(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) **EP 4 295 716 A1**

(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
27.12.2023 Bulletin 2023/52

(21) Application number: **23180666.2**

(22) Date of filing: **21.06.2023**

(51) International Patent Classification (IPC):
A24F 40/46 *(2020.01)* *A24F 40/10* *(2020.01)*
A24F 40/40 *(2020.01)*

(52) Cooperative Patent Classification (CPC):
A24F 40/46; A24F 40/10; A24F 40/40

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR
Designated Extension States:
BA
Designated Validation States:
KH MA MD TN

(30) Priority: **21.06.2022 CN 202210702597**

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(54) ELECTRONIC VAPORIZATION DEVICE AND VAPORIZER THEREOF

(57) The present invention relates to an electronic vaporization device and a vaporizer thereof. The vaporizer includes a liquid storage cavity and a heating assembly configured to heat and vaporize an aerosol-forming substrate in the liquid storage cavity. The heating assembly includes a first end surface facing the liquid storage cavity. The vaporizer further includes an isolating member including an isolating portion. The isolating portion is arranged between the heating assembly and the liquid storage cavity, covers the first end surface, and isolates the liquid storage cavity from the heating assembly. In the vaporizer, the heating assembly may be prevented from being in direct contact with the aerosol-forming substrate in the liquid storage cavity, thereby improving a vaporization effect, improving a vaporization taste, and reducing occurrence of liquid leakage.

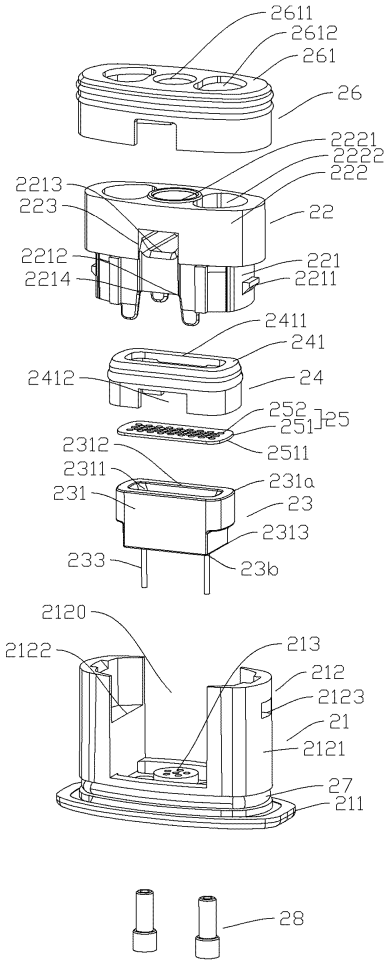

FIG. 5

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Description

FIELD

[0001] The present invention relates to a vaporization device, and more specifically, to an electronic vaporization device and vaporizer thereof.

BACKGROUND

[0002] In the related art, in a vaporizer of an electronic vaporization device, a porous body of a heating assembly is generally in direct contact with an aerosol-forming substrate in a liquid storage cavity, leading to a non-uniform liquid flowing speed. In addition, the porous body may be infiltrated in excessive vaporized aerosol-forming substrates, on one hand, a vaporization taste may be affected, and on the other hand, when the vaporizer is stood or placed, there is a risk that the aerosol-forming substrate leaks from the heating assembly.

SUMMARY

[0003] Technical problems to be resolved by the present invention are to provide an improved vaporizer, and further provide an improved electronic vaporization device.

[0004] A technical solution adopted by the present invention to resolve the technical problems is to construct a vaporizer, including a liquid storage cavity; a heating assembly configured to heat and vaporize an aerosol-forming substrate in the liquid storage cavity, and including a first end surface facing the liquid storage cavity; and an isolating member including an isolating portion, wherein the isolating portion is arranged between the heating assembly and the liquid storage cavity, covers the first end surface, and isolated the liquid storage cavity from the heating assembly.

[0005] In some embodiments, the heating assembly includes a liquid absorbing groove and an opening facing the liquid storage cavity; the opening is in communication with the liquid absorbing groove; and
the isolating portion covers the opening.

[0006] In some embodiments, the isolating portion includes a covering surface; and the size of the covering surface is greater than the maximum size of the opening.

[0007] In some embodiments, the isolating member further includes a liquid guide structure arranged on the isolating portion.

[0008] In some embodiments, the liquid guide structure includes a plurality of liquid guide holes arranged at intervals; and the liquid guide holes are arranged through the thickness direction of the isolating portion, so as to guide the aerosol-forming substrate in the liquid storage cavity to the heating assembly.

[0009] In some embodiments, there are a plurality of liquid guide holes, and the plurality of liquid guide holes are arranged at intervals.

[0010] In some embodiments, the vaporizer further includes a vaporization shell, and the vaporization shell includes a housing and an air outlet tube arranged in the housing;

[0011] a space is provided between the housing and the air outlet tube to form the liquid storage cavity; and the liquid guide structure is located along the extending direction of the air outlet tube.

[0012] In some embodiments, the isolating member is in a flat plate shape.

[0013] In some embodiments, the vaporizer further includes a first seal member sleeved on the heating assembly, where the isolating member is attached to the first seal member.

[0014] In some embodiments, the first seal member is a hollow structure with two run-through ends, and the inner side thereof forms an accommodating cavity configured to accommodate the heating assembly; and the isolating member is accommodated in the accommodating cavity and is detachably mounted with the first seal member.

[0015] In some embodiments, the isolating member is integrally formed with the first seal member.

[0016] In some embodiments, the vaporizer further includes an upper base body, where the heating assembly is at least partially located in the upper base body; and the isolating member is mounted in the upper base body.

[0017] In some embodiments, the vaporizer further includes a second seal member, where the second seal member is sleeved on the upper base body.

[0018] In some embodiments, the second seal member includes a sleeve portion and a connection portion, where

[0019] the sleeve portion is sleeved on the upper base body; and the connection portion is connected at one of its ends to the sleeve portion, extends along the side wall of the upper base body toward the heating assembly, and is connected to the isolating member.

[0020] In some embodiments, the second seal member is integrally formed with the isolating member.

[0021] In some embodiments, the second seal member and the upper base body form an integral structure.

[0022] In some embodiments, a liquid flowing hole is provided on the upper base body; and
the isolating member is arranged along the liquid flowing direction of the liquid flowing hole.

[0023] In some embodiments, the isolating member is one or more of a stainless steel plate, a silicone plate, or a plastic plate.

[0024] In some embodiments, the heating assembly includes a porous body and a heating structure, where the porous body includes at least one vaporization surface, and the heating structure is arranged on the vaporization surface. The present invention further constructs an electronic vaporization device, including the vaporizer described in the present invention and a power supply device connected to the vaporizer.

[0025] By implementing the electronic vaporization de-

vice and the vaporizer thereof provided in the present invention, the following beneficial effects may be achieved: in the vaporizer, the isolating portion of the isolating member is arranged between the heating assembly and the liquid storage cavity, and the isolating portion covers the first end surface of the heating assembly, so that the liquid storage cavity and the heating assembly are isolated through the isolating portion. Therefore, the heating assembly may be prevented from being in direct contact with the aerosol-forming substrate in the liquid storage cavity, thereby improving a vaporization effect, improving a vaporization taste, and reducing occurrence of liquid leakage.

BRIEF DESCRIPTION OF THE DRAWINGS

[0026] Subject matter of the present disclosure will be described in even greater detail below based on the exemplary figures. All features described and/or illustrated herein can be used alone or combined in different combinations. The features and advantages of various embodiments will become apparent by reading the following detailed description with reference to the attached drawings, which illustrate the following:

FIG. 1 is a schematic structural diagram of an electronic vaporization device according to a first embodiment of the present invention;

FIG. 2 is a schematic structural diagram of a vaporizer of the electronic vaporization device shown in FIG. 1;

FIG. 3 is a cross-sectional view of the vaporizer shown in FIG. 2;

FIG. 4 is a schematic partial structural exploded view of the vaporizer shown in FIG. 2;

FIG. 5 is a schematic structural exploded view of a vaporization assembly of the vaporizer shown in FIG. 3;

FIG. 6 is a schematic structural diagram of an isolating member of the vaporization assembly shown in FIG. 3;

FIG. 7 is a cross-sectional view of a vaporizer of an electronic vaporization device according to a second embodiment of the present invention;

FIG. 8 is a schematic structural diagram of an isolating member of the vaporizer shown in FIG. 7;

FIG. 9 is a schematic structural diagram of an electronic vaporization device according to a third embodiment of the present invention;

FIG. 10 is a cross-sectional view of a vaporizer of the electronic vaporization device shown in FIG. 9;

FIG. 11 is a schematic structural diagram of a vaporization assembly of the vaporizer shown in FIG. 10;

FIG. 12 is a cross-sectional view of the vaporization assembly and shown in FIG. 11; and

FIG. 13 is a schematic structural diagram of an isolating member of the vaporization assembly shown in FIG. 12.

DETAILED DESCRIPTION

[0027] To have a clearer understanding of the technical features, the objectives, and the effects of the present invention, specific implementations of the present invention are now illustrated in detail with reference to the accompanying drawings.

[0028] FIG. 1 show some preferred embodiments of an electronic vaporization device of the present invention. The electronic vaporization device may be configured to heat and vaporize an aerosol-forming substrate to generate aerosols for inhalation by a user. In some embodiments, the electronic vaporization device has advantages such as not prone to liquid leakage, a simple structure, high vaporization efficiency, a good vaporization taste, and a high heat dissipation effect.

[0029] As shown in FIG. 1 and FIG. 2, further, in this embodiment, the electronic vaporization device includes a vaporizer 100 and a power supply device 200 connected to the vaporizer 100. The vaporizer 100 may be configured to vaporize a liquid vaporization medium stored in the vaporizer, where the liquid vaporization medium may be an aerosol-forming substrate, and the aerosol-forming substrate may form aerosols after being heated and vaporized. The power supply device 200 may be mechanically and electrically connected to the vaporizer 100, to supply power to the vaporizer 100.

[0030] Further, in this embodiment, the vaporizer includes a vaporization shell 10, a vaporization assembly 20, and a bottom base 30. The vaporization shell 10 may include a cylindrical housing 11 and an air outlet tube 12 arranged in the housing 11. The air outlet tube 12 may be located at a central axis of the housing 11, and a space between the air outlet tube and the inner side wall of the housing 11 may form a liquid storage cavity 13 to store the aerosol-forming substrate. In some embodiments, the bottom of the vaporization shell 10 is provided with a mounting opening 14 to mount the vaporization assembly 20 into the vaporization shell 10. The vaporization assembly 20 may be accommodated in the vaporization shell 10 and is located on one end of the air outlet tube 12. The bottom base 30 may be sleeved on the vaporization shell 10 and close to one end of the mounting opening 14 of the vaporization shell 10, to protect the

vaporization assembly 20 and prevent the vaporization assembly 20 from falling out of the vaporization shell 10.

[0031] As shown in FIG. 3 to FIG. 5, the vaporization assembly 20 includes a lower base body 21, an upper base body 22, and a heating assembly 23. The lower base body 21 may be configured to support the heating assembly 23, and the upper base body 22 may be arranged on the lower base body 21 and detachably assembled with the lower base body 21. In some embodiments, the upper base body 22 may be engaged with the lower base body 21. The upper base body 22 accommodates at least a part of the heating assembly 23. The heating assembly may be configured to heat the aerosol-forming substrate transmitted from the liquid storage cavity 13.

[0032] Further, in this embodiment, the lower base body 21 includes a base body 211, a support structure 212, and an air inlet channel 213. Further, in this embodiment, the base body 211 may block the mounting opening 14 at a lower portion of the vaporization shell 10. The support structure 212 may be arranged on the base body 211, and the base body 211 may support the heating assembly 22 through the support structure 212. In some embodiments, the support structure 212 may include two support arms 2121 arranged opposite to each other and at intervals. A gap between the two support arms 2121 may form a vaporization cavity 2120, the side of each support arm 2121 that is arranged facing the other support arm 2121 is provided with a support table 2122 supporting the heating assembly 23, and an engagement hole 2123 is provided on each support arm 2121, where the engagement hole 2123 may be engaged with the upper base body 22. In some embodiments, the air inlet channel 213 may be provided on the base body 211, for external air to enter the vaporization cavity 2120. It may be understood that, in some other embodiments, the lower base body 21 may be omitted.

[0033] Further, in this embodiment, the upper base body 22 includes a nesting portion 221 and an engagement portion 222. The inner side of the nesting portion 221 may form a receiving cavity 2212. The receiving cavity 2212 is configured to accommodate a part of the heating assembly 23. In this embodiment, the nesting portion 221 may be embedded between the two support arms 2121 and engaged with the two support arms 2121. Specifically, a buckle 2211 is arranged on an outer side plate of the nesting portion 221, and the buckle 2211 may be engaged with the engagement hole 2123 on the support arm 2121. Certainly, the upper base body 22 and the lower base body 21 may alternatively be detachably mounted in another manner.

[0034] Further, a top wall 2213 is arranged on the nesting portion 221, and a vent groove 2214 may be provided on the side wall of the nesting portion 221, where the vent groove 2214 may be in communication with the vaporization cavity 2120 to output the aerosols formed through vaporization. In some embodiments, a cross-sectional dimension of the engagement portion 222 may be greater than a cross-sectional dimension of the nesting portion 221. A vent hole 2221 may be provided on the engagement portion 222, a communication airway 223 is provided between the vent hole 2221 and the vent groove 2214, the communication airway 223 may be located on the outer side of the top wall 2213, and the vent hole 2221 may be in communication with the air outlet tube 12. Therefore, the aerosols can be outputted to the air outlet tube 12 from the vent groove 2214 through the communication airway 223 and the vent hole 2221. In some embodiments, a liquid flowing hole 2222 may be provided on the upper base body 22. There may be two liquid flowing holes 2222, the two liquid flowing holes 2222 are provided on the engagement portion 222, and may be provided on two opposite sides of the vent hole 2221.

[0035] Further, in this embodiment, the heating assembly 23 includes a porous body 231 and a heating structure 232. The porous body 231 may be a ceramic porous body. Certainly, it may be understood that, in some other embodiments, the porous body 231 may not be limited to the ceramic porous body. The heating assembly 23 includes a first end surface 231a and a second end surface 231b. The first end surface 231a is formed on a surface of the porous body 231 facing the liquid storage cavity 13. The second end surface 231b may be arranged facing away from the first end surface 231a. The heating assembly 23 includes a liquid absorbing groove 2311 and an opening 2312. The liquid absorbing groove 2311 may be provided on the porous body 231; and the opening 2312 may be arranged on the side of the porous body 231 facing the liquid storage cavity 13, namely, the first end surface 231a, may be arranged toward the liquid storage cavity 13, and may be in communication with the liquid absorbing groove 2311. The porous body 231 further includes at least one vaporization surface 2313, and the at least one vaporization surface 2313 may be arranged on the side of the porous body 231 arranged facing away from the liquid absorbing groove 2311. That is, the heating structure 232 is arranged on the second end surface 231b, so that the second end surface 231b forms the vaporization surface 2313. The heating structure 232 may be a heating wire or a heating film. Certainly, it may be understood that, in some other embodiments, the heating structure 232 may not be limited to the heating wire or the heating film. In this embodiment, the heating assembly 23 may further include a conductive connection member 233. The conductive connection member 233 may be connected to the heating structure 232, and the conductive connection member 233 further extends into the base body 211 to be connected to an electrode 28 on the base body 211. In other embodiments, the heating assembly 23 may include only one pair of conductive connection contacts, and the electrode 28 on the base body 211 directly abuts against the conductive connection contacts to achieve electrical connection.

[0036] Further, in this embodiment, the vaporization assembly 20 further includes a first seal member 24. The

first seal member 24 may be sleeved on the heating assembly 23, to seal a gap between the heating assembly 23 and the upper base body 22. In some embodiments, the first seal member 24 is a hollow structure with two run-through ends and includes a sleeve body 241, where the sleeve body 241 may be a silicone sleeve. Certainly, it may be understood that, in some other embodiments, the sleeve body 241 may not be limited to the silicone sleeve, and may alternatively be a plastic sleeve or made of another material. The side of the sleeve body 241 facing the liquid storage cavity is provided with an elongated hole 2411. The inner side of the first seal member 24 may form an accommodating cavity 2412, and the accommodating cavity 2412 may be configured to accommodate the heating assembly 23. It may be understood that, in some other embodiments, the first seal member 24 may be omitted.

[0037] Further, in this embodiment, the vaporization assembly 20 further includes an isolating member 25. The isolating member 25 may be arranged between the heating assembly 23 and the liquid storage cavity 13, and the isolating member 25 is configured to isolate the liquid storage cavity 13 from the heating assembly 23. Therefore, the heating assembly 23 may be prevented from being in direct contact with the aerosol-forming substrate in the liquid storage cavity 13, thereby preventing the heating assembly from being excessively infiltrated to affect a vaporization taste and reducing occurrence of liquid leakage.

[0038] Further, in this embodiment, the isolating member 25 is arranged on the upper base body 22, is located on the side of the heating assembly 23 facing the liquid storage cavity 13, and covers the opening 2312. In this embodiment, the isolating member 25 is arranged on the first seal member 24. Specifically, the isolating member 25 may be accommodated in the accommodating cavity 2412 and may be detachably mounted with the first seal member 24. Certainly, it may be understood that, in some other embodiments, the isolating member 25 is not limited to being detachably connected to the first seal member 24. In some embodiments, the isolating member 25 may be fixedly arranged on the first seal member 24, to form an integral structure with the first seal member 24. Specifically, the isolating member 25 may be arranged at the elongated hole 2411 of the first seal member 24 and is located along the liquid flowing direction of the liquid flowing hole 2222, so that the aerosol-forming substrate may be prevented from being in direct contact with the porous body 231 from the liquid storage cavity 13.

[0039] As shown in FIG. 6, further, in this embodiment, the isolating member 25 may be in a flat plate shape. Specifically, the isolating member may be in an elliptical plate shape, a square plate shape, or another shape. Certainly, it may be understood that, in some other embodiments, the isolating member 25 may not be limited to the flat plate shape. In this embodiment, the isolating member 25 may be a stainless steel plate. Certainly, it may be understood that, in some other embodiments, the isolating member may alternatively be another metal plate, or may be one or more of a silicone, rubber, or plastic plate. The isolating member 25 may include an isolating portion 251, the isolating portion 251 may be arranged facing both the heating assembly 23 and the liquid storage cavity 13, and the isolating portion 251 may cover the first end surface 231a. Specifically, the isolating portion may cover the opening 2312, the isolating portion 251 includes a covering surface 2511, and the covering surface 2511 may be arranged facing the opening 2312. In some embodiments, a size of the covering surface 2511 may be greater than a maximum size of the opening 2312, so that the aerosol-forming substrate in the liquid storage cavity 13 may be prevented from being in direct contact with an end surface of the opening 2312.

[0040] Further, in this embodiment, the isolating member 25 further includes a liquid guide structure 252; and the liquid guide structure 252 is arranged on the isolating portion 251, to guide the aerosol-forming substrate in the liquid storage cavity 13 to the porous body 231. In some embodiments, the liquid guide structure 252 may be located along the air outputting direction of the air outlet tube 12. Specifically, the liquid guide structure may be located directly below the air outlet tube 12, and when the vaporizer is stood, few liquid in the liquid absorbing groove 2311 of the porous body 231 may be temporarily stored around the isolating member 25, thereby reducing a risk that the liquid leaks out from the air outlet tube 12. In this embodiment, the liquid guide structure 252 may be a porous structure. Specifically, the liquid guide structure 252 may include a plurality of liquid guide holes 2521, the plurality of liquid guide holes 2521 may be provided on the isolating portion 251 at intervals, and each liquid guide hole 2521 is provided through the thickness direction of the isolating portion 251, to guide the aerosol-forming substrate in the liquid storage cavity 13 to the heating assembly 23. Specifically, some liquid guide holes of the liquid guide structure 252 may be located below the liquid flowing hole 2222 and are in communication with the liquid flowing hole 2222. By providing the plurality of liquid guide holes 2521 on the isolating portion 251, the liquid substrate in the liquid storage cavity 13 penetrates toward the heating assembly through capillary force of the porous body. When the vaporizer is stood, a porous surface of the isolating portion may easily form a surface tension film, to reduce a speed at which the liquid substrate penetrates toward the vaporization cavity 2120 and the air outlet tube 12, and reduce a risk of leakage of the liquid substrate.

[0041] Still, as shown in FIG. 3 to FIG. 5, in this embodiment, the vaporization assembly 20 further includes a second seal member 26, and the second seal member 26 is sleeved on the upper base body 22. Specifically, the second seal member 26 is sleeved on the engagement portion 222 of the upper base body 22, to sealingly connect the upper base body 22 to the vaporization shell 10. In some embodiments, the second seal member 26 may be a silicone sleeve. Certainly, it may be understood

that, in some other embodiments, the second seal member 26 may not be limited to the silicone sleeve, and the second seal member 26 may be another sleeve. In some embodiments, the second seal member 26 includes a sleeve portion 261, and the sleeve portion 261 may be sleeved on the engagement portion 222 of the upper base body 22. In some embodiments, a first through hole 2611 and a second through hole 2612 may be provided on the second seal member 26, where the first through hole 2611 may be provided corresponding to and in communication with the vent hole 2221, and the second through hole 2612 may be provided corresponding to and in communication with the liquid flowing hole 2222. It may be understood that, in some embodiments, the second seal member 26 may be omitted.

[0042] Further, in this embodiment, the vaporization assembly 20 further includes a third seal member 27, and the third seal member 27 may be sleeved on the base body 211, to sealingly connect the base body 211 to the vaporization shell 10. In some embodiments, the third seal member 27 may be a silicone ring or a rubber ring.

[0043] Further, in this embodiment, the vaporization assembly 20 further includes an electrode 28. There may be two electrodes 28, and the two electrodes 28 are mounted on the base body 211 at intervals, to electrically connect the power supply device 200 to the heating assembly 23.

[0044] FIG. 7 to FIG. 8 show a second embodiment of the electronic vaporization device of the present invention. A difference between this embodiment and the first embodiment lies in that, the isolating member 25 may be integrally formed with the first seal member 24. In some embodiments, the isolating member 25 may be formed on one end of the first seal member 24. In some embodiments, the isolating member 25 may be integrally formed with the first seal member 24 through injection molding. Certainly, it be understood that, in some other embodiments, the isolating member 25 may not be limited to being integrally formed with the first seal member 24 through injection molding.

[0045] FIG. 9 shows a third embodiment of the electronic vaporization device of the present invention, and a difference between this embodiment and the first embodiment lies in that the lower base body 21 and the first seal member 24 may be omitted. The vaporization cavity 2120 may be formed on the inner side of the upper base body 22. a liquid absorbing structure 223 is further arranged on the outer side wall of the upper base body 22, and the liquid absorbing structure 223 may include a plurality of liquid absorbing grooves 2231 longitudinally provided side by side along the upper base body 22.

[0046] As shown in FIG. 10 to FIG. 13, in this embodiment, the isolating member 25 may be in a flat plate shape. Certainly, it may be understood that, in some other embodiments, the isolating member 25 may not be limited to the flat plate shape. In this embodiment, the second seal member 26 further includes a connection portion 262, and the connection portion 262 may be in an elongated sheet shape. The connection portion 262 is connected at one of its ends to the sleeve portion 261, extends along the side wall of the upper base body 22 toward the heating assembly 23, and is connected to the isolating member 25. In some embodiments, there may be two connection portions 262, and the two connection portions 262 may be arranged on two opposite sides of the upper base body 22 and respectively connected to two opposite angles of the isolating portion 251. In this embodiment, the second seal member 26 may be integrally formed with the isolating member 25. Specifically, the connection portion 262 may be integrally formed with the isolating portion 251 through injection molding. In this embodiment, the second seal member 26 may further include a lower sleeve body 263. The lower sleeve body 263 may be arranged with the sleeve portion 261 side by side and at intervals, and may be sleeved on one end of the upper base body 21 away from the liquid storage cavity 13, to sealingly connect the upper base body 21 to the power supply device 200. The other end of the connection portion 262 may be connected to the lower sleeve body 263. The sleeve portion 261, the connection portion 262, and the lower sleeve body 263 may be integrally formed. In this embodiment, the second seal member 26 and the upper base body 22 may form an integral structure. Specifically, the second seal member 26 and the upper base body 22 may form an integral structure through injection molding. Certainly, it may be understood that, in some other embodiments, the second seal member 26 may alternatively be detachably connected to the upper base body 22.

[0047] While the invention has been illustrated and described in detail in the drawings and foregoing description, such illustration and description are to be considered illustrative or exemplary and not restrictive. It will be understood that changes and modifications may be made by those of ordinary skill within the scope of the following claims. In particular, the present invention covers further embodiments with any combination of features from different embodiments described above and below. Additionally, statements made herein characterizing the invention refer to an embodiment of the invention and not necessarily all embodiments.

[0048] The terms used in the claims should be construed to have the broadest reasonable interpretation consistent with the foregoing description. For example, the use of the article "a" or "the" in introducing an element should not be interpreted as being exclusive of a plurality of elements. Likewise, the recitation of "or" should be interpreted as being inclusive, such that the recitation of "A or B" is not exclusive of "A and B," unless it is clear from the context or the foregoing description that only one of A and B is intended. Further, the recitation of "at least one of A, B and C" should be interpreted as one or more of a group of elements consisting of A, B and C, and should not be interpreted as requiring at least one of each of the listed elements A, B and C, regardless of

whether A, B and C are related as categories or otherwise. Moreover, the recitation of "A, B and/or C" or "at least one of A, B or C" should be interpreted as including any singular entity from the listed elements, e.g., A, any subset from the listed elements, e.g., A and B, or the entire list of elements A, B and C.

Claims

1. A vaporizer, comprising:

a liquid storage cavity (13);
a heating assembly (23) configured to heat and vaporize an aerosol-forming substrate in the liquid storage cavity (13), and comprising a first end surface (231a) facing the liquid storage cavity (13); and
an isolating member (25) comprising an isolating portion (251),
wherein the isolating portion (251) is arranged between the heating assembly (23) and the liquid storage cavity (13), covers the first end surface (231a), and isolates the liquid storage cavity (13) from the heating assembly (23).

2. The vaporizer of claim 1, wherein the heating assembly (23) comprises a liquid absorbing groove (2311) and an opening (2312) facing the liquid storage cavity (13),

wherein the opening (2312) is provided on the first end surface (231a) and in communication with the liquid absorbing groove (2311), and
wherein the isolating portion (251) covers the opening (2312).

3. The vaporizer of claim 2, wherein the isolating portion (251) comprises a covering surface (2511), and wherein the size of the covering surface (2511) is greater than the maximum size of the opening (2312).

4. The vaporizer of claim 2, wherein the isolating member (25) further comprises a liquid guide structure (252) arranged on the isolating portion (251), preferably

wherein the liquid guide structure (252) comprises a plurality of liquid guide holes (2521) arranged at intervals, and
wherein the plurality of liquid guide holes (2521) are arranged through the thickness direction of the isolating portion (251).

5. The vaporizer of claim 4, further comprising:

a vaporization shell (10) comprising a housing (11) and an air outlet tube (12) arranged in the housing (11),
wherein a space is provided between the housing (11) and the air outlet tube (12) to form the liquid storage cavity (13), and
wherein the liquid guide structure (252) is located along the extending direction of the air outlet tube (12).

6. The vaporizer of claim 1, wherein the isolating member (25) is in a flat plate shape.

7. The vaporizer of claim 1, further comprising:

a first seal member (24) sleeved on the heating assembly (23),
wherein the isolating member (25) is attached to the first seal member (24).

8. The vaporizer of claim 7, wherein the first seal member (24) comprises a hollow structure with two run-through ends, and the inner side thereof accommodates the heating assembly (23), and
wherein the isolating member (25) is accommodated in and is detachably connected with the first seal member (24).

9. The vaporizer of claim 7, wherein the isolating member (25) is integrally formed with the first seal member (24).

10. The vaporizer of claim 1, further comprising:

an upper base body (22),
wherein the heating assembly (23) is at least partially located in the upper base body (22), and
wherein the isolating member (25) is mounted in the upper base body (22).

11. The vaporizer of claim 10, further comprising:

a second seal member (26),
wherein the second seal member (26) is sleeved on the upper base body (22).

12. The vaporizer of claim 11, wherein the second seal member (26) comprises a sleeve portion (261) and a connection portion (262),

wherein the sleeve portion (261) is sleeved on the upper base body (22), and
wherein the connection portion (262) is connected at one of its ends to the sleeve portion (261), extends along the side wall of the upper base body (22) toward the heating assembly (23), and is connected to the isolating member (25).

13. The vaporizer of claim 12, wherein the second seal

member (26) is integrally formed with the isolating member (25), preferably
wherein the second seal member (26) and the upper base body (22) form an integral structure.

14. The vaporizer of claim 10, wherein a liquid flowing hole (2222) is provided on the upper base body (22), and
wherein the isolating member (25) is arranged along the liquid flowing direction of the liquid flowing hole (2222).

15. An electronic vaporization device, comprising:

the vaporizer (100) of any one of claims 1 to 14; and
a power supply device (200) connected to the vaporizer (100).

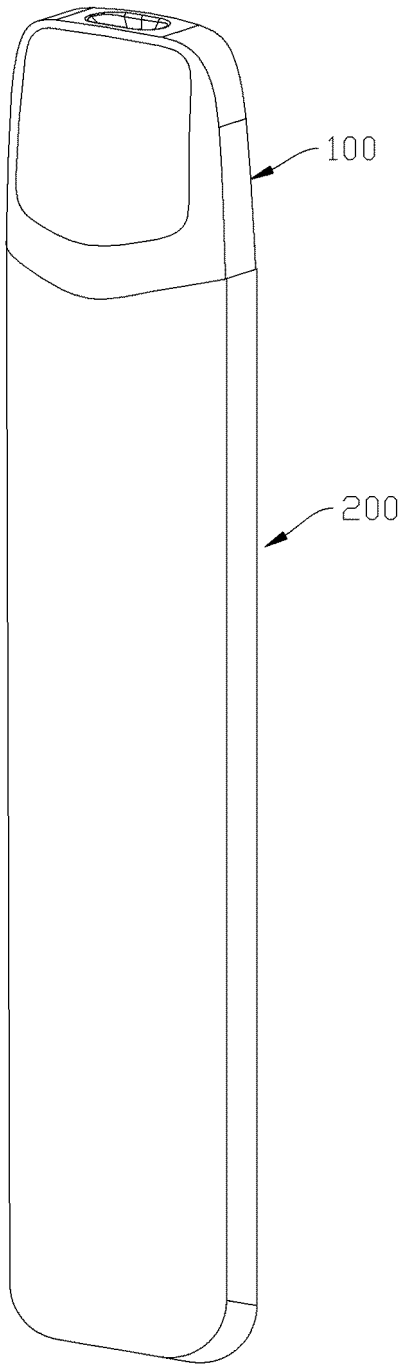

FIG. 1

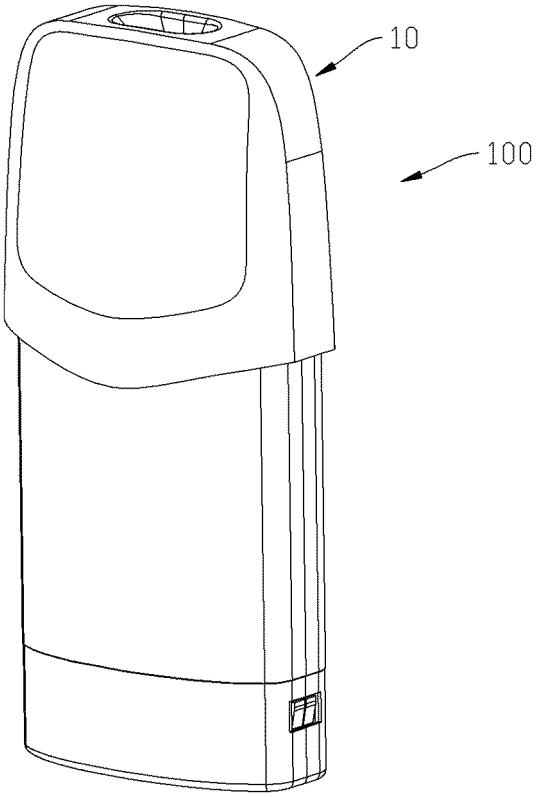

FIG. 2

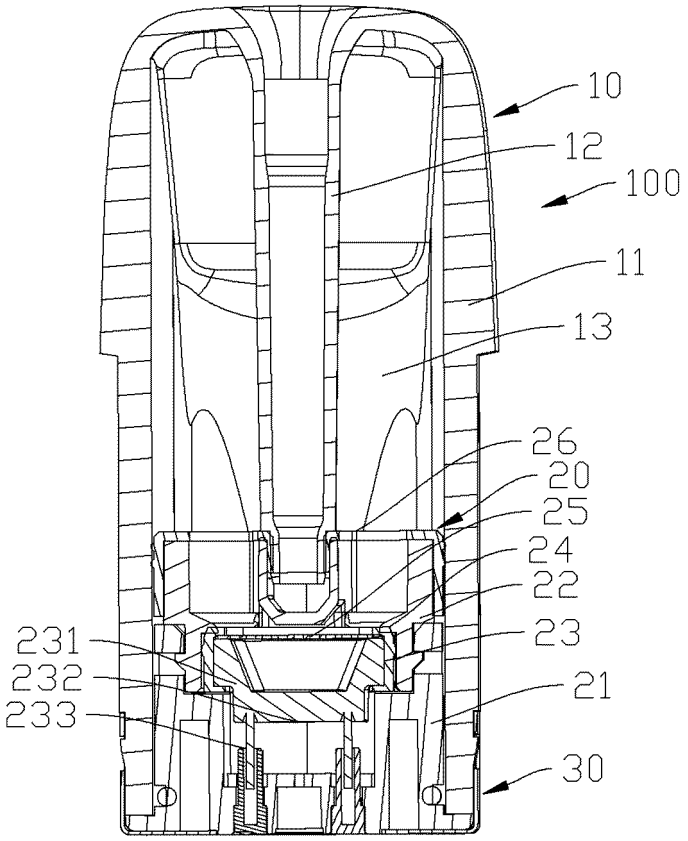

FIG. 3

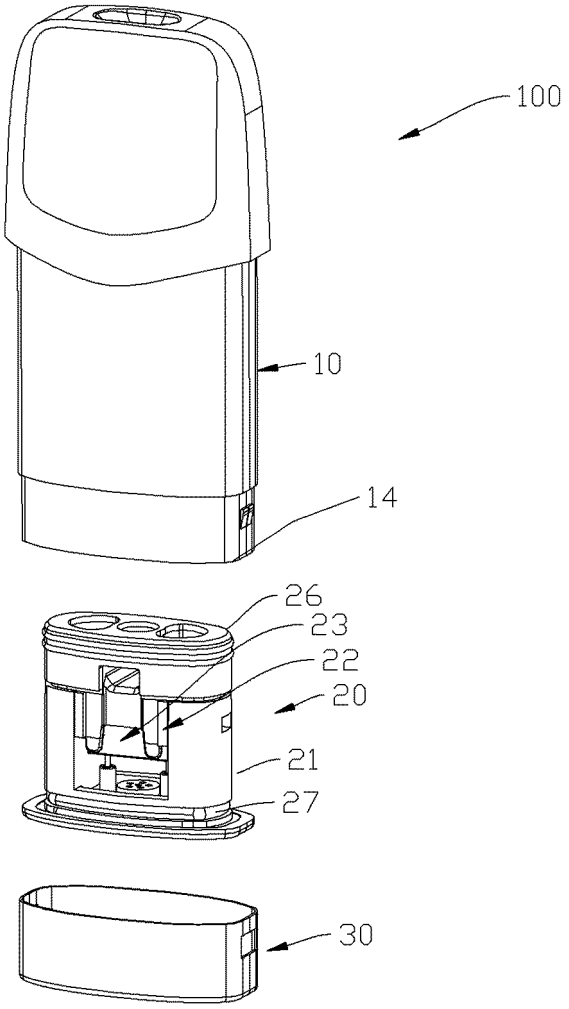

FIG. 4

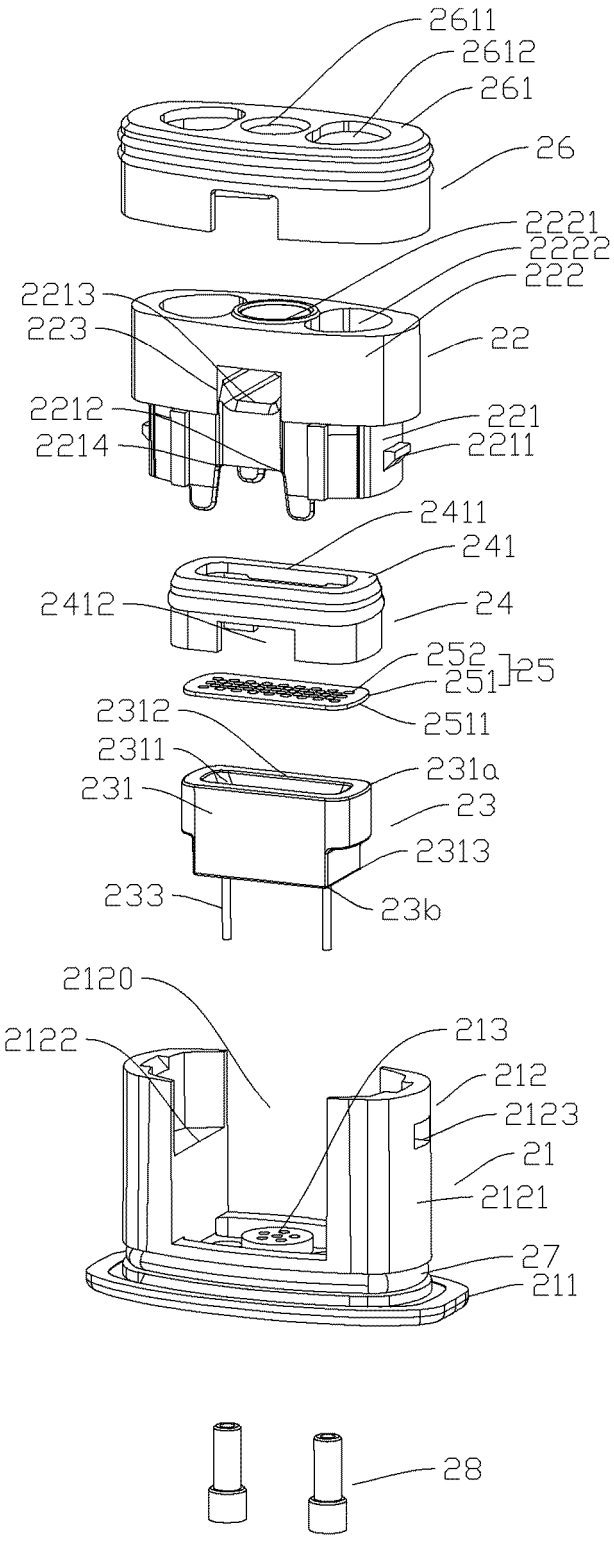
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FIG. 5

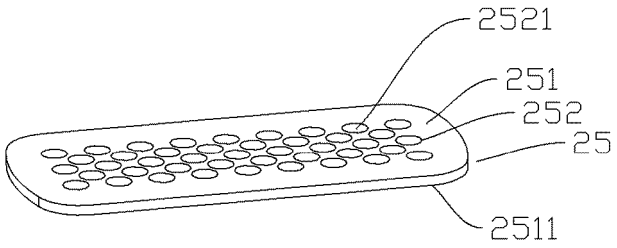

FIG. 6

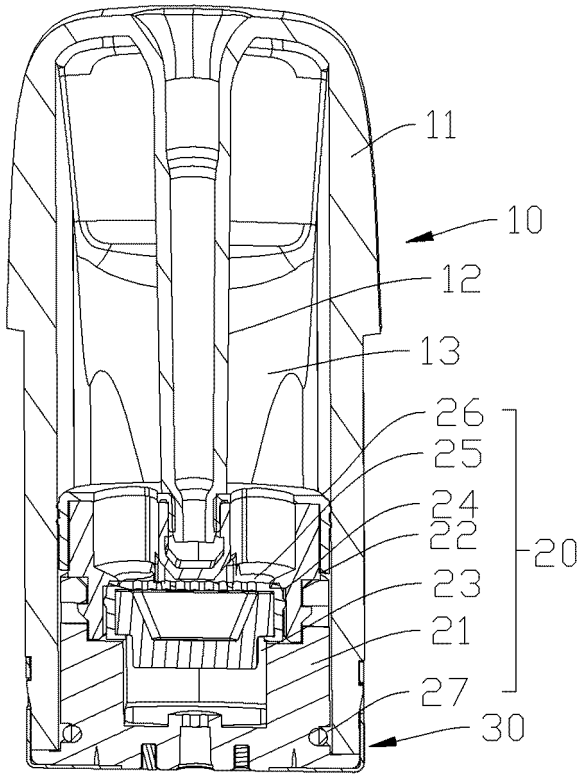

FIG. 7

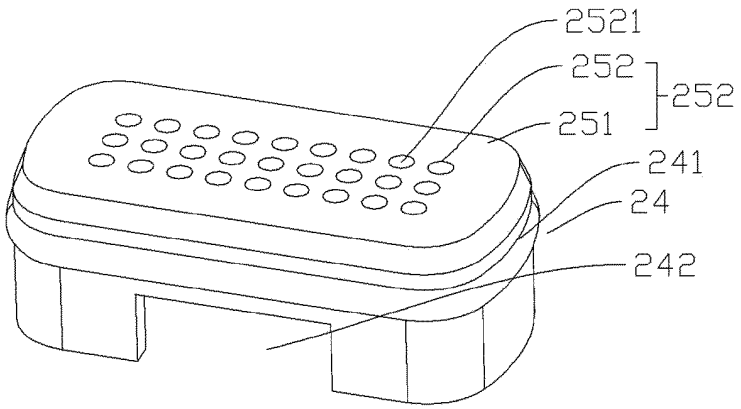

FIG. 8

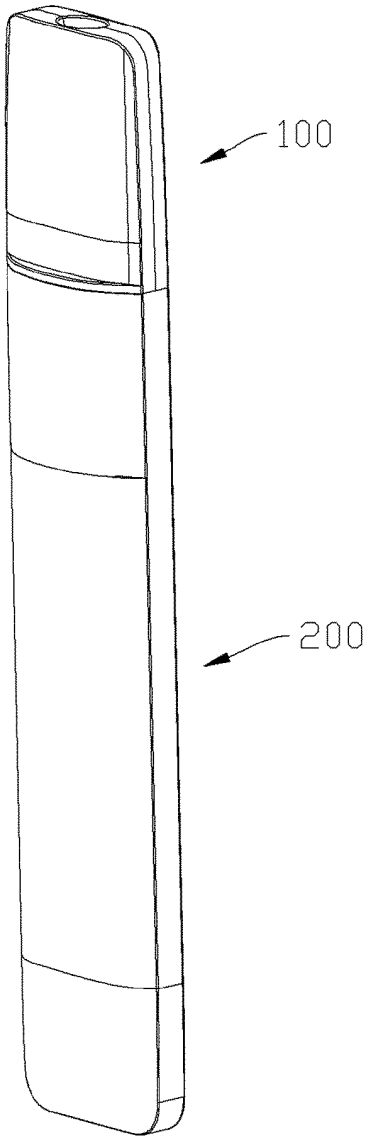

FIG. 9

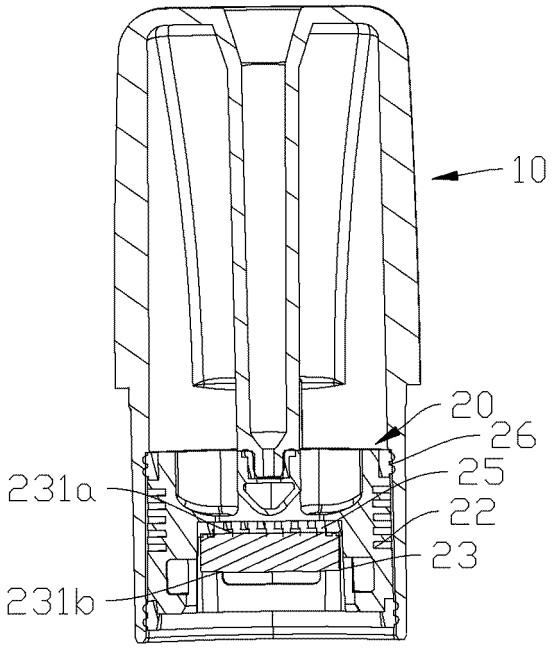

FIG. 10

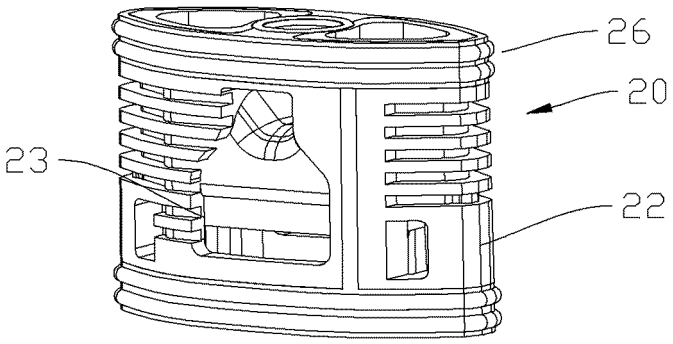

FIG. 11

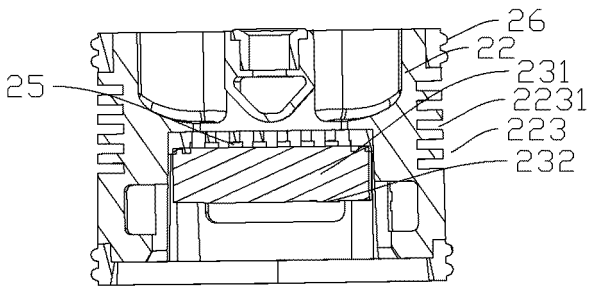

FIG. 12

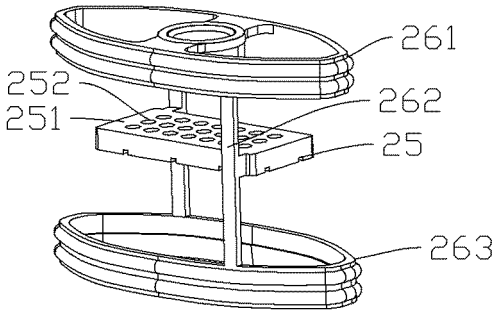

FIG. 13

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EUROPEAN SEARCH REPORT

Application Number
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A	* the whole document *	2-4	
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A24F

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	27 October 2023	Kock, Søren

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