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(54) **ATOMIZER AND PREPARATION METHOD, ELECTRONIC ATOMIZING DEVICE THEREOF**

(57) The present disclosure provides an atomizer (1) and a preparation method, an electronic atomizing device (3) thereof. The atomizer (1) includes a bracket (10), two first connection mechanisms (12), a liquid guiding member (20), a mesh-like heater (30) and two connectors (32). A supporting surface (11) is defined by the bracket (10). The two first connection mechanisms (12) are connected

to the bracket (10). The liquid guiding member (20) is arranged on the supporting surface (11). The surface of the liquid guiding member (20) that is away from the bracket (10) is a curved surface. The mesh-like heater (30) is arranged on the surface of the liquid guiding member (20). The two connectors (32) are respectively connected to the two ends of the heat generating portion (31).

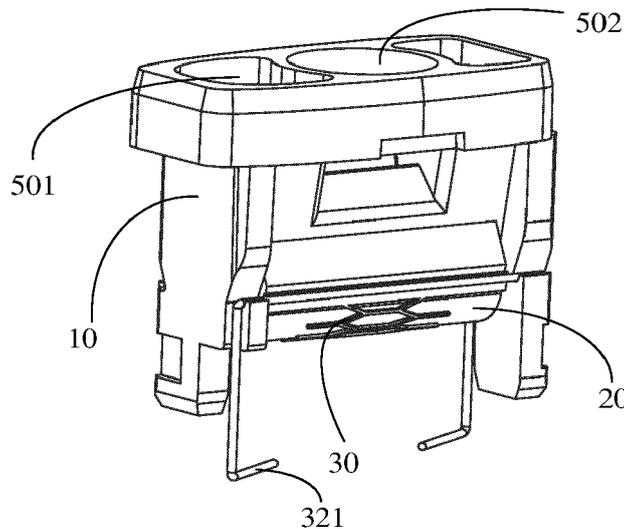


Fig. 5

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Description

TECHNICAL FIELD

[0001] The present disclosure relates to the technical field of atomization, and in particular to an atomizer, and a preparation method, an electronic atomizing device thereof.

BACKGROUND

[0002] An electronic atomizing device generally includes an atomizer and a host machine. The atomizer is configured to store and atomize the aerosol generating substrate. The host machine is configured to supply power or energy to the atomizer. The atomizer generally includes an atomizing assembly. A liquid storage chamber is defined by the atomizer. The liquid storage chamber is configured to store an aerosol generating substrate. The atomizing assembly is configured to atomize the aerosol generating substrate. The liquid storage chamber is fluidly in communication with the atomizing assembly.

[0003] In the specific structure of a cotton wick atomizing assembly in the related art, a mesh-like heater is arranged in the innermost layer, a liquid guiding member is arranged on the outer side of the mesh-like heater, and a fixing bracket is arranged on the outer side of the liquid guiding member. In this structure, an airflow channel is defined by the inner side of the mesh-like heater. There is no supporting structure for the mesh-like heater. Only one side of each of the connectors at the two ends of mesh-like heater is fixed to the structure member, while there is no fixing structure on the other side of each of the connectors. The support strength of the mesh-like heater is not strong enough and the mesh-like heater is easy to deform. Problems of deformation of the mesh-like heater and the separation of the mesh-like heater and the liquid guiding member may be caused, which leads to dry-burning of the mesh-like heater, local high temperature, results in unpleasant odor, and affects the user's experience.

SUMMARY

[0004] The present disclosure generally provides an atomizer and a preparation method, an electronic atomizing device thereof, to solve the problem in the related art that the supporting strength of the mesh-like heater is insufficient and is easy to deform. The insufficient supporting strength causes the deformation of the mesh-like heater and the separation between the mesh-like heater and the liquid guiding member.

[0005] To solve the above-mentioned technical problem, one technical solution adopted by the present disclosure is to provide an atomizer. The atomizer includes a bracket, two first connection mechanisms, a liquid guiding member, a mesh-like heater and two connectors. The bracket defines a supporting surface. The two first con-

nection mechanisms are connected to the bracket. The liquid guiding member is arranged on the supporting surface. The surface of the liquid guiding member that is away from the supporting surface is a curved surface.

The curved surface is bent towards the supporting surface. The mesh-like heater is arranged on the surface of the liquid guiding member that is away from the supporting surface. The mesh-like heater includes a heat generating portion. The two connectors are respectively connected to the two ends of the heat generating portion. Each of the two connectors includes a second connection mechanism. The two second connection mechanisms are respectively fixed to the two second connection mechanisms, such that the mesh-like heater is fixed to the bracket. In this way, the heat generating portion is attached to the surface of the liquid guiding member that is away from the bracket, and the heat generating portion is bent towards the supporting surface and forms a curved surface.

[0006] To solve the above-mentioned technical problem, another technical solution adopted by the present disclosure is to provide a preparation method of an atomizer. The preparation method includes: providing a bracket and two first connection mechanisms, the bracket including a supporting surface and, the two first connection mechanisms being connected to the bracket; providing a liquid guiding member, and arranging the liquid guiding member on the supporting surface, such that the surface of the liquid guiding member that is away from the supporting surface being bent towards the supporting surface and forms a curved surface; providing a mesh-like heater and two connectors, the mesh-like heater comprising a heat generating portion, and the two connectors being respectively connected to the two ends of the heat generating portion; arranging the mesh-like heater on the surface of the liquid guiding member that is away from the supporting surface; each of the two connectors comprising a second connection mechanism; the heat generating portion being rigid, and having the shape of a planar surface when no external force is applied; and fixing the two second connection mechanisms respectively to the two second connection mechanisms, such that the mesh-like heater being fixed to the bracket, the heat generating portion being attached to the surface of the liquid guiding member that is away from the bracket, bent towards the supporting surface and forming a curved surface.

[0007] To solve the above-mentioned technical problem, a further technical solution adopted by the present disclosure is to provide an electronic atomizing device. The electronic atomizing device includes a host machine and any of the above-mentioned atomizers or an atomizer prepared by the preparation method of the atomizer mentioned above. The host machine is configured to supply power to the atomizer.

[0008] The advantage of the present disclosure is that: distinguished from the related art, the present disclosure provides the atomizer and the preparation method, the

electronic atomizing device thereof. The atomizer includes a bracket, two first connection mechanisms, a liquid guiding member, a mesh-like heater and two connectors. A supporting surface is defined by the bracket. The two first connection mechanisms are connected to the bracket. The liquid guiding member is arranged on the supporting surface. A surface of the liquid guiding member that is away from the bracket is a curved surface. The curved surface is bent towards the bracket. The mesh-like heater is arranged on one surface of the liquid guiding member that is away from the bracket. The mesh-like heater includes a heat generating portion. The two connectors are respectively connected to the two ends of the heat generating portion. Each of the two connectors includes a second connection mechanism. The two second connection mechanisms are respectively fixed to the two second connection mechanisms, such that the mesh-like heater is fixed to the bracket. In this way, the heat generating portion is attached to the surface of the liquid guiding member that is away from the bracket, bent towards the bracket and forms a curved surface. By the above-mentioned arrangement, the liquid guiding member is arranged on the supporting surface of the bracket, the mesh-like heater is arranged on the surface of the liquid guiding member that is away from the bracket, and a certain supporting force is provided for the mesh-like heater. At the same time, by the fixed connection between the mesh-like heater and the bracket, the supporting strength of the mesh-like heater is enhanced, and the risk of deformation is reduced. In addition, after assembly, the mesh-like heater has a radian, the heat generating portion is tightly attached to the liquid guiding member. In this way, the problem of the dry-burning and local high temperature of the mesh-like heater due to the separation of the liquid guiding member and the mesh-like heater is solved. The dry-burning and the local high temperature may bring unpleasant odor.

BRIEF DESCRIPTION OF THE DRAWINGS

[0009] In order to more clearly illustrate technical solutions of the present disclosure or related art, the drawings required in the description of the embodiments or the related art will be briefly introduced below. Obviously, the drawings in the following description are only some embodiments of the present disclosure. For those of ordinary skills in the art, other drawings could be obtained based on these drawings without creative efforts.

Fig. 1 is a schematic structural diagram of an electronic atomizing device according to an embodiment of the present disclosure.

Fig. 2 is a schematic structural diagram of a first embodiment of the atomizer of the electronic atomizing device of Fig. 1.

Fig. 3 is a schematic structural diagram of a mesh-like heater of the atomizer of Fig. 2.

Fig. 4 is a schematic structural diagram of a bracket

of the atomizer of Fig. 2.

Fig. 5 is a schematic diagram of the assembly structure of the mesh-like heater, the liquid guiding member and the bracket of the atomizer of Fig. 2.

Fig. 6 is a schematic structural diagram of a bottom mounting seat of the atomizer of Fig. 2.

Fig. 7 is a schematic structural diagram of a second embodiment of the atomizer of the electronic atomizing device of Fig. 1.

Fig. 8 is a schematic structural diagram of a mesh-like heater of the atomizer of Fig. 7.

Fig. 9 is a schematic structural diagram of a bracket of the atomizer of Fig. 7.

Fig. 10 is a schematic diagram of the assembly structure of the mesh-like heater, the liquid guiding member and the bracket of the atomizer of Fig. 7.

Fig. 11 is a schematic structural diagram of a third embodiment of the atomizer of the electronic atomizing device of Fig. 1.

Fig. 12 is a schematic structural diagram of a top mounting seat of the atomizer of Fig. 11.

Fig. 13 is a schematic structural diagram of a mesh-like heater of the atomizer of Fig. 11.

Fig. 14 is a schematic structural diagram of a bracket of the atomizer of Fig. 11.

Fig. 15 is a schematic diagram of the assembly structure of the mesh-like heater, the liquid guiding member and the bracket of the atomizer of Fig. 11.

Fig. 16 is a schematic structural diagram of a fourth embodiment of the atomizer of the electronic atomizing device of Fig. 1.

Fig. 17 is a schematic structural diagram of a mesh-like heater of the atomizer of Fig. 16.

Fig. 18 is a schematic structural diagram of a bracket of the atomizer of Fig. 16.

Fig. 19 is a schematic diagram of the assembly structure of the mesh-like heater, the liquid guiding member and the bracket of the atomizer of Fig. 16.

Fig. 20 is a schematic structural diagram of a fifth embodiment of the atomizer of the electronic atomizing device of Fig. 1.

Fig. 21 is a schematic structural diagram of a mesh-like heater of the atomizer of Fig. 20.

Fig. 22 is a schematic structural diagram of a bracket of the atomizer of Fig. 20.

Fig. 23 is a schematic diagram of the assembly structure of the mesh-like heater, the liquid guiding member and the bracket of the atomizer of Fig. 20.

Fig. 24 is a schematic structural diagram of a fifth embodiment of the atomizer of the electronic atomizing device of Fig. 1.

Fig. 25 is a schematic structural diagram of a supporting member of the atomizer of Fig. 24.

Fig. 26 is a schematic structural diagram of a fixing member of the atomizer of Fig. 24.

Fig. 27 is a schematic structural diagram of a mesh-like heater of the atomizer of Fig. 24.

Fig. 28 is a schematic diagram of the assembly struc-

ture of the mesh-like heater, the liquid guiding member and the bracket of the atomizer of Fig. 24.

Fig. 29 is a schematic flowchart of a preparation method of an atomizer according to an embodiment of the present disclosure.

DETAILED DESCRIPTION

[0010] Technical solutions in embodiments of the present disclosure will be described clearly and thoroughly in connection with accompanying drawing of the embodiments of the present disclosure. Obviously, the described embodiments are only a part of the embodiments, but not all of them. All other embodiments by a person of ordinary skills in the art based on embodiments of the present disclosure without creative efforts should all be within the protection scope of the present disclosure.

[0011] The terms 'first', 'second', and 'third' in this disclosure are only for the purpose of description, and cannot be construed as indicating or implying relative importance or implicitly indicating the number of technical features referred to. Therefore, the features defined with 'first', 'second', and 'third' may explicitly or implicitly include at least one of the features. In the description of the present disclosure, 'a plurality of means at least two, such as two, three, etc., unless otherwise specifically defined. In addition, the terms 'include', 'comprise' and any variations thereof are intended to cover non-exclusive inclusion. For example, a process, a method, a system, a product, or a device that includes a series of operations or units is not limited to the listed operations or units, but optionally includes unlisted operations or units, or optionally also includes other operations or units inherent to these processes, methods, products or devices.

[0012] Reference to 'embodiments' herein means that a specific feature, structure, or characteristic described in conjunction with the embodiments may be included in at least one embodiment of the present disclosure. The appearance of this phrase in various locations in the specification does not necessarily refer to the same embodiment, nor is it an independent or alternative embodiment mutually exclusive with other embodiments. Those skilled in the art may explicitly and implicitly understand that, the embodiments described herein may be combined with other embodiments.

[0013] The present disclosure will be described in detail below with reference to the drawings and embodiments.

[0014] As shown in Fig. 1, Fig. 1 is a schematic structural diagram of an electronic atomizing device according to an embodiment of the present disclosure.

[0015] An electronic atomizing device 3 is provided in the present disclosure. The electronic atomizing device 3 is configured for atomization of aerosol generating substrate. The electronic atomizing device 3 includes an atomizer 1 and a host machine 2 that are electrically connected to each other.

[0016] The atomizer 1 is configured to store the aerosol generating substrate. The atomizer 1 is also configured to atomize the aerosol generating substrate, in order to generate aerosol or gasoloid that can be inhaled by the user. The atomizer 1 may be specifically used in different fields including, for example, medical fields, cosmetic fields, or recreational inhaling fields etc. In some embodiments, the atomizer 1 may be configured for an electrical aerosolization device. The atomizer 1 may be configured to atomize the aerosol generating substrate and generate the aerosol for an inhaler to inhale. The following embodiments are all examples of this recreational inhaling situation.

[0017] The specific structures and functions of the atomizer 1 may be referred to the specific structures and functions of the atomizer 1 described in the following embodiments. A same or similar technical effect may be achieved and will not be repeated here.

[0018] The host machine 2 includes a battery (not shown) and a controller (not shown). The battery is configured to supply power for the operation of the atomizer 1, such that the atomizer 1 is capable of atomizing the aerosol generating substrate to generate the aerosol. The controller is configured to control the operation of the atomizer 1. The host machine 2 further includes other components such as a battery bracket and an airflow transducer.

[0019] The atomizer 1 and the host machine 2 may be integrated into a single unit, or may be detachably connected to each other. The atomizer 1 and the host machine 2 may also be specifically designed according to the actual demands.

[0020] As shown in Fig. 2 to Fig. 6, Fig. 2 is a schematic structural diagram of a first embodiment of the atomizer of the electronic atomizing device of Fig. 1, Fig. 3 is a schematic structural diagram of a mesh-like heater of the atomizer of Fig. 2, Fig. 4 is a schematic structural diagram of a bracket of the atomizer of Fig. 2, Fig. 5 is a schematic diagram of the assembly structure of the mesh-like heater, a liquid guiding member and the bracket of the atomizer of Fig. 2, and Fig. 6 is a schematic structural diagram of a bottom mounting seat of the atomizer of Fig. 2.

[0021] The atomizer 1 of the electronic atomizing device 3 provided in the present disclosure includes a bracket 10, two first connection mechanisms 12, a liquid guiding member 20, a mesh-like heater 30 and two connectors 32. A supporting surface 11 is defined by the bracket 10. The two first connection mechanisms 12 are connected to the bracket 10. The liquid guiding member 20 is arranged on the supporting surface 11. A surface of the liquid guiding member 20 that is away from the bracket 10 is a curved surface. The curved surface is curved or bent towards the bracket 10. The mesh-like heater 30 is arranged on one surface of the liquid guiding member 20 that is away from the bracket 10. The mesh-like heater 30 includes a heat generating portion 31. The two connectors 32 are respectively connected to the two ends of the heat generating portion 31. Each of the two con-

nectors 32 includes a second connection mechanism 320. The two second connection mechanisms 320 are respectively fixed to the two first connection mechanisms 12, such that the mesh-like heater 30 is fixed to the bracket 10. In this way, the heat generating portion 31 is attached to a surface of the liquid guiding member 20 that is away from the bracket 10, bends towards one side of the bracket 10 and forms a curved surface.

[0022] It should be appreciated that, in the present disclosure, the liquid guiding member 20 is arranged on the supporting surface 11. The mesh-like heater 30 is arranged on the outer side of the liquid guiding member 20. In other words, the outer side of the liquid guiding member 20 is the side of the liquid guiding member 20 that is away from the supporting surface 11. The bracket 10 is arranged on the side of the liquid guiding member 20 that is away from the mesh-like heater 30. The liquid guiding member 20 and the mesh-like heater 30 are both supported by the bracket 10, the supporting strength of the mesh-like heater 30 is enhanced, and the risk of deformation during the usage of the mesh-like heater 30 is reduced. At the same time, each of the two connectors 32 connected to the mesh-like heater 30 includes a second connection mechanism 320. Each of the two first connection mechanisms 12 is connected to the bracket 10. By means of the fixed connection between each of the two second connection mechanisms 320 and a corresponding one of the two first connection mechanisms 12, the fixed connection between the mesh-like heater 30 and the bracket 10 may be achieved. In this way, two sides of each of the two connectors 32 are both fixed to the bracket 10. By means of the fixed connection between the two second connection mechanisms 320 and the two first connection mechanisms 12, the heat generating portion 31 of the mesh-like heater 30 is tightly attached to the surface of the liquid guiding member 20 that is away from the bracket 10. The acting force between the two second connection mechanisms 320 and the two first connection mechanisms 12 enables the mesh-like heater 30 and the liquid guiding member 20 to be tightly attached to the bracket 10, and enables the heat generating portion 31 of the mesh-like heater 30 to be curved. During the assembly process and the using process, the separation between the liquid guiding member 20 and the mesh-like heater 30 is prevented, the atomizing performance of the atomizer 1 is effectively increased, and the using experience of the user is enhanced. The separation of the liquid guiding member 20 and the mesh-like heater 30 causes dry-burning or local high temperature of the mesh-like heater 30 due to insufficient liquid supply, and a problem of unpleasant odor may be caused.

[0023] In some embodiments, the bracket 10 and the two first connection mechanisms 12 may be integrated into a single unit. The bracket 10 may be connected to the two first connection mechanisms 12 through ways such as welding, gluing or clamping etc. The mesh-like heater 30 and the two connectors 32 may be integrated into a single unit. The mesh-like heater 30 may be con-

nected to the two connectors 32 through ways such as welding, gluing or clamping etc. The heat generating portion 31 has a certain rigidity, and may have the shape of a planar surface in its natural or free state without any applied force. The curved surface that is curved or bends towards the supporting surface 11 is formed by the fixed connection between the first connection mechanisms 12 and the second connection mechanisms 320. In some embodiments, the heat generating portion 31 may be curled and bent directly to form a shape of a curved surface.

[0024] As shown in Fig. 2, in some embodiments, the atomizer 1 further includes a housing 40 and a mounting seat 50. One end of the housing 40 is an open end or has an opening. The mounting seat 50 is arranged at the open end of the housing 40. The mounting seat 50 and the housing 40 cooperate to define a liquid reservoir or a liquid storage chamber 41. The liquid storage chamber 41 is configured to store the aerosol generating substrate. The end of the mounting seat 50 that is near or proximate to the housing 40 is provided with a sealing cover 60. The sealing cover 60 is sleeved on an end portion of the mounting seat 50. The sealing cover 60 is configured to occlude the liquid storage chamber 41 and prevent the leakage of the aerosol generating substrate inside the liquid storage chamber 41. A liquid-drainage hole or liquid downflow hole 501 is defined by the mounting seat 50. The liquid guiding member 20 is fluidly in communication with the liquid downflow hole 501. The aerosol generating substrate inside the liquid storage chamber 41 enters into the liquid guiding member 20 via the liquid downflow hole 501, and is then heated and atomized by the mesh-like heater 30 to generate aerosol. A smoke discharging channel 42 is defined in the housing 40. A smoke vent or a smoke outlet 502 is defined at the end of the mounting seat 50 that is near the housing 40. One end of the smoke discharging channel 42 is arranged in the smoke vent 502. The aerosol generated by the heating and atomization of the mesh-like heater 30 flows to the smoke discharging channel 42 through the smoke vent 502. The user inhales the aerosol through the port of the smoke discharging channel 42.

[0025] Specifically, the mounting seat 50 includes a top mounting seat 51 and a bottom mounting seat 52. The top mounting seat 51 and the bottom mounting seat 52 are assembled and connected to each other. In the present embodiment, the top mounting seat 51 is the bracket 10. The top mounting seat 51 is at the side of the bottom mounting seat 52 that is near the liquid storage chamber 41. The liquid guiding member 20 and the mesh-like heater 30 are both located between the top mounting seat 51 and the bottom mounting seat 52. The supporting surface 11 of the top mounting seat 51 is the surface at the end of top mounting seat 51 that is away from the liquid storage chamber 41. The supporting surface 11 is curved or arc shaped. The liquid guiding member 20 is a laminar or laminated liquid guiding cotton. The laminated liquid guiding cotton is arc shaped and wraps around

the supporting surface 11 of the top mounting seat 51. Two liquid downflow holes 501 are defined by the top mounting seat 51. The top mounting seat 51 is also referred to as the bracket 10. One of the two liquid downflow holes 501 is located at one side of the smoke vent 502, the other one of the two liquid downflow holes 501 is located at the other side of the smoke vent 502. One end of each liquid downflow hole 501 is located at the end surface of the top mounting seat 51 that is near the liquid storage chamber 41, the other end of each liquid downflow hole 501 is extended to the supporting surface 11 of the top mounting seat 51 and defines a port on the supporting surface 11. The laminated liquid guiding cotton covers the two ports of the two liquid downflow holes 501 that are away from the liquid storage chamber 41, such the aerosol generating substrate flows out via the liquid downflow holes 501 all flows to the laminated liquid guiding cotton. In other words, each liquid downflow hole 501 is fluidly in communication with both the liquid storage chamber 41 and the laminated liquid guiding cotton. The aerosol generating substrate inside the liquid storage chamber 41 flows through the liquid downflow holes 501 and is then absorbed by the laminated liquid guiding cotton. In some embodiments, the liquid guiding member 20 may also be made of other kinds of materials. For example, the liquid guiding member 20 may be made of porous ceramic or porous glass etc. The supporting surface 11 and the liquid guiding member 20 may also have other shapes, as long as the surface of the liquid guiding member 20 that is away from the supporting surface 11 is curved towards the supporting surface 11, and the surface of the liquid guiding member 20 that is away from the supporting surface 11 is a curved surface.

[0026] The mesh-like heater 30 includes a heat generating portion 31. The two connectors 32 are respectively connected to the two ends of the heat generating portion 31. Each of the two connectors 32 includes a second connection mechanism 320. As shown in Fig. 3, in the present embodiment, the heat generating portion 31 has a mesh-like structure. The heat generating portion 31 is a metal mesh and is rigid. When no external force is applied, the heat generating portion 31 has the shape of a planar surface. One of the two connectors 32 is a metal wire that is welded to an end of the heat generating portion 31, the other one of the two connectors 32 is a metal wire that is welded to the other end of the heat generating portion 31. Each of the metal wires has a cylindrical shape. The opposite ends of each metal wire are both extended beyond the heat generating portion 31 to serve as the second connection mechanism 320. That is, the second connection mechanism 320 includes the portions of each of the metal wires that are extended beyond the heat generating portion 31 at both ends. The length of the portion that is extended beyond the heat generating portion 31 at one end of one metal wire may not be equal to the length of the portion that is extended beyond the heat generating portion 31 at the other end of the metal wire. The two metal wires are arranged to

be centrally-symmetrical with respect to the virtual bending line of the heat generating portion 31.

[0027] The two first connection mechanisms 12 are respectively fixed to the two second connection mechanisms 320. One of the first connection mechanism 12 and the second connection mechanism 320 includes a slot, the other one includes a clamping structure that is fixed to the slot.

[0028] As shown in Fig. 4 and Fig. 5, in some embodiments, each of the two opposite sides of the top mounting seat 51 includes two first slots 121. The two first slots 121 that are located on the same side of the top mounting seat 51 are located on two opposite edges of the top mounting seat 51 respectively. That is, one of the two first slots 121 is located on one of the two opposite edges, the other one of the two first slots 121 is located on the other one of the two opposite edges. The first connection mechanism 12 includes the two first slots 121 on the same side are. The second connection mechanisms 320 of the metal wire at each of the two ends of the mesh-like heater 30 are clamped in the two first slots 121 of the top mounting seat 51 respectively. Specifically, as shown in Fig. 5, one end of the metal wire that is extended beyond the heat generating portion 31 has a shorter length, the other end of the metal wire that is extend beyond the heat generating portion 31 has a longer length, the end with the shorter length is directly clamped in one of the two first slots 121, the end with the longer length is clamped in the other one of the two first slots 121 and bends towards the end of the bracket 10 that is away from the liquid storage chamber 41. In this way, the fixed connection between the first connection mechanism 12 and the second connection mechanism 320 is achieved, the two ends of each of the two metal wires are both fixed to the bracket 10, the connecting stability and the connecting strength between the metal wires and the bracket 10 is enhanced. At the same time, the heat generating portion 31 of the mesh-like heater 30 is enabled to be tightly attached to the surface of the laminated liquid guiding cotton that is away from the supporting surface 11. The laminated liquid guiding cotton and the mesh-like heater 30 are supported by the bracket 10. The supporting strength of the mesh-like heater 30 is enhanced, and the risk of deformation of the mesh-like heater 30 is reduced. The problem of the separation of the mesh-like heater 30 and the liquid guiding member 20 due to the deformation caused by insufficient supporting strength of the mesh-like heater 30 may be avoided, and the problem of dry-burning or local overtemperature and resulted unpleasant odor of the mesh-like heater 30 may be avoided, the atomizing performance of the atomizer 1 may be effectively increased.

[0029] It should be noted that, in the present embodiment, the two ends of the heat generating portion 31 are respectively fixed to the first connection mechanism 12 at the two opposite sides of the bracket 10 through the second connection mechanism 320. In this way, the heat generating portion 31 of the mesh-like heater 30 is bent

towards the liquid storage chamber 41 and forms a curved surface. In other words, the structure of the heat generating portion 31 of the mesh-like heater 30 itself is a planar mesh. Just because during the assembly process, the second connection mechanism 320 is fixed to the first connection mechanism 12, the acting force between the second connection mechanism 320 and the first connection mechanism 12 forces the heat generating portion 31 to bend towards the liquid storage chamber 41 and becomes arc shaped. The heat generating portion 31 is not bent in advance to an arc shape before it is arranged on one side of the liquid guiding member 20.

[0030] In some embodiments, after each of the two metal wires is clamped in the first slots 121 and is bent towards the end of the bracket 10 that is away from the liquid storage chamber 41, and the end of the metal wire that is away from the liquid storage chamber 41 is bent to form a connection portion 321. The connection portion 321 is used as a pin. The atomizer 1 further includes two electrodes 70. Two mounting holes 503 that are spaced apart from each other are defined in the bottom mounting seat 52. One of the two electrodes 70 is arranged in one of the two mounting holes 503, the other one of the two electrodes 70 is arranged in the other one of the two mounting holes 503. One end of each of the two electrodes 70 abuts against a corresponding connection portion 321 of the mesh-like heater 30. The other end of each of the two electrodes 70 that is away from the liquid storage chamber 41 is electrically connected to the host machine 2. In this way, power or electricity is supplied to the mesh-like heater 30, such that when the mesh-like heater 30 is on power, the mesh-like heater 30 heats and atomizes the aerosol generating substrate to generate aerosol.

[0031] As shown in the Fig. 6, an air exchange passage 521 is defined in the outer peripheral side wall of the bottom mounting seat 52. The air exchange passage 521 is communicated to the liquid storage chamber 41 and the atmosphere, and is configured for air exchange of the liquid storage chamber 41. In this way, unsmooth or poor drainage of the aerosol generating substrate due to imbalance of air pressure inside the liquid storage chamber 41 is prevented. An atomizing cavity 5 is defined between the mesh-like heater 30 and the bottom mounting seat 52. The aerosol generated by heating and atomization of the mesh-like heater 30 is released to the atomizing cavity 5. Two air inlets 522 are defined at the bottom of the bottom mounting seat 52. Each of the two air inlets 522 is communicated to the atmosphere and the atomizing cavity 5. The atomizing cavity 5 is communicated to the smoke vent 502. The aerosol generated during an atomizing process flows to the smoke vent 502 through the atomizing cavity 5.

[0032] As shown in Fig. 7 to Fig. 10, Fig. 7 is a schematic structural diagram of a second embodiment of the atomizer of the electronic atomizing device of Fig. 1, Fig. 8 is a schematic structural diagram of the mesh-like heat generating portion of the atomizer of Fig. 7, Fig. 9 is a

schematic structural diagram of the bracket of the atomizer of Fig. 7, and Fig. 10 is a schematic diagram of the assembly structure of the mesh-like heat generating portion, the liquid guiding member and the bracket of the atomizer of Fig. 7.

[0033] As shown in Fig. 7, the difference between the atomizer 1 in the present embodiment and the atomizer 1 of the first embodiment is that, the mesh-like heater 30, the bracket 10 and the electrode 70 have different structures. The remaining structures are the same as the atomizer 1 in the first embodiment, and will not be repeated here.

[0034] Specifically, as shown in Fig. 8, different from the mesh-like heater 30 in the atomizer 1 of the first embodiment of, in the present embodiment, each of the two connectors 32 is a metal sheet that is integrated into a single unit with the heat generating portion 31. Each of the two opposite ends of each metal sheet includes a second slot 322. The second slot 322 has a rectangle shape. The second connection mechanism 320 includes the two second slots 322 on the same metal sheet. The structure of the heat generating portion 31 is the same as that in the first embodiment and will not be repeated here.

[0035] As shown in Fig. 9, different from the top mounting seat 51 of the atomizer 1 in the first embodiment, in the present embodiment, each of the two opposite sides of the top mounting seat 51 includes two clamping blocks 511. The two clamping blocks 511 that are located on the same side of the top mounting seat 51 are located at two opposite edges of the top mounting seat 51 respectively. Corresponding to the two first slots 121, the two clamping blocks 511 are set to be rectangle bumps. The first connection mechanism 12 includes the two clamping blocks 511 located on the same side.

[0036] As shown in Fig. 10, the two clamping blocks 511 arranged on the same side of the top mounting seat 51 are clamped or snapped in the two second slots 322 by one-to-one correspondence. In this way, the second connection mechanism 320 is fixed to the first connection mechanism 12, the heat generating portion 31 is thus tightly attached to the side of the laminated liquid guiding cotton that is away from the supporting surface 11. The mesh-like heater 30, the laminated liquid guiding cotton and the top mounting seat 51 are tightly connected to each other. The laminated liquid guiding cotton and the mesh-like heater 30 are supported by the supporting surface 11 of the top mounting seat 51, such that the separation of the mesh-like heater 30 from the liquid guiding member 20 or the poor contact between the mesh-like heater 30 and the liquid guiding member 20 due to the deformation of the mesh-like heater 30 is avoided. The separation or the poor contact may cause dry-burn and local overtemperature of the mesh-like heater 30, which causes unpleasant odor and effects the atomizing effect. It should be appreciated that, in some other embodiments, the clamping block 511 and the second slot 322 may also be correspondingly set to have other shapes.

For example, the clamping block 511 and the second slot 322 may be correspondingly set to have circular or triangular shapes.

[0037] As shown in Fig. 7, Fig. 8 and Fig. 10, in some embodiments, the connector 32, i.e., the metal sheet, includes a body portion 323 and a connection portion 321. The body portion 323 is a portion that defines two second slots 322. The connection portion 321 is located at the side of the body portion 323 that is away from the liquid storage chamber 41. The connection portion 321 is configured as a pin. The connection portion 321 is bent from the body portion 323 away from the liquid storage chamber 41. The connection portion 321 is configured to abut against one of the two electrodes 70 to establish electrical connection, and supply power to the mesh-like heater 30. The two electrodes 70 are arranged in the mounting holes 503 of the bottom mounting seat 52. In some embodiments, the connector 32 may not include a connection portion 321. The electrical connection between the mesh-like heater 30 and the electrode 70 may be realized by providing other structures such as a metal disk etc.

[0038] In the present embodiment, the structure of the electrode 70 may be different from the structure of the electrode 70 in the first embodiment. As shown in Fig. 7, the electrode 70 includes an abutting portion 71 and a fixing portion 72. The fixing portion 72 is arranged in the mounting hole 503. The abutting portion 71 is located on the side of the fixing portion 72 that is near the liquid storage chamber 41. The connection portion 321 of the mesh-like heater 30 abuts against the abutting portion 71 of the electrode 70. The fixing portion 72 is electrically connected to the host machine 2, such that the electrical connection between the electrode 70 and the mesh-like heater 30 is realized.

[0039] As shown in Fig. 11 to Fig. 15, Fig. 11 is a schematic structural diagram of a third embodiment of the atomizer of the electronic atomizing device of Fig. 1, Fig. 12 is a schematic structural diagram of a top mounting seat of the atomizer of Fig. 11, Fig. 13 is a schematic structural diagram of a mesh-like heat generating portion of the atomizer of Fig. 11, Fig. 14 is a schematic structural diagram of a bracket of the atomizer of Fig. 11, and Fig. 15 is a schematic diagram of the assembly structure of the mesh-like heat generating portion, the liquid guiding member and the bracket of the atomizer of Fig. 11.

[0040] As shown in Fig. 11 and Fig. 12, the mounting seat 50 includes the top mounting seat 51 and the bottom mounting seat 52. In the present embodiment, different from the atomizer 1 of the first embodiment, the bottom mounting seat 52 is the bracket 10. The top mounting seat 51 is located at the side of the bottom mounting seat 52 that is near the liquid storage chamber 41. The liquid guiding member 20 and the mesh-like heater 30 are arranged between the top mounting seat 51 and the bottom mounting seat 52. The atomizing cavity 5 is defined between the mesh-like heater 30 and the top mounting seat 51. The smoke vent 502 and two liquid downflow holes

501 are defined in the top mounting seat 51. One end of the smoke discharging channel 42 of the housing 40 is arranged in the smoke vent 502. The smoke vent 502 is communicated to the smoke discharging channel 42 and the atomizing cavity 5.

[0041] In the present embodiment, the supporting surface 11 of the bracket 10 is the surface of the bottom mounting seat 52 that is at the end near the liquid storage chamber 41. The supporting surface 11 is arc shaped. The liquid guiding member 20 is a laminar or laminated liquid guiding cotton. The laminated liquid guiding cotton is arc shaped and wraps around the supporting surface 11. The supporting surface 11 is the surface of the bottom mounting seat 52 at the end near the liquid storage chamber 41. In some other embodiments, the supporting surface 11 and the laminated liquid guiding cotton may also have other shapes, as long as the surface of the laminated liquid guiding cotton that is away from the surface of the supporting surface 11 and towards to the side of the supporting surface 11 and has a curved surface.

[0042] As shown in Fig. 13, the mesh-like heater 30 includes the heat generating portion 31. The structure and the performance of the heat generating portion 31 are both the same as that in the first embodiment of the atomizer 1 and will not be repeated here. The difference between the heat generating portion 31 in the present embodiment and that in the first embodiment is that, in the present embodiment, the two connectors 32 are two metal sheets that are integrated with the heat generating portion 31 into a single unit. The metal sheet is located at the side of the heat generating portion 31 that is away from the liquid storage chamber 41. Each of the two ends of the metal sheet includes a position restraint section 324. The second connection mechanism 320 includes the two position restraint sections 324 that are located at the two ends of the metal sheet.

[0043] As shown in Fig. 14, the bottom mounting seat 52, i.e., the bracket 10, and the two first connection mechanisms 12 are integrated into a single unit. The two first connection mechanisms 12 are located at the two opposite sides of the bottom mounting seat 52 respectively. Each of the two opposite sides of the bottom mounting seat 52 includes two clamping blocks 511. The two clamping blocks 511 that are arranged on the same side of the bottom mounting seat 52 are located at two opposite edges respectively. The first connection mechanism 12 includes the two clamping blocks 511 located on the same side of the bottom mounting seat 52.

[0044] As shown in Fig. 15, the metal sheet is located at the side of the heat generating portion 31 that is away from the liquid storage chamber 41. The position restraint section 324 of the metal sheet is located at the side of the clamping block 511 that is away from the heat generating portion 31. For the two clamping blocks 511 at the same side of the bottom mounting seat 52, one of the two clamping blocks 511 is engaged or clamped with one of the two position restraint sections 324 at the two ends of the same metal sheet, the other one of the two

clamping blocks 511 is engaged or clamped with the other one of the two position restraint sections 324 at the two ends of the same metal sheet. In this way, the two ends of the heat generating portion 31 are respectively fixed to the first connection mechanisms 12 at the two opposite sides of the bottom mounting seat 52 through the second connection mechanism 320, such that the heat generating portion 31 is bent towards the side that is away from the liquid storage chamber 41 and becomes arc shaped. In the present embodiment, the position restraint section 324 includes the rectangle notches at two ends of the metal sheet. The clamping block 511 is a rectangular bump. In some other embodiments, the position restraint section 324 and the clamping block 511 may also be correspondingly set as other shapes. For example, the position restraint section 324 and the clamping block 511 may be correspondingly set to have any shape of circular, elliptical or triangular shapes, as along as the clamping between the position restraint section 324 and the clamping block 511 is enabled.

[0045] It should be appreciated that, by clamping each of the two ends of the heat generating portion 31 to the two clamping blocks 511 located on the bottom mounting seat 52 through the two position restraint sections 324 at two ends of the metal sheet, it is assured that, the two ends of the metal sheet are both fixed to the bottom mounting seat 52 (i.e., the bracket 10), such that the connecting strength and the connecting stability between the mesh-like heater 30 and the bracket 10 are enhanced. At the same time, the acting force between the second connection mechanism 320 at two ends of the heat generating portion 31 and the first connection mechanism 12 enables the heat generating portion 31 to bend to an arc shape, and to be tightly attached to the surface of the laminated liquid guiding cotton near the liquid storage chamber 41, and reduces the risk of separation between the laminated liquid guiding cotton and the heat generating portion 31. The supporting surface 11 that are at a same side with the heat generating portion 31 and the laminated liquid guiding surface supports the heat generating portion 31, the supporting strength of the mesh-like heater 30 is enhanced, the risk of deformation of the mesh-like heater 30 is reduced, the separation of liquid guiding member 20 from the mesh-like heater 30 due to the deformation of the mesh-like heater 30 is effectively solved. The separation may cause dry-burning and local high temperature of the mesh-like heater 30, and a problem of unpleasant odor may be caused.

[0046] As shown in Fig. 13 and Fig. 15, in the present embodiment, the connector 32, i.e., the metal sheet, includes the body portion 323 and the connection portion 321. The body portion 323 is the portion including two position restraint sections 324. The connection portion 321 is located at the side of the body portion 323 that is away from the liquid storage chamber 41. The connection portion 321 is configured as a pin. The connection portion 321 is bent relative to the body portion 323, and is configured to contact with the electrode 70. In some embod-

iments, the connector 32 may not include the connection portion 321. The electrical connection between the mesh-like heater 30 and the electrode 70 may be realized by providing other structures like metal disk etc.

[0047] Two mounting holes 503 that are spaced apart from each other are defined in the bottom mounting seat 52, i.e., the bottom portion of the bracket 10 that is away from the liquid storage chamber 41. One of the two electrodes 70 is arranged in one of the two mounting holes 503, the other one of the two electrodes 70 is arranged in the other one of the two mounting holes 503. Each of the two electrodes 70 passes through the corresponding mounting hole 503 and abuts against the connection portion 321 of the metal sheet. The end of the electrode 70 that is away from the metal sheet is configured to be electrically connected to the host machine 2, in order to achieve the electrical connection between the electrode 70 and the mesh-like heater 30, and to supply power to the mesh-like heater 30.

[0048] As shown in Fig. 16 to Fig. 19, Fig. 16 is a schematic structural diagram of a fourth embodiment of the atomizer of the electronic atomizing device of Fig. 1, Fig. 17 is a schematic structural diagram of a mesh-like heat generating portion of the atomizer of Fig. 16, Fig. 18 is a schematic structural diagram of a bracket of the atomizer of Fig. 16, and Fig. 19 is a schematic diagram of the assembly structure of the mesh-like heat generating portion, the liquid guiding member and the bracket of the atomizer of Fig. 16.

[0049] As shown in Fig. 16, the mounting seat 50 includes the top mounting seat 51 and the bottom mounting seat 52. The top mounting seat 51 and the bottom mounting seat 52 are assembled and connected to each other. In the present embodiment, the top mounting seat 51 is the bracket 10. The top mounting seat 51 is located at the end of the bottom mounting seat 52 that is near the liquid storage chamber 41. The liquid guiding member 20 and the mesh-like heater 30 are arranged on a side surface of the top mounting seat 51. The smoke vent 502 and the two liquid downflow holes 501 are defined in the top mounting seat 51. One of the two liquid downflow holes 501 is located at one side of the smoke vent 502, the other one of the two liquid downflow holes 501 is located at the other side of the smoke vent 502. Each of the two liquid downflow holes 501 is communicated to the liquid storage chamber 41 and the liquid guiding member 20.

[0050] The supporting surface 11 is a side surface of the top mounting seat 51. The supporting surface 11 is arc shaped. Two position restraint members 512 are also arranged on one side of the supporting surface 11 of the top mounting seat 51. The liquid guiding member 20 is a laminar or laminated liquid guiding cotton. The laminated liquid guiding cotton is located between the two position restraint members 512. The laminated liquid guiding cotton wraps around the supporting surface 11 of the top mounting seat 51. One end of each liquid downflow hole 501 is located at the end surface of the top mounting seat

51 that is near the liquid storage chamber 41, the other end of each liquid downflow hole 501 is extended to a location between the two position restraint members 512 and the supporting surface 11 and two ports of the two liquid downflow holes 501 are thus formed. The end surface of the end of the laminated liquid guiding cotton that is near the liquid storage chamber 41 abuts against and occludes two ports of the two liquid downflow holes 501 that are away from the liquid storage chamber 41. The aerosol generating substrate inside the liquid storage chamber 41 flows through the liquid downflow holes 501 and then enters into the laminated liquid guiding cotton through the two ports away from the liquid storage chamber 41 and is absorbed by the laminated liquid guiding cotton.

[0051] As shown in Fig. 17, the mesh-like heater 30 is arranged on the surface of the laminated liquid guiding cotton that is away from the supporting surface 11. The mesh-like heater 30 is located between the two position restraint members 512. The mesh-like heater 30 includes the heat generating portion 31. The two connectors 32 are metal sheets integrated into a single unit with the heat generating portion 31. One of the two metal sheets is located at one side of the heat generating portion 31, the other one of the two metal sheets is located at the other side of the heat generating portion 31, the one side and the other side of the heat generating portion 31 are opposite to each other along the width direction of the atomizer 1. Each of the two ends of one metal sheet includes a slot 325. The two slots 325 at the two ends of the same metal sheet are collectively referred to as the second connection mechanism 320.

[0052] As shown in Fig. 18, two first clamping blocks 513 are located at a same side of the top mounting seat 51. The top mounting seat 51 is the bracket 10. The two second clamping blocks 514 are located at the bottom part of the top mounting seat 51. One first clamping block 513 and one second clamping block 514 are correspondingly provided with each other. The correspondingly provided one first clamping block 513 and one second clamping block 514 are collectively referred to as one first connection mechanism 12.

[0053] As shown in Fig. 19, one of the two slots 325 at the two ends of the metal sheet is clamped to the corresponding first clamping block 513, the other one of the two slots 325 at the two ends of the metal sheet is clamped to the corresponding second clamping block 514. In this way, the two ends of the heat generating portion 31 of the mesh-like heater 30 are respectively fixed to the two first connection mechanisms 12 of the top mounting seat 51 through the second connection mechanism 320, such that the heat generating portion 31 is bent towards the supporting surface 11 and becomes arc shaped. The side of the supporting surface 11 is the side of the central axis of the atomizer 1. Compared to the assembled arc heat generating portion 31 in the above-mentioned embodiments, in the present embodiment, since the radian of the supporting surface 11

is relatively small, the radian of the heat generating portion 31 after assembly is also relatively small. In the present embodiment, the shapes of the first clamping block 513, the second clamping block 514 and the two slots 325 are all correspondingly to be rectangle. In some other embodiments, the shapes of the first connection mechanism 12 and the second connection mechanism 320 may also be correspondingly set as any other shapes, as long as a fixed connection is enabled between the first connection mechanism 12 and the second connection mechanism 320. By the acting force of the fixed connection between the first connection mechanism 12 and the second connection mechanism 320, the heat generating portion 31 of the mesh-like heater 30 is bent and becomes arc shaped. The heat generating portion 31 is tightly attached to the laminated liquid guiding cotton. The supporting surface 11 of the top mounting seat 51 supports the heat generating portion 31, and the supporting strength is effectively enhanced, the problem of the separation or poor contact between the mesh-like heater 30 and the liquid guiding member 20 due to the deformation of the mesh-like heater 30 is solved. The separation or poor contact may cause insufficient liquid supply and dry-burning of the heat generating portion 31.

[0054] As shown in Fig. 17 and Fig. 19, the metal sheet includes the body portion 323 and the connection portion 321 that are connected to each other. The body portion 323 is located at a side surface of the top mounting seat 51. The connection portion 321 is bent with respect to the body portion 323 and is configured as a pin. Two mounting holes 503 that are spaced apart from each other are defined in the bottom part of the bottom mounting seat 52. As shown in Fig. 16, one of the two electrodes 70 is arranged in one of the two mounting holes 503, the other one of the two electrodes 70 is arranged in the other one of the two mounting holes 503. Each of the two electrodes 70 passes through a corresponding mounting hole 503 and abuts against the connection portion 321 of the metal sheet. The end of the electrode 70 that is away from the top mounting seat 51 is electrically connected to the host machine 2, and is configured to supply power to the mesh-like heater 30.

[0055] As shown in Fig. 20 to Fig. 23, Fig. 20 is a schematic structural diagram of a fifth embodiment of the atomizer of the electronic atomizing device of Fig. 1, Fig. 21 is a schematic structural diagram of a mesh-like heat generating portion of the atomizer of Fig. 20, Fig. 22 is a schematic structural diagram of a bracket of the atomizer of Fig. 20, and Fig. 23 is a schematic diagram of the assembly structure of the mesh-like heat generating portion, the liquid guiding member and the bracket of the atomizer of Fig. 20.

[0056] The difference between the atomizer 1 in the present embodiment and the atomizer 1 in the fourth embodiment is that, the mesh-like heater 30 and the bracket 10 have different structures. The remaining structures are the same as the atomizer 1 of the fourth embodiment, and will not be repeated here.

[0057] As shown in Fig. 22, in the present embodiment, two first clamping blocks 513 and two second clamping blocks 514 are located at a same side of the top mounting seat 51. The top mounting seat 51 is the bracket 10. The two first clamping blocks 513 are spaced apart from each other and arranged along the width direction of the atomizer 1. The two second clamping blocks 514 are spaced apart from each other and arranged along the width direction of the atomizer 1. One of the first clamping blocks 513 and one of the second clamping blocks 514 are spaced apart from each other and arranged along the axial direction of the atomizer 1. The two first clamping blocks 513 and the two second clamping blocks 514 are arranged by one-to-one correspondence. One first clamping block 513 and one second clamping block 514 that are correspondingly arranged are collectively referred to as the first connection mechanism 12. The remaining structures of the bracket 10 are the same as that of the atomizer 1 of the fourth embodiment, and will not be repeated here.

[0058] As shown in Fig. 21 and Fig. 23, in the present embodiment, the mesh-like heater 30 includes a heat generating portion 31. The two connectors 32 are metal sheets integrated into a single unit with the heat generating portion 31. One of the two metal sheets is located at one side of the heat generating portion 31, the other one of the two metal sheets is located at the other side of the heat generating portion 31, the one side and the other side of the heat generating portion 31 are opposite to each other along the width direction of the atomizer 1. Each of the two ends of a metal sheet includes a slot 325. The two slots 325 at the two ends of the same metal sheet are collectively referred to as the second connection mechanism 320. One of the two slots 325 at the two ends of the metal sheet is clamped to a corresponding first clamping block 513. The other one of the two slots 325 at the two ends of the metal sheet is clamped to a corresponding second clamping block 514. Different with the connector 32 in the fourth embodiment of the atomizer 1, in the present embodiment, each of the two connectors 32 does not include the connection portion 321 that is bent with respect to the body portion 323. Each of the two connectors 32 is a metal sheet. Specifically, the end of the body portion 323 that is away from the liquid storage chamber 41 is extended beyond the undersurface of the bracket 10. The portion of the body portion 323 that is extended beyond the bracket 10 is configured to be electrically connected to the electrode 70.

[0059] As shown in Fig. 24 to Fig. 28, Fig. 24 is a schematic structural diagram of a sixth embodiment of the atomizer of the electronic atomizing device of Fig. 1, Fig. 25 is a schematic structural diagram of a supporting member of the atomizer of Fig. 24, Fig. 26 is a schematic structural diagram of a fixing member of the atomizer of Fig. 24, Fig. 27 is a schematic structural diagram of a mesh-like heat generating portion of an atomizer of Fig. 24, and Fig. 28 is a schematic diagram of the assembly structure of the mesh-like heat generating portion, the

liquid guiding member and the bracket of the atomizer of Fig. 24.

[0060] As shown in Fig. 24, in the present embodiment, the structure of the atomizer 1 is different from any of the atomizer 1 in the above-mentioned embodiments. In addition to the mesh-like heater 30, the liquid guiding member 20 and the bracket 10, the atomizer 1 further includes a silicone cap 80, a liquid storage member 90 and a glass fiber tube 100. The housing 40 has a ring shape or a circular shape. The liquid storage member 90 is arranged in the housing 40, and is configured to store the aerosol generating substrate. The liquid storage member 90 may be liquid storage cotton. The liquid storage member 90 has the structure of a hollow column. A circular through-hole is defined in the center of the liquid storage member 90. The glass fiber tube 100 is arranged in the through-hole of the liquid storage member 90, and contacts with the inner wall surface of the liquid storage member 90. A circular through-hole is defined in the center of the glass fiber tube 100, and is configured for the circulation or flowing of the aerosol generated by atomization. The silicone cap 80 is capped at one end of the housing 40. A smoke outlet 81 is defined by the silicone cap 80. One end of the smoke outlet 81 is arranged in the glass fiber tube 100 inside the liquid storage member 90. The bracket 10 is arranged at the end of the glass fiber tube 100 that is away from the silicone cap 80. In some embodiments, the bracket 10 includes a supporting member 13 and a fixing member 14. One end of the fixing member 14 is arranged inside the glass fiber tube 100. The supporting member 13 is located at the end of the fixing member 14 that is away from the glass fiber tube 100. The liquid guiding member 20 and the mesh-like heater 30 are both located between the supporting member 13 and the fixing member 14. The liquid storage member 90 is fluidly in communication with the liquid guiding member 20. The liquid guiding member 20 absorbs the aerosol generating substrate in the liquid storage member 90. The mesh-like heater 30 heats and atomizes the aerosol generating substrate to generate the aerosol.

[0061] As shown in Fig. 25 and Fig. 26, the supporting member 13 includes a supporting seat 131 and a supporting column 132 that are connected to each other. The supporting seat 131 occludes the end surface of the end of the liquid storage member 90 that is away from the silicone cap 80. A central hole 1310 is defined in the supporting seat 131. One end of the supporting column 132 is connected to the hole wall of the central hole 1310. Specifically, the supporting column 132 includes a first column section 1321 and a second column section 1322 that are connected to each other. The end of the second column section 1322 that is away from the first column section 1321 is connected to the hole wall of the central hole 1310. The outer surface of the first column section 1321 is a surface having a shape like the letter n. The outer surface of the first column section 1321 includes two first planar surfaces that are arranged oppositely to each other, and a second planar surface that is connect-

ed to the two first planar surfaces and an arc surface that is connected to the two first planar surface. The supporting surface 11 of the bracket 10 is the arc surface of the outer surface of the first column section 1321. In some embodiments of the present disclosure, the liquid guiding member 20 is a laminar or laminated liquid guiding cotton. The laminated liquid guiding cotton wraps around the supporting surface 11 of the first column section 1321. The laminated liquid guiding cotton is bent towards the supporting surface 11 and becomes arc shaped. Specifically, the whole liquid guiding member 20 has a shape like the letter n. The mesh-like heater 30 is arranged on the surface of the laminated liquid guiding cotton that is away from the supporting surface 11. In some embodiments, the liquid guiding member 20 may also be made from other kinds of liquid guiding materials.

[0062] Two connecting walls 1311 are also arranged in the central hole 1310 of the supporting seat 131. Each of the two connecting walls 1311 is connected to the second column section 1322 of the supporting column 132. Each of the two connecting walls 1311 is connected to the hole wall of the central hole 1310. One of the two connecting walls 1311 is located at one side of the second column section 1322, the other one of the two connecting walls 1311 is located at the other side of the second column section 1322. One first position restraint hole 1312 is defined in each of the two connecting walls 1311. An airflow channel 141 is defined in the center of the fixing member 14. The end of the fixing member 14 that is away from the glass fiber tube 100 is inserted into the central hole 1310 of the supporting seat 131. Two second position restraint holes 142 are defined in the end of the fixing member 14 that is away from the supporting seat 131. The two second position restraint holes 142 corresponds to the two first position restraint holes 1312 by one-to-one correspondence. One first position restraint hole 1312 and one second position restraint hole 142 that are defined corresponding to each other are collectively referred to as the first connection mechanism 12. The aerosol generated by the atomization of the mesh-like heater 30 flows to the glass fiber tube 100 through the airflow channel 141 in the center of the fixing member 14, and then flows out of the atomizer 1 via the smoke outlet 81 of the silicone cap 80.

[0063] As shown in Fig. 27, the mesh-like heater 30 includes the heat generating portion 31. One of the two connectors 32 is a metal wire that is welded to an end of the heat generating portion 31, the other one of the two connectors 32 is a metal wire that is welded to the other end of the heat generating portion 31. The two ends of each metal wire are both extended beyond the heat generating portion 31 to serve as the second connection mechanism 320. In other words, the second connection mechanism 320 includes the portions of the metal wire that are extended beyond the heat generating portion 31 at both ends. The length of the portion that is extended beyond each heat generating portion 31 at one end of the metal wire may not be equal to the length of the portion

that is extended beyond the same heat generating portion at the other end of the metal wire. The two metal wires are arranged to be centrally-symmetrical with respect to the heat generating portion 31.

[0064] As shown in Fig. 28, the second connection mechanism 320 that is extended beyond one of the two ends of the metal wire is plugged or inserted in the corresponding first position restraint hole 1312, the second connection mechanism 320 that is extended beyond the other one of the two ends of the metal wire is plugged or inserted in the corresponding second position restraint hole 142. In this way, the first connection mechanism 12 is fixed to the second connection mechanism 320. In other words, the mesh-like heater 30 is fixed to the bracket 10, such that the heat generating portion 31 of the mesh-like heater 30 is bent and becomes arc shaped. Specifically, the entire mesh-like heater 30 has a shape like the letter n, and the heat generating portion 31 is supported by the supporting surface 11. The acting force between the first connection mechanism 12 and the second connection mechanism 320 enables the laminated liquid guiding cotton to be tightly attached to the heat generating portion 31. In this way, the separation or poor contact between the mesh-like heater 30 and the heat generating portion 31 due to the deformation of the mesh-like heater 30 is effectively solved, and the atomizing performance of the atomizer 1 is enhanced. The separation or poor contact causes the dry-burning and local overtemperature of the heat generating portion 31, which further causes unpleasant odor.

[0065] As shown in Fig. 29, Fig. 29 is a schematic flow-chart of a preparation method of the atomizer according to an embodiment of the present disclosure.

[0066] The preparation method of the atomizer 1 is further provided in the present disclosure. The preparation method is configured to prepare and form the above-mentioned atomizer 1.

[0067] Specifically, the preparation method of the atomizer 1 includes operations at blocks illustrated in Fig. 29.

[0068] At block S1: providing a bracket and two first connection mechanisms, the bracket including a supporting surface, and the two first connection mechanisms being connected to the bracket.

[0069] Specifically, the bracket 10 is provided. The bracket 10 includes the supporting surface 11. The two first connection mechanisms 12 are connected to the bracket 10. The supporting surface 11 may be a curved surface. The first connection mechanism 12 may be a connection structure like a bump or a slot etc. The two first connection mechanisms 12 may be integrated into a single unit with the bracket 10. In some embodiments, the two first connection mechanisms 12 may be connected to the bracket 10 by ways such as welding or etc.

[0070] At block S2: providing a liquid guiding member, arranging the liquid guiding member on the supporting surface, such that the surface of the liquid guiding member that is away from the supporting surface being bent

towards the supporting surface and forming a curved surface.

[0071] Specifically, the liquid guiding member 20 is provided. The liquid guiding member 20 may be laminated liquid guiding cotton. The liquid guiding member 20 may also be a structure member made from other kinds of liquid guiding materials. For example, the liquid guiding member 20 may be a liquid guiding member 20 made from porous ceramic, porous glass or etc. The liquid guiding member 20 is provided on the supporting surface 11 of the bracket 10, and the surface of the liquid guiding member 20 that is away from the supporting surface 11 is enabled to bent towards the supporting surface 11 and forms a curved surface. Specifically, the curved surface is an arc surface.

[0072] At block S3: providing a mesh-like heater and two connectors, the mesh-like heater including a heat generating portion, and the two connectors being respectively connected to the two ends of the heat generating portion, arranging the mesh-like heater on the surface of the liquid guiding member that is away from the supporting surface, each of the two connectors including a second connection mechanism.

[0073] Specifically, the mesh-like heater 30 is provided. The mesh-like heater 30 includes a heat generating portion 31. The two connectors 32 are respectively connected to the two ends of the heat generating portion 31. The heat generating portion 31 has a certain rigidity. The heat generating portion 31 has the shape of a planar mesh-like structure in its natural or free state without any applied force. The heat generating portion 31 may also be curved and forms a curved surface. The two connectors 32 may be integrated into a single unit with the mesh-like heater 30. The two connectors 32 may also be connected to the mesh-like heater 30 through ways like welding etc. For example, the two connectors 32 that are respectively connected to the two ends of the heat generating portion 31 may be metal wires that are welded to the two ends of the heat generating portion 31. The two connectors 32 may also be structures like metal sheets etc. that are integrated into a single unit with the heat generating portion 31. Each of the two connectors 32 includes a second connection mechanism 320. The second connection mechanism 320 may be a slot defined in the metal sheet. In some embodiments, the two ends of each metal wire that are extended beyond the heat generating portion 31 may be served as the second connection mechanism 320.

[0074] At block S4: fixing the two second connection mechanisms respectively to the two first connection mechanisms, such that the mesh-like heater being fixed to the bracket, the heat generating portion being enabled to be attached to the surface of the liquid guiding member that is away from the supporting surface, bent towards the supporting surface and forming a curved surface.

[0075] Specifically, the two second connection mechanisms 320 are respectively fixed to the two first connection mechanisms 12. One of the second connection

mechanism 320 and the first connection mechanism 12 includes a slot, and the other one of the second connection mechanism 320 and the first connection mechanism 12 is clamped and fixed to the slot. By the fixed connection between the second connection mechanism 320 and the first connection mechanism 12, the heat generating portion 31 is attached to the surface of the liquid guiding member 20 that is away from the supporting surface 11, and the heat generating portion 31 is enabled to be bent towards the supporting surface 11 and forms a curved surface. Specifically, the curved surface is an arc surface. It should be appreciated that, each of the two ends of the heat generating portion 31 is fixed to the first connection mechanism 12 through the second connection mechanism 320. The structure of the heat generating portion 31 itself may be a flat mesh-like structure. Just because the second connection mechanism 320 is fixed to the first connection mechanism 12 during the assembly process, the acting force between the second connection mechanism 320 and the first connection mechanism 12 forces the heat generating portion 31 to bend and form a curved surface. The heat generating portion 31 is not bent in advance to have the shape of a curved surface before it is arranged on one side of the liquid guiding member 20. By the above-mentioned method, the problem of dry-burning or local high temperature of the mesh-like heater 30 due to the separation between the mesh-like heater 30 and the liquid guiding member 20 in the related art may be effectively solved. The dry-burning and the local high temperature may cause unpleasant odor. It is facilitated to prepare and form the atomizer 1 with better atomizing performance.

[0076] Different from the related art, the present disclosure provides the atomizer 1 and the preparation method, the electronic atomizing device 3 thereof. The atomizer 1 includes a bracket 10, two first connection mechanisms 12, a liquid guiding member 20, a mesh-like heater 30 and two connectors 32. The supporting surface 11 is defined by the bracket 10. The two first connection mechanisms 12 are connected to the bracket 10. The liquid guiding member 20 is arranged on the supporting surface 11. The surface of the liquid guiding member 20 that is away from the bracket 10 is a curved surface, the curved surface is curved or bent towards the bracket 10. The mesh-like heater 30 is arranged on the surface of the liquid guiding member 20 that is away from the bracket 10. The mesh-like heater 30 includes a heat generating portion 31. The two connectors 32 are respectively connected to the two ends of the heat generating portion 31. Each of the two connectors 32 includes a second connection mechanism 320. The two second connection mechanisms 320 are respectively fixed to the two first connection mechanisms 12, such that the mesh-like heater 30 is fixed to the bracket 10. In this way, the heat generating portion 31 is attached to the surface of the liquid guiding member 20 that is away from the bracket 10, bent towards the bracket 10 and forms a curved surface. By the above-mentioned arrangement, each of

the two sides of the two connectors 32 is fixed to the bracket 10, the supporting strength of the mesh-like heater 30 is enhanced, and the risk of deformation is reduced. At the same time, after assembly, the mesh-like heater 30 has a radian, the heat generating portion 31 is tightly attached to the liquid guiding member 20. In this way, the problem of the dry-burning and local high temperature of the mesh-like heater 30 due to the separation between the liquid guiding member 20 and the mesh-like heater 30 in the related art is solved. The dry-burning and the local high temperature may cause unpleasant odor.

[0077] The above are only implementations of the present disclosure, and do not limit the patent scope of the present disclosure. Any equivalent changes to the structure or processes made by the description and drawings of this application or directly or indirectly used in other related technical field are included in the protection scope of this application.

Claims

1. An atomizer (1), **characterized by** comprising:

a bracket (10), defining a supporting surface (11);
 two first connection mechanisms (12), connected to the bracket (10);
 a liquid guiding member (20), arranged on the supporting surface (11), wherein, the surface of the liquid guiding member (20) that is away from the supporting surface (11) is a curved surface, the curved surface is bent towards the supporting surface (11);
 a mesh-like heater (30), arranged on the surface of the liquid guiding member (20) that is away from the supporting surface (11), wherein, the mesh-like heater (30) comprises a heat generating portion (31);
 two connectors (32), respectively connected to the two ends of the heat generating portion (31), wherein, each of the two connectors (32) comprises a second connection mechanism (320); wherein, the two second connection mechanisms (320) are respectively fixed to the two first connection mechanisms (12), such that the mesh-like heater (30) is fixed to the bracket (10), the heat generating portion (31) is attached to the surface of the liquid guiding member (20) that is away from the supporting surface (11), and the heat generating portion (31) is bent towards the supporting surface (11) and forms a curved surface.

2. The atomizer (1) as claimed in claim 1, wherein the bracket (10) is integrated into a single unit with the two first connection mechanisms (12).

3. The atomizer (1) as claimed in claim 1, wherein

the supporting surface (11) is a curved surface; and
 the liquid guiding member (20) is laminated liquid guiding cotton, the laminated liquid guiding cotton wraps around the supporting surface (11), and the laminated liquid guiding cotton is bent towards the bracket (10) and forms a curved surface.

4. The atomizer (1) as claimed in claim 3, wherein the supporting surface (11), the liquid guiding member (20) and the heat generating portion (31) are arc shaped.

5. The atomizer (1) as claimed in claim 1, wherein one of the first connection mechanism (12) and the second connection mechanism (320) comprises a slot (322, 325), and the other one is clamped to and fixed with the slot (322, 325).

6. The atomizer (1) as claimed in claim 1, wherein

the atomizer (1) further comprises a housing (40) and a mounting seat (50);
 a liquid storage chamber (41) is defined by the assembly of the mounting seat (50) and the housing (40); the mounting seat (50) incorporates the bracket (10); and
 a liquid downflow hole (501) is defined in the mounting seat (50), the liquid guiding member (20) is in communication with the liquid downflow hole (501).

7. The atomizer (1) as claimed in claim 6, wherein

the mounting seat (50) comprises a top mounting seat (51) and a bottom mounting seat (52), the top mounting seat (51) is the bracket (10); the supporting surface (11) is the surface at the end of the top mounting seat (51) that is away from the liquid storage chamber (41).

8. The atomizer (1) as claimed in claim 7, wherein each of the two opposite sides of the top mounting seat (51) comprises two first slots (322, 325) that are served as the first connection mechanism (12), one of the two connectors (32) is a metal wire that is welded to an end of the heat generating portion (31), the other one of the two connectors (32) is a metal wire that is welded to the other end of the heat generating portion (31), the two opposite ends of the metal wire are both extended beyond the heat generating portion (31) to serve as the second connection mechanism (320), the two opposite ends of the metal wire are respectively clamped to the two first slots (322, 325).

9. The atomizer (1) as claimed in claim 7, wherein each of the two opposite sides of the top mounting seat (51) comprises two clamping blocks (511) that are served as the first connection mechanism (12), the two connectors (32) are metal sheets that are integrated into a single unit with the heat generating portion (31), each of the two opposite ends of the metal sheet comprises a second slot (322, 325), the second slot (322, 325) is served as the second connection mechanism (320), for the two clamping blocks (511) at a same side of the top mounting seat (51), one of the two clamping blocks (511) is clamped in one of the two second slots (322, 325), the other one of the two clamping blocks (511) is clamped in the other one of the two second slots (322, 325).

10. The atomizer (1) as claimed in claim 6, wherein the mounting seat (50) comprises a top mounting seat (51) and a bottom mounting seat (52), the bottom mounting seat (52) is the bracket (10); the supporting surface (11) is the surface of the end of the bottom mounting seat (52) that is near the liquid storage chamber (41); each of the two opposite sides of the bottom mounting seat (52) comprises two clamping blocks (511) that are served as the first connection mechanism (12); each of the two connectors (32) is a metal sheet that is integrated into a single unit with the heat generating portion (31), each of the two ends of the metal sheet comprises a position restraint section (324), the position restraint section (324) is served as the second connection mechanism (320); the metal sheet is located at the side of the heat generating portion (31) that is away from the liquid storage chamber (41), the position restraint section (324) is located at the side of the clamping block (511) that is away from the heat generating portion (31), and the position restraint section (324) is clamped with the clamping block (511).

11. The atomizer (1) as claimed in any of claims 8-10, wherein one of the two connectors (32) is a metal wire that is welded to an end of the heat generating portion (31), the other one of the two connectors (32) is a metal wire that is welded to the other end of the heat generating portion (31), one end of the metal wire is bent towards the direction away from the liquid storage chamber (41) and forms a connection portion (321); or each of the two connectors (32) is a metal sheet that is integrated into a single unit with the heat

generating portion (31), the metal sheet comprises a body portion (323) and a connection portion (321), the body portion (323) comprises two second slots (322, 325), the connection portion (321) is located at the side of the body portion (323) that is away from the liquid storage chamber (41); or each of the two connectors (32) is a metal sheet that is integrated into a single unit with the heat generating portion (31), the metal sheet comprises a body portion (323) and a connection portion (321), the body portion (323) comprises two position restraint sections (324), the connection portion (321) is located at the side of the body portion (323) that is away from the liquid storage chamber (41); the connection portion (321) is bent from the body portion (323) away from the liquid storage chamber (41); and the atomizer (1) further comprises two electrodes (70) electrically connected to the host machine (2), a mounting hole (503) is defined in the bottom part of the bottom mounting seat (52), the electrodes (70) are located in the mounting hole (503), and the electrodes (70) pass the mounting hole (503) and abut against the connection portion (321).

12. The atomizer (1) as claimed in claim 6, wherein the mounting seat (50) comprises a top mounting seat (51) and a bottom mounting seat (52), the top mounting seat (51) is the bracket (10); the supporting surface (11) is a side surface of the top mounting seat (51); the top mounting seat (51) comprises two first clamping blocks (513) at a same side of the top mounting seat (51), the bottom part of the top mounting seat (51) comprises two second clamping blocks (511); or the top mounting seat (51) comprises two first clamping blocks (513) and two second clamping blocks (514) at a same side of the top mounting seat (51), the first clamping blocks (513) and the second clamping blocks (514) are spaced apart from each other and arranged along the axial direction of the atomizer (1); one of the first clamping blocks (513) and one of the second clamping blocks (514) are arranged corresponding to each other and served as the first connection mechanism (12); each of the two connectors (32) is a metal sheet that is integrated into a single unit with the heat generating portion (31), the two connectors (32) are respectively located at the two sides of the heat generating portion (31), the one side of the heat generating portion (31) and the other side of the heat generating portion (31) are opposite to each other along the width direction of the atomizer (1), a slot (322, 325) is defined at each

of the two ends of the metal sheet, the slot (322, 325) is served as the second connection mechanism (320); and the first clamping block (513) is clamped to the slot (322, 325) at one of the two ends of the metal sheet, the second clamping block is clamped to the slot (322, 325) at the other one of the two ends of the metal sheet.

13. The atomizer as claimed in claim 12, wherein

the metal sheet comprises a body portion (323) and a connection portion (321), the body portion (323) is located at a side surface of the top mounting seat (51), the connection portion (321) is located at the bottom part of the top mounting seat (51), the connection portion (321) is bent from the body portion (323) away from the liquid storage chamber (41);

the atomizer (1) further comprises two electrodes (70), the two electrodes (70) are located at the side of the top mounting seat (51) that is away from the liquid storage chamber (41) and are configured to be electrically connected to a host machine (2); and

the connection portion (321) abuts against the electrodes (70).

14. The atomizer (1) as claimed in claim 1, wherein

the bracket (10) comprises a supporting member (13) and a fixing member (14), the supporting member (13) comprises a supporting seat (131) and a supporting column (132) that are connected to each other, the side surface of the supporting column (132) is the supporting surface (11), a central hole (1310) is defined in the supporting seat (131), one end of the supporting column (132) is connected to the hole wall of the central hole (1310), the supporting seat (131) comprises two connecting walls (1311), the connecting walls (1311) are located in the hole wall of the central hole (1310), the connecting walls (1311) are connected to the supporting column (132), one of the two connecting walls (1311) is located at one side of the supporting column (132), the other one of the two connecting walls (1311) is located at the other side of the supporting column (132), a first position restraint hole (1312) is defined in each of the connecting walls (1311); one end of the fixing member (14) is inserted in the central hole (1310), two second position restraint holes (142) are defined in the end of the fixing member (14) that is away from the supporting seat (131), the locations of the two second position restraint holes (142) correspond to the locations of the two first position restraint holes (1312) by one-to-one correspondence, one of the two first position restraint

holes (1312) and one of the two second position restraint holes (142) that are defined corresponding to each other are served as the first connection mechanism (12); and

one of the two connectors (32) is a metal wire that is welded to an end of the heat generating portion (31), the other one of the two connectors (32) is a metal wire that is welded to the other end of the heat generating portion (31), the two opposite ends of the metal wire are extended beyond the heat generating portion (31) and serve as the second connection mechanism (320), each of the two opposite ends of the metal wire is inserted in a corresponding first connection mechanism (12).

15. The atomizer (1) as claimed in claim 14, wherein

the supporting column (132) comprises a first column section (1321) and a second column section (1322) that are connected to each other, the end of the second column section (1322) that is away from the first column section (1321) is connected to the hole wall of the central hole (1310); the outer surface of the first column section (1321) comprises two first planar surfaces that are arranged oppositely to each other, a second planar surface and an arc surface, the second planar surface is connected to the two first planar surfaces, the arc surface is connected to the two first planar surfaces, the supporting surface (11) is an arc surface; and the atomizer (1) further comprises a liquid storage member (90), the liquid storage member (90) is configured to store an aerosol generating substrate, the liquid storage member (90) is in communication with the laminated liquid guiding cotton.

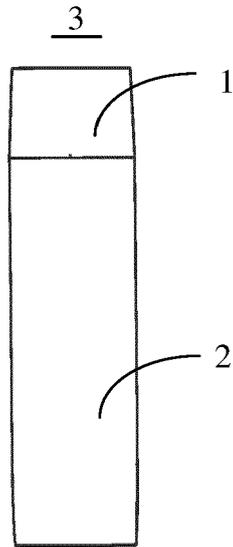


Fig. 1

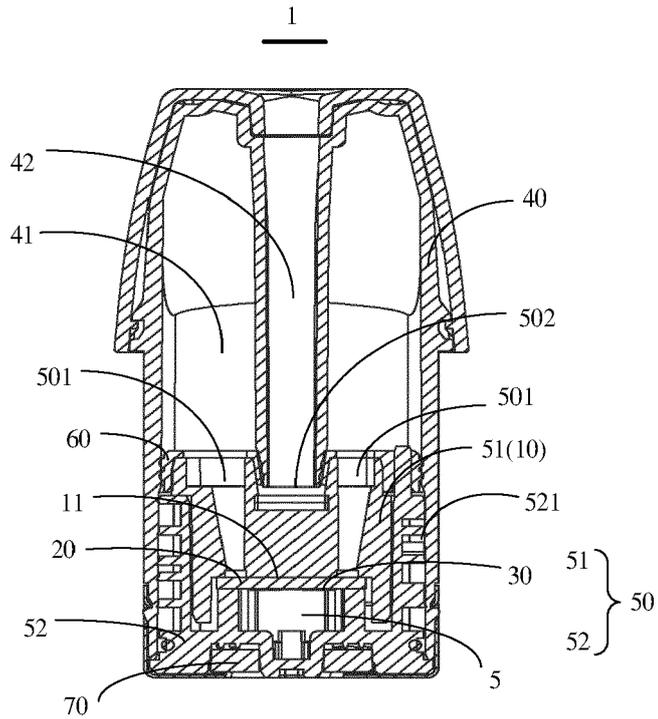


Fig. 2

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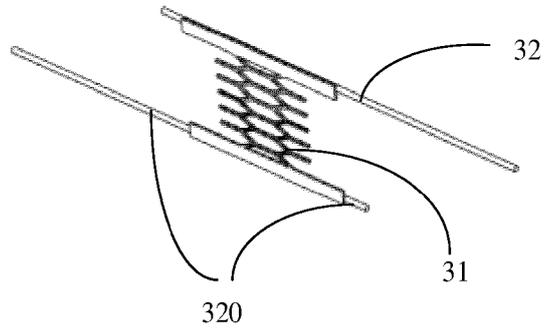


Fig. 3

10 (51)

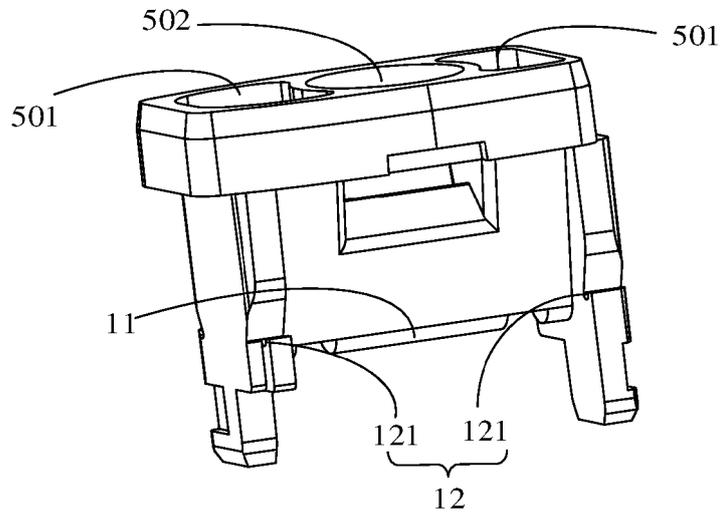


Fig. 4

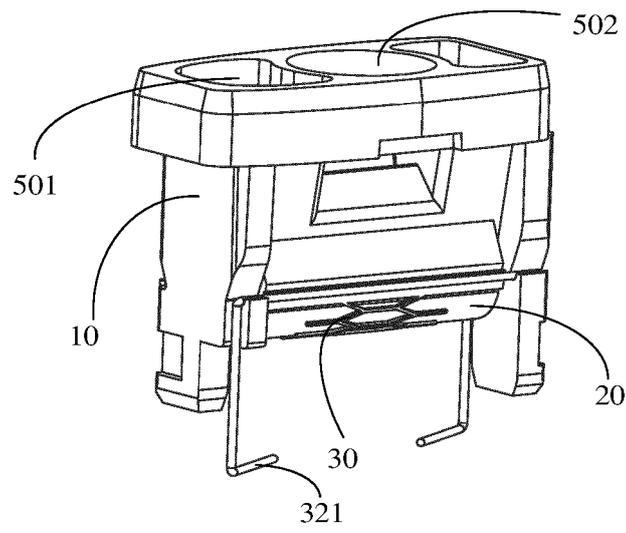


Fig. 5

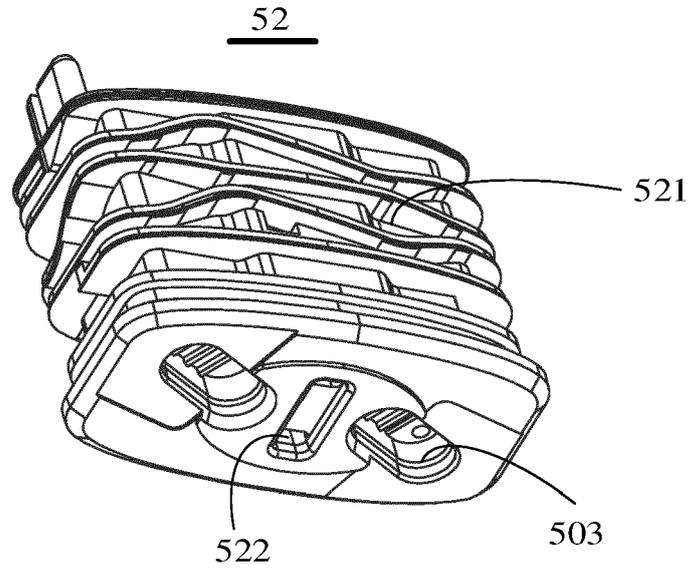


Fig. 6

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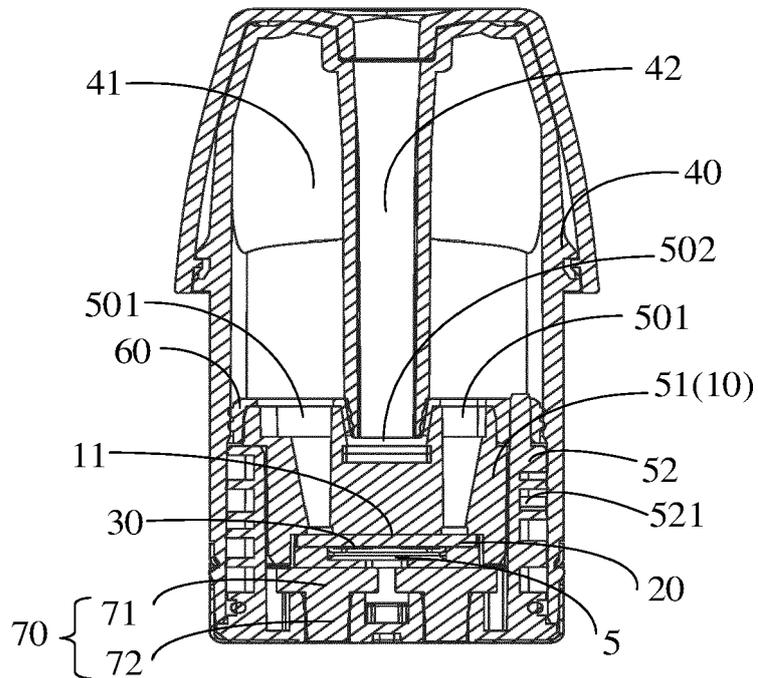


Fig. 7

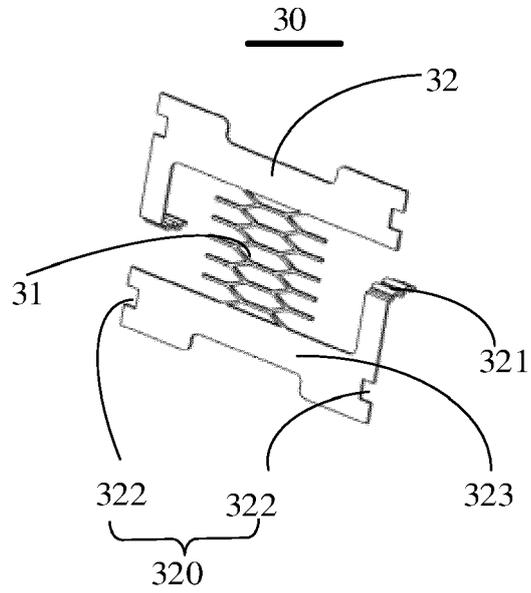


Fig. 8

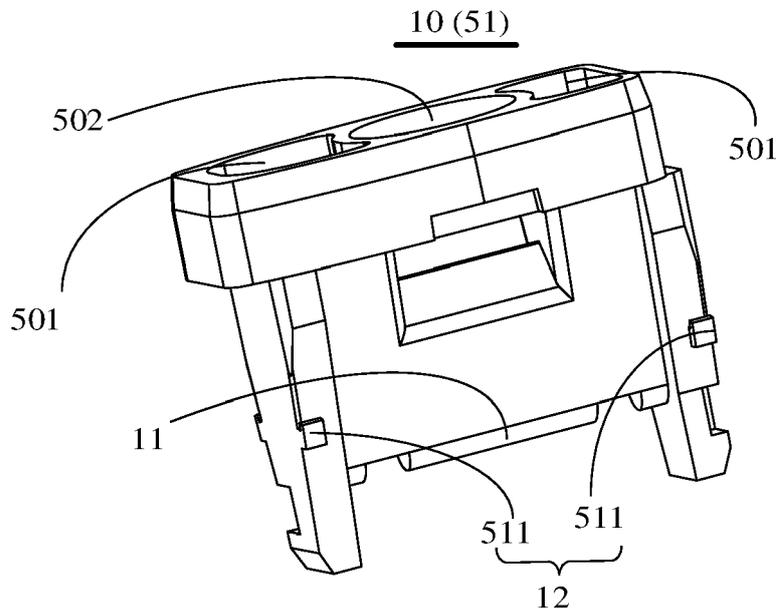


Fig. 9

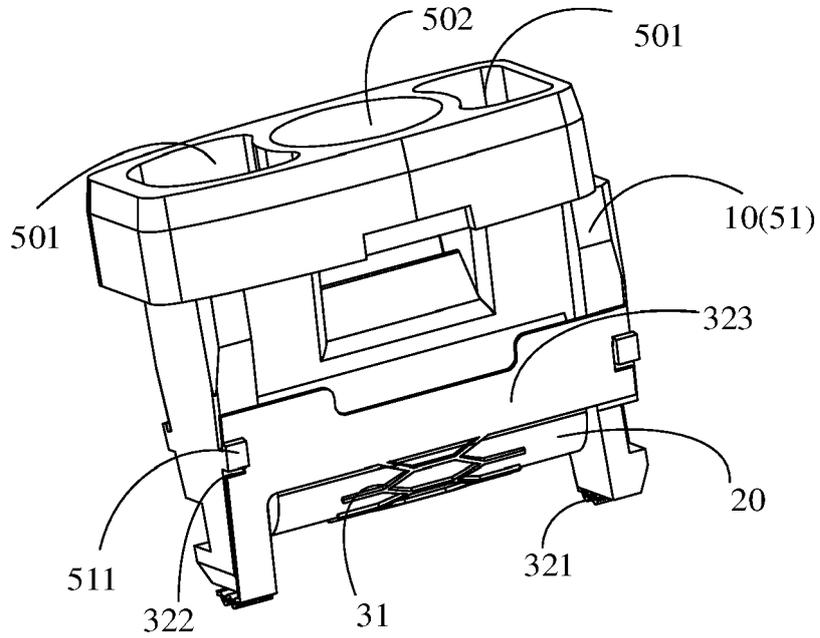


Fig. 10

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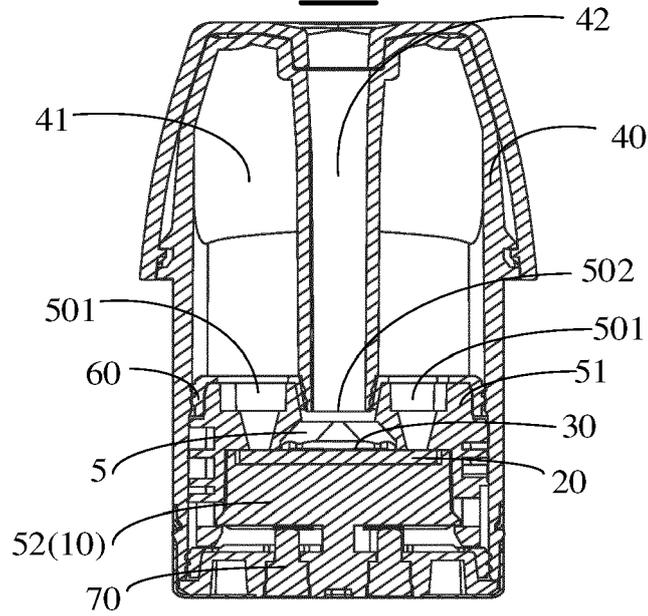


Fig. 11

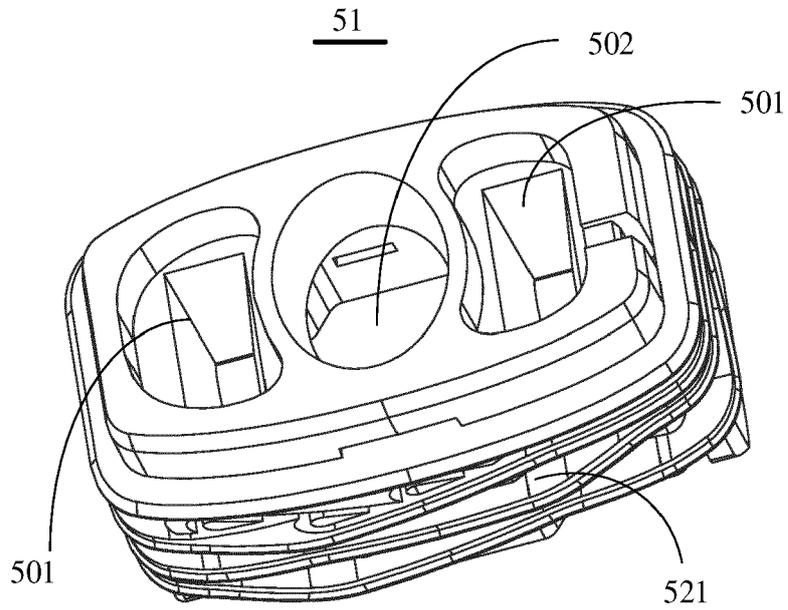


Fig. 12

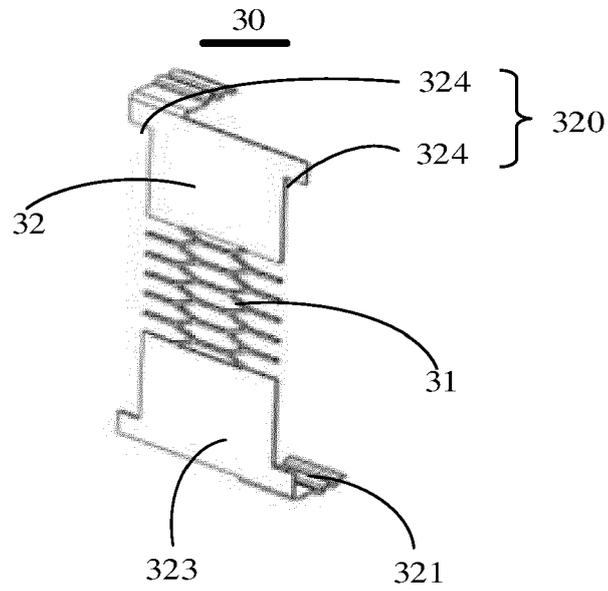


Fig. 13

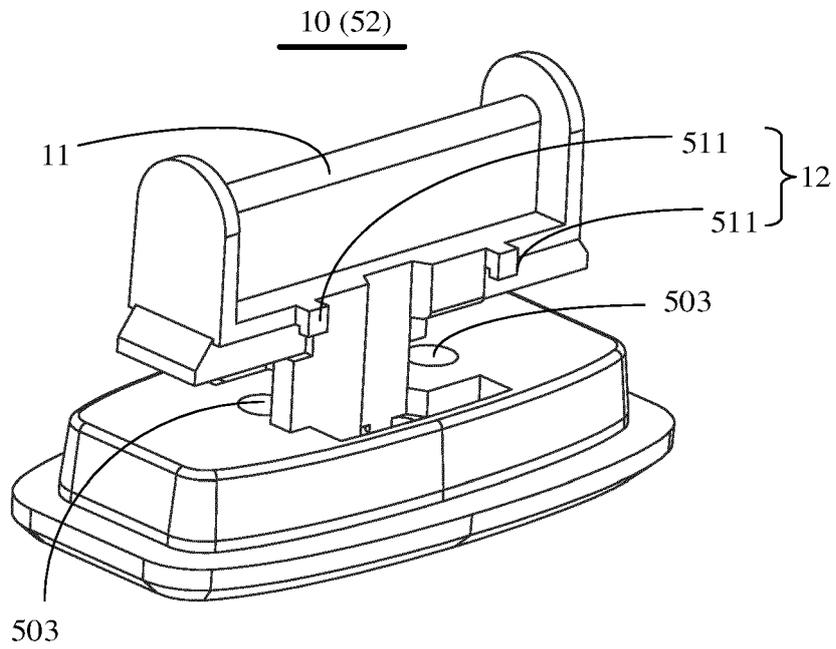


Fig. 14

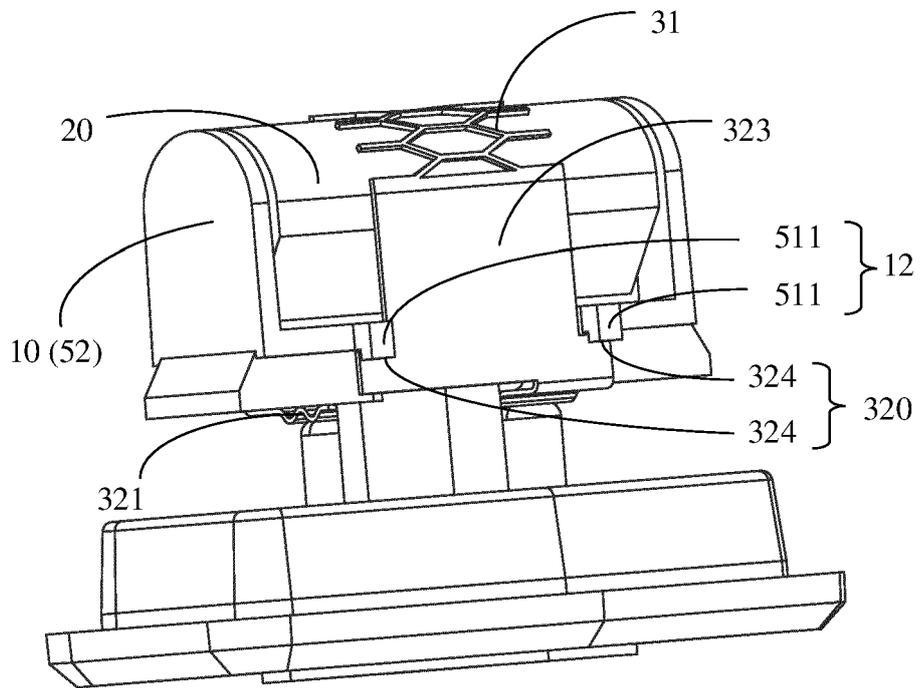
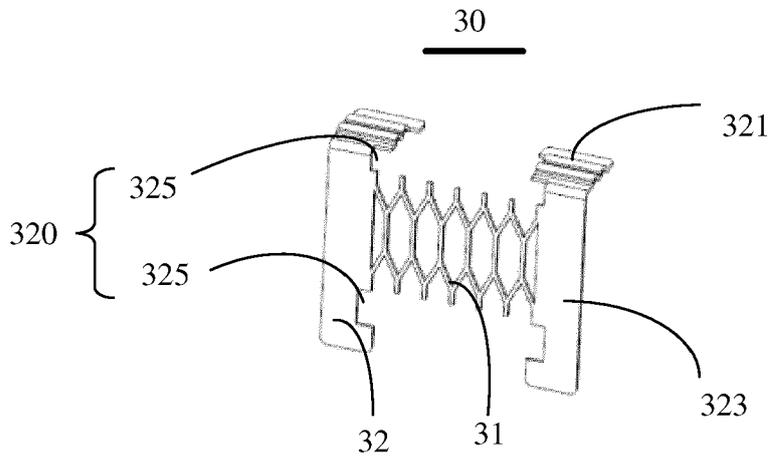
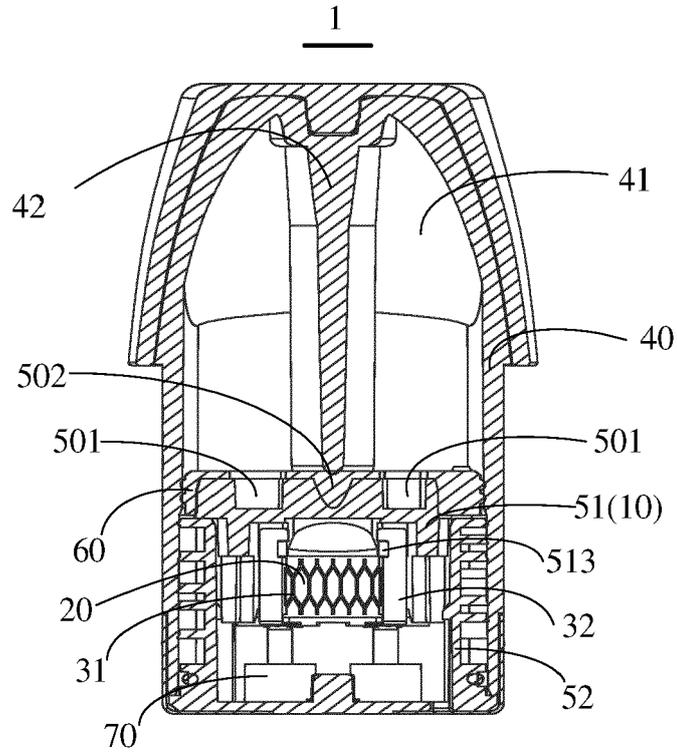


Fig. 15



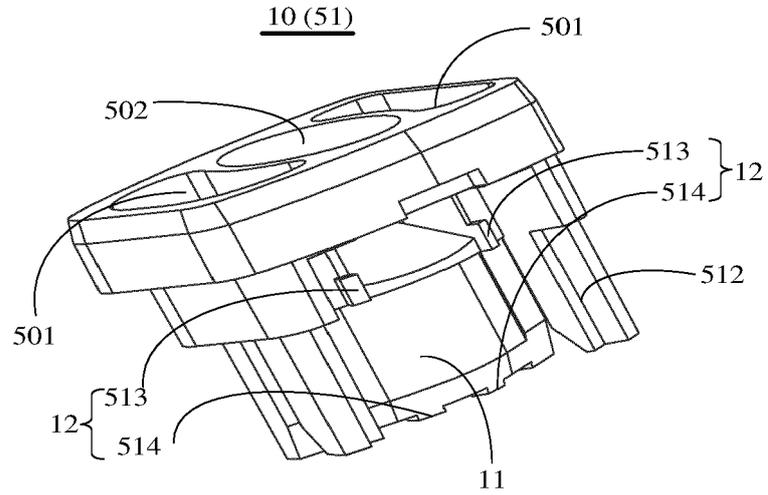


Fig. 18

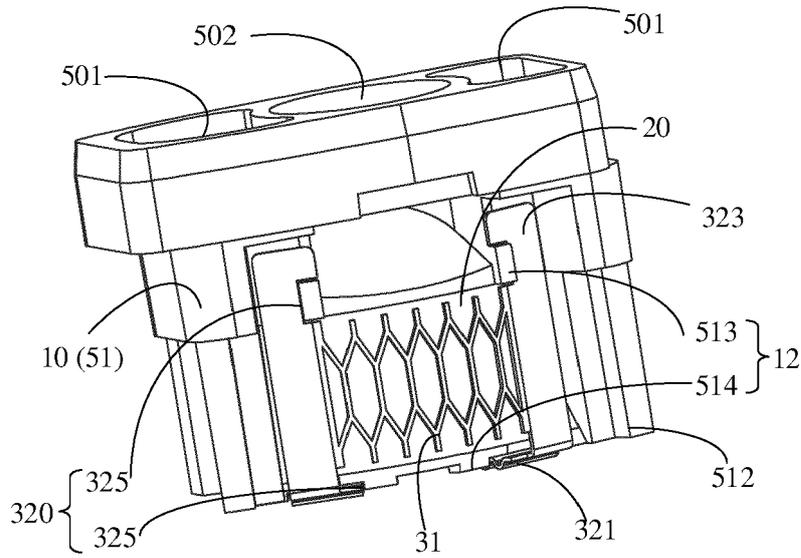


Fig. 19

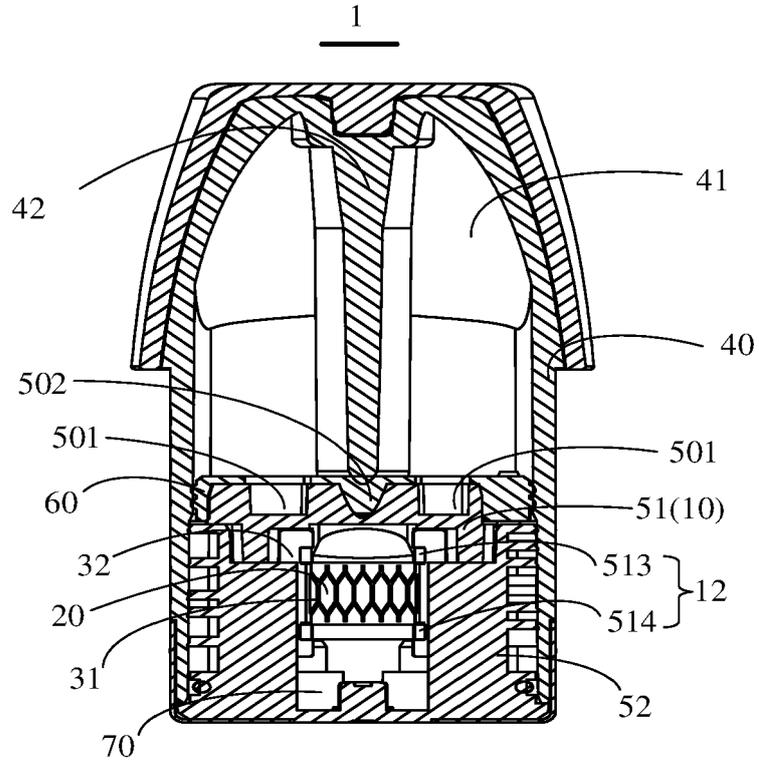


Fig. 20

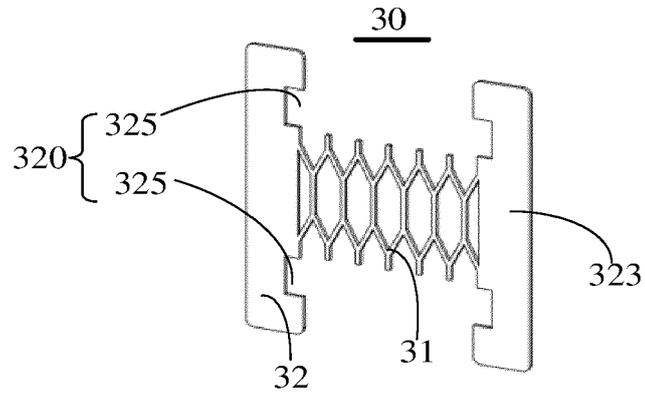


Fig. 21

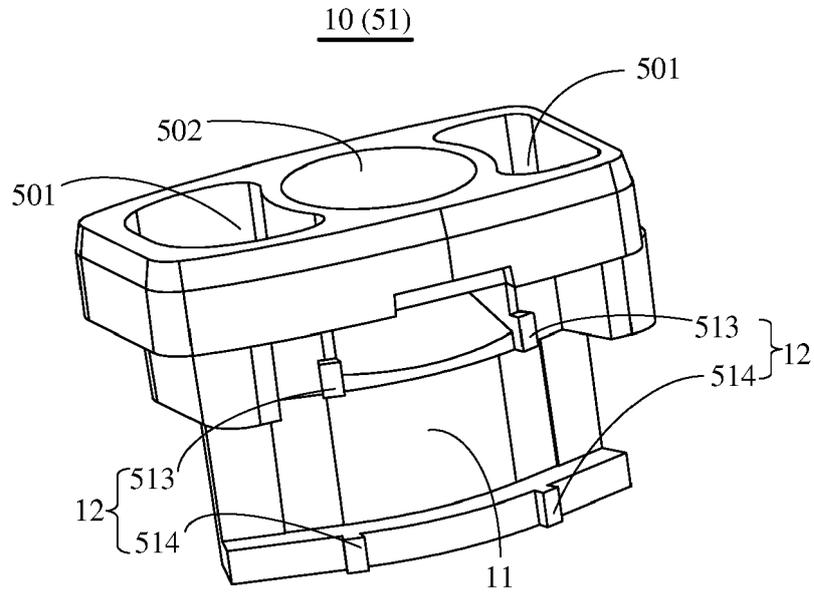


Fig. 22

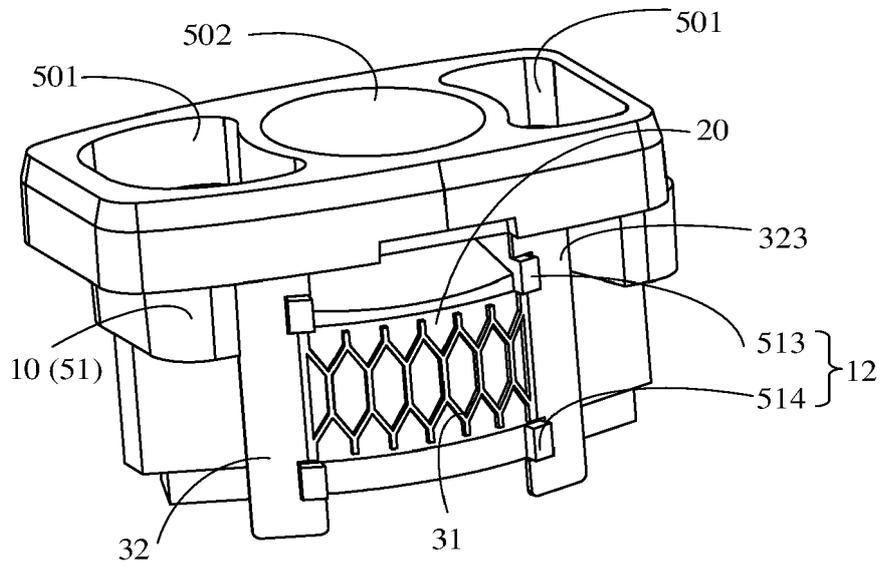


Fig. 23

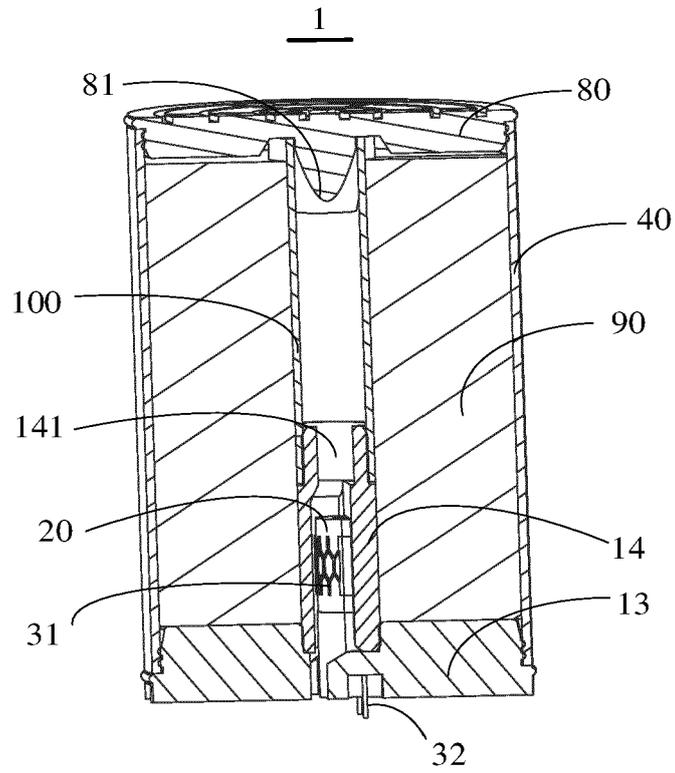


Fig. 24

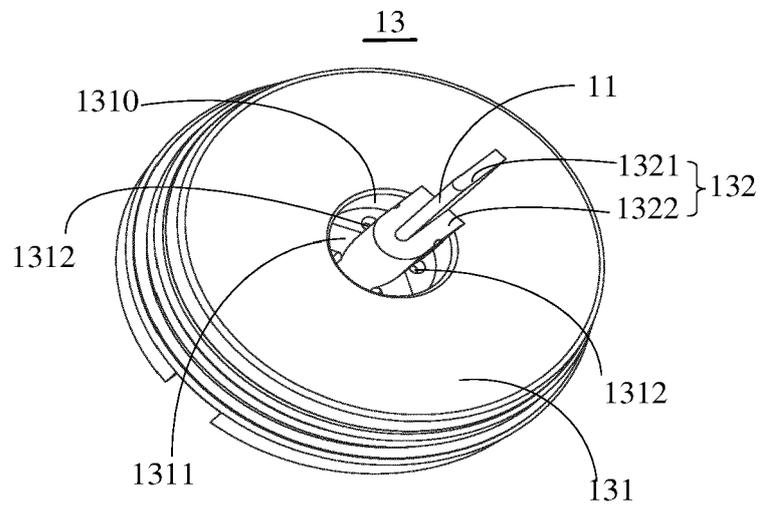


Fig. 25

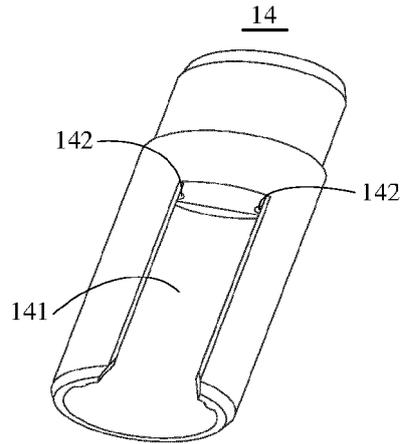


Fig. 26

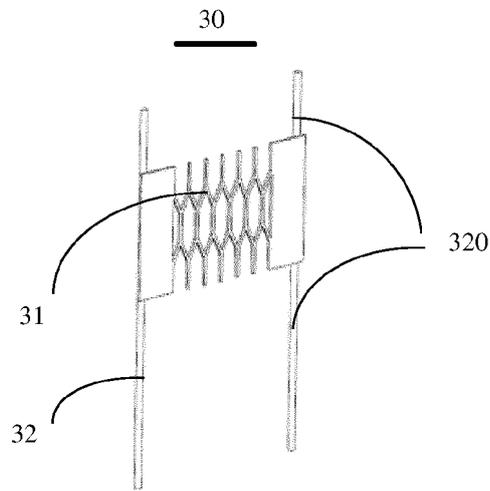


Fig. 27

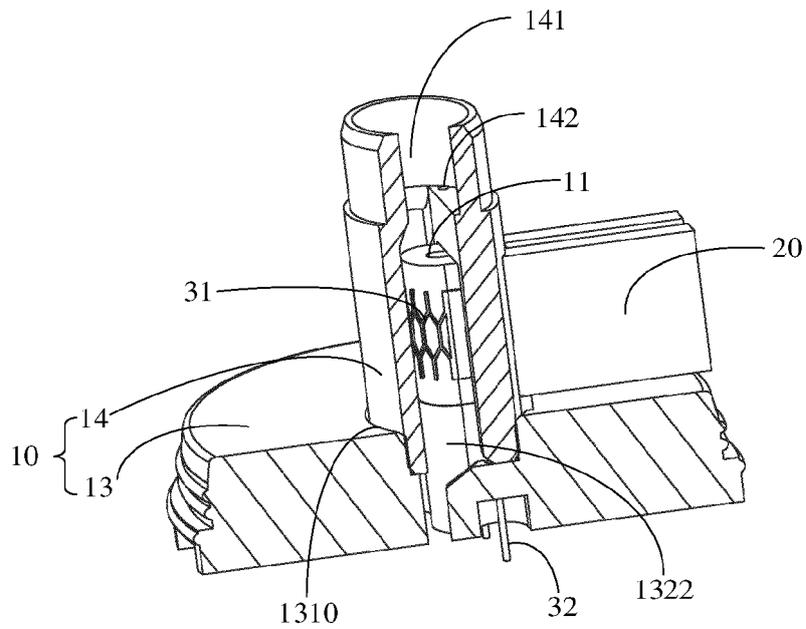


Fig. 28

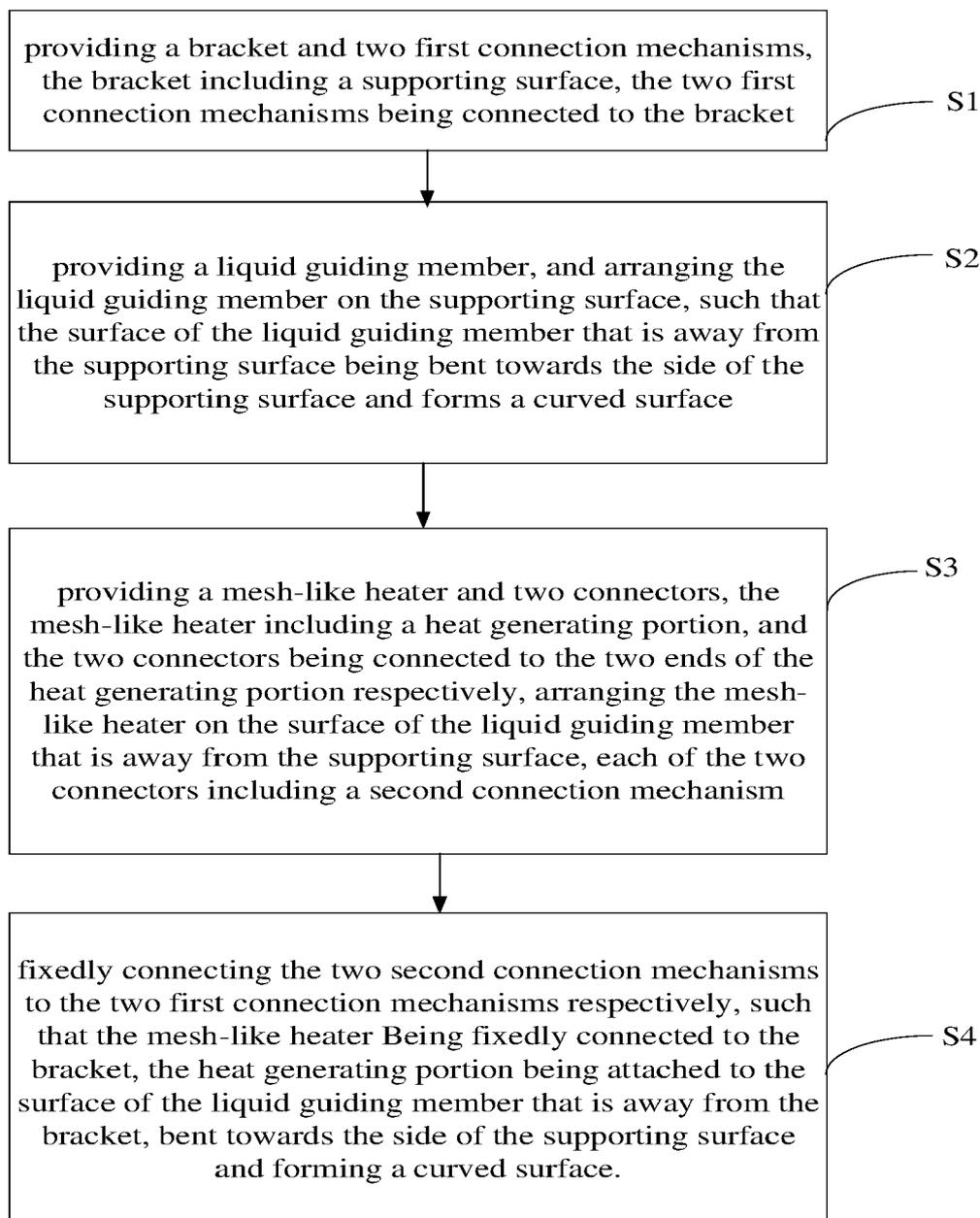


Fig. 29



EUROPEAN SEARCH REPORT

Application Number
EP 23 17 9745

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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
Y	CN 113 633 024 A (SHENZHEN MEIRAY VAP TECH CO LTD) 12 November 2021 (2021-11-12)	1, 2, 5-7, 9	INV. A24F40/46
A	* paragraphs [0001], [0043] - [0051]; figures 4-9 * * abstract *	3, 4, 8, 10-15	
Y	US 2015/264979 A1 (THORENS MICHEL [CH] ET AL) 24 September 2015 (2015-09-24)	1, 2, 5-7, 9	TECHNICAL FIELDS SEARCHED (IPC) A24F
A	* paragraphs [0097] - [0102]; figures 1-4 * * abstract *	3, 4, 8, 10-15	
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 27 November 2023	Examiner Fyhr, Jonas
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

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ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.

EP 23 17 9745

5 This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
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27-11-2023

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
CN 113633024 A	12-11-2021	NONE	

US 2015264979 A1	24-09-2015	AU 2010338614 A1	26-07-2012
		AU 2016273855 A1	05-01-2017
		BR 112012016215 A2	17-05-2016
		CA 2785698 A1	07-07-2011
		CN 102753047 A	24-10-2012
		CO 6561793 A2	15-11-2012
		DK 2519121 T3	24-07-2017
		EA 201290586 A1	28-12-2012
		EP 2340729 A1	06-07-2011
		EP 2519121 A1	07-11-2012
		ES 2628856 T3	04-08-2017
		HU E033572 T2	28-12-2017
		IL 220539 A	28-02-2017
		JP 5815559 B2	17-11-2015
		JP 2013516159 A	13-05-2013
		KR 20120101118 A	12-09-2012
		LT 2519121 T	10-07-2017
		MY 174476 A	21-04-2020
		NZ 600932 A	26-09-2014
		PL 2519121 T3	29-09-2017
		PT 2519121 T	05-07-2017
		SG 182313 A1	30-08-2012
		UA 108870 C2	25-06-2015
		US 2011155153 A1	30-06-2011
		US 2015264979 A1	24-09-2015
		US 2018279685 A1	04-10-2018
		US 2023113967 A1	13-04-2023
		WO 2011079932 A1	07-07-2011
		ZA 201204563 B	27-02-2013
