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(54) **AEROSOL-GENERATING DEVICE**

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(71) Applicant: **KT&G CORPORATION**, Daejeon (KR)

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(72) Inventors: **Jongsub LEE**, Sungnam-si Gyeonggi-do (KR); **Minkyu KIM**, Seoul (KR); **Jueon PARK**, Seoul (KR); **Byungung CHO**, Gwangmyung-si Gyeonggi-do (KR); **Sungrok OH**, Gunpo-si Gyeonggi-do (KR)

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(73) Assignee: **KT&G CORPORATION**, Daejeon (KR)

(57) **ABSTRACT**

(21) Appl. No.: **17/797,914**

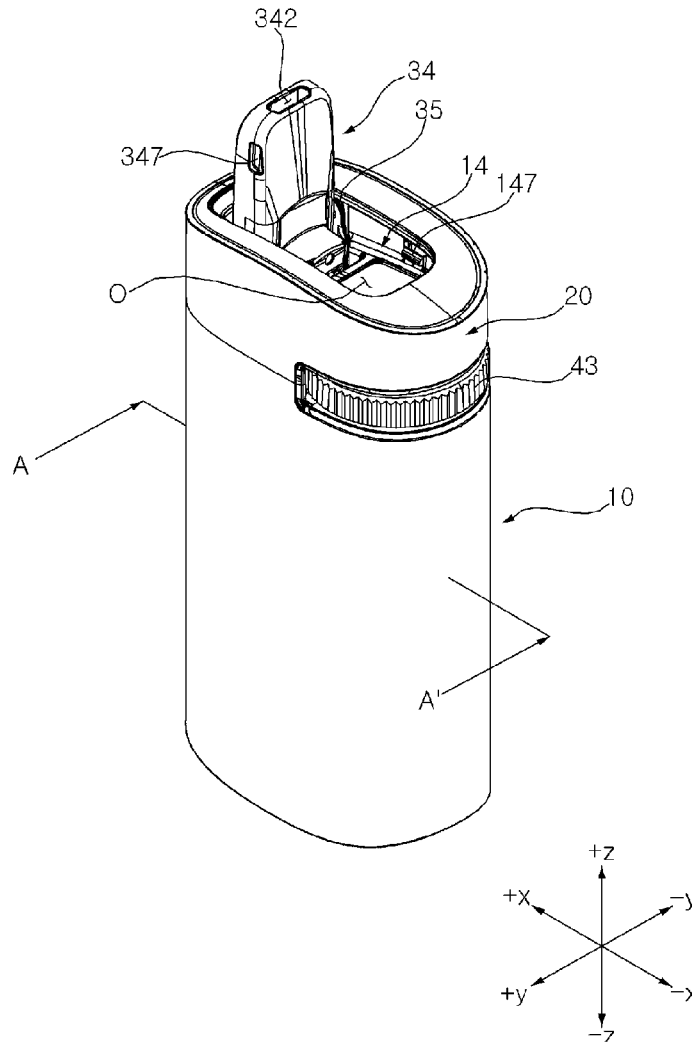
An aerosol-generating device is disclosed. The aerosol-generating device includes a first container and a second container, which includes a plurality of chambers, which are divided from each other, and is rotatably connected to the first container. The first container includes a cylinder having a space configured to store therein a liquid material, and a rotation limiter formed at the outer circumferential surface of the cylinder.

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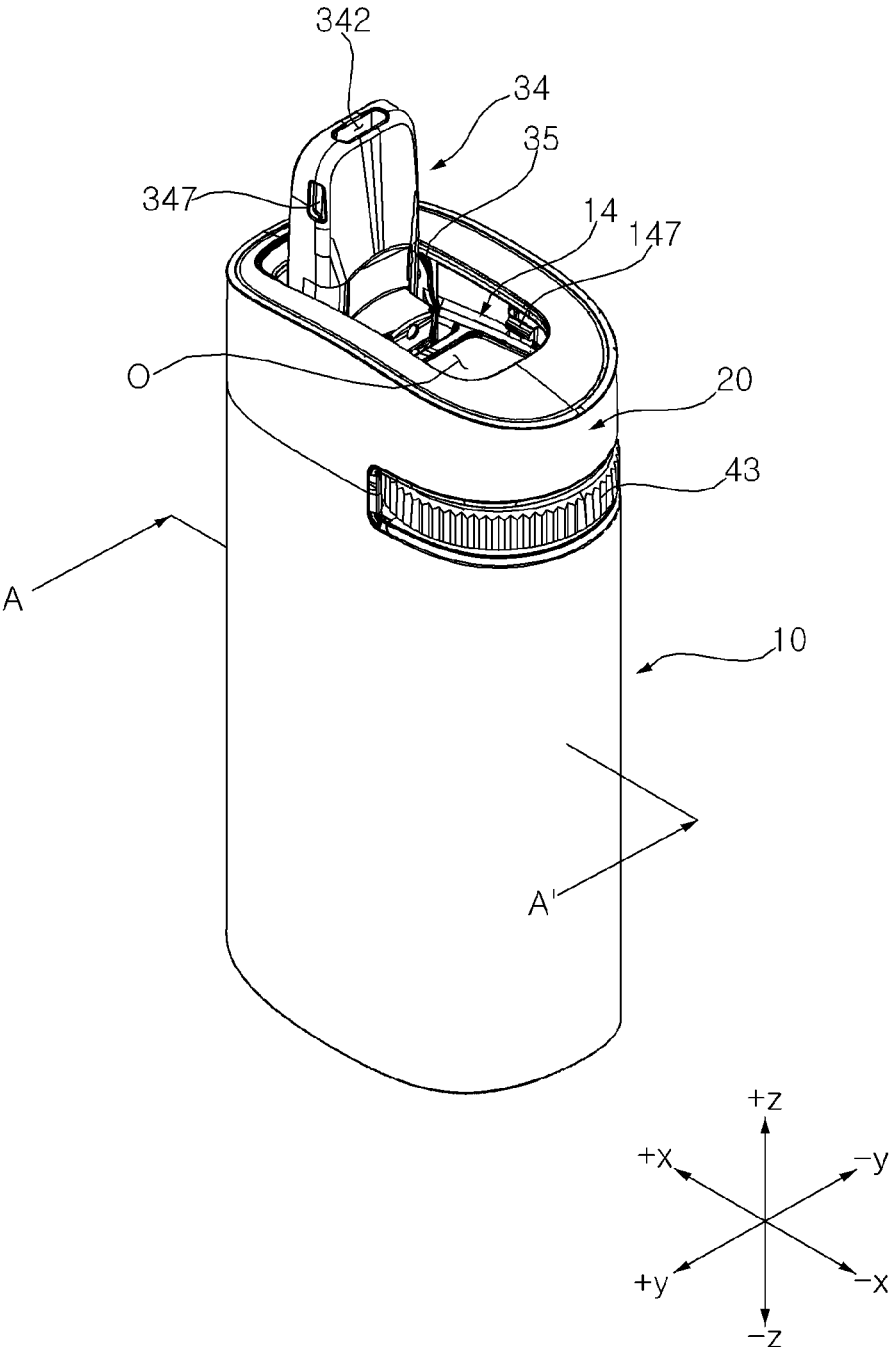
(86) PCT No.: **PCT/KR2021/017194**

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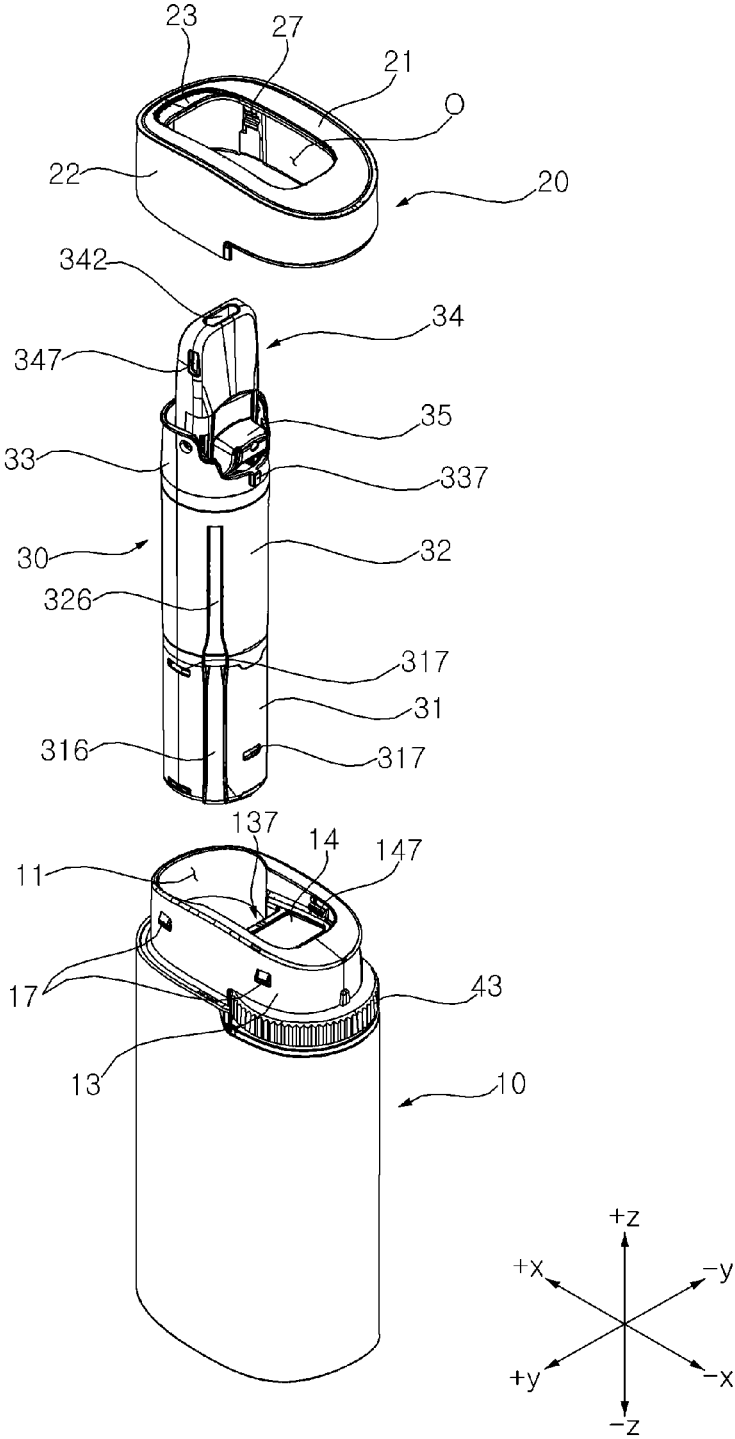
(2) Date: **Aug. 5, 2022**



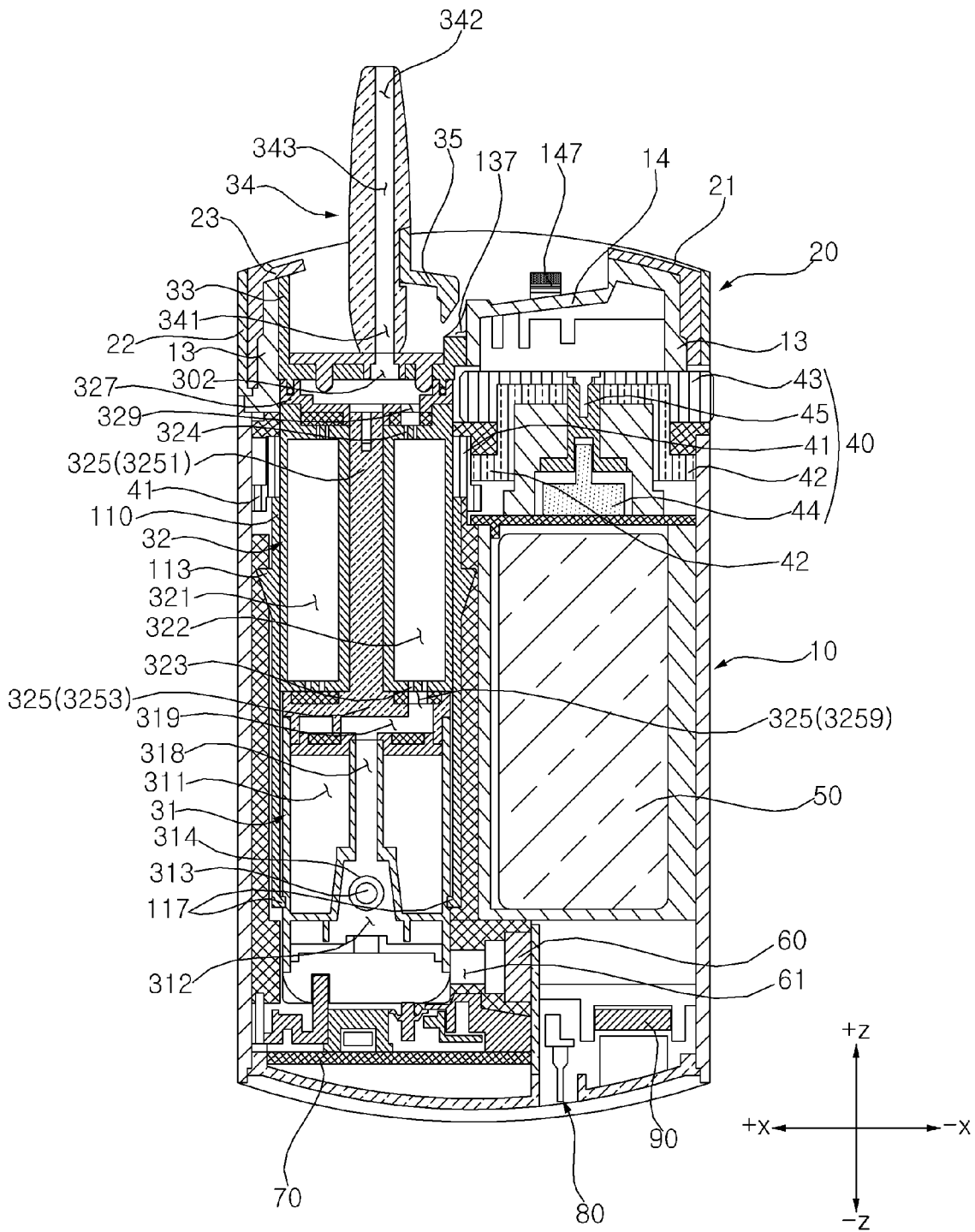
【FIG. 1】



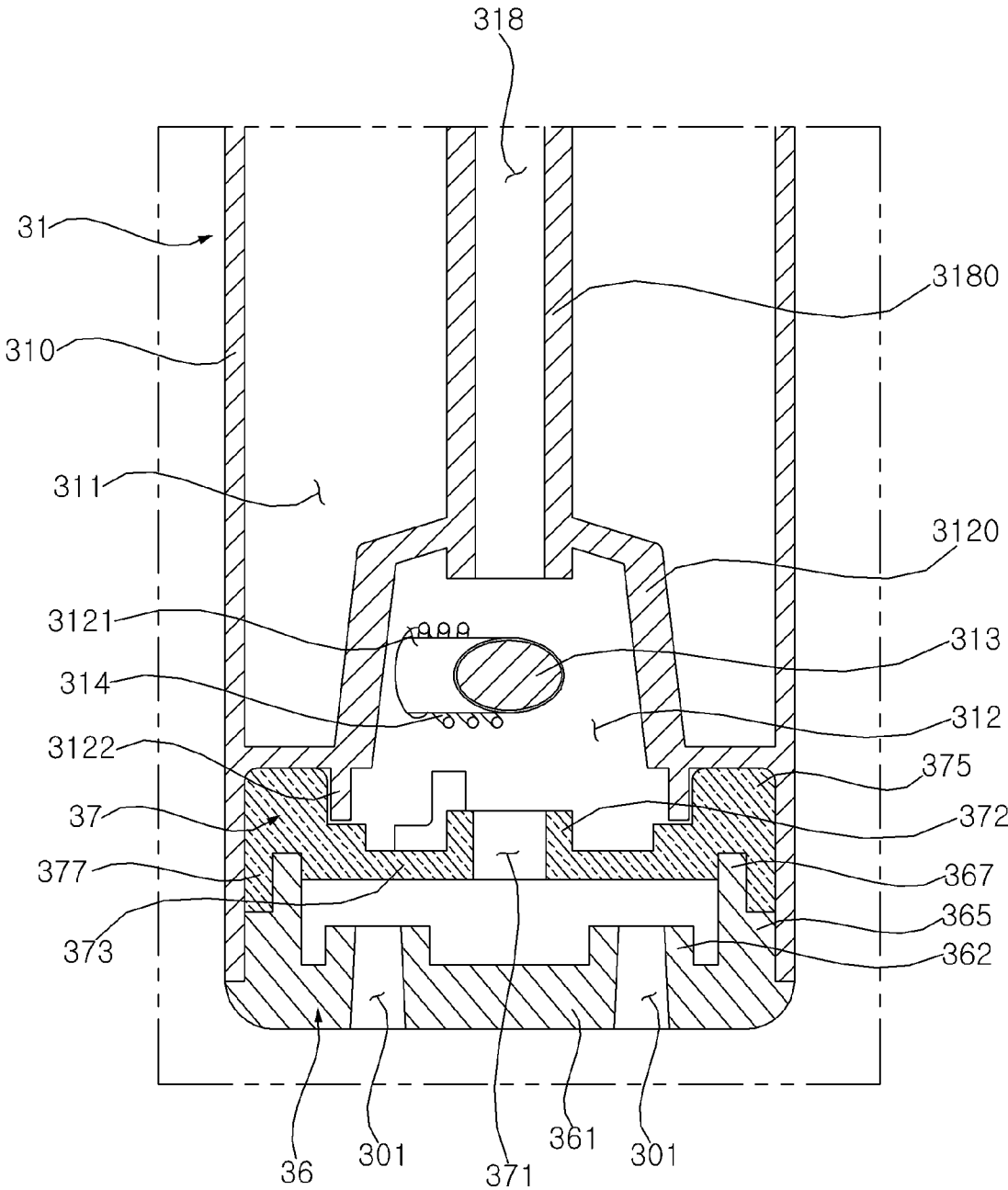
【FIG. 2】



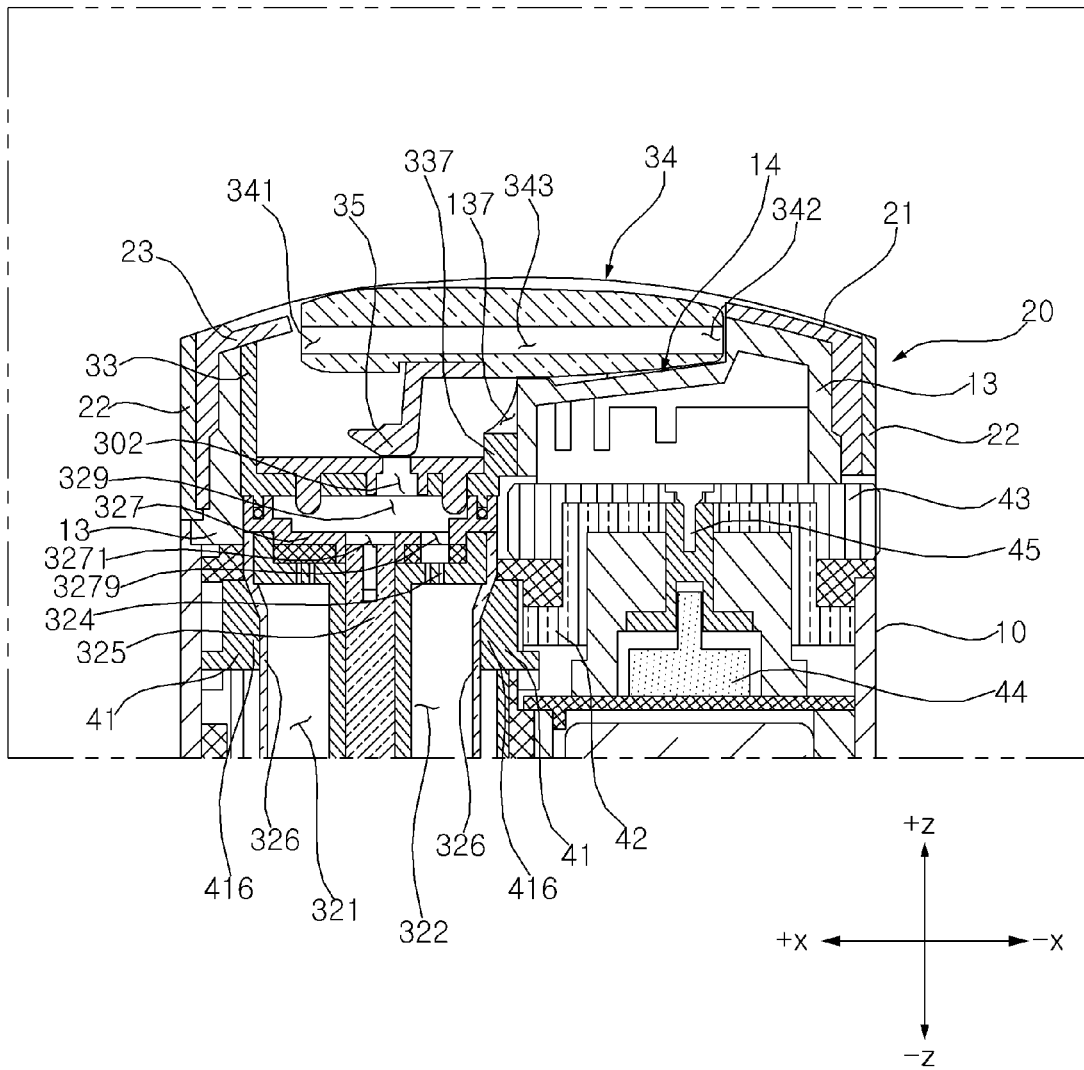
【FIG. 3】



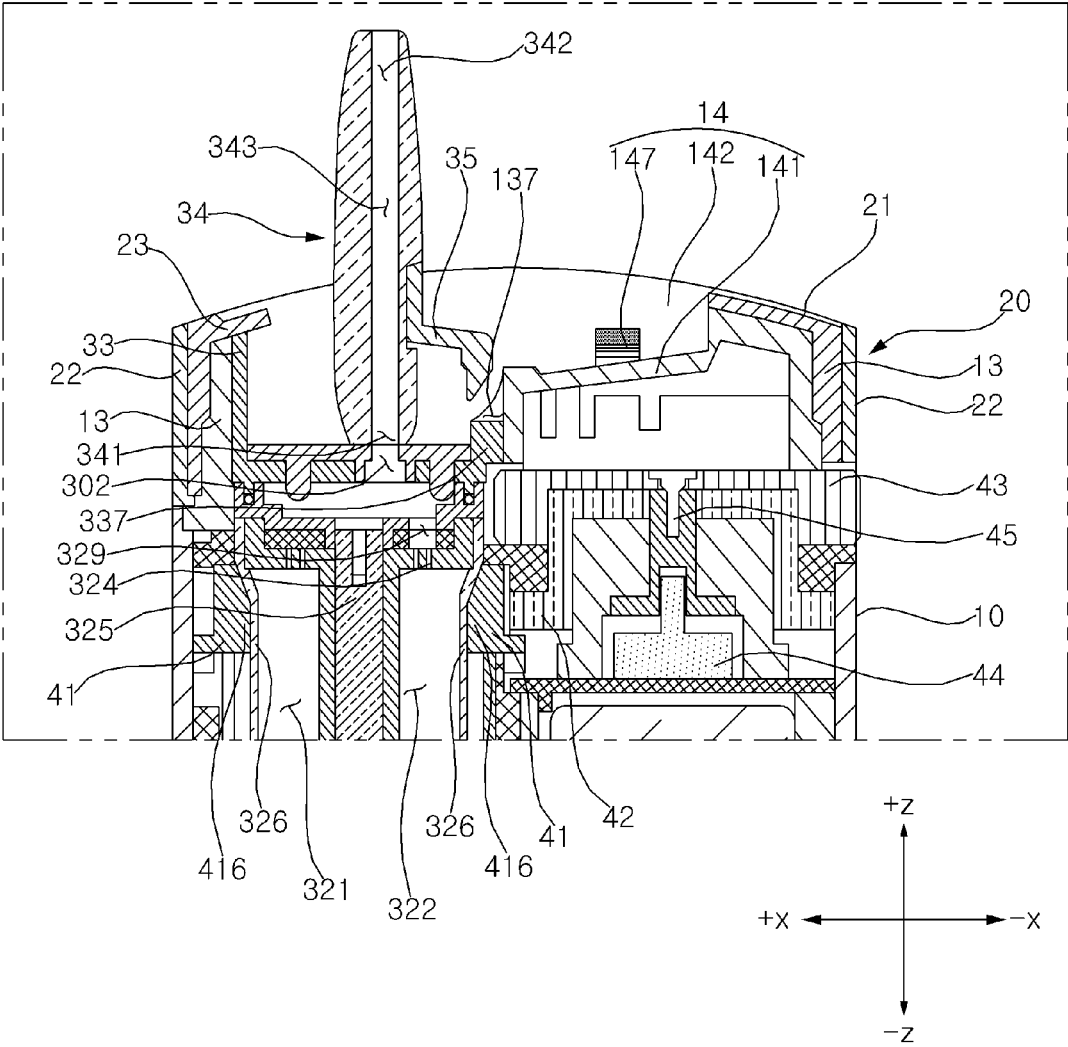
【FIG. 4】



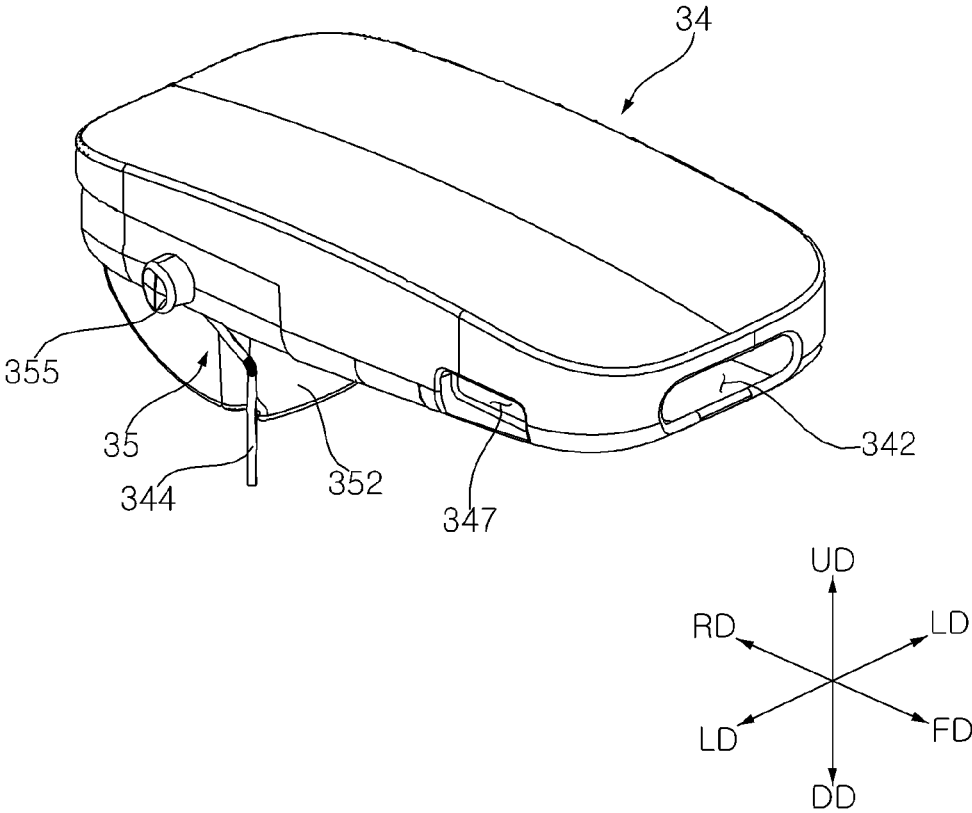
【FIG. 5】



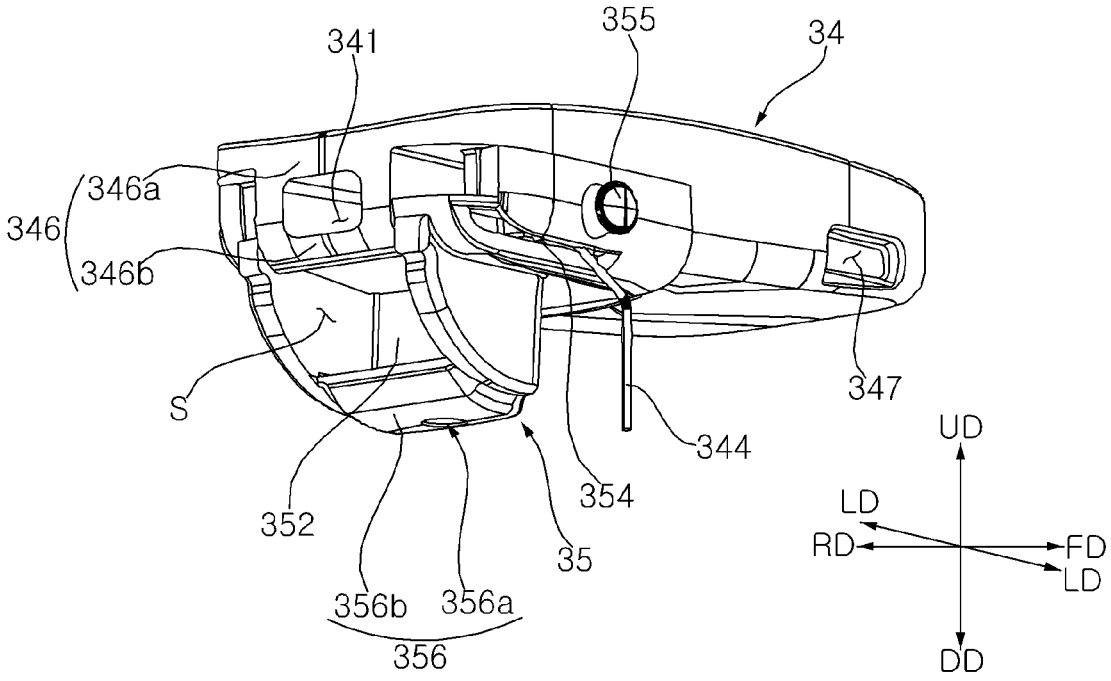
【FIG. 6】



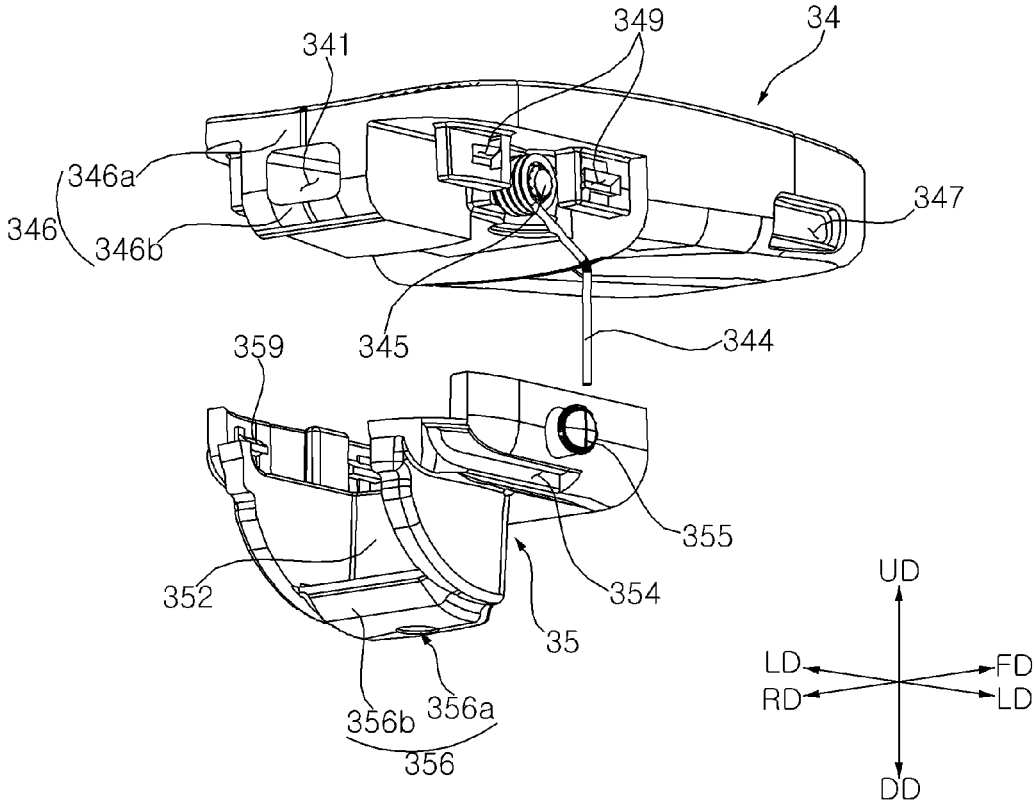
【FIG. 7】



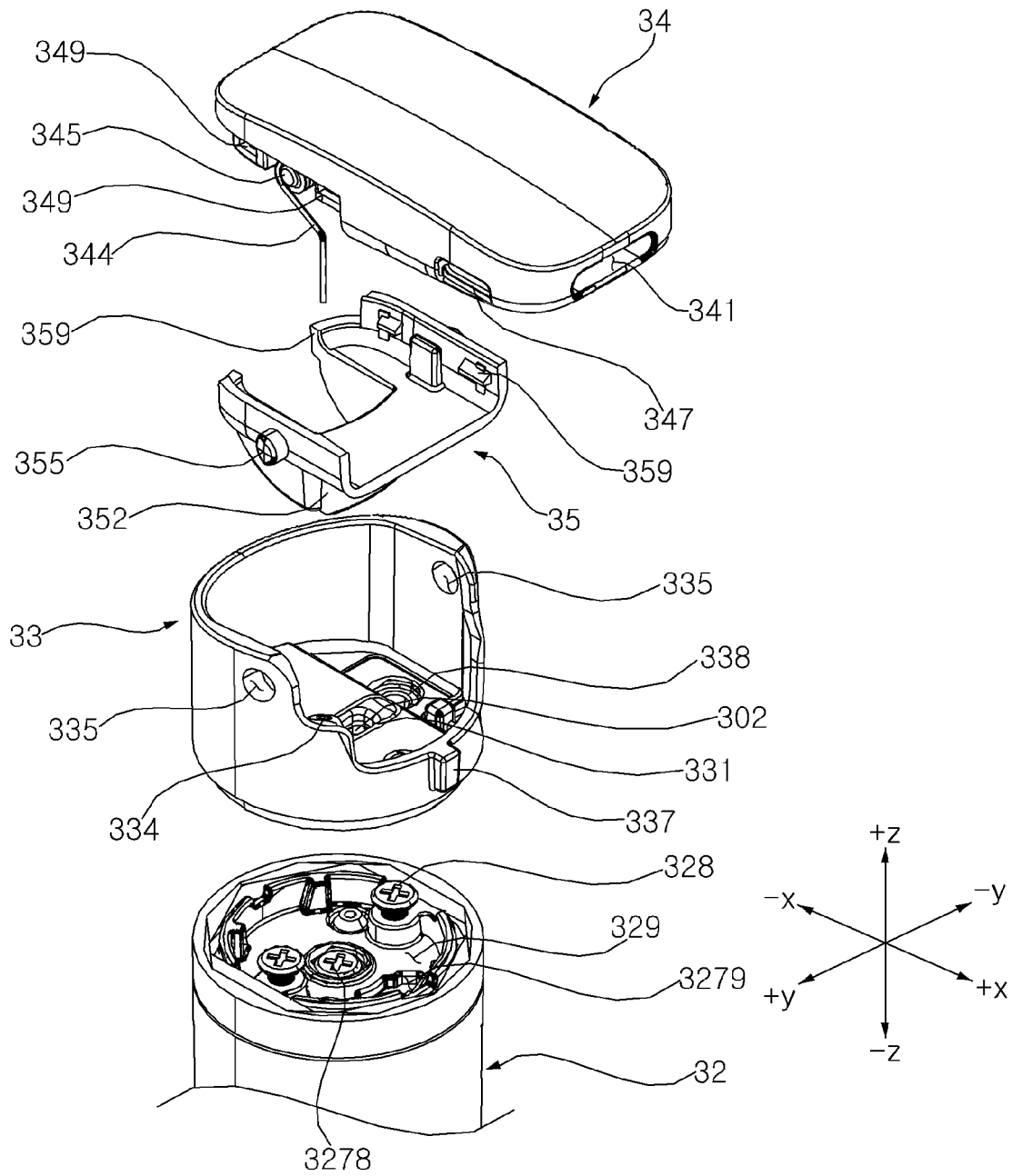
【FIG. 8】



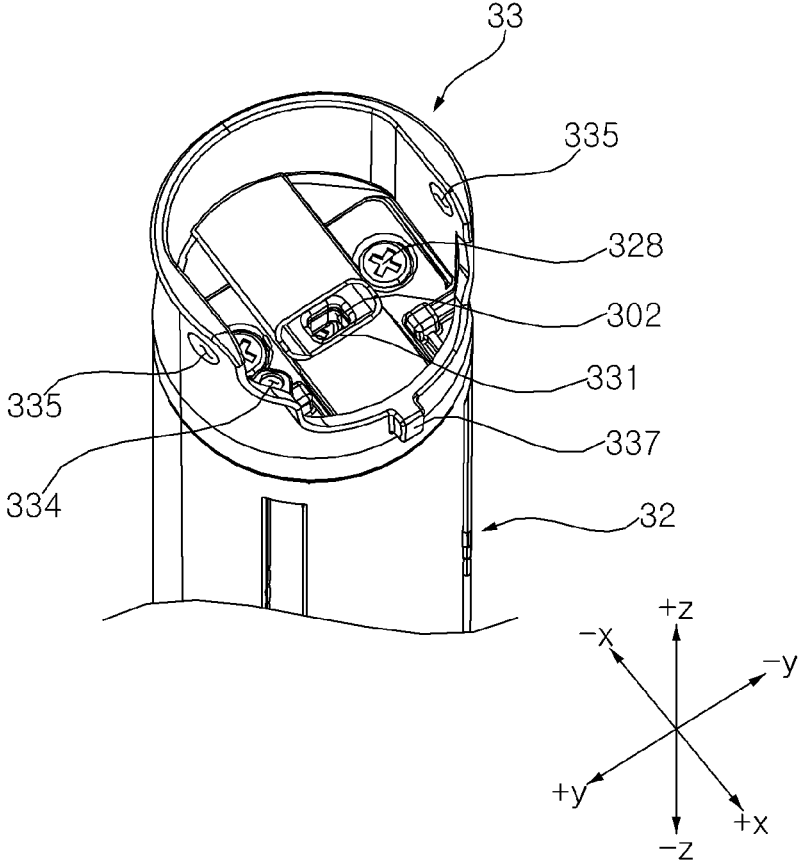
【FIG. 9】



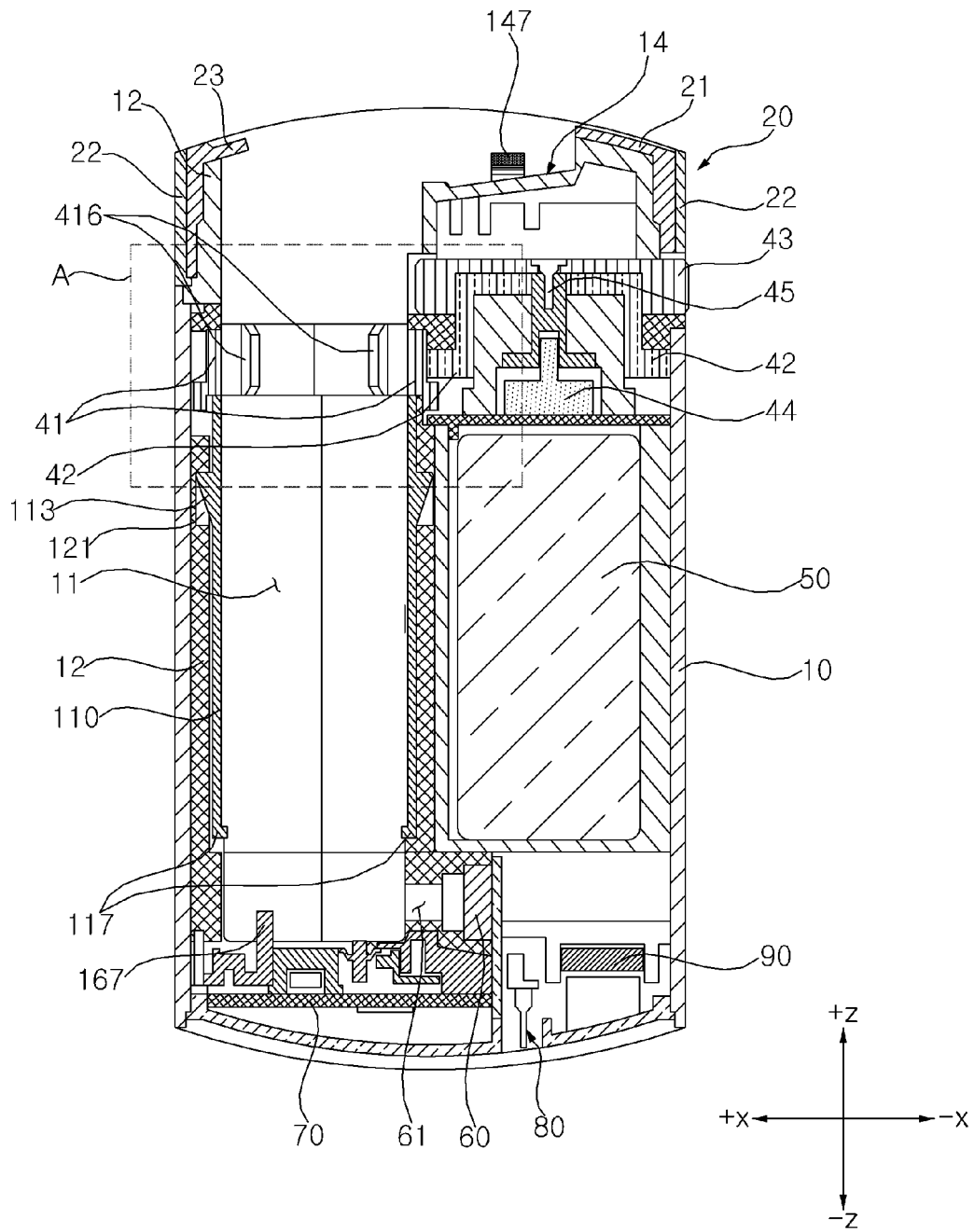
【FIG. 10】



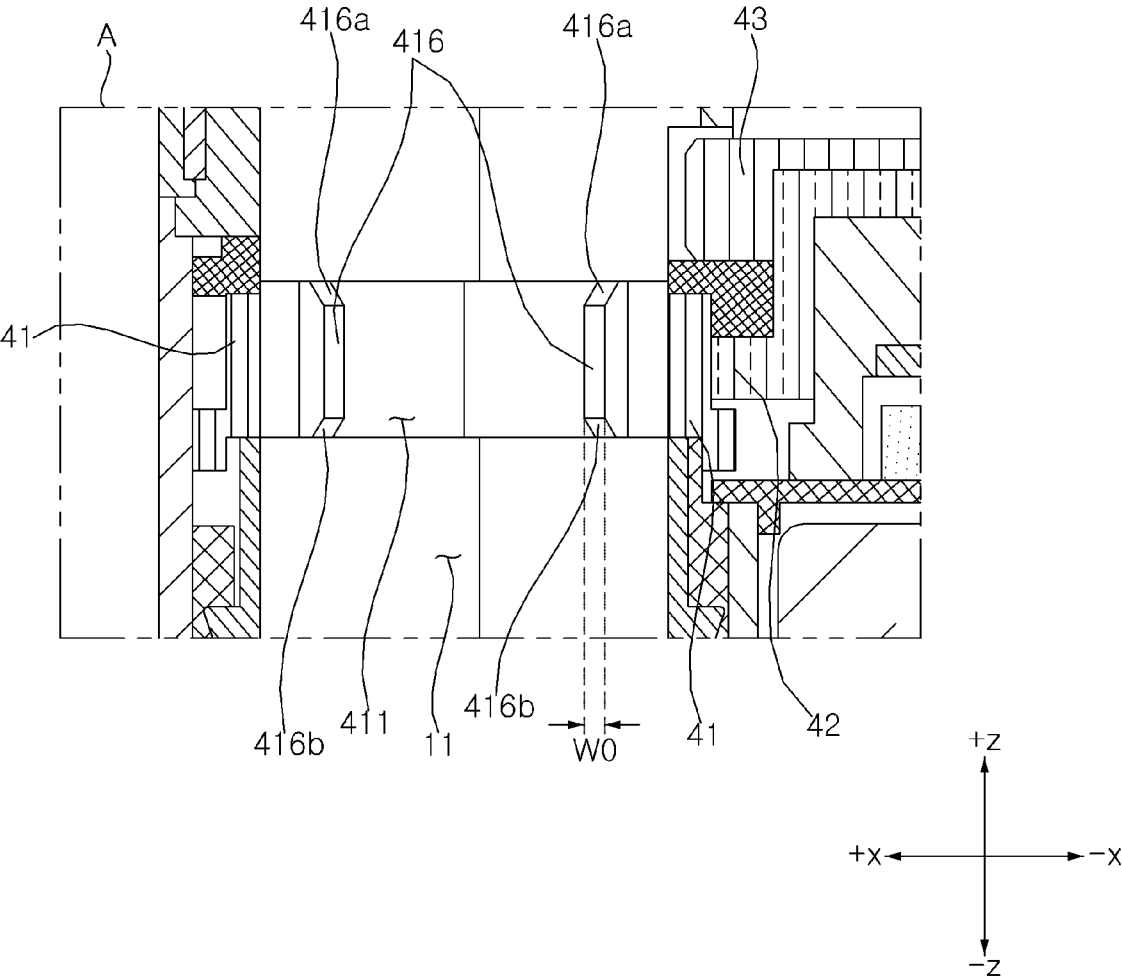
【FIG. 11】



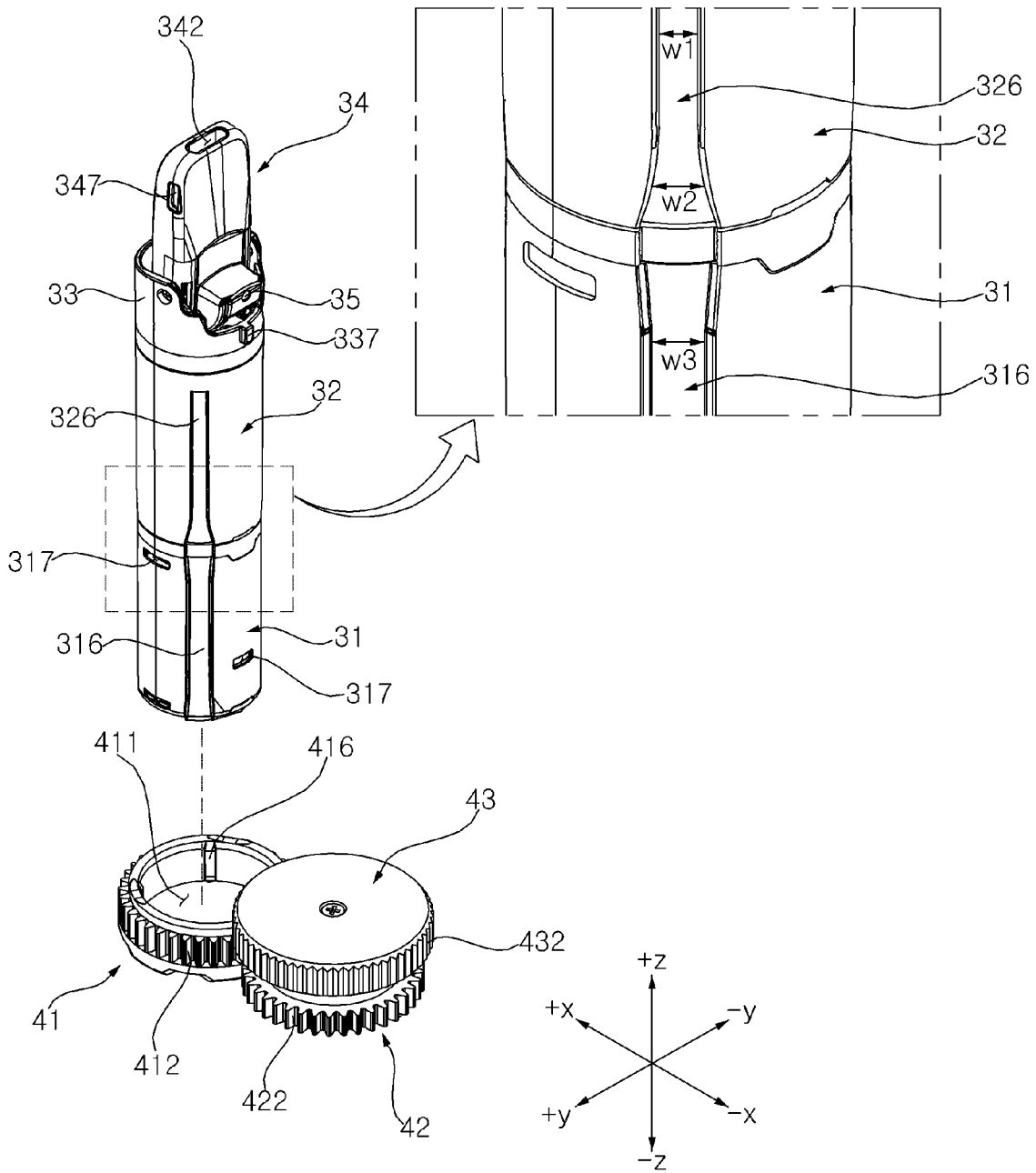
【FIG. 12】



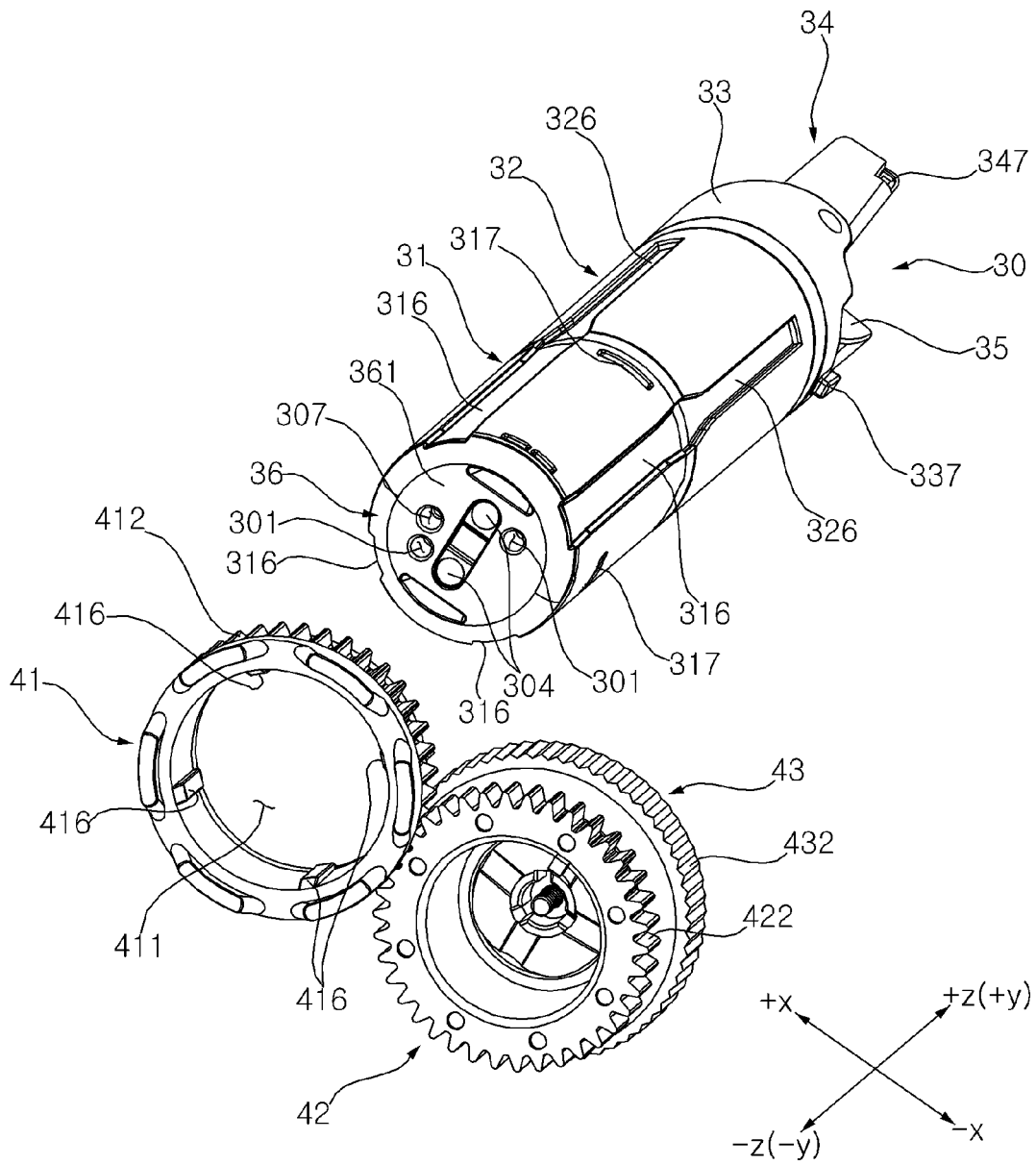
【FIG. 13】



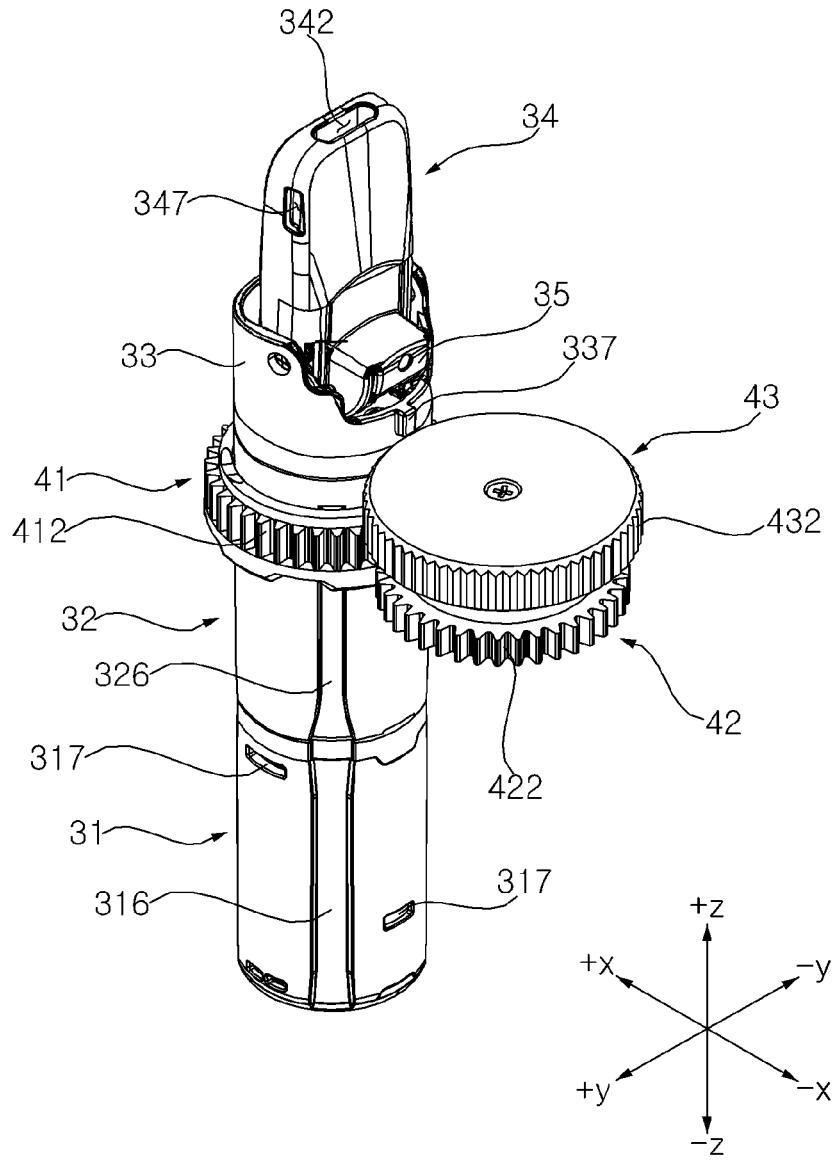
【FIG. 14】



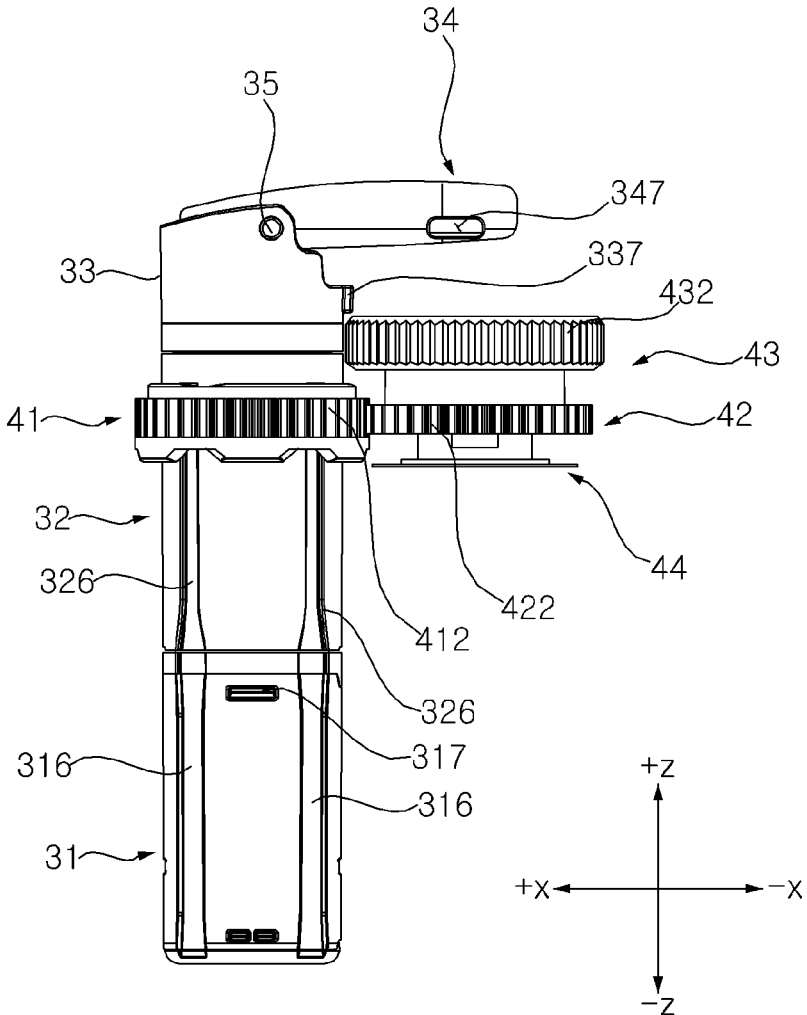
【FIG. 15】



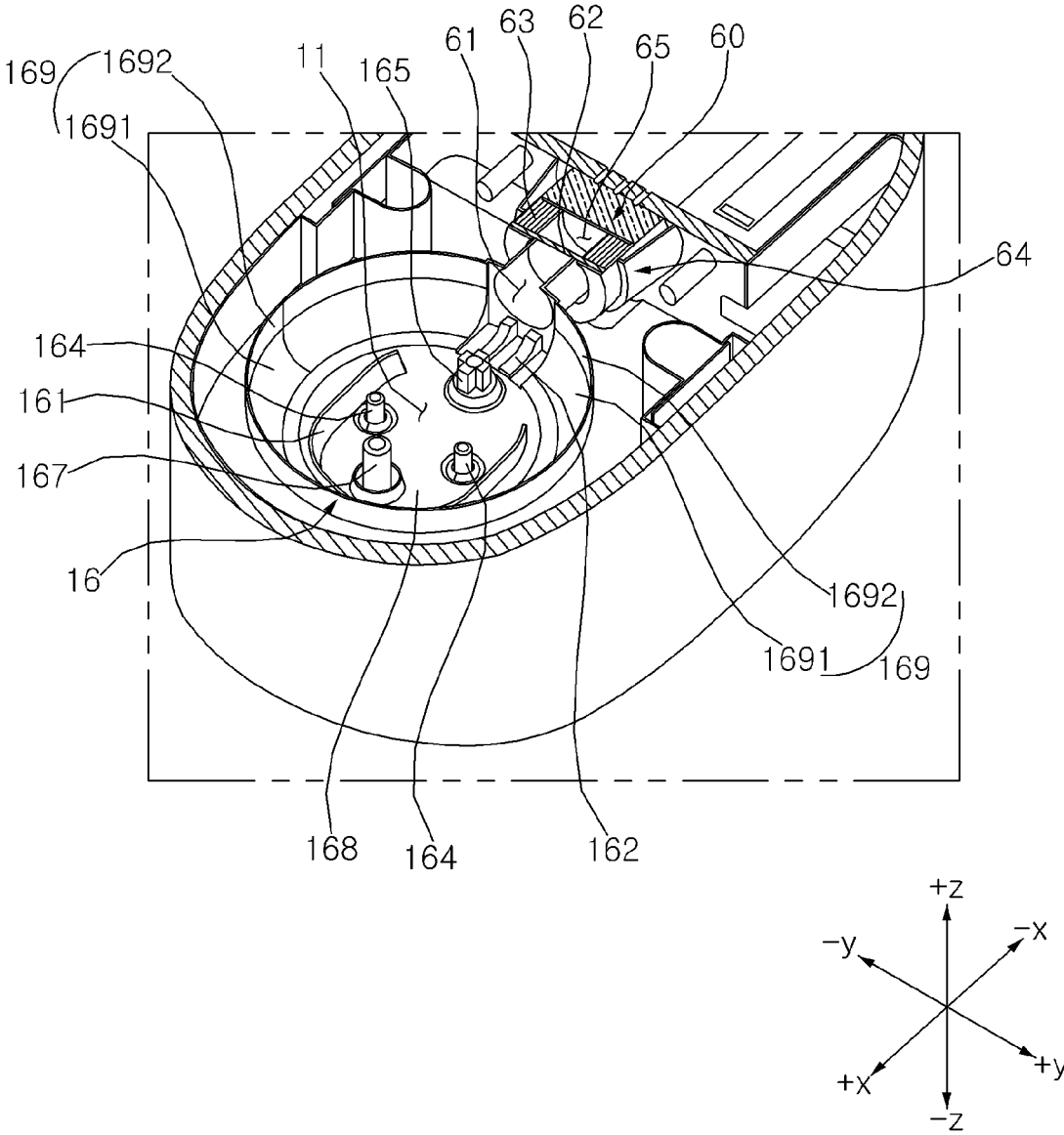
【FIG. 16】



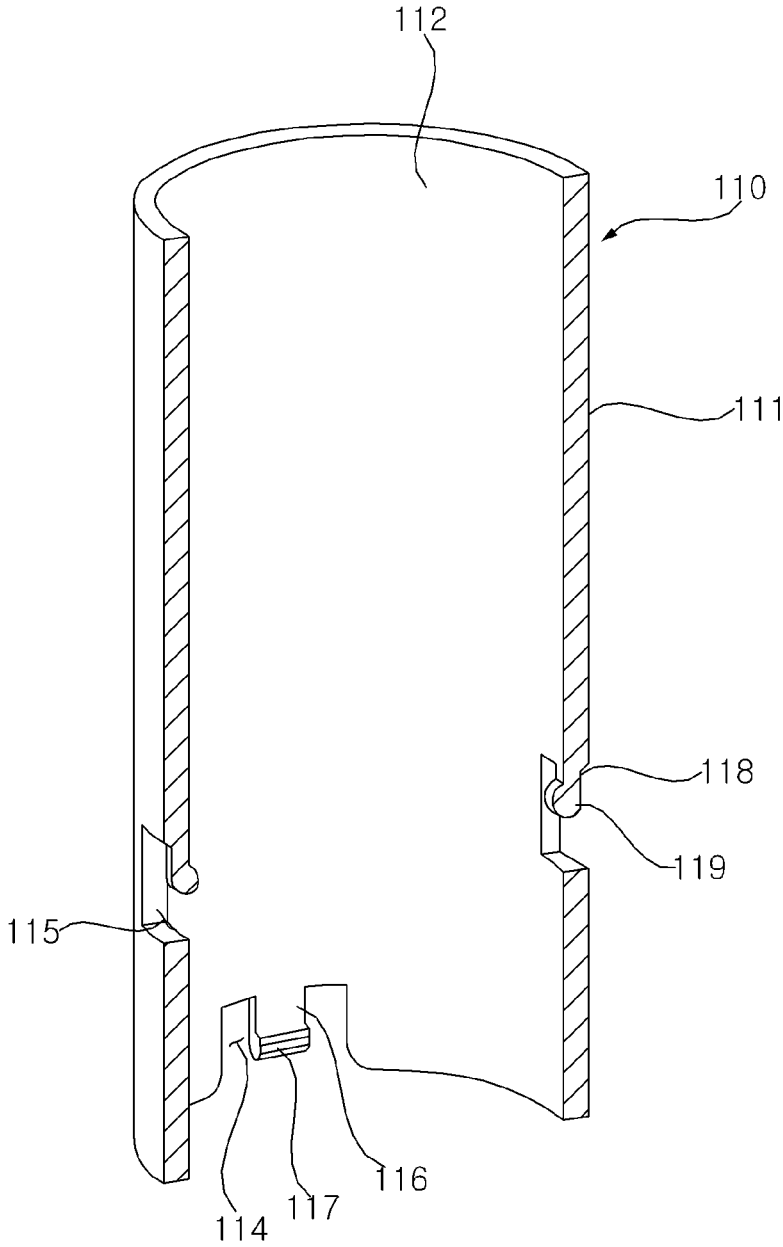
【FIG. 17】



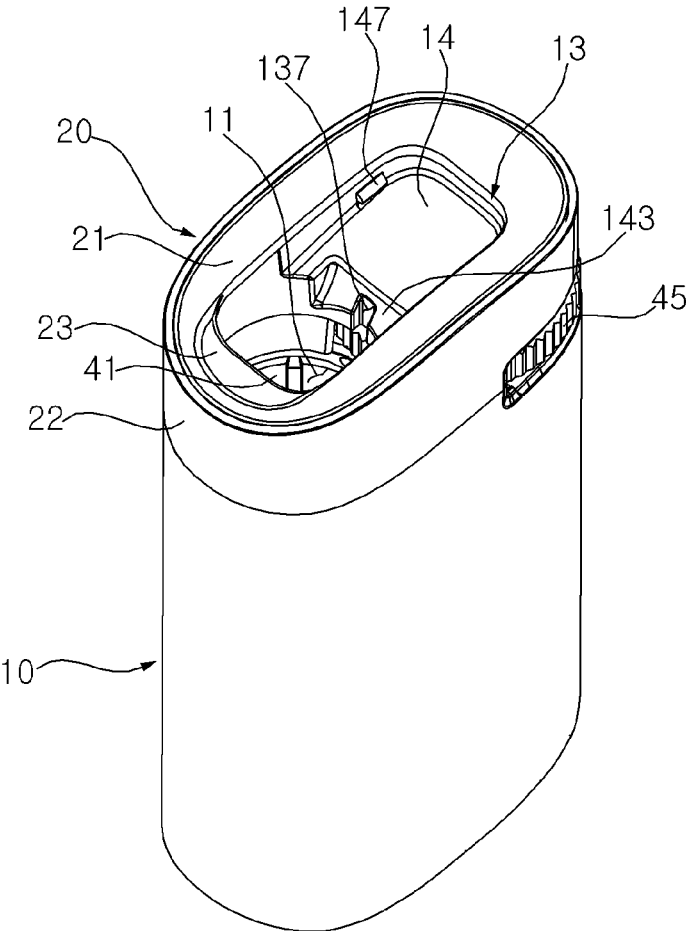
【FIG. 18】



【FIG. 19】



【FIG. 20】



AEROSOL-GENERATING DEVICE

TECHNICAL FIELD

[0001] The present disclosure relates to an aerosol-generating device.

BACKGROUND ART

[0002] An aerosol-generating device is a device that extracts certain components from a medium or a substance by forming an aerosol. The medium may contain a multi-component substance. The substance contained in the medium may be a multicomponent flavoring substance. For example, the substance contained in the medium may include a nicotine component, an herbal component, and/or a coffee component. Recently, various research on aerosol-generating devices has been conducted.

DISCLOSURE OF INVENTION

Technical Problem

[0003] It is an object of the present disclosure to provide an aerosol-generating device capable of providing a user with a medium, optimal quality of which is maintained without reduction of service life due to prolonged use or decomposition due to exposure to external air, without having to replace a cartridge.

[0004] It is another object of the present disclosure to provide an aerosol-generating device capable of providing a user with a different medium depending on user's preference without having to replace a cartridge.

[0005] It is still another object of the present disclosure to provide an aerosol-generating device enabling the medium replacement period to be increased.

[0006] It is yet another object of the present disclosure to provide an aerosol-generating device capable of preventing decomposition of unused medium.

[0007] It is still yet another object of the present disclosure to provide an aerosol-generating device capable of providing a user with a different medium in the state in which a cartridge is mounted in the device.

Solution to Problem

[0008] In accordance with an aspect of the present invention for accomplishing the above and other objects, there is provided a cartridge, which includes a first container and a second container rotatably connected to the first container, wherein the first container includes a cylinder having a space configured to store therein a liquid material and a rotation limiter formed at then outer circumferential surface of the cylinder.

[0009] In accordance with another aspect of the present invention for accomplishing the above and other objects, there is provided an aerosol-generating device including a cartridge including a first container and a second container, a housing having therein a reception space into which the cartridge is fitted, and a connector disposed in the reception space, wherein the first container includes a first rotation limiter formed at the outer surface of the first container, and the connector includes a second rotation limiter engaged with the first rotation limiter.

Advantageous Effects of Invention

[0010] According to at least one of embodiments of the present disclosure, the aerosol-generating device is capable of providing a user with a medium, optimal quality of which is maintained without reduction of service life due to prolonged use or decomposition due to exposure to external air, without having to replace a cartridge.

[0011] In addition, according to at least one of embodiments of the present disclosure, the aerosol-generating device is capable of providing a user with a different medium as desired by the user without having to replace a cartridge.

[0012] In addition, according to at least one of embodiments of the present disclosure, the aerosol-generating device enables the medium replacement period to be increased.

[0013] In addition, according to at least one of embodiments of the present disclosure, the aerosol-generating device is capable of preventing decomposition of unused medium.

[0014] In addition, according to at least one of embodiments of the present disclosure, the aerosol-generating device is capable of providing a user with a different medium in the state in which a cartridge is mounted in the device.

[0015] Additional applications of the present disclosure will become apparent from the following detailed description. However, because various changes and modifications that fall within the spirit and scope of the present disclosure will be readily apparent to those skilled in the art, it should be understood that the detailed description and specific embodiments, including preferred embodiments of the present disclosure, are merely given by way of example.

BRIEF DESCRIPTION OF DRAWINGS

[0016] The above and other objects, features and other advantages of the present disclosure will be more clearly understood from the following detailed description taken in conjunction with the accompanying drawings, in which:

[0017] FIGS. 1 to 20 are views illustrating an aerosol-generating device according to an embodiment of the present disclosure.

MODE FOR THE INVENTION

[0018] A description will now be given in detail according to exemplary embodiments disclosed herein, with reference to the accompanying drawings. For the sake of brevity of description with reference to the drawings, the same or equivalent components are denoted by the same reference numbers, and a description thereof will not be repeated.

[0019] In general, suffixes such as "module" and "unit" may be used to refer to elements or components. The use of such suffixes herein is merely intended to facilitate description of the specification, and the suffixes do not have any special meaning or function.

[0020] In the present disclosure, that which is well known to one of ordinary skill in the relevant art has generally been omitted for the sake of brevity. The accompanying drawings are used to facilitate understanding of various technical features, and it should be understood that the embodiments presented herein are not limited by the accompanying drawings. As such, the present disclosure should be construed to

extend to any alterations, equivalents and substitutes, in addition to those that are particularly set out in the accompanying drawings.

[0021] It is to be understood that, although the terms “first,” “second,” etc. may be used herein to describe various elements, these elements should not be limited by these terms. These terms are only used to distinguish one element from another.

[0022] It will be understood that when an element is referred to as being “connected with” another element, intervening elements may be present. In contrast, it will be understood that when an element is referred to as being “directly connected with” another element, there are no intervening elements present.

[0023] A singular representation may include a plural representation unless the context clearly indicates otherwise.

[0024] Hereinafter, directions of an aerosol-generating device are defined based on the orthogonal coordinate system shown in FIGS. 1 to 3, 5 and 6. In the orthogonal coordinate system, the x-axis direction may be defined as the rightward and leftward direction of the aerosol-generating device. Here, based on the origin, the +x-axis direction may mean the leftward direction, and the -x-axis direction may mean the rightward direction. Furthermore, the y-axis direction may be defined as the forward and backward direction of the aerosol-generating device. Here, based on the origin, the +y-axis direction may mean the forward direction, and the -y-axis direction may mean the backward direction. In addition, the z-axis direction may be defined as the upward and downward direction of the aerosol-generating device. Here, based on the origin, the +z-axis direction may mean the upward direction, and the -z-axis direction may mean the downward direction.

[0025] Referring to FIGS. 1 and 2, a housing 10 may be provided therein with a reception space 11, and may be open at one surface thereof. An upper case 20 may be mounted on the upper portion of the housing 10 (hereinafter, referred to as an upper housing 13). The upper case 20 may surround the upper housing 13. The upper case 20 may be perforated vertically so as to define an opening O therein. The opening O may communicate with the reception space 11. A cartridge 30 may be fitted into the reception space 11 defined in the housing 10. An aerosol may be generated in the cartridge 30, and may be discharged to the outside through the inside of the cartridge 30.

[0026] The opening O may be formed in the upper surface 21 of the upper case 20. The upper surface 21 of the upper case 20 may be disposed over the housing 10. The side surface 22 of the upper case 20 may extend along the circumference of the upper surface 21. A head cover 23 may be a portion of the upper surface 21 of the upper case 20. The head cover 23 may cover the upper portion of a container head 33.

[0027] A mounting groove 27 may be formed in a side surface 22 of the upper case 20. The mounting groove 27 may be formed in the inner side of the side surface 22.

[0028] A mounting protrusion 17 may project outwards from the upper housing 13. The mounting protrusion 17 may project outwards from a side surface of the upper housing 13.

[0029] The mounting protrusion 17 may be fitted into the mounting groove 27. The mounting protrusion 17 and the mounting groove 27 may be formed at positions correspond-

ing to each other. Each of the mounting protrusion 17 and the mounting groove 27 may include a plurality of mounting protrusions or grooves.

[0030] The cartridge 30 may be disposed in the reception space 11. The cartridge 30 may include a first container 31 and a second container 32. The first container 31 may have therein a chamber configured to contain a liquid therein. The second container 32 may have therein a chamber configured to contain a medium.

[0031] The second container 32 may include a chamber configured to receive therein medium. The second container 32 may be connected or coupled to the first container 31. The second container 32 may be disposed above the first container 31.

[0032] The second container 32 may be rotatably connected or coupled to the first container 31. The second container 32 may be disposed on the first container 31. The first container 31 and the second container 32 may have approximately the same diameter.

[0033] A first guide slit 316 may be formed in the outer circumferential surface of the first container 31. The first guide slit 316 may be depressed inwards from the outer circumferential surface of the first container 31. The first guide slit 316 may be formed so as to extend vertically. The first guide slit 316 may extend to the lower end from the upper end of the outer circumferential surface of the first container 31. Hereinafter, the first guide slit 316 may be referred to as a first guide rail 316.

[0034] The second guide slit 326 may be formed in the outer circumferential surface of the second container 32. The second guide slit 326 may be depressed inwards from the outer circumferential surface of the second container 32. The second guide slit 326 may be formed so as to extend vertically. The second guide slit 326 may extend to the lower end of the outer circumferential surface of the second container 32 from a predetermined vertical position thereof. Hereinafter, the second guide slit 326 may be referred to as a second guide rail 326.

[0035] When the second container 32 rotates to a predetermined position, the second guide slit 326 may be aligned with the first guide slit 316. At this position, the lower end of the second guide slit 326 may be connected to the upper end of the first guide slit 316.

[0036] The second guide slit 326 may include a portion that is increasingly wide downwards. The second guide slit 326 may be widest at the lower end of the second container 32. The width of the second guide slit 326 may increase upwards from the lower end of the second guide slit 326, and may be maintained at a certain value from a predetermined height. The lower end of the second guide slit 326 may be the same width as the width of the upper end of the first guide slit 316. The width of the first guide slit 316 may be greatest at the lower end and/or the upper end thereof.

[0037] The first guide slit 316 may include a plurality of first guide slits, which are arranged along the circumference of the first container 31. The second guide slit 326 may include a plurality of second guide slits, which are arranged along the circumference of the second container 32.

[0038] Each of the first and second guide slits 316 and 326 may be referred to as a guide rail, a guide channel, or a guide groove.

[0039] A holding groove 317 may be formed in the outer circumferential surface of the first container 31. The holding groove 317 may be formed so as to be depressed inwards

from the outer circumferential surface of the first container 31. The holding groove 317 may be formed at a position that is spaced apart from the first guide slit 316. The holding groove 317 may be formed at a position, which is spaced outwards apart from the first guide slit 316. A holding protrusion 117, which is provided at a lower portion of the reception space 11, may be fitted into the holding groove 317 (see FIG. 3).

[0040] The holding groove 317 may extend in a circumferential direction of the cylinder 310. The length of the holding groove 317 may be greater than the width of the holding groove 317. The holding protrusion 117 may have length and width corresponding to the holding groove 317.

[0041] The holding groove 317 may include a plurality of holding grooves 317. The holding grooves 317 may include a first holding groove 317, which is positioned at a lower level, and a second holding groove 317, which is positioned at an upper level. The second holding groove 317 may be disposed closer to the second container 32 than the first holding groove 317. The first holding groove 317 may be positioned at a position, which is spaced apart from the second holding groove 317 in a circumferential direction.

[0042] The first holding groove 317 may include a plurality of first holding grooves 317. The second holding groove 317 may include a plurality of second holding grooves 317.

[0043] Alternatively, the holding protrusion may be formed on the outer circumferential surface of the first container 31, and the holding groove may be formed in the lower portion of the reception space 11. The holding protrusion formed on the outer circumferential surface of the first container 31 may be fitted into the holding groove formed in the lower portion of the reception space 11.

[0044] Hereinafter, the holding groove or the holding protrusion formed at the outer circumferential surface of the first container 31 may be referred to as a first rotation limiter 317, and the holding protrusion or the holding groove formed at the lower portion of the reception space 11 may be referred to as a second rotation limiter 117.

[0045] The cartridge 30 may include the container head 33, which is positioned on the second container 32. The container head 33 may extend upwards from the outer circumferential surface of the second container 32. The container head 33 may be configured such that the upper portion thereof is open. The container head 33 may be open at a portion of the side surface portion thereof. The container head 33 may be configured such that the upper surface portion and the side surface portion thereof are continuously opened so as to form an “L”-shaped opening.

[0046] A fitting protrusion 337 may be formed on the outer surface of the container head 33. The fitting protrusion 337 may project from the outer surface of the container head 33. The fitting protrusion 337 may project outwards from one surface of the container head 33. The fitting protrusion 337 may be fitted into a fitting groove 137 formed in the upper portion of the reception space 11 (see FIG. 5).

[0047] The cartridge 30 may include a mouthpiece 34, which is pivotably connected or coupled to the container head 33. The mouthpiece 34 may have formed therein a suction passage 343 (see FIG. 3). The suction passage 343 may communicate both with a second inlet 341 and with a second outlet 342 (see FIG. 5). For convenience of explanation, the suction passage 343 may be referred to as a passage 343 or a second passage 343.

[0048] The mouthpiece 34 may be exposed to the outside from the open portion of the container head 33. When the mouthpiece 34 is inserted into the reception space 11, the mouthpiece 34 may be exposed to the outside through the opening O in the upper case 20. The mouthpiece 34 may have a shape corresponding to the opening O. The mouthpiece 34 may be pivotable in the opening O.

[0049] A sealing cap 35 may project outwards from the mouthpiece 34. The sealing cap 35 may be coupled to one side of the mouthpiece 34. The sealing cap 35 may be oriented so as to project in the direction in which the mouthpiece 34 is pivoted.

[0050] A seating portion 14 may be formed in the upper housing 13. The seating portion 14 may be depressed downwards from the upper housing 13. The seating portion 14 may have a shape corresponding to the mouthpiece 34. When the mouthpiece 34 is pivoted to a certain position while the cartridge 30 is disposed in the reception space 11, the mouthpiece 34 may be seated and received in the seating portion 14.

[0051] A holding groove 347 may be formed so as to be depressed inwards from the side surface of the mouthpiece 34. A holding protrusion 147 may project inwards from the side surface of the seating portion 14. The holding protrusion 147 may be removably fitted into the holding groove 347. When the mouthpiece 34 is pivoted and seated in the seating portion 14, the holding protrusion 147 may be fitted into the holding groove 347 such that the mouthpiece 34 is held in the seated position. When the mouthpiece 34 is pivoted in the opposite direction, the holding protrusion 147 may be disengaged from the holding groove 347 such that the mouthpiece 34 becomes separable from the seating portion 14.

[0052] A dial 43 may be rotatably disposed in the housing 10. At least a portion of the dial 43 may be exposed to the outside from the housing 10. The dial 43 may be disposed adjacent to the upper housing 13. The dial 43 may be rotated in order to rotate the second container 32.

[0053] Referring to FIG. 3, the cartridge 30 may be inserted vertically in the reception space 11 (see FIG. 2) in the housing 10. A battery 50 may be received in the housing 10 so as to be disposed parallel to the reception space 11. A gear assembly 40 may be received in the housing 10 so as to be disposed over the battery 50. The seating portion 14 may be oriented parallel to the reception space 11. The seating portion 14 may be disposed over the battery 50.

[0054] The first container 31 may include therein a liquid chamber 311 and an evaporation chamber 312. A material for vaporization may be received in the liquid chamber 311. The material for vaporization may be liquid. A wick 313 may be disposed in the evaporation chamber 312. The wick 313 may be formed so as to extend in a forward and backward direction. A heater 314 may be disposed in the evaporation chamber 312. The heater 314 may be disposed around the wick 313 so as to heat the wick 313. The heater 314 may be configured so as to have the form of a coil surrounding the wick 313.

[0055] The material for vaporization may be absorbed into the wick 313 from the liquid chamber 311, and may then be introduced into the evaporation chamber 312. The heater 314 may heat the wick 313 to thereby evaporate the material for vaporization absorbed in the wick 313 and thus generate an aerosol.

[0056] An evaporation passage 318 may communicate with the evaporation chamber 312. The evaporation passage 318 may be formed above the evaporation chamber 312. The evaporation passage 318 may be positioned over the wick 313 and the heater 314. The evaporation passage 318 may be oriented in the longitudinal direction of a container shaft 325, which is disposed vertically. The evaporation passage 318 may be positioned in a line extending from the container shaft 325.

[0057] The second container 32 may include a plurality of chambers 321 and 322, which are isolated from each other. The plurality of chambers 321 and 322 may be respectively referred to as a first granulation chamber 321 and a second granulation chamber 322. Hereinafter, although only the first and second granulation chambers 321 and 322 will be described for convenience of explanation, the second container 32 may include a plurality of chambers 321, 322, . . . , which are isolated from each other, without limiting the number thereof. For example, the plurality of chambers 321, 322, . . . may include four chambers.

[0058] The second container 32 may be rotated about the container shaft 325, which is oriented vertically. The container shaft 325 may be disposed in the center of the second container 32. The container shaft 325 may be oriented vertically. The container shaft 325 may rotatably support the second container 32. The second container 32 may be rotatable about the container shaft 325.

[0059] The container shaft 325 may include a rotating shaft 3251, which extends vertically. The container shaft 325 may include a first disc 3253, which is disposed above the first container 31. The rotating shaft 3251 and the first disc 3253 may be connected to each other. The rotating shaft 3151 and the first disc 3253 may be integrally formed with each other. The first disc 3253 may be referred to as a first flange 3253.

[0060] The container shaft 325 may be coupled or bonded to the first container 31. The container 325 may be fixed to the first container 31. The first disc 3253 may be disposed above the first container 31. The first disc 3253 may be coupled or bonded to the first container 31. The first disc 3253 may be fixed to the first container 31.

[0061] A first disc hole 3259 may be formed in the first disc 3253. The first disc hole 3259 may be connected or communicated with a first connecting passage 319. The first disc hole 3259 may communicate with a lower chamber hole 323 depending on the rotational position of the second container 32.

[0062] The rotating shaft 3251 may be disposed in the second container 32. The rotating shaft 3251 may be disposed between the plurality of chambers 321 and 322. The rotating shaft 3251 may be disposed in the center of the second container 32. The second container 32 may be rotated about the rotating shaft 3251.

[0063] The rotating shaft 3251 may extend vertically. The rotating shaft 3251 may project upwards from the first disc 3253.

[0064] A second disc 327 may be disposed at the upper portion of the second container 32. The second disc 327 may cover the upper portion of the second container 32. The second disc 327 may be disposed above the plurality of chambers 321 and 322. The second disc 327 may be referred to as a second flange 327.

[0065] The second disc 327 may be coupled to the container shaft 325. The second disc 327 may be coupled to the rotation shaft 3251. The second disc 327 may be fixed to the rotating shaft 3251.

[0066] The second disc 327 may be coupled or bonded to the container head 33. The second disc 327 may be fixed to the container head 33.

[0067] The first container 31 and the container head 33 may be connected to each other via the container shaft 325. The first container 31 and the container head 33 may be held in relative rotational position. The first container 31, the container head 33, and the container shaft 325 may be fixed to one another.

[0068] The second container 32 may be rotated about the container shaft 325. The second container 32 may be rotated relative to the first container 31. The second container 32 may be rotated relative to the container head 33.

[0069] The plurality of chambers 321 and 322 may be arranged in the rotational direction of the second container 32 around the container shaft 325. The medium may be received in the plurality of chambers 321 and 322. The container shaft 325 may be referred to as a rotating shaft of the second container 32.

[0070] A lower chamber hole 323 may be formed in the lower portion of the first granulation chamber 321. The lower chamber hole 323 may be formed in the lower portion of the second granulation chamber 322. An upper chamber hole 324 may be formed in the upper portion of the first granulation chamber 321. The upper chamber hole 324 may be formed in the upper portion of the second granulation chamber 322.

[0071] The first container 31 and the second container 32 may be connected to each other via a first connecting passage 319. The first connecting passage 319 may be positioned between the first container 31 and the second container 32. The first connecting passage 319 may be positioned over the evaporation passage 318 so as to communicate with the evaporation passage 318.

[0072] The first connecting passage 319 may be connected to one of the plurality of chambers 321 and 322 in the second container 32. The first connecting passage 319 may be selectively connected to one of the plurality of chambers 321 and 322 in the second container 32. When the second container 32 is rotated, the first connecting passage 319 may be connected to one of the plurality of chambers 321 and 322 in the second container 32. The first connecting passage 319 may be connected to the lower chamber hole 323 formed in the lower portion of the first granulation chamber 321. The first connecting passage 319 may be connected to the lower chamber hole 323 formed in the lower portion of the second granulation chamber 322.

[0073] Among the plurality of chambers, the remaining chamber or chambers (hereinafter, referred to as a remaining chamber), which is not connected to the first connecting passage 319, may be hermetically closed so as to prevent the entry of external air. The chamber holes in the remaining chamber may be closed.

[0074] A first inlet 301 (see FIG. 4) may be formed in the lower portion of the first container 31, and a first outlet 302 may be formed in the upper portion of the second container 32. The first inlet 310 may communicate with the evaporation chamber 312. The evaporation chamber 312 may be positioned over the first inlet 301. The first outlet 302 may communicate with the upper chamber hole 324. The first

outlet 302 may be positioned over the upper chamber hole 324. A second connecting passage 329 (see FIG. 5) may be connected to the first outlet 302 and the upper chamber hole 324. The second connecting passage 329 may be positioned between the first outlet 302 and the upper chamber hole 324. The first outlet 302 may face the second inlet 341 so as to communicate with the suction passage 343. A user may inhale air through the mouthpiece 34. Air may be discharged upwards through the first outlet 302. The passage formed in the cartridge 30 may be referred to as a first passage or a cartridge passage. The first passage may communicate with the first inlet 301 and the first outlet 302. The air that is introduced through the first inlet 301 may be discharged from the first outlet 302 through the first passage. The first passage may be formed by connecting one of the plurality of chambers in the second container 32 to the passage formed in the first container 31.

[0075] When the cartridge 30 is inserted into the reception space 11, the head cover 23 of the upper case 20 may be disposed over the container head 33. The head cover 23 may cover the upper portion of the container head 33.

[0076] Consequently, it is possible to prevent the cartridge 30 from escaping outwards from the reception space 11.

[0077] The holding protrusion 117 may be disposed at the lower portion of the reception space 11, and may project toward the inside of the reception space 11. When the cartridge 30 is inserted into the reception space 11, the holding protrusion 117 may be fitted into the holding groove 317 (see FIG. 2).

[0078] Consequently, when the second container 32 is rotated in the reception space 11, the first container may be held in place without being rotated together with the second container 32.

[0079] The fitting groove 137 may be formed in the upper side of the reception space 11. When the cartridge 30 is inserted into the reception space 11, the fitting protrusion 337 may be fitted into the fitting groove 137 (see FIG. 5).

[0080] Accordingly, when the cartridge 30 is inserted into the reception space 11, a user is able to dispose the cartridge 30 at the correct position.

[0081] Consequently, when the second container 32 is rotated in the reception space 11, the container head 33 may be held in place without being rotated together with the second container 32.

[0082] The gear assembly 40 may rotate the second container 32. The gear assembly 40 may be mounted in the housing 10. The gear assembly 40 may include at least one of a cartridge gear 41, a dial gear 42, and the dial 43.

[0083] The dial gear 42 may be mounted in the housing 10. The dial gear 42 may include a rotating shaft, which is parallel to the rotating shaft of the second container 32. The rotating shaft of the dial gear 42 and/or the rotating shaft of the dial 43 may be referred to as a dial shaft 45. The dial shaft 45 of the dial gear 42 may be oriented parallel to the container shaft 325. The dial gear 42 may be disposed over the battery 50. The dial gear 42 may be disposed adjacent to the side surface of the cartridge 30. The dial gear 42 may be disposed adjacent to the side surface of the second container 32.

[0084] The dial gear 42 may be rotated by rotating the dial 43. The dial gear 42 may be rotated by receiving power from a motor (not shown).

[0085] The dial gear 42 may be rotated while being engaged with the second container 32. The dial gear 42 may

be rotated while being directly engaged with the outer circumferential surface of the second container 32.

[0086] The cartridge gear 41 may be rotatably mounted in the housing 10. The cartridge gear 41 may be positioned coaxially with the second container 32.

[0087] The cartridge gear 41 may be configured to have the form of a ring, the inner circumferential surface of which defines therein a space. The inner circumferential surface of the cartridge 41 may be configured to surround the reception space 11. The inner circumferential surface of the cartridge gear 41 may be engaged with the outer circumferential surface of the second container 32 so as to rotate therewith. The dial gear 42 may be engaged with the outer circumferential surface of the cartridge gear 41 so as to rotate therewith.

[0088] The dial 43 may be mounted in the housing 10. At least a portion of the dial 43 may be exposed to the outside from the housing 10. The dial 43 may be positioned coaxially with the dial gear 42. The dial 43 may be rotated together with the dial gear 42 about the dial shaft 45. The dial shaft 45 may be disposed parallel to the container shaft 325.

[0089] Consequently, a user is able to rotate the second container 32 by rotating the dial 43 at the outside of the housing 10.

[0090] The dial 43 may be mounted to the upper housing 13. The dial 43 may be mounted over the battery 50.

[0091] Consequently, a user is able to conveniently rotate the dial 43 while gripping the aerosol-generating device.

[0092] A rotary switch 44 may be mounted coaxially with the dial gear 42 and/or the dial 43. The rotary switch 44 may be disposed over the battery 50. The rotary switch 44 may detect the rotational position of the dial gear 42 and/or the dial 43 and may thus detect the position of the second container 32.

[0093] A controller 70 may determine with which of the plurality of granulation chambers the first connecting passage 319 and the first outlet 302 communicate using the rotary switch 44.

[0094] The battery 50 may be disposed at the lateral side of the reception space 11. The battery 50 may be disposed parallel to the reception space 11 and/or the cartridge 30. The battery 50 may be disposed adjacent to the dial gear 42 and the reception space 11 in the longitudinal direction of the rotating shaft of the dial gear 42.

[0095] Accordingly, even when the volume of the battery 50 is increased in order to increase the capacity of the battery 50, the aerosol-generating device may have a compact structure suitable for being held in a user's hand without unnecessarily increasing the length thereof.

[0096] Consequently, it is possible to ensure spaces for accommodating therein the gear assembly 40, the seating portion 14, a flow sensor 60, a vibration motor and the like above and below the battery 50.

[0097] The flow sensor 60 may be disposed under the battery 50. The flow sensor 60 may be disposed so as to face the side surface of the lower portion of the reception space 11. A sensing hole 61 may be formed between the flow sensor 60 and the reception space 11. The flow sensor 60 may detect the flow of the air that is introduced into the cartridge 30 through the first inlet 301.

[0098] The seating portion 14 may be formed in the upper housing 13 over the battery 50. The seating portion 14 may be positioned above the dial gear 42 and the dial 43. The

seating portion 14 may be positioned over the dial gear 42 and/or the dial 43 in the longitudinal direction of the rotating shaft of the dial gear 42.

[0099] A socket 80 may be mounted on one surface of the housing 10. The socket 80 may be connected to a charging terminal so as to supply power to the battery 50 and the like.

[0100] The vibration motor 90 may be received in the housing 10. The vibration motor 90 may be disposed at the lower portion of the housing 10. The vibration motor 90 may be disposed adjacent to the controller 70. The controller 70 may be disposed under the battery 50.

[0101] The controller 70 may be received in the lower portion of the housing 10. The controller 70 may be disposed under the reception space 11. The controller 70 may be electrically connected to components such as the heater 314, the rotary switch 44, the battery 50, the flow sensor 60, the socket 80, the vibration motor 90, and the like. The controller 70 may control the operation of the components, which are electrically connected thereto.

[0102] The controller 70 may control the heater 314 to heat the wick 313 to thus generate an aerosol. The controller 70 may operate the flow sensor 60. The controller 70 may control the operation of the internal components based on the information corresponding to the result of detection of air flow. The controller 70 may receive an electric signal from the rotary switch 44. The controller 70 may control the operation of the components based on the electric signal received from the rotary switch 44. The controller 70 may operate the vibration motor 90 to transmit the vibration to a user.

[0103] Referring to FIG. 4, the first container 31 may include a cylinder 310, which defines the appearance thereof. The liquid chamber 311 may be formed in the cylinder 310. The evaporation passage 318 may be formed in the cylinder 310. The evaporation passage 318 may be formed in an evaporation pipe 3180, which extends vertically. The evaporation pipe 3180 may be surrounded by the liquid chamber 311.

[0104] An evaporation housing 3120 may extend downwards from the evaporation pipe 3180. The lower portion of the evaporation housing 3120 may be enlarged radially outwards so as to be connected to the cylinder 310. The evaporation chamber 312 may be formed in the evaporation housing 3120. The evaporation chamber 312 may be connected to the evaporation passage 318 in a vertical direction.

[0105] The wick 313 may be disposed in the evaporation housing 3120. The heater 314 may be disposed in the evaporation housing 3120. The heater 314 may be wound around the wick 313 so as to surround the wick 313. The heater 314 may be configured to have the form of a coil surrounding the wick 313. The heater 314 may include a coil. The heater 314 may be referred to as a coil heater 314. The coil of the heater 314 may be wound around the outer circumferential surface of the wick 313.

[0106] A wick hole 3121 may be formed in the evaporation housing 3120 so as to connect the liquid chamber 311 to the evaporation chamber 312. The wick 313 may be inserted into the wick hole 3121. The material for vaporization may be introduced through the wick hole 3121 so as to wet the wick 313.

[0107] A cap 36 may define the bottom surface of the cartridge 30. The cap 36 may be disposed at the lower portion of the first container 31. The cap 36 may cover the lower portion of the cylinder 310. The outer surface of the

cap 36 may be rounded upwards so as to be connected to the outer circumferential surface of the cylinder 310.

[0108] The first inlet 301 may be formed through the cap 36. The first inlet 301 may be connected to the evaporation chamber 312.

[0109] A first extension 362 may project upwards from the bottom 361 of the cap 36 around the first inlet 301. A first extension 362 may extend upwards from the bottom 361 of the cap 36 so as to surround the first inlet 301. The first extension 362 may define a step with respect to the bottom 361 of the cap 36.

[0110] Consequently, it is possible to prevent the material for vaporization that leaks from the liquid chamber 311 from being discharged to the outside of the cartridge 30 through the first inlet 301.

[0111] A connector 365 may extend upwards from the circumferential portion of the cap 36. The connector 365 may be fitted into the inner circumferential surface of the lower portion of the cylinder 310.

[0112] A rim 367 may extend upwards from the connector 365. The rim 367 may be spaced inwards apart from the inner circumferential surface of the cylinder 310.

[0113] A lower sealant or lower seal 37 may be disposed between the cap 36 and the evaporation chamber 312. The lower seal 37 may define the evaporation chamber 312 in conjunction with the evaporation housing 3120. The body 373 of the lower seal 37 may be disposed below the evaporation housing 3120. An evaporation inlet 371 may be vertically formed through the lower seal 37. The evaporation inlet 371 may be formed in the body 373 of the lower seal 37. The evaporation inlet 371 may be positioned between the first inlet 301 and the evaporation chamber 312, and may be connected to the first inlet 301 and the evaporation chamber 312.

[0114] A second extension 372 may extend upwards from the lower seal 37. The second extension 372 may surround the evaporation inlet 371. The second extension 372 may project from the body 373 of the lower seal 37 around the evaporation inlet 371. The second extension 372 may define a step with respect to the bottom surface of the lower seal 37.

[0115] Consequently, it is possible to minimize downward leaking of the material for vaporization that is absorbed in the wick 313, through the evaporation inlet 371. Furthermore, it is possible to prevent the material for vaporization that is transmitted to the evaporation chamber 312 from the liquid chamber 311 from being discharged to the outside of the cartridge 30 through the evaporation inlet 371 and the first inlet 301.

[0116] An upper rim 375 may extend upwards from the outer circumferential portion of the lower seal 37. The upper rim 375 may extend upwards from the outer circumferential portion of the body 373 of the lower seal 37. A rib 3122 may extend downwards from the evaporation housing 3120. The upper rim 375 may be fitted between the rib 3122 and the inner circumferential surface of the cylinder 310.

[0117] A lower rim 377 may extend downwards from the outer circumferential portion of the lower seal 37. The lower rim 377 may be fitted between the rim 367 of the cap 36 and the inner circumferential surface of the cylinder 310.

[0118] The outer circumferential surfaces of the upper rim 375 and the lower rim 377 may define a continuous surface. The upper rim 375 and the lower rim 377 may be in contact with the inner circumferential surface of the cylinder 310.

[0119] Hereinafter, the flow of air and aerosol when a user inhales air through the mouthpiece 34 will be described with reference to FIGS. 3 and 4.

[0120] When a user inhales air through the mouthpiece 34, the air may be introduced from the outside of the housing 10, and may pass through the reception space 11 between the housing 10 and the cartridge 30. The air that has passed through the reception space 11 between the housing 10 and the cartridge 30 may be introduced into the evaporation chamber 312 in the first container 31 through the first inlet 301. The introduced air may pass through the evaporation passage 318 together with the aerosol contained in the evaporation chamber 312. The aerosol that has passed through the evaporation passage 318 may be introduced into the second granulation chamber 322 sequentially through the first connecting passage 319 and the lower chamber hole 323. The aerosol may pass through the medium in the second granulation chamber 322, the upper chamber hole 324, and the first outlet 302 in that order. The aerosol that has passed through the first outlet 302 may be discharged upwards through the second inlet 341, the suction passage 343, and the second outlet 342.

[0121] Referring to FIG. 5, the second disc 327 may be coupled or fixed to the container shaft 325. The second disc 327 may be coupled or fixed to the rotating shaft 3251. A coupling hole 3271 may be formed in the second disc 327. The coupling hole 3271 may be formed in the center of the second disc 327. A coupling member 3278 may extend through the coupling hole 3271. The coupling member 3278 may be fitted into the rotating shaft 3251. The coupling member 3278 may be threadedly engaged with the rotating shaft 3251. The coupling member 3278 may couple the second disc 327 to the container shaft 325.

[0122] A second disc hole 3279 may be formed in the second disc 327. The second disc hole 3279 may be formed at a position, which is spaced apart from the center of the second disc 327. The second disc hole 3279 may be connected (or communicated) with the upper chamber hole 324. The second disc hole 3279 may be connected or communicated with the upper chamber hole 324 formed in the upper portion of one of the plurality of granulation chambers 321 and 322. One of the plurality of granulation chambers 321 and 322 may communicate with the connecting passage via the upper chamber hole 324 and the second disc hole 3279.

[0123] The second connecting passage 329 may be formed between the second disc 327 and the container head 33.

[0124] The container head 33 may be coupled or bonded to the second disc 327. The container head 33 may be fixed to the second disc 327.

[0125] The first outlet 302 may be formed in the container head 33. The first outlet 302 may communicate with the second connecting passage 329.

[0126] Referring to FIGS. 5 and 6, the cartridge gear 41 may include an inner circumferential protrusion 416, which is fitted into the second guide slit 326. The inner circumferential protrusion 416 may project inwards from the inner circumferential surface of the cartridge gear 41. The inner circumferential protrusion 416 may be fitted into the second guide slit 326. The inner circumferential protrusion 416 may be engaged with the second guide slit 326. The inner circumferential protrusion 416 may be engaged with the second guide slit 326 such that the cartridge gear 41 is rotated together with the second container 32.

[0127] The second guide slit 326 may extend in the longitudinal direction of the rotating shaft of the second container 32. The second guide slit 326 may vertically guide the cartridge 30 along the inner circumferential protrusion 416. When the cartridge 30 is inserted into the reception space 11, the inner circumferential protrusion 416 may catch on the upper end of the second guide slit 326. The upper end of the second guide slit 326 may serve as a stopper configured to prevent further downward movement of the cartridge 30.

[0128] The first guide slit 316 may extend in the longitudinal direction of the second guide slit 326. The first guide slit 316 and the second guide slit 326 may define a continuous surface such that the cartridge 30 is guided vertically along the inner circumferential protrusion 416.

[0129] The mouthpiece 34 may be pivotably connected or coupled to the container head 33. FIG. 5 illustrates the state in which the mouthpiece 34 is pivoted so as to be positioned at a first position. FIG. 6 illustrates the state in which the mouthpiece 34 is pivoted so as to be positioned at a second position.

[0130] Hereinafter, the state in which the mouthpiece 34 is pivoted so as to be positioned at the first position will be described with reference to FIG. 5.

[0131] When the mouthpiece 34 is pivoted so as to be positioned at the first position, the mouthpiece 34 may be seated in the seating portion 14 so as to close the upper portion of the housing 10. The mouthpiece 34 may close the opening O in the upper case 20. One surface of the mouthpiece 34 may be exposed to the outside through the opening O.

[0132] The suction passage 343 in the mouthpiece 34 may be disposed in the upper case 20. The suction passage 343 may be oriented so as not to be aligned with the longitudinal direction of the cartridge 30.

[0133] The sealing cap 35 may project downwards from the mouthpiece 34. The sealing cap 35 may be configured to have the form of a hook. The sealing cap 35 may close the first outlet 302.

[0134] Consequently, the medium and the material for vaporization contained in the cartridge and the internal components may be protected from the external environment.

[0135] The sealing cap 35 may have an outer surface, which is rounded in the direction in which the mouthpiece 34 pivots. Accordingly, when the mouthpiece 34 is pivoted so as to be positioned at the first position, the sealing cap 35 does not catch on the surface surrounding the first outlet 302.

[0136] Next, the state in which the mouthpiece 34 is pivoted so as to be positioned at the second position will be described with reference to FIG. 6.

[0137] When the mouthpiece 34 is pivoted so as to be positioned at the second position, the mouthpiece 34 may be separated from the seating portion 14. The sealing cap 35 may be separated from the first outlet 302 so as to open the first outlet 302.

[0138] The first outlet 302 may come into contact with the second inlet 341. The suction passage 343 in the mouthpiece 34 may communicate with the first outlet 302. The suction passage 343 in the mouthpiece 34 may communicate with the space in the first container 31 and the space in the second container 32 through the first outlet 302.

[0139] The suction passage 343 may be oriented so as to extend in the longitudinal direction of the cartridge 30. The

suction passage 343 may be oriented so as to extend vertically. The sealing cap 35 may be disposed so as to project toward the seating portion 14.

[0140] Hereinafter, the directions of the mouthpiece 34 are defined based on the orthogonal coordinate system shown in FIGS. 7 to 9. In the orthogonal coordinate system, a forward direction FD may be defined as the forward direction of the mouthpiece 34. A rearward direction RD may be defined as the rearward direction of the mouthpiece 34. A lateral direction LD may be defined as the rightward and leftward direction or the lateral direction of the mouthpiece 34. An upward direction UD may be defined as the upward direction of the mouthpiece 34. A downward direction DD may be defined as the downward direction of the mouthpiece 34.

[0141] Referring to FIGS. 7 and 8, the mouthpiece 34 may be configured to be elongated in the forward and backward direction of the mouthpiece 34. The mouthpiece 34 may be configured to have a flat shape. The second inlet (or the introduction inlet) 341 may be formed in the rear portion of the mouthpiece 34. The second outlet 342 may be formed in the front portion of the mouthpiece 34.

[0142] The suction passage 343 (see FIG. 6) may be formed in the mouthpiece 34, and may extend in a forward and backward direction. The second inlet 341 may be positioned at one end of the suction passage 343. The second outlet 342 may be positioned at the other end of the suction passage 343. The distance between the pivot shaft 355 and the second outlet 342 may be greater than the distance between the pivot shaft 355 and the second inlet 341. The suction passage 343 may be referred to as a second passage 343.

[0143] Accordingly, a user is able to inhale air while holding the portion of the second outlet 342 in his/her mouth.

[0144] The holding groove 347 may be formed as a depression in a side surface of the mouthpiece 34. The holding groove 347 may include two holding grooves formed in two side surfaces of the mouthpiece 34. The holding groove 347 may be positioned closer to the second outlet 342 than to the second inlet 341.

[0145] The mouthpiece 34 may include the sealing cap 35. The sealing cap 35 may project outwards from the mouthpiece 34. The sealing cap 35 may project downwards from the mouthpiece 34. The sealing cap 35 may be integrally formed with the mouthpiece 34. The sealing cap 35 may be coupled to the mouthpiece 34. The sealing cap 35 may be disposed closer to the second inlet 341 than to the second outlet 342.

[0146] The mouthpiece 34 may be pivotable about the pivot shaft 355. The pivot shaft 355 may be thought of as the center of the pivoting action of the mouthpiece 34 or a pivot center. The pivot shaft 355 may project in a rightward and leftward directions from two side surfaces of the mouthpiece 34 or the sealing cap 35. The pivot shaft 355 may be disposed so as to be perpendicular to the vertical direction. The pivot shaft 355 may be positioned closer to the second inlet 341 than to the second outlet 342.

[0147] The sealing cap 35 may include an extension 352, which extends downwards from the mouthpiece 34. The sealing cap 35 may include a first sealing surface 356, which extends in the rearward direction of the mouthpiece 34 from the lower end of the extension 352. The first sealing surface 356 may define the outer surface of the lower end of the sealing cap 35.

[0148] When the mouthpiece 34 is pivoted, the first sealing surface 356 may come into contact with the region around the first outlet 302. When the mouthpiece 34 is positioned at the first position, the first sealing surface 356 is disposed over the first outlet 302 so as to close the first outlet 302 (see FIG. 5). When the mouthpiece 34 is positioned at the first position, the first sealing surface 356 may come into close contact with a gasket 331 (see FIG. 11), which is disposed around the first outlet 302. The gasket 331 may alternatively be referred to as a docking member or a docking ring.

[0149] The first sealing surface 356 may include a portion that extends while being rounded in the direction in which the mouthpiece 34 is pivoted. The first sealing surface 356 may include a first planar portion 356a, which is formed to have a planar surface, and a first round portion 356b, which is rounded in the direction in which the mouthpiece 34 is pivoted.

[0150] The first planar portion 356a may define the lower surface of the extension 352. The first round portion 346b may define a surface that extends toward the second inlet 341 from the first planar portion 356a while being rounded. The first round portion 356b may have a curvature radius, the center of which is positioned adjacent to the pivot center of the mouthpiece 34.

[0151] Consequently, when the mouthpiece 34 is pivoted, the mouthpiece 34 may smoothly pivot between the first and second positions without the first sealing surface 356 of the sealing cap 35 catching on the surface around the first outlet 302. The end of the sealing surface 356 and/or the sealing cap 35 may be spaced apart from the lower surface of the mouthpiece 34 so as to define a space S between the mouthpiece 34 and the end. The front side and the lower side of the space S may be surrounded by the extension 352 and the first sealing surface 356. The extension 352 and the first sealing surface 346 of the sealing cap 35 may define a hook-shaped section.

[0152] The sealing cap 35 may be made of an elastic material. For example, the sealing cap 35 may be made of a plastic material.

[0153] Accordingly, when the mouthpiece 34 is positioned at the first position, the first sealing surface 356 may come into contact with the first outlet 302, and may press the first outlet 302 while being pushed toward the space S.

[0154] The mouthpiece 34 may include a second sealing surface 346, which constitutes the rear surface of the mouthpiece 34 and surrounds the second inlet 341. The second sealing surface 346 may define the outer surface of the mouthpiece 34 around the second inlet 341.

[0155] When the mouthpiece 34 is pivoted, the second sealing surface 346 may come into contact with the region around the first outlet 302. When the mouthpiece 34 is positioned at the second position, the second sealing surface 346 may be disposed so as to surround the first outlet 302, and the second inlet 341 may communicate with the first outlet 302 (see FIG. 6). When the mouthpiece 34 is positioned at the second position, the second sealing surface 346 may come into close contact with the gasket 331 (see FIG. 11), which is disposed around the first outlet 302.

[0156] The second sealing surface 346 may include a portion that extends while being rounded in the direction in which the mouthpiece 34 is pivoted. The second sealing surface 346 may include a planar portion 346a, which is formed to have a planar surface, and a second round portion

346b, which is rounded in the direction in which the mouthpiece **34** is pivoted. The second planar portion **346a** may be formed higher than the second round portion **346b**.

[0157] The second round portion **346b** may constitute a surface that extends while being rounded in the direction in which the mouthpiece **34** is pivoted. The second round portion **346b** may have a predetermined curvature. The center of the curvature of the second round portion **346b** may be positioned adjacent to the pivot center of the mouthpiece **34**. The second planar portion **346a** may extend from the second round portion **346b** in the upward direction of the mouthpiece **34** to define a planar surface.

[0158] Consequently, when the mouthpiece **34** is pivoted, the second sealing surface **346** of the mouthpiece **34** may smoothly pivot between the first and second positions without catching on the surface around the first outlet **302**.

[0159] A spring **344** may be connected to the mouthpiece **34**. The spring **344** may be exposed to the outside of the mouthpiece **34** through a slit **354** formed in the sealing cap **35**. A portion of the spring **344** may be exposed downwards from the mouthpiece **34**.

[0160] Referring to FIG. 9, the sealing cap **35** may include an assembly protrusion **359**, which projects inwards. The assembly protrusion **359** may include two assembly protrusions, which are formed on two inner side surfaces of the sealing cap **35**. The mouthpiece **34** may have an assembly groove **349**, which is depressed inwards. The assembly groove **359** may include two assembly grooves, which are formed in two side surfaces of the mouthpiece **34**. The assembly protrusions **359** may be fitted into the assembly grooves **349**. The sealing cap **35** may be assembled with the mouthpiece **34** so as to project downwards from the mouthpiece **34**.

[0161] The mouthpiece **34** may include a spring-coupling shaft **345**, which projects outwards from a side surface thereof. The spring-coupling shaft **345** may be formed coaxially with the pivot shaft **355**. The spring **344** may be wound around the spring-coupling shaft **345** so as to extend in the longitudinal direction of the spring-coupling shaft **345**. One end of the spring **344** may be in contact with the mouthpiece **34** and the other end of the spring **344** may be exposed from the mouthpiece **34**.

[0162] Referring to FIGS. 10 and 11, the mouthpiece **34** may be pivotably connected or coupled to the container head **33**. Shaft holes **335** may be formed in two side surfaces of the container head **33**. The pivot shafts **355** may be fitted into the shaft holes **335**. The mouthpiece **34** may be pivotable about the pivot shafts **355**, which are fitted into the shaft holes **335**.

[0163] The container head **33** may be configured to have a cylinder form, which extends upwards from the outer circumferential surface of the second container **32**. The shaft holes **335** may be formed in two side surfaces of the upper portion of the container head **33**. The container head **33** may be open at the upper surface thereof such that the mouthpiece **34** is disposed in the container head **33**. A portion of one side surface of the container head **33** may be open. The container head **33** may be configured such that the upper surface portion and the side surface portion thereof are continuously opened so as to have an "L" shape. The mouthpiece **34** may be pivotable in the open area of the container head **33**.

[0164] The first outlet **302** may be formed in the bottom surface of the container head **33**. The first outlet **302** may be

connected to the connecting passage **329** formed in the upper portion of the second container **32**. The aerosol generated from the cartridge **30** may be discharged from the first outlet **302** through the connecting passage **329**.

[0165] The gasket **331** may be formed around the first outlet **302**. The gasket **331** may surround the first outlet **302** at the bottom surface of the container head **33**. The gasket **331** may project upwards from the bottom surface of the container head **33**. The gasket **331** may be fixed to the bottom surface of the container head **33**. The gasket **331** may have a shape corresponding to the circumference of the second inlet **341** so as to surround the second inlet **341**. The gasket **331** may be made of an elastic material such as rubber or silicone.

[0166] When the mouthpiece **34** is positioned at the first position, the gasket **331** may come into close contact with the first sealing surface **356** of the sealing cap **35**. When the mouthpiece **34** is positioned at the second position, the gasket **331** may come into contact with the second sealing surface **346**, which constitutes the rear surface of the mouthpiece **34** around the second inlet **341**.

[0167] The container head **33** may therein have a spring-fitting hole **334**. The spring-fitting hole **334** may be formed in the inner surface of the container head **33**. The spring-fitting hole **334** may extend upwards, and may be open at the upper portion thereof. The end of the spring **344** that is exposed downwards from the mouthpiece **34** may be fitted and fixed in the spring-fitting hole **334**. The spring **344** may be fixed in the container head **33** and may be connected to the mouthpiece **34** so as to bias the mouthpiece **34** toward the second position. The spring **344** may move the mouthpiece **34** to the second position by virtue of the restoring force thereof.

[0168] The container head **33** may be coupled to the upper side of the second container **32**. An assembly hole **338** may be formed in the bottom surface of the container head **33**. An assembly screw **328** may be engaged with the upper portion of the second container **32** through the assembly hole **338**.

[0169] Referring to FIG. 12, an inner wall **12** may be provided in the housing **10**. The inner wall **12** may be formed separately from the housing **10**, and may be coupled (or bonded) to the inner surface of the housing **10** or may be integrally formed with the housing **10**. The inner wall **12** may surround the reception space **11**. A groove **121** may be formed in the inner circumferential surface of the inner wall **12** in an outward direction.

[0170] A connector **110** may be disposed in the housing **10**. The connector **110** may be disposed on the inner surface of the inner wall **12**. The connector **110** may be disposed at the lower side of the cartridge gear **41**. The connector **110** may be configured to have the form of a cylinder, which extends vertically.

[0171] The connector **110** may surround the reception space **11**. The connector **110** may define the reception space **11**. The connector **110** may define a portion of the reception space **11**. The diameter of the inner circumferential surface of the connector **110** may be equal to the diameter of the inner circumferential surface of the cartridge gear **41**. The inner circumferential surface of the connector **110** may define an extended surface of the inner circumferential surface of the cartridge gear **41**.

[0172] The connector **110** may include a cylindrical connector body **111**. The connector body **111** may surround the reception space **11**. The connector body **111** may define the

reception space 11. The connector body 111 may define a portion of the reception space 11. The inner circumferential surface 112 of the connector body 111 may define the reception space 11. The inner circumferential surface 112 of the connector body 111 may define a portion of the reception space 11. The connector body 111 may extend vertically.

[0173] The connector 110 may be coupled to the housing 10. The connector 110 may be fixed to the housing 10. An outer protrusion 113 may be formed at a position corresponding to the groove 121 in the inner wall 12 of the housing 10. The outer protrusion 113 may be fitted into the groove 121. The outer protrusion 113 may be positioned at the upper portion of the connector 110. The outer protrusion 113 may be positioned higher than the center of the connector 110 in a vertical direction. The outer protrusion 113 may be positioned higher than the holding protrusion 117.

[0174] The outer protrusion 113 may project outwards from the connector 110. The outer protrusion 113 may project outwards from the connector body 111. The outer protrusion 113 may be inclined outwards moving upwards from below.

[0175] The holding protrusion 117 may extend inwards from the connector 110. The holding protrusion 117 may project inwards from the connector body 111. The holding protrusion 117 may be fitted into the holding groove 317 (see FIG. 14).

[0176] Referring to FIGS. 12 and 13, the cartridge gear 41 may be rotatably provided in the housing 10. The cartridge gear 41 may be configured to have the form of a ring (see FIG. 15). A gear-fitting hole 411 may define a cavity in the cartridge gear 41. The gear-fitting hole 411 may be defined by the inner circumferential surface of the cartridge gear 41. The gear-fitting hole 411 may be disposed such that the inner circumferential surface thereof surrounds the reception space 11. The gear-fitting hole 411 may be positioned in the reception space 11.

[0177] An inner circumferential protrusion 416 may project toward the reception space from the inner circumferential surface of the cartridge gear 41. The inner circumferential protrusion 416 may include a plurality of inner circumferential protrusions 416. The plurality of inner circumferential protrusions 416 may be arranged in a circumferential direction. The plurality of inner circumferential protrusions 416 may be arranged in a circumferential direction of the cartridge gear 41 about the axis of the reception space 11 (a vertically extending imaginary line). The plurality of inner circumferential protrusions 416 may be arranged in a circumferential direction about the rotating shaft of the cartridge gear 41. The inner circumferential protrusion 416 may be elongated vertically so as to be fitted into the first and second guide slits 316 and 326.

[0178] The reception space 11 may be elongated. The reception space 11 may extend in the longitudinal direction of the cartridge 30. The reception space 11 may extend vertically.

[0179] The inner circumferential protrusion 416 may extend in the longitudinal direction of the reception space 11. The inner circumferential protrusion 416 may extend in the longitudinal direction of the first guide slit 316. The inner circumferential protrusion 416 may extend in the longitudinal direction of the second guide slit 326.

[0180] The reception space 11 may be open at one surface thereof. The reception space 11 may be open at the upper side thereof.

[0181] The gear-fitting hole 411 may be open at the surface thereof that faces the open surface of the reception space 11. The gear-fitting hole 411 may also be open at the surface thereof opposite the one open surface. Both the one surface and the other surface of the gear-fitting hole 411 may be open. The gear-fitting hole 411 may be open at a side thereof through which the cartridge 30 is inserted. The gear-fitting hole 411 may be open at a side thereof through which the cartridge 30 is removed therefrom. The gear-fitting hole 411 may be open at both the upper and lower sides thereof.

[0182] The inner circumferential protrusion 416 may include sloped surfaces 416a and 416b. The length of the inner circumferential protrusion 416 may be greater at the outer side thereof than at the inner side thereof. The inner circumferential protrusion 416 may be configured to have a trapezoidal form.

[0183] The sloped surfaces 416a and 416b may be positioned at the two ends of the inner circumferential protrusion 416 in the longitudinal direction thereof. The sloped surfaces 416a and 416b may include a first sloped surface 416a and a second sloped surface 416b, which are respectively positioned at the two ends of the inner circumferential protrusion 416 in the longitudinal direction.

[0184] The first sloped surface 416a may be positioned at one end of the inner circumferential protrusion 416 in the longitudinal direction. The first sloped surface 416a may be positioned at the end of the inner circumferential protrusion 416 at which the open surface of the reception space 11 is located. The first sloped surface 416a may be positioned at the end of the inner circumferential protrusion 416 at which the surface of the gear-fitting hole 411 is located. The first sloped surface 416a may be positioned at the upper portion of the inner circumferential protrusion 416.

[0185] The second sloped surface 416b may be positioned at the other end of the inner circumferential protrusion 416 in the longitudinal direction. The second sloped surface 416b may be positioned at the other end of the inner circumferential protrusion 416, at which the surface opposite the open surface of the reception space 11 is positioned. The second sloped surface 416b may be positioned at the other end of the inner circumferential protrusion 416 at which the other surface (opposite the one surface) of the gear-fitting hole 411 is positioned. The second sloped surface 416b may be positioned at the lower portion of the inner circumferential protrusion 416.

[0186] The first sloped surface 416a may face the open surface of the reception space 11. The first sloped surface 416a may face both the open surface of the reception space 11 and the central axis of the reception space 11. The first sloped surface 416a may be inclined toward the central axis of the reception space 11 moving in the direction in which the cartridge 30 is inserted into the reception space 11. The first sloped surface 416a may be inclined toward the central axis of the reception space 11 moving downwards.

[0187] The first sloped surface 416a may face the open surface of the gear-fitting hole 411. The first sloped surface 416a may face both the open surface of the gear-fitting hole 411 and the central axis of the gear-fitting hole 411. The first sloped surface 416a may be inclined toward the central axis of the gear-fitting hole 411 moving in the direction in which the cartridge 30 is inserted into the gear-fitting hole 411. The first sloped surface 416a may be inclined toward the central axis of the gear-fitting hole 411 moving downwards.

[0188] The upper end of the second guide slit 326 may face the first sloped surface 416a (see FIG. 5). The upper end of the second guide slit 326 may be inclined so as to be parallel to the first sloped surface 416a (see FIG. 5).

[0189] The second sloped surface 416b may face the direction opposite the direction faced by the open surface of the reception space 11. The second sloped surface 416b may face the direction opposite the direction faced by the open surface of the reception space 11 and may face toward the central axis of the reception space 11. The second sloped surface 416b may be inclined toward the central axis of the reception space 11 moving in the direction in which the cartridge 30 is taken out of the reception space 11. The second sloped surface 416b may be inclined toward the central axis of the reception space 11 moving upwards.

[0190] The second sloped surface 416b may face the direction opposite the direction faced by the open surface of the gear-fitting hole 411. The second sloped surface 416b may face the other open surface of the gear-fitting hole 411. The second sloped surface 416b may face the direction opposite the direction faced by the open surface of the gear-fitting hole 411 and may face toward the central axis of the gear-fitting hole 411. The second sloped surface 416b may be inclined toward the central axis of the gear-fitting hole 411 moving in the direction in which the cartridge 30 is taken out of the gear-fitting hole 411. The second sloped surface 416b may be inclined toward the central axis of the reception space 11 moving upwards.

[0191] Accordingly, it is possible to easily insert the cartridge 30 into the reception space 11.

[0192] Accordingly, it is possible to easily take the cartridge 30 out of the reception space 11.

[0193] Accordingly, it is possible to easily insert the cartridge 30 into the gear-fitting hole 411.

[0194] Accordingly, it is possible to easily take the cartridge 30 out of the gear-fitting hole 411.

[0195] Accordingly, it is possible to easily insert the cartridge 30 into the reception space 11 even when the first guide slit 316 and the inner circumferential protrusion 416 are not aligned with each other.

[0196] Accordingly, it is possible to easily insert and take out the cartridge 40 even when the first guide slit 316 and the second guide slit 326 are not aligned with each other.

[0197] Referring to FIGS. 14 to 16, the cartridge 30 may be fitted into the gear-fitting hole 411 formed in the cartridge gear 41. The cartridge 30 may be fitted in the direction of the rotating axis of the cartridge gear 41. The direction of the rotating axis of the cartridge gear 41 may be a vertical direction.

[0198] The inner circumferential protrusion 416 may be fitted into the first and second guide slits 316 and 326. The inner circumferential protrusion 416 may guide fitting of the cartridge 30 into the reception space 11 by sliding along the first and second guide slits 316 and 326. The guide slit 316 and the second guide slit 326 may sequentially come into contact with the inner circumferential protrusion 416.

[0199] The first guide slit 316 may include a plurality of first guide slits, which are arranged in the circumferential direction of the cartridge 30. The second guide slit 326 may include a plurality of second guide slits, which are arranged in the circumferential direction of the cartridge 30. The inner circumferential protrusion 416 may include a plurality of inner circumferential protrusions, which are arranged in the circumferential direction of the cartridge 41. The plurality of

inner circumferential protrusions 416 may be arranged at positions corresponding to the plurality of second guide slits 326. Each of the plurality of inner circumferential protrusions 416 may be fitted into a corresponding one of the plurality of second guide slits 326.

[0200] The circumferential direction of the cartridge 30 may be the same as the rotational direction of the second container 32. The circumferential direction of the cartridge gear 41 may be the same as the rotational direction of the cartridge gear 41. The rotational direction of the second container 32 may be the same as the rotational direction of the cartridge gear 41.

[0201] When the cartridge 30 is completely fitted into the reception space 11, the holding protrusion 117 (see FIG. 12) may be fitted into the holding groove 317, thereby holding the first container 31 in position. When the cartridge 30 is completely fitted into the reception space 11, the fitting protrusion 337 may be fitted into the fitting groove 137 (see FIG. 6), thereby holding the container head 33 in position. When the cartridge 30 is completely fitted into the reception space 11, the inner circumferential protrusion 416 may be positioned at the upper end of the second guide slit 326.

[0202] Consequently, when the cartridge gear 41 is rotated, the second container 32 may be rotated because the inner circumferential protrusion 416 is engaged with the second guide slit 326. When the second container 32 is rotated, the position of the first container 31 may be held. When the second container 32 is rotated, the position of the container head 33 and the position of the mouthpiece 34 may be held.

[0203] The second guide slit 326 may include a portion that is increasingly wider moving downwards. The second guide slit 326 may have the maximum width at the lower end of the second container 32. The width w2 of the second guide slit 326 may continually decrease moving upwards from the lower end, and may maintain a constant value w1 from a predetermined height to the upper end thereof. The width w2 of the lower part of the second guide slit 326 may be greater than the width w1 of the upper part of the second guide slit 326.

[0204] The width w3 of the first guide slit 316 may become equal to the width w2 of the lower end of the second guide slit 326 at the portion thereof that abuts the lower end of the second guide slit 326. The width w3 of the first guide slit 316 may be equal to or greater than the width w1 of the upper part of the second guide slit 326.

[0205] The second guide slit 326 may have a portion that has the same width as the width of the inner circumferential protrusion 416. The width w1 of the upper part of the second guide slit 326 may be equal to the width w0 of the inner circumferential protrusion 416 (see FIG. 13). The width w2 of the lower part of the second guide slit 326 may be greater than the width w0 of the inner circumferential protrusion 416. The width w3 of the first guide slit 316 may be greater than the width w0 of the inner circumferential protrusion 416.

[0206] Accordingly, even when the cartridge 30 is fitted into the gear-fitting hole 411 in the state in which the first guide slit 316 is misaligned with the second guide slit 326, the inner circumferential protrusion 416 slides along the side surfaces of the first guide slit 316 and the second guide slit 326, thereby aligning the first guide slit 316 with the second guide slit 326.

[0207] Consequently, since the first connecting passage 319 precisely communicates with the lower chamber hole 323, it is possible to prevent a decrease in aerosol flow efficiency.

[0208] Referring to FIGS. 16 and 17, the cartridge gear 41 may be engaged with the dial gear 41 so as to be rotated therewith. The rotating shaft of the cartridge 41 and the rotating shaft of the dial gear 42 may be oriented parallel to each other.

[0209] First gear teeth 412 may be formed on the outer circumferential surface of the cartridge gear 41. Second gear teeth 422 may be formed on the outer circumferential surface of the dial gear 42. The first gear teeth 412 and the second gear teeth 422 may be engaged with each other so as to be rotated together. The height of the first gear teeth 412 may be equal to the height of the second gear teeth 422.

[0210] The dial 43 may be connected to the dial gear 42 so as to be rotated therewith. The dial 43 and the dial gear 42 may be coaxially disposed.

[0211] An irregular portion 432 may be formed on the outer circumferential surface of the dial 43. The height of the irregular portion 432 may be lower than the height of the first gear teeth 412 and the height of the second gear teeth 412.

[0212] A user is able to rotate the dial 43 at the outside of the housing 10 (see FIG. 1). When the dial 43 is rotated by a user, the dial gear 42 and the cartridge gear 41 are sequentially rotated, thereby rotating the second container 32.

[0213] Referring to FIGS. 15 and 18, the cap 36 may form the bottom surface of the cartridge 30. The cap 36 may be referred to as a plug 36. The cap 36 may also be referred to as a lower cap 36. The cap 36 may be disposed below the cylinder 310 (see FIG. 4). The cap 36 may be coupled or bonded to the cylinder 310. The cap 36 may be fixed to the cylinder 310. A fitting hole 307 may be formed in the cap 36 by depressing the lower surface of the cap 36 upwards. The fitting hole 307 may be positioned so as to be spaced apart from the center of the cap 36. The fitting hole 307 may be spaced apart from a line extending from the rotating shaft of the second container 32. Hereinafter, the fitting hole 307 may be referred to as a fitting groove 307.

[0214] A base 16 may be configured to surround the lower portion of the reception space 11. A fitting protrusion 167 may project upwards from the bottom surface 168 of the base 16. The fitting protrusion 167 may be positioned so as to be spaced apart from the center of the base 16. The fitting protrusion 167 may be spaced apart from a line extending from the rotating shaft of the second container 32.

[0215] The fitting hole 307 may be positioned at a position corresponding to the fitting protrusion 167. When the cartridge 30 is fitted into the reception space 11, the fitting protrusion 167 may be fitted into the fitting hole 307.

[0216] The fitting protrusion 167 may be configured to have the form of a circular pillar, which extends upwards. The upper portion of the fitting protrusion 167 may become narrow moving upwards. The upper end of the fitting protrusion 167 may be rounded.

[0217] Accordingly, the first container 31 and the cartridge 30 may be disposed at a specified position.

[0218] Accordingly, even when the fitting protrusion 167 is not precisely aligned with the fitting hole 307, the upper

end of the fitting protrusion 167 may be guided into the fitting hole 307, thereby guiding the cartridge to the correct position.

[0219] Accordingly, the first container 31 may be maintained in place even when the second container 32 is rotated.

[0220] A first terminal 164 may project upwards from the bottom surface 168 of the base 16. The first terminal 164 may be composed of a pair of terminals, and may be spaced apart from the center of the base 16 by the same distance. The first terminal 164 may be configured to have the form of a circular pillar that extends upwards. The first terminal 164 may receive power from the battery 50.

[0221] A second terminal 304 may be formed on the bottom surface of the cap 36. The second terminal 304 may be composed of a pair of terminals, and may be spaced apart from the center of cap 36 by the same distance. The second terminal 304 may be electrically connected to the heater 314.

[0222] The second terminal 304 may be positioned at a position corresponding to the first terminal 164. When the cartridge 30 is fitted into the reception space 11, the second terminal 304 may come into contact with the first terminal 164, and may thus be electrically connected thereto. The first terminal 164 may transmit power to the second terminal 304 such that the heater 314 heats the wick 313.

[0223] Referring to FIG. 19 in conjunction with FIG. 2, the connector 110 may include the cylindrical connector body 111. The connector body 111 may extend vertically.

[0224] The connector 110 may have a structure configured to hold the rotational position of the cartridge 30. The holding protrusion 117 may project from the inner circumferential surface 112 of the connector 110.

[0225] Grooves 114 and 115 may be formed in the connector 110. The grooves 114 and 115 may be formed through the connector body 111.

[0226] Necks 116 and 118 may be respectively positioned in the grooves 114 and 115, and may extend. The necks 116 and 118 may extend into the grooves 114 and 115 from the connector body 111. The necks 116 and 118 may be positioned at the same surface of the connector body 111, and may extend vertically.

[0227] The holding protrusions 117 and 119 may respectively project toward the inside of the connector 110 from the necks 116 and 118. Hereinafter, the holding protrusions 117 and 119 may be referred to as heads 117 and 119. The heads 117 and 119 may be fitted into the holding grooves 317.

[0228] The heads 117 and 119 may hold the first container 31 in position. When the cartridge 30 is fitted into the reception space 11, the heads 117 and 119 may hold the first container 31 in position. Because the heads 117 and 119 are fitted into the holding grooves 317, the first container 31 cannot be rotated even when the second container 32 is rotated.

[0229] The groove 114 may be formed in the lower portion of the connector 110. The lower groove 114 may be formed in the lower end of the connector 110.

[0230] The first neck 116 may be positioned in the lower groove 114. The first neck 116 may extend into the lower groove 114 from the connector 111.

[0231] The first head 117 may project toward the inside of the connector 110 from the first neck 116. The first head 117 may be disposed at a position corresponding to a holding

groove 317, which is relatively positioned at a lower level, among the plurality of holding grooves 317 formed in the first container 31.

[0232] The first head 117 may include a plurality of first heads 117. The plurality of heads 117 may be arranged in a circumferential direction at regular intervals. Each of the first neck 116 and the lower groove 114 may include a plurality of necks 116 or lower grooves 114. The plurality of necks 116 may be arranged at regular intervals. The plurality of lower grooves 114 may be arranged at regular intervals.

[0233] The middle groove 115 may be formed at a position higher than the lower groove 114. The middle groove 115 may be formed at a position, which is spaced apart from the lower groove 114 in a circumferential direction.

[0234] The second neck 118 may be positioned in the middle groove 115. The second neck 118 may extend into the middle groove 115 from the connector body 111.

[0235] The second head 119 may project toward the inside of the connector 110 from the second neck 118. The second head 119 may be disposed at a position corresponding to a holding groove 317, which is relatively positioned at an upper level, among the plurality of holding grooves 317 formed in the first container 31.

[0236] The second head 119 may include a plurality of second heads 119. The plurality of second heads 119 may be arranged at regular intervals in a circumferential direction. Each of the second neck 118 and the middle groove 115 may include a plurality of second necks 118 or middle grooves 115. The plurality of second necks 118 may be arranged at regular intervals. The plurality of middle grooves 115 may be arranged at regular intervals.

[0237] The connector body 111 may be configured to have a cylindrical form. The connector body 111 may extend vertically.

[0238] Referring to FIG. 20, the reception space 11 may be formed in the housing 10 and the upper housing 13. The upper housing 13 may define the upper portion of the reception space 11.

[0239] The upper case 20 may include the side surface 22, which is open at upper and lower sides thereof, and the upper surface 21, which is disposed at the upper side of the side surface 22. The upper case 20 may be disposed above the housing 10 and outside the upper housing 13. The opening O may be formed in the upper surface 21. The opening may be vertically formed through the upper surface 21. The upper side of the reception space 11 may be open.

[0240] The fitting groove 137 (see FIG. 3) may be depressed from the housing 10 in an outward direction from the reception space 11. The fitting groove 137 may be open at the upper side thereof. The fitting protrusion 337 may be fitted into the fitting groove 137.

[0241] A sloped surface 143 may be inclined downwards and toward the cartridge from the seating portion 14. The sloped surface 143 may provide a space in which the sealing cap 35 (see FIG. 2) is rotated (pivoted).

[0242] The fitting protrusion 137 may be depressed downwards from the sloped surface 143.

[0243] In summary, referring to FIGS. 1 to 32, a cartridge and/or an aerosol-generating device according to an aspect of the present disclosure includes a first container 31 and a second container which is rotatably connected to the first container 31, wherein the first container 31 includes a

cylinder 310 having a space 311 for storage and a rotation limiter 317 formed on the outer circumferential surface of the cylinder 310.

[0244] In another aspect of the present disclosure, the rotation limiter 317 may include a groove 317, which is formed in the outer circumferential surface of the cylinder 310 so as to be depressed.

[0245] In another aspect of the present disclosure, the groove 317 may extend in a circumferential direction of the cylinder 310.

[0246] In another aspect of the present disclosure, the rotation limiter 317 may include a first groove 317, which is formed in the outer circumferential surface of the cylinder 310 so as to be depressed, and a second groove 317, which is spaced apart from the first groove 317 and is formed in the outer circumferential surface of the cylinder 310 so as to be depressed so as to be positioned closer to the second container 32 than the first groove 317.

[0247] In another aspect of the present disclosure, the cartridge 30 may include a cap 36 defining the bottom surface thereof, and a fitting groove 307 formed in the bottom surface so as to be depressed.

[0248] In another aspect of the present disclosure, the fitting groove 307 may be formed at a position, which is radially spaced apart from the center of the cap 36.

[0249] In another aspect of the present disclosure, the center shaft of the cylinder 310 may extend through the second container 32, and the second container 32 may be rotatable relative to the first container 31 about the center shaft of the cylinder 310.

[0250] In another aspect of the present disclosure, the cartridge 30 may include a container head 33 connected to the second container 32, and the container head 33 may be positioned opposite the first container 31 with respect to the second container 32.

[0251] In another aspect of the present disclosure, the container head 33 may be fixed relative to the first container 31.

[0252] In another aspect of the present disclosure, the cartridge 30 may further include a fitting protrusion 337, which projects outwards from the container head 33, and the fitting groove 307 and the fitting protrusion 337 may be positioned opposite each other with respect to the center of the cartridge 30.

[0253] In another aspect of the present disclosure, the cartridge 30 may include a container shaft 352, which is disposed in the center of the second container 32 fixed to the first container 31, and the second container 32 may be rotatably connected to the container shaft 325.

[0254] In another aspect of the present disclosure, the container shaft 325 may include a flange (or a first flange) 3253 coupled to the first container 31, and a rotating shaft 3251, which extends upwards from the flange 3253 and is positioned in the center of the second container 32.

[0255] In another aspect of the present disclosure, the cartridge 30 may further include the container head 33, which is positioned opposite the first container 31 with respect to the second container 32 and is connected to the second container 32 and which is rotatable together with the container shaft 325.

[0256] In another aspect of the present disclosure, the cartridge 30 may include a flange (or a second flange) 327,

which is positioned between the container shaft **325** and the container head **33** so as to connect the container shaft **325** to the container head **33**.

[0257] In another aspect of the present disclosure, the second container may include a plurality of chambers **321** and **322**, which are isolated from each other and are arranged in a circumferential direction about the rotational center of the second container **32**.

[0258] An aerosol-generating device according to another aspect of the present disclosure includes a cartridge **30** including first and second containers **31** and **2**, a housing **10** having therein a reception space **11** into which the cartridge **30** is fitted, and a connector **110** disposed in the reception space **11**, wherein the second container **32** may include a plurality of chambers **321** and **322**, which are isolated from each other, and may be rotatably connected to the first container **31**, and wherein the first container **31** may include a first rotation limiter **317** formed at the outer circumferential surface thereof, and the connector **110** may include a second rotation limiter, which is engaged with the first rotation limiter **317**.

[0259] In another aspect of the present disclosure, the first rotation limiter **317** may include a holding groove **317** formed in the outer circumferential surface of the first container **31** so as to be depressed, and the second rotation limiter may include holding protrusions **117** and **119**, which project toward the inside of the reception space and are fitted into the holding groove.

[0260] In another aspect of the present disclosure, the connector **110** may include an elongated cylindrical body **111**, necks **116** and **118**, which are positioned in the wall of the body **111**, and heads **117** and **119**, which respectively project inwards from the necks **116** and **118**, the cartridge **30** may be fitted into the body **111**, and the heads **117** and **119** may be fitted into the first rotation limiter **317**.

[0261] In another aspect of the present disclosure, the aerosol-generating device may further include a base **16** forming the lower portion of the reception space **11**, and a fitting protrusion **164** projecting upwards from the base **16**, wherein the cartridge **30** may include a cap **36** forming the bottom surface of the cartridge **30**, and a fitting groove **307** formed in the bottom surface so as to be depressed, and the fitting protrusion **164** may be fitted into the fitting groove **307**.

[0262] In another aspect of the present disclosure, the aerosol-generating device may further include an upper housing **13** forming the upper portion of the reception space **11**, and a fitting groove **137**, which is depressed toward the outside of the reception space **11** from the upper housing **13** and is open at the upper side thereof, and the cartridge **30** may further include a container head **33**, which is connected to the second container **32** and is disposed at the upper portion of the reception space **11**, and a fitting protrusion **337**, which projects outwards from the container head **33** and is fitted into the fitting groove **137**.

[0263] Certain embodiments or other embodiments of the disclosure described above are not mutually exclusive or distinct from each other. Any or all elements of the embodiments of the disclosure described above may be combined with another or combined with each other in configuration or function.

[0264] For example, a configuration “A” described in one embodiment of the disclosure and the drawings and a configuration “B” described in another embodiment of the

disclosure and the drawings may be combined with each other. Namely, although the combination between the configurations is not directly described, the combination is possible except in the case where it is described that the combination is impossible.

[0265] Although embodiments have been described with reference to a number of illustrative embodiments thereof, it should be understood that numerous other modifications and embodiments can be devised by those skilled in the art that will fall within the scope of the principles of this disclosure. More particularly, various variations and modifications are possible in the component parts and/or arrangements of the subject combination arrangement within the scope of the disclosure, the drawings and the appended claims. In addition to variations and modifications in the component parts and/or arrangements, alternative uses will also be apparent to those skilled in the art.

What is claimed is:

1. A cartridge comprising:
 - a first container; and
 - a second container rotatably coupled to the first container, wherein the first container includes:
 - a cylinder having a space for storage,
 - wherein a rotation limiter is at an outer circumferential surface of the cylinder.
2. The cartridge according to claim 1, wherein the rotation limiter has a groove recessed from the outer circumferential surface of the cylinder.
3. The cartridge according to claim 2, wherein the groove extends along a circumference of the cylinder.
4. The cartridge according to claim 1, wherein the rotation limiter has:
 - a first groove recessed from the outer circumferential surface of the cylinder; and
 - a second groove spaced apart from the first groove in a longitudinal direction of the cylinder, wherein the second groove is recessed from the outer circumferential surface of the cylinder, and is located closer to the second container than the first groove.
5. The cartridge according to claim 1, further comprising:
 - a cap defining a bottom surface of the cartridge,
 - wherein the cap has a fitting groove recessed from the bottom surface.
6. The cartridge according to claim 5, wherein the fitting groove is spaced apart from a center of the cap along a radius of the cap.
7. The cartridge according to claim 1, wherein a center shaft of the cylinder passes through the second container, and the second container is rotatable relative to the first container about the center shaft of the cylinder.
8. The cartridge according to claim 1, further comprising a container head positioned opposite the first container with respect to the second container and coupled to the second container.
9. The cartridge according to claim 8, wherein the container head is fixed relative to the first container.
10. The cartridge according to claim 8, further comprising:
 - a fitting protrusion protruding outwards from the container head,
 wherein the cartridge has a fitting groove recessed from a bottom surface of the cartridge and spaced apart from a center of the cartridge, and

wherein the fitting groove and the fitting protrusion are opposite each other with respect to the center of the cartridge.

11. The cartridge according to claim **1**, further comprising a container shaft disposed at a center of the second container, wherein the container shaft is fixed to the first container, and the second container is rotatably coupled to the container shaft.

12. The cartridge according to claim **11**, wherein the container shaft includes:

- a flange fixed to the first container; and
- a rotating shaft extending upwards from the flange and positioned at the center of the second container.

13. The cartridge according to claim **11**, further comprising a container head positioned opposite the first container with respect to the second container and coupled to the second container,

wherein the container head is rotatable together with the container shaft.

14. The cartridge according to claim **13**, further comprising a flange positioned between the container shaft and the container head to couple the container shaft to the container head.

15. The cartridge according to claim **1**, wherein the second container has a plurality of chambers divided from each other and arranged along a circumference of the second container about a rotational center of the second container.

16. An aerosol-generating device comprising:

a cartridge including:

- a first container having a first rotation limiter at an outer circumferential surface thereof, and
- a second container rotatably coupled to the first container and having a plurality of chambers divided from each other;

a housing having a reception space into which the cartridge is inserted; and

a connector disposed in the reception space, the connector including a second rotation limiter engaging the first rotation limiter.

17. The aerosol-generating device according to claim **16**, wherein the first rotation limiter has a holding groove recessed from an outer circumferential surface of the first container, and

wherein the second rotation limiter includes a holding protrusion protruding toward an interior of the reception space and inserted into the holding groove.

18. The aerosol-generating device according to claim **16**, wherein the connector includes:

- a body into which the cartridge is inserted, the body having an elongated cylindrical shape;
- a neck positioned at a wall of the body; and
- a head protruding toward the cartridge from the neck and fitted into the first rotation limiter.

19. The aerosol-generating device according to claim **16**, further comprising:

a base defining a lower portion of the reception space; and a fitting protrusion protruding upwards from the base, wherein the cartridge further includes:

a cap defining a bottom surface of the cartridge, wherein the cap has a fitting groove recessed from the bottom surface, and

wherein the fitting protrusion is inserted into the fitting groove.

20. The aerosol-generating device according to claim **16**, further comprising:

an upper housing defining an upper portion of the reception space,

wherein a fitting groove is located at an inner side of the upper housing and is open at an upper side thereof, and wherein the cartridge further includes:

a container head coupled to the second container and disposed at the upper portion of the reception space; and

a fitting protrusion protruding outwards from the container head and inserted into the fitting groove.

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