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(54) ATOMIZER AND AEROSOL GENERATION DEVICE

(57) Disclosed is an atomizer (100) and an aerosol generation device with the atomizer (100). The atomizer (100) comprises a liquid storage member (10), an atomization assembly (20) and a mouthpiece (30), wherein a liquid storage chamber (101) for storing an aerosol-forming substrate is formed in the liquid storage member (10); the atomization assembly (20) is mounted on the liquid storage member (10); the atomization assembly (20) is provided with an atomization chamber (201) and a liquid inlet (202) which is in communication with the atomization chamber (201); the mouthpiece (30) is slidably sheathed outside the atomization assembly (20) in the axial direction; the mouthpiece (30) can slide between a first locking position and a second locking position relative to the liquid storage member (10); when the mouthpiece (30) slides to the first locking position, the mouthpiece (30) closes the liquid inlet (202); and when the mouthpiece (30) slides from the first locking position to the second locking position, the mouthpiece (30) opens the liquid inlet (202), such that the liquid inlet (202) is in communication with the liquid storage chamber (101). The atomizer (100) can change the communication relationship between the liquid storage chamber (101) and the atomization chamber (201), thereby effectively solving the problem of the deterioration and leakage of the aerosol-forming substrate when the atomizer (100) is not used for a long time.

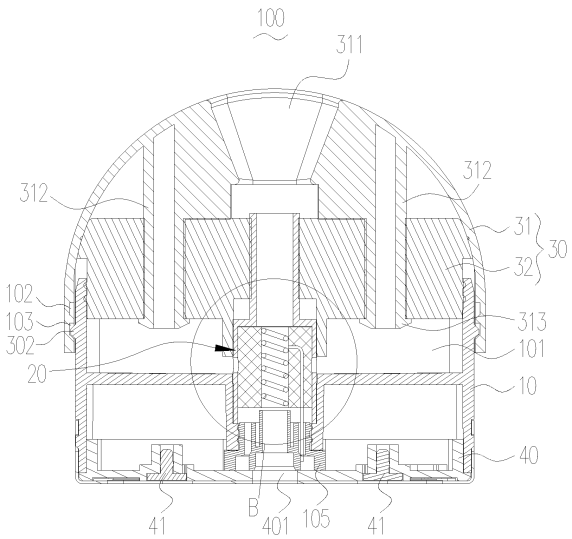

FIG. 3

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Description

TECHNICAL FIELD

[0001] The present disclosure relates to aerosol generation device, in particular to an atomizer and an aerosol generation device.

BACKGROUND

[0002] At present, the existing aerosol generation device on the market provides power supply to the atomizing assembly of the atomizer through the power supply device, so that the atomizing assembly can heat the aerosol-forming substrate under the action of electric driving to form smoke, which can be inhaled by the user.

[0003] In traditional atomizers, since the liquid storage chamber used to store the aerosol-forming substrate is always in communication with the atomizing assembly, when the atomizer is not used for a long time, the atomizing assembly may deteriorate due to its contact with the aerosol-forming substrate for a long time. Meanwhile, when the aerosol-forming substrate absorbed by the atomizing assembly is saturated, the aerosol-forming substrate is easy to leak to the outside of the atomizer through the air inlet passage, thus causing leakage and affecting the user's experience.

SUMMARY

[0004] In view of the above, it is necessary to provide an atomizer that can prevent the aerosol-forming substrate from deterioration and leakage.

[0005] It is also necessary to provide an aerosol generation device having the atomizer.

[0006] The technical solution adopted by the present disclosure to solve the technical problems is: an atomizer includes a liquid storage member, an atomizing assembly and a mouthpiece, wherein a liquid storage chamber for storing an aerosol-forming substrate is provided in the liquid storage member, the atomizing assembly is installed on the liquid storage member, the atomizing assembly is provided with an atomizing chamber and a liquid inlet which is in communication with the atomizing chamber, the mouthpiece is slidably sleeved on the outside of the atomizing assembly along an axial direction, the mouthpiece can slide between a first locking position and a second locking position relative to the liquid storage member; when the mouthpiece slides to the first locking position, the mouthpiece closes the liquid inlet; when the mouthpiece slides from the first locking position to the second locking position, the mouthpiece opens the liquid inlet such that the liquid inlet is in communication with the liquid storage chamber.

[0007] Further, the mouthpiece is provided with a through hole along the axial direction, the mouthpiece is sleeved on the outside of the atomizing assembly through the through hole; when the mouthpiece slides to the first locking position, an inner wall of the through hole closes the liquid inlet such that the liquid inlet is separated from the liquid storage chamber; when the mouthpiece slides from the first locking position to the second locking position, the liquid inlet moves out of the through hole and is in communication with the liquid storage chamber.

[0008] Further, the mouthpiece is slidably sleeved on the outside of the liquid storage member along the axial direction; a locking portion is provided on an outer wall of the liquid storage member, and a first engaging portion and a second engaging portion are provided on an inner wall of the mouthpiece along a direction in which the mouthpiece is inserted into the liquid storage member, or a locking portion is provided on an inner wall of the mouthpiece, and a first engaging portion and a second engaging portion are provided on an outer wall of the liquid storage member along a direction in which the mouthpiece is inserted into the liquid storage member; when the mouthpiece is slid to cause the locking portion to engage with the first engaging portion, the mouthpiece is in the first locking position; when the mouthpiece is slid to cause the locking portion to engage with the second engaging portion, the mouthpiece is in the second locking position.

[0009] Further, one end of the liquid storage member is provided with an opening, the atomizing assembly is installed at a lower end of the liquid storage member, the mouthpiece seals the opening of the liquid storage member, and the liquid storage chamber is formed by a space enclosed by the liquid storage member and the mouthpiece.

[0010] Further, the mouthpiece includes a mouthpiece casing and a liquid sealing member, the liquid sealing member is mounted in the mouthpiece casing, the liquid sealing member seals an opening of the liquid storage member, a sealing tube is formed at a lower end face of the liquid sealing member corresponding to the through hole, the sealing tube extends downward along the axial direction of the liquid sealing member, the through hole is partially formed by an inner cavity of the sealing tube, the sealing tube slidably seals the atomizing assembly.

[0011] Further, a lower end of the mouthpiece casing is sleeved on the outside of the liquid storage member, the first engaging portion and the second engaging portion are both provided on an inner wall of the mouthpiece casing, an axial distance between a lower end face of the sealing tube and a bottom wall of the liquid storage chamber is equal to an axial distance between the first engaging portion and the second engaging portion.

[0012] Further, a mounting tube is centrally provided at the bottom of the liquid storage member and extends away

from the liquid storage chamber along an axial direction of the liquid storage member, the atomizing assembly includes an atomizing sleeve, a lower end of the atomizing sleeve is sealed and installed in the mounting tube, the atomizing chamber is formed by an inner space of the atomizing sleeve, and the liquid inlet is provided on a side wall of the atomizing sleeve.

[0013] Further, a venting member is installed at a lower end of the mounting tube, the venting member is hollow with openings at both ends, an inner cavity of the venting member is in communication with the atomizing chamber, a protruding structure is provided at the top of the venting member, and the upper opening of the venting member penetrates the protruding structure.

[0014] Further, the atomizer further includes a base, the base is installed at one end of the liquid storage member opposite to the mouthpiece, the base is provided with an air inlet, the mouthpiece is provided with an air outlet, the air inlet and the air outlet are in communication with the atomizing chamber.

[0015] An aerosol generation device includes the atomizer described above, wherein the aerosol generation device further includes a power supply device, the power supply device is electrically connected with the atomizer.

[0016] The present disclosure has the beneficial effects: in the atomizer or aerosol generation device provided by the present disclosure, by sliding the mouthpiece to adjust the locking positions of the mouthpiece, the communication relationship between the liquid storage chamber and the atomizing chamber can be changed, which is convenient for the user and can also effectively solve the problem of deterioration and leakage of the aerosol-forming substrate when the atomizer is not used for a long time.

BRIEF DESCRIPTION OF THE DRAWINGS

[0017] The present disclosure will be further described in detail below in conjunction with the accompanying drawings and embodiments.

FIG. 1 is a cross-sectional view of the atomizer of the aerosol generation device of the present disclosure (in the state of closing the liquid inlet);

FIG. 2 is a partially enlarged view of part A of the aerosol generation device shown in FIG. 1;

FIG. 3 is another cross-sectional view of the atomizer of the aerosol generation device shown in FIG. 1 (in the state of opening the liquid inlet);

FIG. 4 is a partially enlarged view of part B of the aerosol generation device shown in FIG. 3.

[0018] The part names and reference numbers of the components in the figures are:

atomizer 100	liquid storage member 10	liquid storage chamber 101
first engaging portion 102	second engaging portion 103	mounting tube 104
venting member 105	atomizing assembly 20	atomizing chamber 201
liquid inlet 202	atomizing sleeve 21	liquid absorbing member 22
heating member 23	mouthpiece 30	through hole 301
locking portion 302	mouthpiece casing 31	air outlet 311
mounting post 312	abutting edge 313	liquid sealing member 32
base 40	electrode pole 41	air inlet 401
sealing tube 321		

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

[0019] The present disclosure will now be described in detail in conjunction with the accompanying drawings. These drawings are simplified schematic diagrams, and only illustrate the basic structure of the present disclosure in a schematic way, so they only show the structure related to the present disclosure.

[0020] Referring to FIG. 1 and FIG. 3, the present disclosure provides an aerosol generation device, which includes an atomizer 100 and a power supply device (not shown) electrically connected with the atomizer 100. In use, the power supply device provides electric energy to the atomizer 100, which heats the aerosol-forming substrate after being energized. The aerosol-forming substrate is atomized to form smoke under the heating effect, and the smoke is for the user to inhale.

[0021] Referring to FIGs. 1-4, the atomizer 100 includes a liquid storage member 10, an atomizing assembly 20 and a mouthpiece 30. A liquid storage chamber 101 for storing the aerosol-forming substrate is provided in the liquid storage member 10. The atomizing assembly 20 is installed on the liquid storage member 10. The atomizing assembly 20 is provided with an atomizing chamber 201 and a liquid inlet 202 which is in communication with the atomizing chamber 201. The mouthpiece 30 is slidably sleeved on the outside of the atomizing assembly 20 along an axial direction. The mouthpiece 30 can slide between a first locking position and a second locking position relative to the liquid storage member 10. The first locking position and the second locking position are the positions in which the mouthpiece 30 and the liquid storage member 10 are kept relatively fixed. When the mouthpiece 30 slides to the first locking position, the mouthpiece 30 closes the liquid inlet 202. When the mouthpiece 30 slides from the first locking position to the second locking position, the mouthpiece 30 opens the liquid inlet 202 such that the liquid inlet 202 is in communication with the liquid storage chamber 101.

[0022] Referring to FIG. 1 and FIG. 2, when the atomizer 100 is not in use, the mouthpiece 30 slides to the first locking position, and the liquid inlet 202 is closed by the mouthpiece 30, so that the aerosol-forming substrate in the liquid storage chamber 101 cannot pass through the liquid inlet 202, thereby preventing the aerosol-forming substrate from communicating with the atomizing chamber 201, thus avoiding the deterioration and leakage of the aerosol-forming substrate. Referring to FIG. 3 and FIG. 4, when the atomizer 100 is in use, the mouthpiece 30 slides to the second locking position, and the liquid inlet 202 is opened by the mouthpiece 30, the aerosol-forming substrate in the liquid storage chamber 101 can enter the atomizing chamber 201 through the liquid inlet 202, thus being heated and atomized to form smoke. By sliding the mouthpiece 30 to adjust the locking positions of the mouthpiece 30, the communication relationship between the liquid storage chamber 101 and the atomizing chamber 201 can be changed, which is convenient for the user. At the same time, it can also effectively solve the problem of deterioration and leakage of the aerosol-forming substrate when the atomizer 100 is not used for a long time, and improve the user experience.

[0023] The liquid storage member 10 is generally in a hollow cylindrical structure with an opening at the upper end thereof. The atomizing assembly 20 is installed at the lower end of the liquid storage member 10. The mouthpiece 30 is generally in a hollow structure with an opening at the lower end thereof. The mouthpiece 30 seals the opening of the liquid storage member 10. The liquid storage chamber 101 is formed by a space enclosed by the liquid storage member 10 and the mouthpiece 30. The mouthpiece 30 is provided with a through hole 301 along the axial direction. The mouthpiece 30 is sleeved on the outside of the atomizing assembly 20 through the through hole 301. Referring to FIG. 1 and FIG. 2, when the mouthpiece 30 slides to the first locking position, the inner wall of the through hole 301 closes the liquid inlet 202 such that the liquid inlet 202 is separated from the liquid storage chamber 101. Referring to FIG. 3 and FIG. 4, when the mouthpiece 30 slides from the first locking position to the second locking position, the liquid inlet 202 moves out of the through hole 301 and is in communication with the liquid storage chamber 101.

[0024] The mouthpiece 30 is slidably sleeved on the outside of the liquid storage member 10 along the axial direction. A locking portion 302 is provided on the outer wall of the liquid storage member 10. A first engaging portion 102 and a second engaging portion 103 are provided on the inner wall of the mouthpiece 30 along the direction in which the mouthpiece 30 is inserted into the liquid storage member 10. The locking portion 302 is matched with the first engaging portion 102 and the second engaging portion 103. When the mouthpiece 30 is slid to cause the locking portion 302 to engage with the first engaging portion 102, the mouthpiece 30 is in the first locking position relative to the liquid storage member 10. When the mouthpiece 30 is slid to cause the locking portion 302 to engage with the second engaging portion 103, the mouthpiece 30 is in the second locking position relative to the liquid storage member 10. The setting of the locking portion 302, the first engaging portion 102 and the second engaging portion 103, on the one hand, realizes the connection between the mouthpiece 30 and the liquid storage member 10, and on the other hand, plays a positioning role when sliding the mouthpiece 30 relative to the liquid storage member 10, which is convenient for the user to operate. In another embodiment not shown, the locking portion 302 is provided on the inner wall of the mouthpiece 30, and the first engaging portion 102 and the second engaging portion 103 are provided on the outer wall of the liquid storage member 10 along the direction in which the mouthpiece 30 is inserted into the liquid storage member 10.

[0025] In this embodiment, the locking portion 302 is a protrusion projecting from the outer wall of the liquid storage member 10, and the first engaging portion 102 and the second engaging portion 103 are grooves recessed on the inner wall of the mouthpiece 30. It can be understood that in other embodiments not shown, the locking portion 302 is a groove recessed on the outer wall of the liquid storage member 10, and the first engaging portion 102 and the second engaging portion 103 are both protrusions projecting from the inner wall of the mouthpiece 30, which is no limited here.

[0026] In addition, in this embodiment, the aerosol-forming substrate is injected into the liquid storage chamber 101 before the mouthpiece 30 is installed on the liquid storage member 10. In other embodiments, a liquid injection hole communicated with the liquid storage chamber 101 may be provided on the liquid storage member 10, and the user can inject liquid into the liquid storage chamber 101 through the liquid injection hole. The liquid injection method is not limited here.

[0027] Referring to FIG. 3 and FIG. 4, the atomizing assembly 20 includes an atomizing sleeve 21, and a liquid absorbing member 22 and a heating member 23 installed in the atomizing sleeve 21. In a specific embodiment, a

mounting tube 104 is centrally provided at the bottom of the liquid storage member 10 and extends away from the liquid storage chamber 101 along the axial direction of the liquid storage member 10. The lower end of the mounting tube 104 is provided with an opening, and the upper end of the mounting tube 104 penetrates through a bottom wall of the liquid storage member 10. The lower end of the atomizing sleeve 21 is sealed and installed in the mounting tube 104.

[0028] The atomizing chamber 201 is formed by the lower space of the atomizing sleeve 21. The liquid inlet 202 is provided on the side wall of the atomizing sleeve 21. The liquid absorbing member 22 and the heating member 23 are in contact with each other and are contained in the atomizing chamber 201, wherein the liquid absorbing member 22 is used to absorb the aerosol-forming substrate in the liquid storage chamber 101, the heating member 23 is used to heat the aerosol-forming substrate absorbed by the liquid absorbing member 22 so as to generate smoke. Specifically, the liquid absorbing member 22 is arranged corresponding to the liquid inlet 202 and is attached to the inner wall of the atomizing sleeve 21, and the heating member 23 is received in the inner cavity of the liquid absorbing member 22. In this embodiment, the liquid absorbing member 22 is cotton, and the heating member 23 is a spiral heating wire. It can be understood that in other embodiments not shown, the liquid absorbing member 22 may also be an element that is easy to absorb liquid, such as fiber rope, porous ceramics or porous graphite; the heating member 23 may also be a heating sheet, a heating net, etc. Alternatively, the whole combination of the liquid absorbing member 22 and the heating member 23 may also be replaced by an ultrasonic atomizing device, which is not limited here.

[0029] In addition, in a specific embodiment, there are two liquid inlets 202, and the two liquid inlets 202 are oppositely arranged on the side wall of the atomizing sleeve 21, so as to ensure that the aerosol-forming substrate can enter uniformly through both sides of the atomizing assembly 20, thereby ensuring uniform atomization and improving the taste. It can be understood that the liquid inlet 202 may also have only one or more than two.

[0030] In use, the user slides the mouthpiece 30 to the second locking position relative to the liquid storage member 10, at this time, the aerosol-forming substrate in the liquid storage chamber 101 enters the atomizing chamber 201 through the liquid inlet 202 and is absorbed by the liquid absorbing member 22, and after the heating member 23 is energized, the aerosol-forming substrate on the liquid absorbing member 22 is heated, so that the aerosol-forming substrate is atomized to form smoke under the action of heating.

[0031] Referring to FIG. 3, in a specific embodiment, the mouthpiece 30 includes a mouthpiece casing 31 and a liquid sealing member 32. Specifically, the mouthpiece casing 31 is generally in a hollow cylindrical structure with an opening at the lower end thereof. The liquid sealing member 32 is mounted in the mouthpiece casing 31, wherein the liquid sealing member 32 seals the opening of the liquid storage member 10, and the lower end of the mouthpiece casing 31 is sleeved on the outside of the liquid storage member 10. The first engaging portion 102 and the second engaging portion 103 are both provided on the inner wall of the mouthpiece casing 31. It can be understood that the liquid sealing member 32 is made of a sealing material with good sealing performance, such as silicone or rubber, to improve the sealing performance and prevent the aerosol-forming substrate in the liquid storage chamber 101 from leaking.

[0032] In a specific embodiment, the through hole 301 is provided in the liquid sealing member 32. A sealing tube 321 is formed at the lower end face of the liquid sealing member 32 corresponding to the through hole 301. The sealing tube 321 extends downward along the axial direction of the liquid sealing member 32. The sealing tube 321 has a hollow cylindrical structure with openings at two ends. The through hole 301 is partially formed by the inner cavity of the sealing tube 321. The sealing tube 321 slidably seals the atomizing sleeve 21. Specifically, when the mouthpiece 30 is slid, the inner wall of the sealing tube 321 can open or close the liquid inlet 202.

[0033] Referring to FIG. 1 and FIG. 2, in a specific embodiment, when the locking portion 302 is engaged with the second engaging portion 103, the axial distance between the lower end face of the sealing tube 321 and the bottom wall of the liquid storage chamber 101 is equal to the axial distance between the first engaging portion 102 and the second engaging portion 103. In this way, when the mouthpiece 30 moves to the first locking position, that is, when the locking portion 302 is engaged with the first engaging portion 102, the lower end face of the sealing tube 321 abuts against the bottom wall of the liquid storage chamber 101, such that the liquid storage chamber 101 is separated from the atomizing sleeve 21 of the atomizing assembly 20, and the atomizing sleeve 21 is prevented from being corroded and damaged due to long-term contact with the aerosol-forming substrate.

[0034] In addition, the vertical cross-sectional shape of the through hole 301 and the vertical cross-sectional shape of the atomizing sleeve 21 are both in a "convex" shape, so that the atomizing sleeve 21 and the through hole 301 cooperate with each other to limit the sliding distance of the mouthpiece 30 relative to the atomizing assembly 20.

[0035] In a specific embodiment, an air outlet 311 is provided on the top of the mouthpiece casing 31. The air outlet 311 is in communication with the inner cavity of the atomizing sleeve 21 of the atomizing assembly 20, thereby realizing the communication between the air outlet 311 and the atomizing cavity 201. During the user's suction operation, the smoke formed in the atomizing chamber 201 enters the user's mouth through the inner cavity of the atomizing sleeve 31 and the air outlet 311 in sequence.

[0036] In a specific embodiment, a mounting post 312 is projected downward from the inner wall of the upper end of the mouthpiece casing 31. The mounting post 312 passes through the liquid sealing member 32, so as to fix and limit the installation of the liquid sealing member 32. Further, the lower end of the mounting post 312 is provided with an

abutting edge 313, and the abutting edge 313 abuts against the lower end face of the liquid sealing member 32, thus preventing the liquid sealing member 32 from separating easily from the mounting post 312. In this embodiment, there are two mounting posts 312, and the two mounting posts 312 are oppositely arranged, so as to improve the connection stability between the liquid sealing member 32 and the mouthpiece casing 31. It can be understood that in other embodiments not shown, the liquid sealing member 32 can also be connected with the mouthpiece casing 31 by means of clamping, gluing, etc. It can also be understood that the liquid sealing member 32 may be omitted, and in this case, the through hole 301 is provided in the mouthpiece casing 31, and the liquid inlet 202 of the atomizing assembly 20 is opened or closed by the mouthpiece casing 31.

[0037] Referring to FIG. 1 and FIG. 3, the atomizer 100 further includes a base 40. The base 40 is installed at one end of the liquid storage member 10 opposite to the mouthpiece 30. Two electrode poles 41 are installed at the bottom of the base 40, and the two electrode poles 41 are electrically connected with two pins of the atomizing assembly 20. Specifically, the two electrode poles 41 are electrically connected with two pins of the heating member 23 respectively. When the power supply device is connected with the atomizer 100, the positive and negative electrodes of the power supply device are electrically connected with the two electrode poles 41 respectively. Thus, the power supply device realizes the function of supplying power to the atomizing assembly 20. In addition, the connection method between the power supply device and the atomizer 100 can be threaded connection, clamping connection, etc., which is not limited here.

[0038] In addition, a venting member 105 is installed at the lower end of the mounting tube 104. The venting member 105 is generally in a hollow tubular structure with two ends being opened. An air inlet 401 is provided at the bottom of the base 40 corresponding to the venting member 105. The air inlet 401 is in communication with the external environment, and the inner cavity of the venting member 105 is in communication with the atomizing chamber 201 and the air inlet 401. When the user inhales, the external air can enter the atomizing chamber 201 through the air inlet 401 and the inner cavity of the venting member 105 in sequence, then mix with the generated smoke, and finally enter the user's mouth.

[0039] Further, a protruding structure is provided at the top of the venting member 105, and the upper opening of the venting member 105 penetrates the protruding structure. Thus, when there is excessive aerosol-forming substrate or condensate in the atomizing chamber 201, the above liquids will flow to both sides of the protruding structure, thus avoiding from flowing out from the opening of the venting member 105 to cause liquid leakage. In order to improve the sealing performance and prevent the leakage of the aerosol-forming substrate, the venting member 105 is made of a sealing material such as silicone or rubber.

[0040] In the aerosol generation device provided by the present disclosure, when the mouthpiece 30 slides to the first locking position, the mouthpiece 30 closes the liquid inlet 202, and at this time, the atomizing chamber 201 is separated from the liquid storage chamber 101, so as to prevent the atomizing assembly 20 from being damaged by long-term immersion in the aerosol-forming substrate. When the mouthpiece 30 slides from the first locking position to the second locking position, the mouthpiece 30 opens the liquid inlet 202 to enable the liquid inlet 202 to communicate with the liquid storage chamber 101, and at this time, the user can use the aerosol generation device normally. By sliding the mouthpiece 30 to adjust the locking positions of the mouthpiece 30, the communication relationship between the liquid storage chamber 101 and the atomizing chamber 201 can be changed, which is convenient for the user and can also effectively solve the problem of deterioration and leakage of the aerosol-forming substrate when the atomizer 100 is not used for a long time.

[0041] The aerosol generation device provided by the present disclosure has the same technical effects as the atomizer 100 because it has all the technical features of the atomizer 100.

[0042] Inspired by the above ideal embodiment based on the present disclosure, through the above description, relevant staff can make various changes and modifications without deviating from the scope of the present disclosure. The technical scope of the present disclosure is not limited to the content in the specification, and its technical scope must be determined according to the scope of the appended claims.

Claims

1. An atomizer comprising a liquid storage member, an atomizing assembly and a mouthpiece, wherein a liquid storage chamber for storing an aerosol-forming substrate is provided in the liquid storage member, the atomizing assembly is installed on the liquid storage member, the atomizing assembly is provided with an atomizing chamber and a liquid inlet which is in communication with the atomizing chamber, the mouthpiece is slidably sleeved on the outside of the atomizing assembly along an axial direction, the mouthpiece can slide between a first locking position and a second locking position relative to the liquid storage member, the first locking position and the second locking position are the positions in which the mouthpiece and the liquid storage member are kept relatively fixed; when the mouthpiece slides to the first locking position, the mouthpiece closes the liquid inlet; when the mouthpiece slides from the first locking position to the second locking position, the mouthpiece opens the liquid inlet such that the liquid inlet is

in communication with the liquid storage chamber.

2. The atomizer according to claim **1,** wherein the mouthpiece is provided with a through hole along the axial direction, the mouthpiece is sleeved on the outside of the atomizing assembly through the through hole; when the mouthpiece slides to the first locking position, an inner wall of the through hole closes the liquid inlet such that the liquid inlet is separated from the liquid storage chamber; when the mouthpiece slides from the first locking position to the second locking position, the liquid inlet moves out of the through hole and is in communication with the liquid storage chamber.

3. The atomizer according to claim **2,** wherein the mouthpiece is slidably sleeved on the outside of the liquid storage member along the axial direction; a locking portion is provided on an outer wall of the liquid storage member, and a first engaging portion and a second engaging portion are provided on an inner wall of the mouthpiece along a direction in which the mouthpiece is inserted into the liquid storage member, or a locking portion is provided on an inner wall of the mouthpiece, and a first engaging portion and a second engaging portion are provided on an outer wall of the liquid storage member along a direction in which the mouthpiece is inserted into the liquid storage member; when the mouthpiece is slid to cause the locking portion to engage with the first engaging portion, the mouthpiece is in the first locking position; when the mouthpiece is slid to cause the locking portion to engage with the second engaging portion, the mouthpiece is in the second locking position.

4. The atomizer according to claim **1,** wherein one end of the liquid storage member is provided with an opening, the atomizing assembly is installed at a lower end of the liquid storage member, the mouthpiece seals the opening of the liquid storage member, and the liquid storage chamber is formed by a space enclosed by the liquid storage member and the mouthpiece.

5. The atomizer according to claim **3,** wherein the mouthpiece comprises a mouthpiece casing and a liquid sealing member, the liquid sealing member is mounted in the mouthpiece casing, the liquid sealing member seals an opening of the liquid storage member, a sealing tube is formed at a lower end face of the liquid sealing member corresponding to the through hole, the sealing tube extends downward along the axial direction of the liquid sealing member, the through hole is partially formed by an inner cavity of the sealing tube, the sealing tube slidably seals the atomizing assembly.

6. The atomizer according to claim **5,** wherein a lower end of the mouthpiece casing is sleeved on the outside of the liquid storage member, the first engaging portion and the second engaging portion are both provided on an inner wall of the mouthpiece casing, an axial distance between a lower end face of the sealing tube and a bottom wall of the liquid storage chamber is equal to an axial distance between the first engaging portion and the second engaging portion.

7. The atomizer according to claim **4,** wherein a mounting tube is centrally provided at the bottom of the liquid storage member and extends away from the liquid storage chamber along an axial direction of the liquid storage member, the atomizing assembly comprises an atomizing sleeve, a lower end of the atomizing sleeve is sealed and installed in the mounting tube, the atomizing chamber is formed by an inner space of the atomizing sleeve, and the liquid inlet is provided on a side wall of the atomizing sleeve.

8. The atomizer according to claim **7,** wherein a venting member is installed at a lower end of the mounting tube, the venting member is hollow with openings at both ends, an inner cavity of the venting member is in communication with the atomizing chamber, a protruding structure is provided at the top of the venting member, and the upper opening of the venting member penetrates the protruding structure.

9. The atomizer according to claim **1,** wherein the atomizer further comprises a base, the base is installed at one end of the liquid storage member opposite to the mouthpiece, the base is provided with an air inlet, the mouthpiece is provided with an air outlet, the air inlet and the air outlet are in communication with the atomizing chamber.

10. An aerosol generation device comprising the atomizer according to any one of claims **1** to **9,** wherein the aerosol generation device further comprises a power supply device, the power supply device is electrically connected with the atomizer.

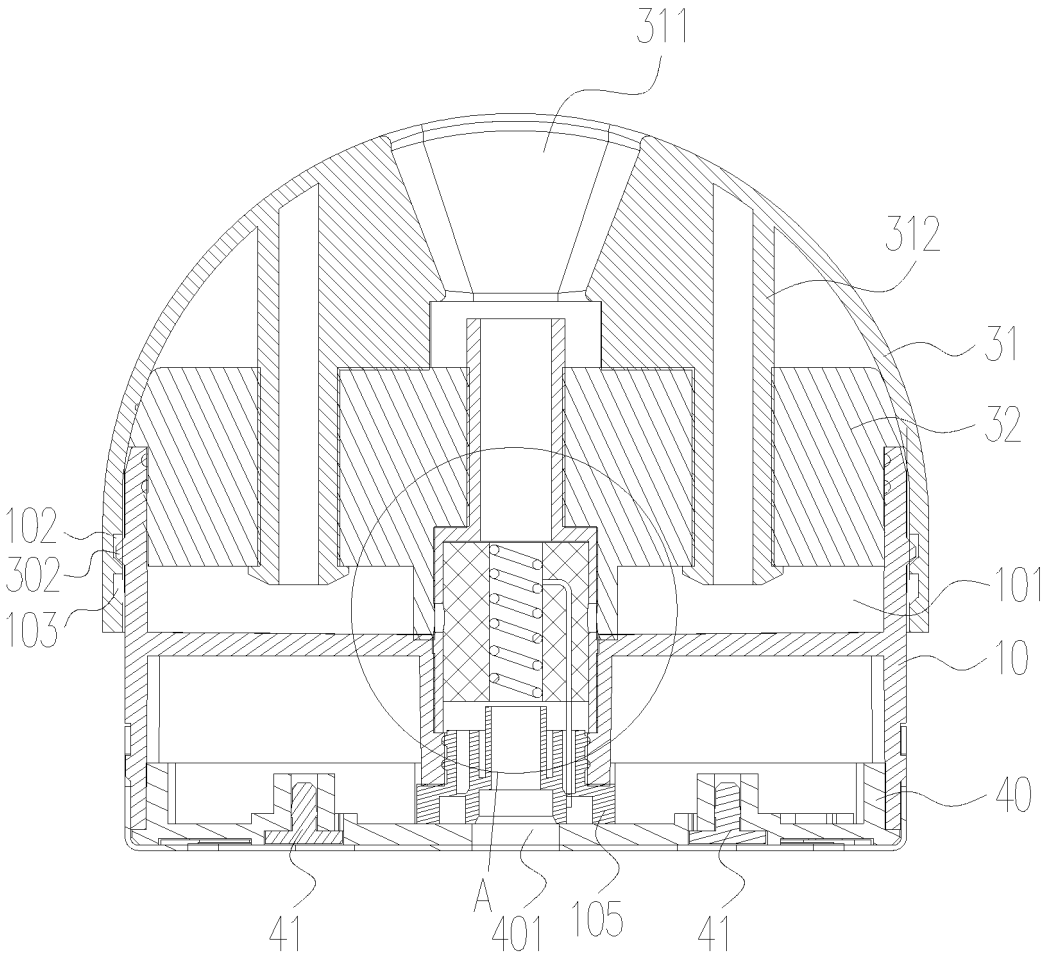
311
312
31
32
102
302
103
101
10
40
A
41
401
105
41

FIG. 1

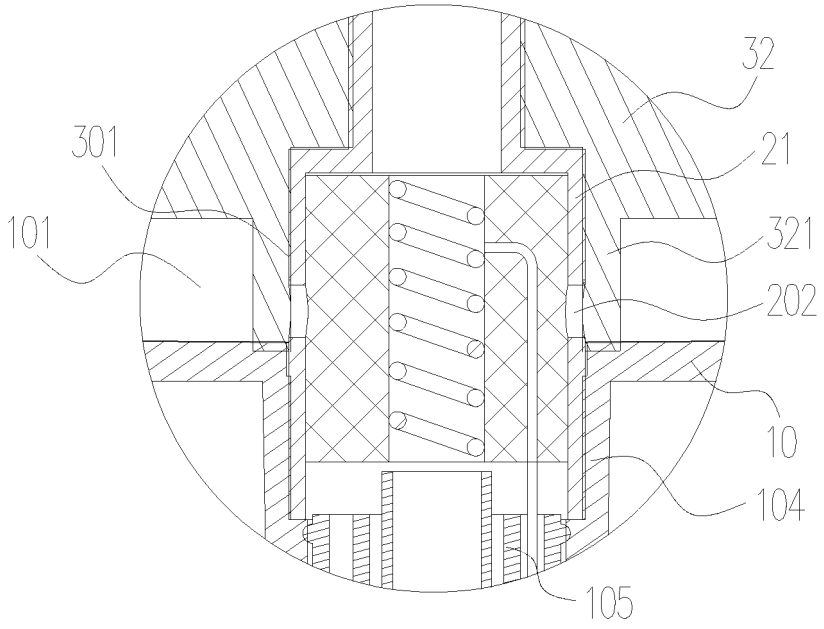
32
301
21
101
321
202
10
104
105

FIG. 2

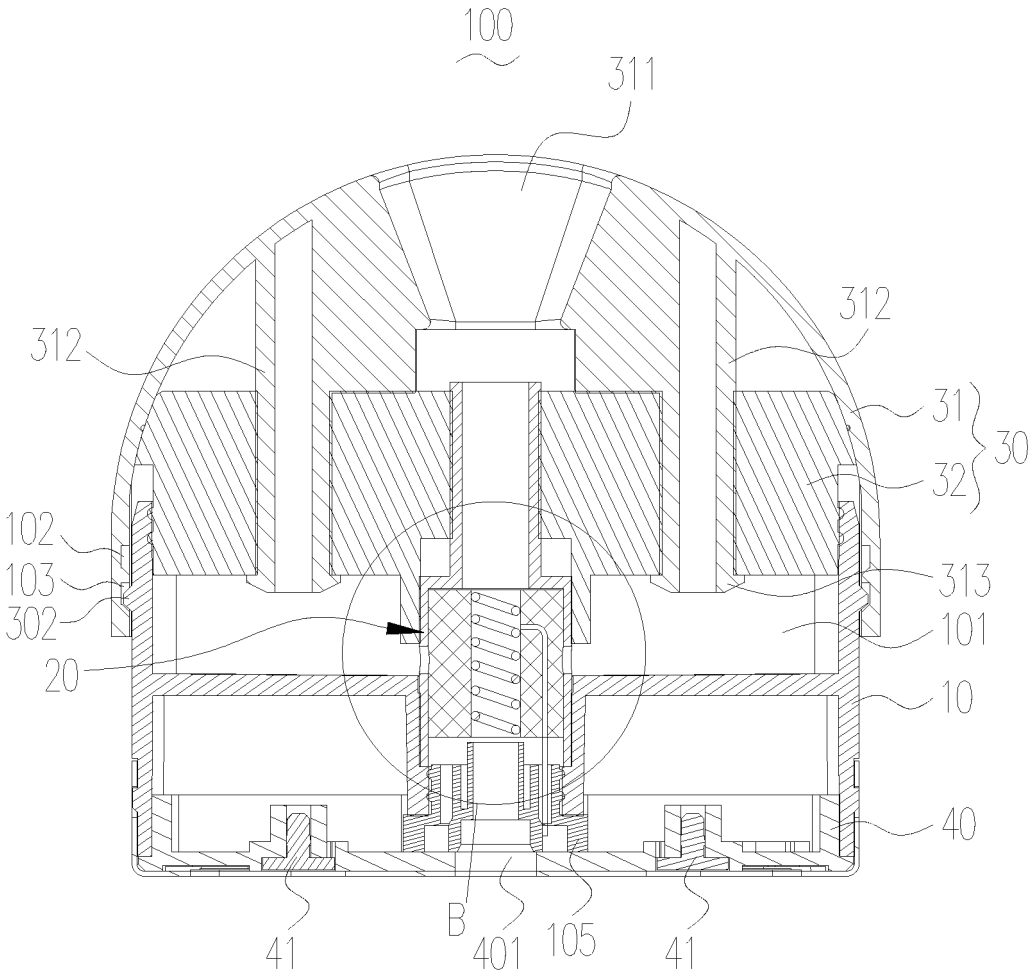
100
311
312
312
31
30
32
313
102
103
302
101
20
10
40
B
41
401
105
41

FIG. 3

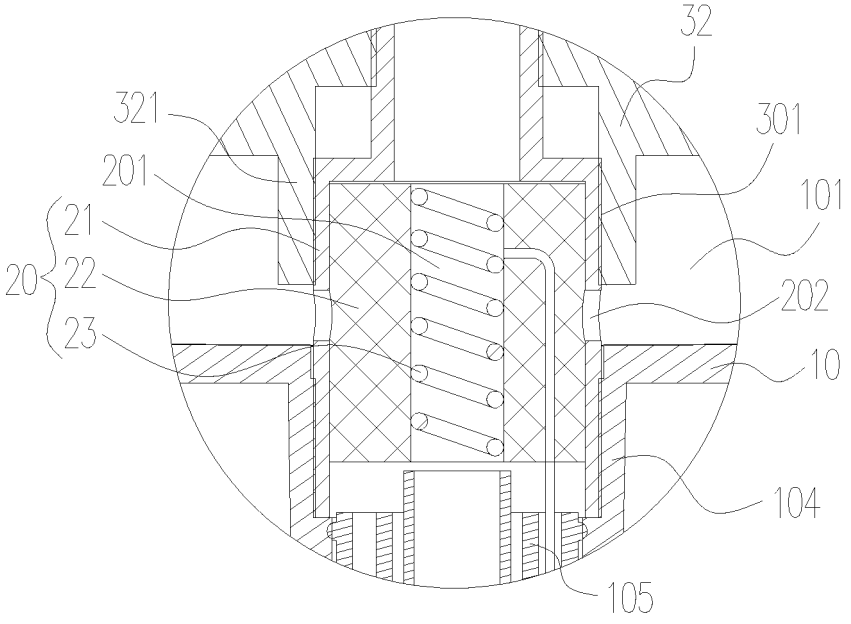
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FIG. 4

INTERNATIONAL SEARCH REPORT

International application No.
PCT/CN2021/000080

A. CLASSIFICATION OF SUBJECT MATTER

A24F 40/10(2020.01)i; A24F 40/40(2020.01)i

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

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

A24F

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

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

CNPAT, CNKI, EPODOC, WPI: 常州市派腾电子技术服务有限公司, 雾化, 电子烟, 储液, 进液, 封, 闭, 开, 遮蔽, 连通, 烟嘴, 锁, 位置, 状态, 第二, electronic cigarette, atomiz+, holder, lock, inlet, open, close, storage, state, position, second

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
PX	CN 212164889 U (CHANGZHOU PAITENG ELECTRONIC TECHNOLOGY SERVICE CO., LTD.) 18 December 2020 (2020-12-18) description, paragraphs [0033]-[0053], and figures 1-4	1-10
Y	CN 210158009 U (CHANGZHOU PAITENG ELECTRONIC TECHNOLOGY SERVICE CO., LTD.) 20 March 2020 (2020-03-20) description, paragraphs [0077]-[0105], and figures 9-17	1-10
Y	CN 206687166 U (SHENZHEN INNOKIN TECHNOLOGY CO., LTD.) 01 December 2017 (2017-12-01) description paragraphs [0028]-[0041], figures 1-3	1-10
Y	CN 209660456 U (CHANGZHOU PAITENG ELECTRONIC TECHNOLOGY SERVICE CO., LTD.) 22 November 2019 (2019-11-22) description, paragraphs [0093]-[0123], and figures 1-9	3, 5-6
A	CN 205813573 U (SHENZHEN SMOORE TECHNOLOGY LIMITED) 21 December 2016 (2016-12-21) entire document	1-10

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

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

Date of the actual completion of the international search	Date of mailing of the international search report
03 June 2021	**29 June 2021**
Name and mailing address of the ISA/CN **China National Intellectual Property Administration (ISA/CN)** **No. 6, Xitucheng Road, Jimenqiao, Haidian District, Beijing 100088** **China** Facsimile No. **(86-10)62019451**	Authorized officer Telephone No.

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/CN2021/000080

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	CN 104824847 A (SHENZHEN SMOORE TECHNOLOGY LIMITED) 12 August 2015 (2015-08-12) entire document	1-10
A	CN 209436272 U (CHANGZHOU PAITENG ELECTRONIC TECHNOLOGY SERVICE CO., LTD.) 27 September 2019 (2019-09-27) entire document	1-10
A	US 2016316820 A1 (KIMREE HI-TECH INC.) 03 November 2016 (2016-11-03) entire document	1-10

Form PCT/ISA/210 (second sheet) (January 2015)

INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.
PCT/CN2021/000080

Patent document cited in search report	Publication date (day/month/year)	Patent family member(s)	Publication date (day/month/year)
CN 212164889 U	18 December 2020	None	
CN 210158009 U	20 March 2020	WO 2020228690 A1	19 November 2020
CN 206687166 U	01 December 2017	None	
CN 209660456 U	22 November 2019	None	
CN 205813573 U	21 December 2016	None	
CN 104824847 A	12 August 2015	CN 104824847 B	10 July 2018
CN 209436272 U	27 September 2019	None	
US 2016316820 A1	03 November 2016	WO 2015096107 A1	02 July 2015
		US 9839240 B2	12 December 2017

Form PCT/ISA/210 (patent family annex) (January 2015)