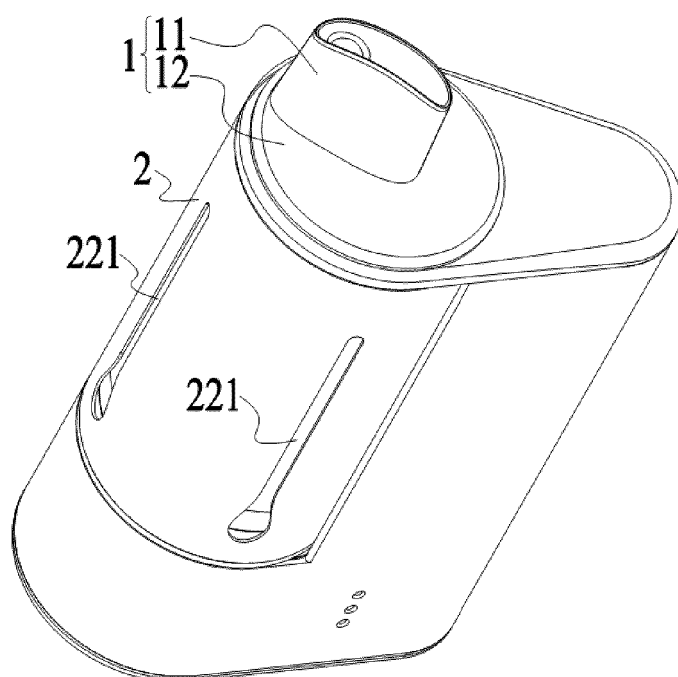


FIG. 1

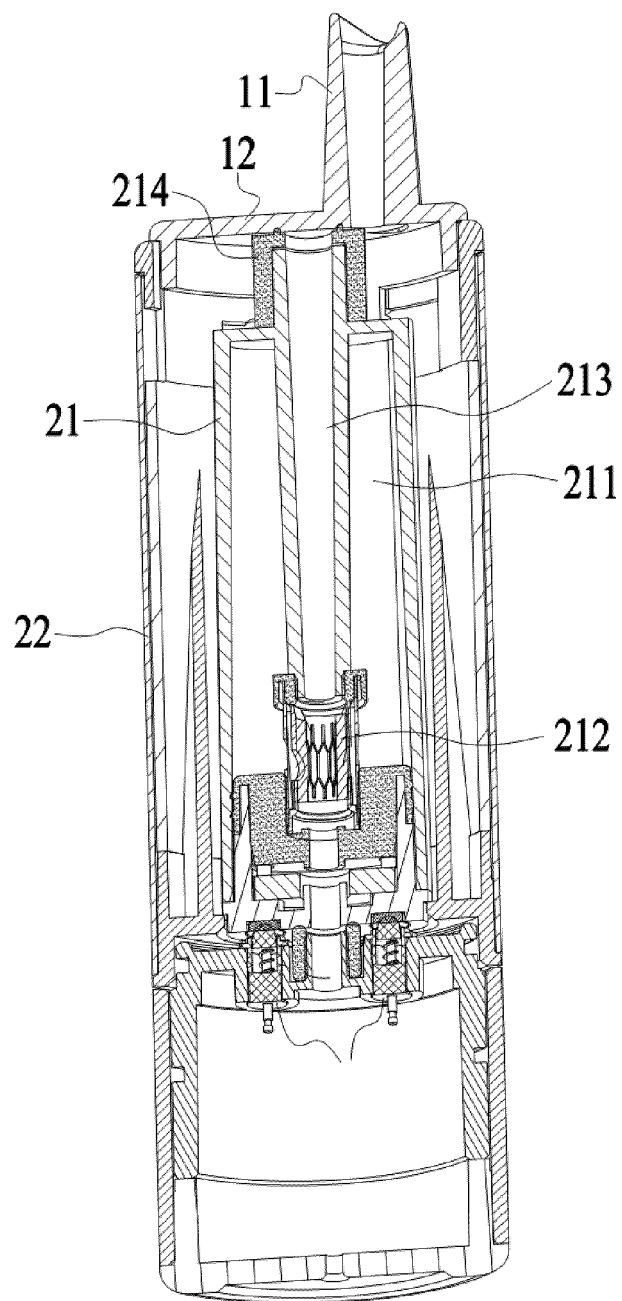


FIG. 2

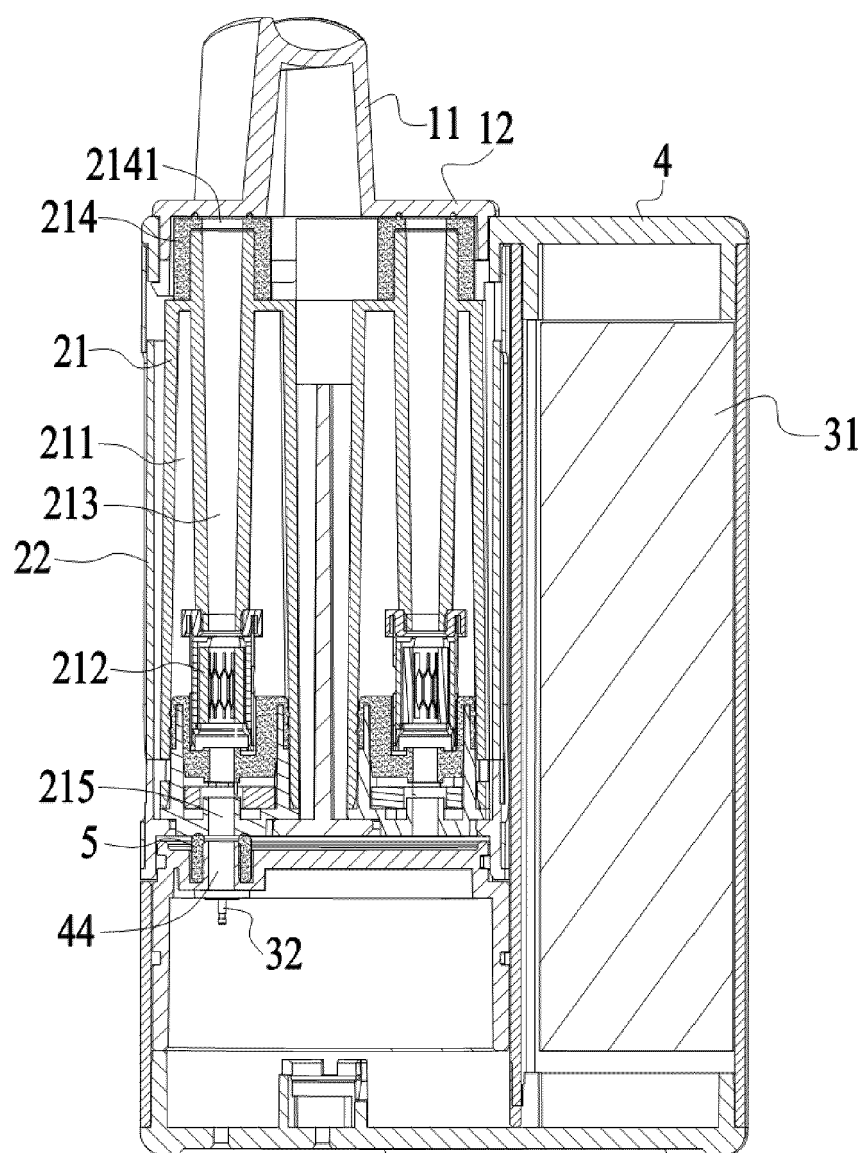


FIG. 3

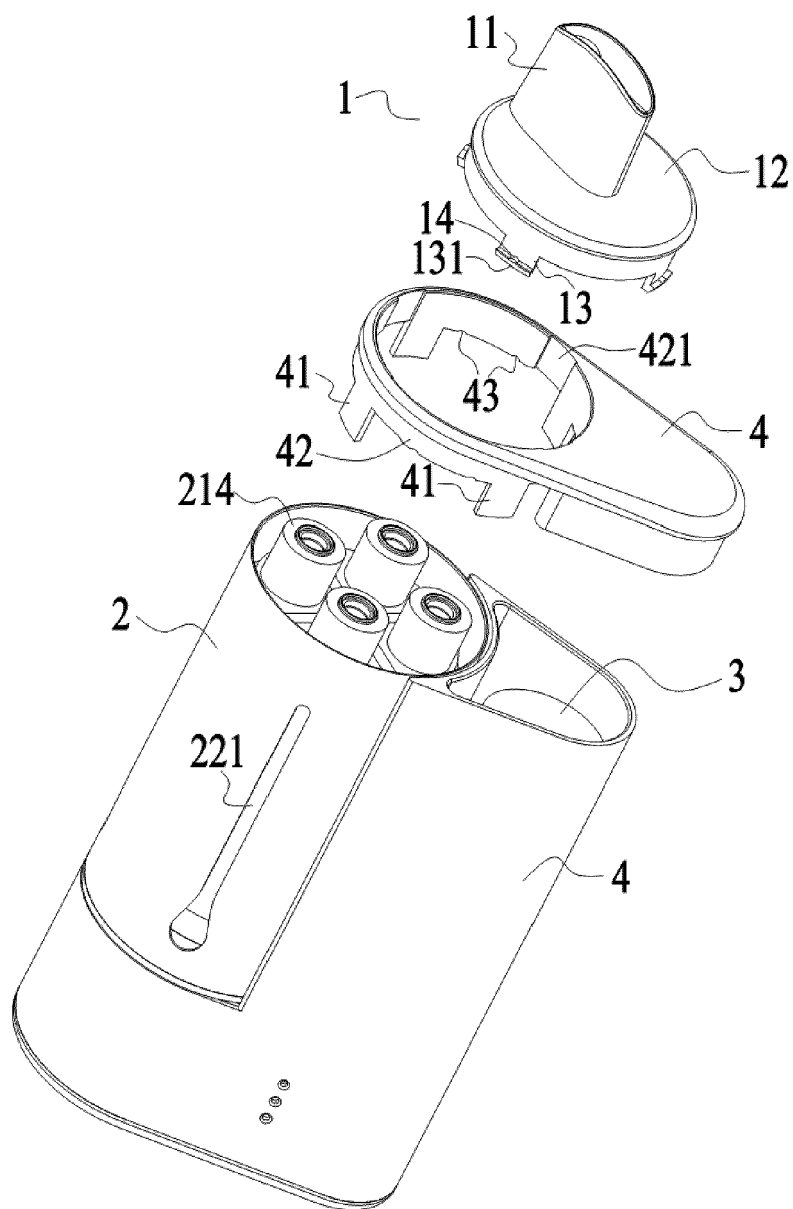


FIG. 4

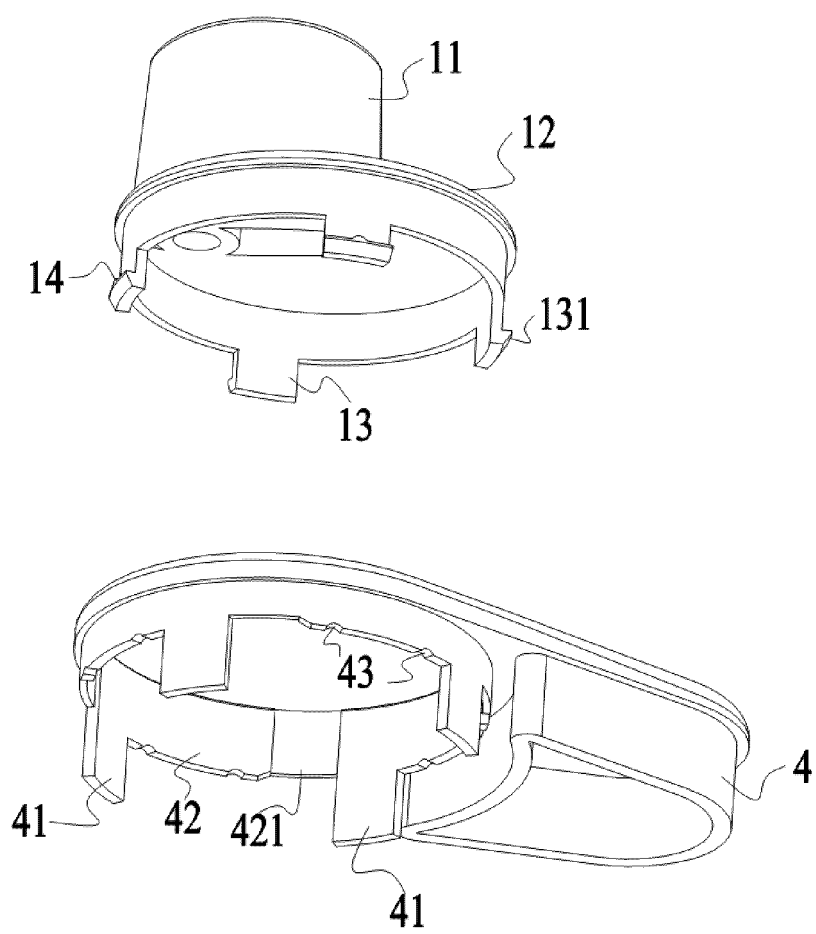


FIG. 5

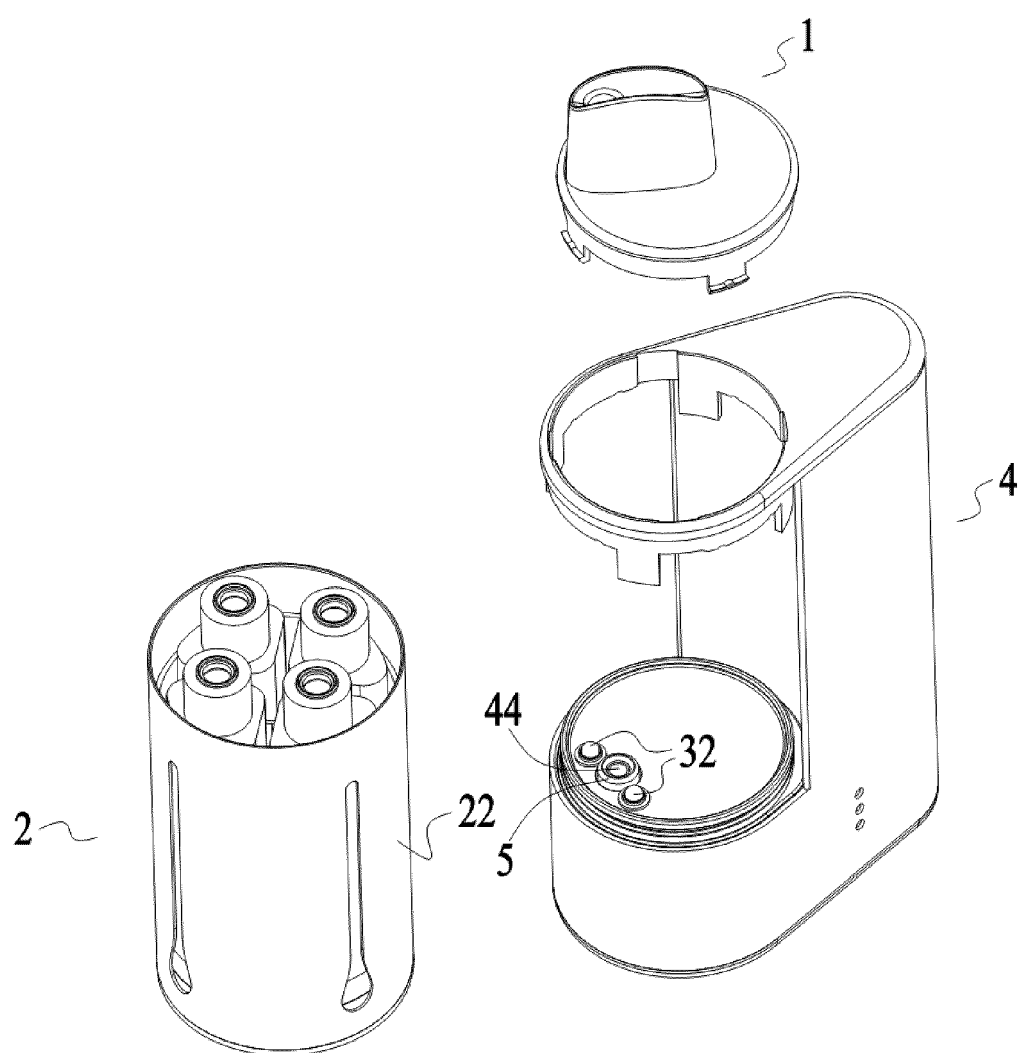


FIG. 6

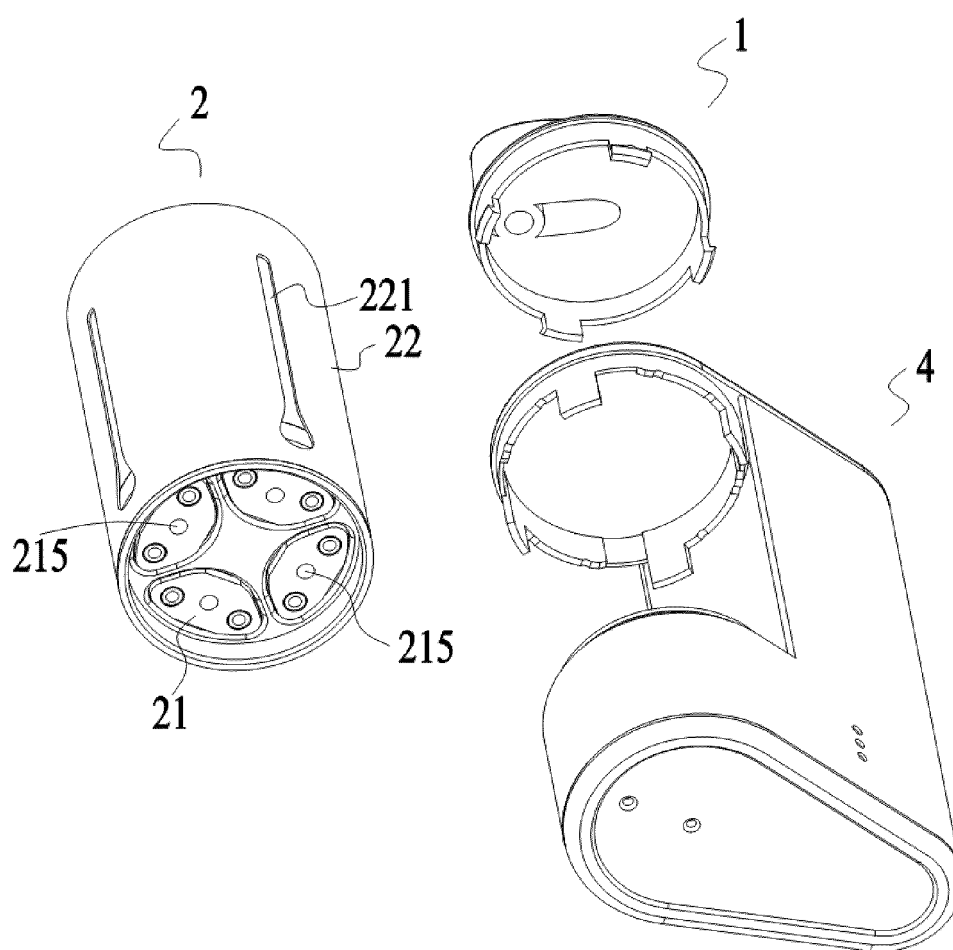


FIG. 7