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Atomizing device

Abstract

The present disclosure provides an atomizing device including an outer case and an atomizing component. The outer case has an air inlet. The atomizing component is disposed in the outer case. Wherein, the atomizing component and the outer case jointly form an air outlet, and the air outlet is located on one side of the atomizing component away from the air inlet. Wherein, a diversion channel is formed between the outer case and the atomizing component. The diversion channel surrounds the atomizing component. The air inlet, the diversion channel, and the air outlet are in fluid communication to each other. The gas entering the atomizing device through the diversion channel may have greater kinetic energy, so as to be uniformly mixed with the atomized filler. The evenly mixed smoke may effectively improve the user experience.

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Background/Summary

CROSS REFERENCE TO RELATED DISCLOSURE
(1) This application claims the priority benefit of China Patent Application Number CN202121837671.5, filed on Aug. 6, 2021, the full disclosure of which is incorporated herein by reference.
BACKGROUND
Technical Field
(2) The present disclosure is related to an atomizing equipment, and in particular, an atomizing device having a specific diversion channel.
Related Art
(3) In the prior art, atomizing equipment is used to atomize specific fillers for use by users. For example, the atomizing equipment may be an electronic cigarette. An electronic cigarette is an electronic device that simulates a traditional cigarette. The electronic cigarette is composed of an atomizer, a silo, and a battery. With the power provided by the battery, the atomizer can atomize the filler in the silo to simulate the smoke of traditional cigarettes. However, the atomizing equipment in the prior art is not designed with a specific diversion channel. As a result, the atomized filler is not easy to mix with the outside air, and even a significant concentration difference may occur. The obvious concentration difference will greatly reduce the user experience. Therefore, how to provide an atomizing device that may generate uniformly mixed smoke has become an urgent issue in this field.
SUMMARY
(4) The embodiments of the present disclosure disclose an atomizing device, in order to solve the problem that the concentration of smoke generated by the atomizing device in the prior art is not uniform, resulting in poor user experience.
(5) In order to solve the above technical problems, the present disclosure is implemented as follows.

(6) An atomizing device is provided, and the atomizing device includes an outer case and an atomizing component. The outer case has an air inlet. The atomizing component is disposed in the outer case. Wherein, the atomizing component and the outer case jointly form an air outlet, and the air outlet is located on one side of the atomizing component away from the air inlet. Wherein, a diversion channel is formed between the outer case and the atomizing component. The diversion channel surrounds the atomizing component. The air inlet, the diversion channel, and the air outlet are in fluid communication to each other.
(7) In some embodiments, the diversion channel has a connecting space, a disc space located on one side of the connecting space, and a cylindrical space located on the other side of the connecting space. The disc space is communicated with the air inlet, and the cylindrical space is communicated with the air outlet.
(8) In some embodiments, the atomizing component includes a first electrical connector and a second electrical connector. The disc space and the cylindrical space are located on opposite sides of the first electrical connector and the second electrical connector, and the connection space is located between the first electrical connector and the second electrical connector.
(9) In some embodiments, the atomizing device further includes a first inner case. Wherein, the outer case includes a first outer case and a second outer case connected to each other. The first inner case is sleeved outside the atomizing component. The first inner case and the first outer case jointly form one side of the cylindrical space close to the connecting space. A side surface of the first inner case close to the two end surfaces has a plurality of first diversion protrusions and a first distribution channel. The plurality of first diversion protrusions is in contact with the first outer case. The first distribution channel is located between two adjacent of the plurality of first diversion protrusions. The cylindrical space includes a first distribution space. The first distribution space is formed by the first distribution channel.
(10) In some embodiments, the atomizing device further includes a first base. Wherein, the first base is disposed on one side of the atomizing component close to the air outlet. The first base and the first outer case jointly form one side of the cylindrical space away from the connecting space. The first base has a plurality of second diversion protrusions and a second distribution channel. The plurality of second diversion protrusions is in contact with the first outer case. The second distribution channel is located between adjacent two of the plurality of second diversion protrusions. The cylindrical space includes a second distribution space, and the second distribution space is formed by the second distribution channel.
(11) In some embodiments, the plurality of first diversion protrusions surrounds a side surface of the first inner case, and the plurality of second diversion protrusions surrounds a side surface of the first base.
(12) In some embodiments, the atomizing device further includes a second inner case and a second base. Wherein, the second inner case is located on one side of the second outer case close to the first outer case and in contact with an inner surface of the second outer case. The second base is disposed on one side of the atomizing component close to the air outlet and in contact with an inner surface of the first outer case. The second base surrounds the connecting space and is located between the cylindrical space and the disc space. The second inner case and the second base are spaced apart from each other. The second outer case, the second inner case, the first outer case, and the second base jointly form the disc space.
(13) In some embodiments, the atomizing device further includes a gas flow sensor. The second inner case has a connecting via. The connecting via includes a sensor via. The second base includes a middle via and a base distribution channel. The middle via forms the connection space. The middle via and the sensor via are aligned an axial direction. The base distribution channel is located in a side surface of the second base being in contact with the atomizing component. The base distribution channel is communicated with the connection space and the cylindrical space.
(14) The atomizing device of claim **5**, wherein the first base further has an air outlet via penetrating

in a radial direction, and the air outlet via is communicated with the cylindrical space and the air outlet.
(15) In some embodiments, the atomizing device further includes an air-permeable sponge, wherein the air-permeable sponge is disposed in the connecting space.
(16) In the atomizing device of the present disclosure, a diversion channel is formed in the outer case and the atomizing component. Further, the diversion channel is in fluid communication with the air inlet and the air outlet of the atomizing device. In this way, the air entering the atomization device through the diversion channel can have greater kinetic energy, so as to be uniformly mixed with the atomized filler. The evenly mixed smoke may effectively improve the user experience.

Description

BRIEF DESCRIPTION OF THE DRAWINGS
(1) The figures described herein are used to provide a further understanding of the present disclosure and constitute a part of the present disclosure. The exemplary embodiments and descriptions of the present disclosure are used to illustrate the present disclosure and do not limit the present disclosure, in which:
(2) FIG. **1** is a schematic diagram of the atomizing device of an embodiment of the present disclosure;
(3) FIG. **2** is an exploded view of the atomizing device of an embodiment of the present disclosure;
(4) FIG. **3** is another exploded view of the atomizing device of an embodiment of the present disclosure;
(5) FIG. **4** is an exploded view of the first body of an embodiment of the present disclosure;
(6) FIG. **5** is an exploded view of the atomizing component of an embodiment of the present disclosure;
(7) FIG. **6** is another exploded view of the atomizing component of an embodiment of the present disclosure;
(8) FIG. **7** is a side view of the atomizing device of an embodiment of the present disclosure;
(9) FIG. **8** is a cross-sectional view taken along the line a-a′ in FIG. **7**;
(10) FIG. **9** is an exploded view of the second body of an embodiment of the present disclosure;
(11) FIG. **10** is a schematic diagram of the controlling component of an embodiment of the present disclosure;
(12) FIG. **11** is another schematic diagram of the controlling component of an embodiment of the present disclosure;
(13) FIG. **12** is a schematic diagram of the diversion channel of an embodiment of the present disclosure;
(14) FIG. **13** is another side view of the atomizing device of an embodiment of the present disclosure;
(15) FIG. **14** is a cross-sectional view taken along the line b-b′ in FIG. **13**;
(16) FIG. **15** is a schematic diagram of the assembling of the second inner case and the controlling component of an embodiment of the present disclosure;
(17) FIG. **16** is a schematic diagram of the first base, the atomizing component, and the second base of an embodiment of the present disclosure;
(18) FIG. **17** is a flowchart of the assembling method of the atomizing device of an embodiment of the present disclosure;
(19) FIG. **18** is a flowchart of the assembling method of the atomizing component of an embodiment of the present disclosure;
(20) FIG. **19** is a flowchart of the method for assembling the controlling component of an embodiment of the present disclosure;

(21) FIG. **20** is another flowchart of the assembling method of the atomizing device of an embodiment of the present disclosure;
(22) FIG. **21** is another flowchart of the assembling method of the atomizing device of an embodiment of the present disclosure; and
(23) FIG. **22** is another flowchart of the assembling method of the atomizing device of an embodiment of the present disclosure.

DETAILED DESCRIPTION OF THE EMBODIMENTS

(24) In order to make the objectives, technical solutions, and advantages of the present disclosure clearer, the technical solutions of the present disclosure will be described clearly and completely in conjunction with specific embodiments and the figures of the present disclosure. Obviously, the described embodiments are only a part of the embodiments of the present disclosure, rather than all the embodiments. Based on the embodiments in the present disclosure, all other embodiments obtained by a person having ordinary skills in the art without creative work fall within the protection scope of this disclosure.

(25) The following description is of the best-contemplated mode of carrying out the present disclosure. This description is made for the purpose of illustrating the general principles of the present disclosure and should not be taken in a limiting sense. The scope of the present disclosure is best determined by reference to the appended claims.

(26) FIG. **1** to FIG. **3** are a schematic diagram, an exploded view, and another exploded view of the atomizing device of an embodiment of the present disclosure, respectively. The atomizing device includes a first body **1** and a second body **2**. The first body **1** includes a first outer case **10** and an atomizing component **11**. The atomizing component **11** is disposed in the first outer case **10**. The second body **2** is detachably connected to the first body **1**, wherein the second body **2** includes a second outer case **20**, a controlling component **21**, and a battery component **22**. The controlling component **21** is disposed on one side of the second outer case **20** close to the atomizing component **11**, wherein the controlling component **21** is electrically connected to the atomizing component **11**. The battery component **22** is disposed on one side of the second outer case **20** away from the atomizing component **11**, wherein the battery component **22** is electrically connected to the controlling component **21**.

(27) More specifically, an inner cavity of the first outer case **10** and an inner cavity of the second outer case **20** are communicated with each other along an axial direction d. The atomizing component **11** is configured to be installed into the first outer case **10** along the axial direction d to form the first body **1**. The controlling component **21** and the battery component **22** are configured to be installed into the second outer case **20** along the axial direction d to form the second body **2**. The second body **2** is detachably connected to the first body **1** along the axial direction d. With the above configuration, the present disclosure solves the problem of the complicated structure of the atomizing device in the prior art, thereby realizing an atomizing device with a simple structure and easy assembly and maintenance. In order to make the present disclosure clearer and easier to understand, the components of the atomizing device and their interactions will be explained in detail hereinafter.

(28) FIG. **4** is an exploded view of the first body of an embodiment of the present disclosure. As shown in the figure, in some embodiments, the first outer case **10** may be a hollow cylinder with openings at both ends, and the first outer case **10** covers the atomizing component **11**. More specifically, one end of the first outer case **10** corresponds to the second outer case **20**, and the other end of the first outer case **10** and the atomizing component **11** jointly form an air outlet **100** of the atomizing device. Wherein, the air outlet **100** is in fluid communication with the atomizing component **11**.

(29) FIG. **5** and FIG. **6** are an exploded view and another exploded view of the atomizing component of an embodiment of the present disclosure, respectively. As shown in the figure, in some embodiments, the atomizing component **11** may include an atomizing piece **110**, an

accommodating piece **111**, a piston **114**, and an induction coil **115**. The accommodating piece **111** is disposed on the atomizing piece **110**, wherein the accommodating piece **111** is in fluid communication with the atomizing piece **110**, and the accommodating piece **111** is configured to store a filler. The piston **114** is disposed in the accommodating piece **111**, and the piston **114** has a magnet inside. The induction coil **115** surrounds the accommodating piece **111**, wherein the induction coil **115** is configured to drive the piston **114** to move toward the atomizing piece **110**.
(30) In some embodiments, the atomizing component **11** may further include a transmission wire **112**, a first electrical connector **113**, and a second electrical connector **116**. One end of the transmission wire **112** is electrically connected to the atomizing piece **110**. The first electrical connector **113** is electrically connected to the other end of the transmission wire **112** and receives power from the battery component **22**. The second electrical connector **116** is disposed on one side of the induction coil **115**, and the second electrical connector **116** is electrically connected to the induction coil **115**.
(31) In some embodiments, the atomizing piece **110** may have a plurality of atomizing holes on the surface, and the accommodating piece **111** is in fluid communication with the plurality of atomizing holes. For example, the atomizing piece **110** may be a piezoelectric ceramic, and the surface of the piezoelectric ceramic has a plurality of micron-level holes (ie, atomizing holes). Piezoelectric ceramics may be controlled by voltage and current to generate vibration. By the vibration of the atomizing piece **110**, the filler passing through the atomizing hole may be atomized better. That is, the atomizing piece **110** may atomize the filler at a relatively low temperature to make the application of the atomizing device more diverse. However, the present disclosure is not limited thereto. In some embodiments, the atomizing piece **110** may also include a heating coil, and the heating coil atomizes the filler by heating. In some embodiments, the atomizing piece **110** includes both piezoelectric ceramics and heating coils.
(32) Taking the atomizing piece **110** as a piezoelectric ceramic with the plurality of atomizing holes as an example, the operation process is: the power provided by the battery component **22** is transmitted to the atomizing piece **110** through the first electrical connector **113** and the transmission wire **112**, so that the atomizing piece **110** vibrates. Then, the filler in the accommodating piece **111** becomes tiny particles when passing through the plurality of atomizing holes on the atomizing piece **110** which is vibrating. On the other hand, the power provided by the battery component **22** is transmitted to the induction coil **115** through the second electrical connector **116**, so that the induction coil **115** generates a magnetic field. Then, the magnet in the piston **114** in the accommodating piece **111** is driven by the magnetic field to squeeze the filler and move the filler in the direction of the atomizing piece **110**. In this way, the atomizing component **11** may automatically push the filler, and the filler may atomize by the vibrating atomizing piece **110**. Furthermore, since the entire atomizing process is controlled by stable and fine electricity, the size of the atomized filler is uniform and the concentration of the atomized filler is stable.
(33) In some embodiments, the diameter of the plurality of atomizing holes may be 1 um to 5 um. For example, the diameter of the plurality of atomizing holes may be 1 um, 2 um, 3 um, 4 um, 5 um, or any range composed of the values mentioned above. Preferably, the diameter of the plurality of atomizing holes is 3 um. Specifically, the size of the atomized filler may vary according to the diameter of the plurality of atomizing holes. When the diameter of the atomizing holes is greater than Sum, the size of the atomized filler is too large, resulting in a poor atomizing effect. Conversely, when the diameter of the atomizing holes is less than 1 um, the filler cannot easily pass through the plurality of atomizing holes, resulting in a decrease in atomizing efficiency.
(34) In some embodiments, the atomizing piece **110** may further include at least one gas-permeable film. At least one gas-permeable membrane is disposed on one side of the piezoelectric ceramic away from the accommodating piece **111**, and at least one gas-permeable film has a plurality of holes smaller in size than the holes of the piezoelectric ceramic. By arranging the gas-permeable films with different holes sizes from the greatest to the latest, the filler may be gradually refined

during the atomizing process.

(35) In some embodiments, a U-shaped groove **1100** may be disposed on one side of the atomizing piece **110**, and the transmission wire **112** is crimped on the U-shaped groove **1100** to be electrically connected to the atomizing piece **110**. However, the present disclosure is not limited thereto. In other embodiments, the transmission wire **112** may also be bonded, welded, snapped, or directly wound, and other methods known by a person having ordinary skills in the art to be electrically connected to the atomizing piece **110**.

(36) In some embodiments, a filling port (not shown in the figure) may be disposed on the accommodating piece **111**, and silicone may be disposed on the filling port. When a filling port is disposed, the user may inject the filler into the accommodating piece **111** through a syringe or the like. Furthermore, the silicone on the filling port spontaneously fills up the gap generated by the needle insertion when the syringe is pulled out, so as to prevent filler exudation from the filler port. It should be noted that the present disclosure is not limited to the use of silicone as the sealing film. Any material known by a person having ordinary skills in the art may be applied to the function of preventing filler exudation.

(37) FIG. **7** and FIG. **8** respectively are a side view of an atomizing device of an embodiment of the present disclosure and a cross-sectional view along the line a-a′ in FIG. **7**. As shown in the figure, in some embodiments, the inner wall of the accommodating piece **111** is a smooth surface, and the outer wall of the piston **114** may be disposed with a plurality of limiting protrusions **1140**. The plurality of limiting protrusions **1140** are in contact with the surface of the inner wall of the accommodating piece **111**. With the plurality of limiting protrusions **1140**, the piston **114** may be prevented from sliding out of the side of the accommodating piece **111** away from the atomizing piece **110**. In addition, the abnormal noise generated by the piston **114** moving in the accommodating piece **111** may be reduced. However, the present disclosure is not limited thereto. In some embodiments, the inner wall of the accommodating piece **111** away from the atomizing piece **110** may be disposed with a plurality of limiting grooves, and the limiting grooves correspond to the plurality of limiting protrusions **1140**. With the plurality of limiting protrusions **1140** and the plurality of limiting grooves, the piston **114** may be effectively prevented from being separated from the side of the accommodating piece **111** away from the atomizing piece **110**. In other embodiments, the inner wall of the accommodating piece **111** may be disposed with a plurality of limiting protrusions, and the outer wall of the piston **114** may be disposed with a plurality of limiting grooves. Alternatively, the inner wall of the accommodating piece **111** away from the atomizing piece **110** may be disposed with a plurality of anti-slip grooves or patterns. That is, the method for preventing the piston **114** from separating from the side of the accommodating piece **111** away from the atomizing piece **110** belongs to the scope of the present disclosure, and the present disclosure is not limited to the embodiments mentioned above.

(38) In some embodiments, the material of the conductor of the transmission wire **112** may include copper, aluminum, molybdenum, tungsten, gold, chromium, nickel, platinum, titanium, iridium, rhodium, or other conductive metal materials, or any combination thereof. In other embodiments, the material of the conductor of the transmission wire **112** may also be a non-metallic material, as long as the material used is conductive. Furthermore, the surface of the conductor may be covered with an insulating layer to prevent the transmission wire **112** from being in contact with other components of the atomizing component **11** and thereby causing a short circuit.

(39) As shown in FIG. **5** and FIG. **6**, in some embodiments, the first electrical connector **113** includes a conductive sheet **1130** and a first conductive pillar **1131**. The conductive sheet **1130** is electrically connected to the transmission wire **112**. The first conductive pillar **1131** is disposed on one side of the conductive sheet **1130**, wherein the first conductive pillar **1131** is against the conductive sheet **1130** to be electrically connected to the transmission wire **112**. More specifically, the conductive sheet **1130** may be a plum-shaped folding sheet and a via, and the plum-shaped folding sheet surrounds the via. The first conductive pillar **1131** includes a mating terminal end

11311 and a connecting terminal end **11312** that are connected to each other. The cross-sectional area of the mating terminal end **11311** in the radial direction is larger than the cross-sectional area of the connecting terminal end **11312** in the radial direction. The connecting terminal end **11312** of the first conductive pillar **1131** passes through the via, and the mating terminal end **11311** abuts on the plum-shaped folding sheet. However, the present disclosure is not limited thereto. In other embodiments, the first conductive pillar **1131** may also be bonded, welded, snapped, or directly wound, or a method known by a person having ordinary skills in the art to be electrically connected to the conductive sheet **1130**. In addition, the first conductive pillar **1131** is electrically connected to the controlling component **21**. More specifically, the first conductive pillar **1131** is electrically connected to a first elastic connecting piece **211** in the controlling component **21** (which will be further explained hereinafter).

(40) As shown in FIG. **8**, in some embodiments, the piston **114** is formed by coating the permanent magnet **1141** with silicone. However, the present disclosure is not limited thereto. In other embodiments, the piston **114** may also be formed by coating the permanent magnet **1141** with high molecular polymers such as polyethylene, polypropylene, polyvinyl chloride, polyethylene terephthalate, polystyrene, or polycarbonate, or the like. It should be noted that, in addition to high molecular polymers, the piston **114** may also be formed with ceramic materials, metal materials, composite materials, or the like.

(41) In some embodiments, the material of the conductor of the induction coil **115** may include copper, aluminum, molybdenum, tungsten, gold, chromium, nickel, platinum, titanium, iridium, rhodium, or other conductive metal materials, or any combination thereof. In other embodiments, the material of the conductor of the induction coil **115** may also be a non-metallic material, as long as the material used is conductive. Furthermore, the surface of the induction coil **115** may be covered with an insulating layer to prevent the contacting between the various line segments of the induction coil **115** and thereby causing a short circuit.

(42) As shown in FIG. **5** and FIG. **6**, in some embodiments, the second electrical connector **116** may include a conductive piece **1160** and a second conductive pillar **1161**. The conductive piece **1160** is electrically connected to the conduction coil **115**, wherein the second conductive pillar **1161** is against the conductive piece **1160** to be electrically connected to the conduction coil **115**. More specifically, the second conductive pillar **1161** includes a mating terminal end **11611** and a connecting terminal end **11612** that are connected to each other. The cross-sectional area of the mating terminal end **11611** in the radial direction is larger than the cross-sectional area of the connecting terminal end **11612** in the radial direction. However, the present disclosure is not limited thereto. In other embodiments, the second conductive pillar **1161** may also be bonded, welded, snapped, or directly wound, or a method known by a person having ordinary skills in the art to be electrically connected to the conductive piece **1160**. In addition, the second conductive pillar **1161** is electrically connected to the controlling component **21**. More specifically, the second conductive pillar **1161** is electrically connected to a second elastic connecting piece **212** in the controlling component **21** (which will be further explained hereinafter).

(43) As shown in FIG. **8**, in some embodiments, the atomizing component **11** may further include a pressure sensor **117**. The pressure sensor **117** is disposed in the accommodating piece **111**, and the pressure sensor **117** is electrically connected to the controlling component **21**. The pressure sensor **117** is configured to sense the pressure in the accommodating piece **111**. When the pressure of the accommodating piece **111** is too low, the controlling component **21** controls the piston **114** to move toward the atomizing piece **110** according to the value sensed by the pressure sensor **117**. Conversely, when the pressure in the accommodating piece **111** is too high, the controlling component **21** controls the piston **114** to stop moving toward the atomizing piece **110** according to the value sensed by the pressure sensor **117**. In some embodiments, the pressure sensor **117** may use one of a capacitive sensor, a piezoelectric sensor, and a piezoresistive sensor according to actual conditions. In some embodiments, the pressure sensor **117** may be plural. The plurality of

pressure sensors **117** respectively is disposed at different positions in the accommodating piece **111** to more accurately measure the pressure in the accommodating piece **111**.

(44) FIG. **9** is an exploded view of the second body of an embodiment of the present disclosure. As shown in the figure, in some embodiments, the second outer case **20** may be a hollow cylinder with openings at both ends, and the second outer case **20** covers the controlling component **21** and the battery component **22**. More specifically, one end of the second outer case **20** corresponds to the first outer case **10**, and a side surface of the second outer case **20** has an air inlet **200** for air intake. Wherein, the air inlet **200** is disposed opposite to the air outlet **100**. That is, the air inlet **200** is located on the side of the atomizing component **11** away from the air outlet **100**. In other words, the air outlet **100** is located on the side of the atomizing component **11** away from the air inlet **200** (as shown in FIG. **4**). In some embodiments, the number of the air inlets **200** may be two, and the two air inlets **200** are respectively disposed at relative positions on the side surface of the second outer case **20**. It should be noted that the disclosure is not limited thereto. In other embodiments, the number of the air inlets **200** may be plural (for example three, four, or five). The plurality of air inlets **200** may surround the side surface of the second outer case **20** at intervals, or be collectively disposed according to actual conditions.

(45) FIG. **10** and FIG. **11** are respectively a schematic diagram and another schematic diagram of the controlling component of an embodiment of the present disclosure. As shown in the figure, in some embodiments, the controlling component **21** may include a substrate **210**, a first elastic connecting piece **211**, a second elastic connecting piece **212**, and a first conductive protrusion **213**. The substrate **210** has a first surface **210***a* and a second surface **210***b*. The first elastic connecting piece **211** is disposed on the first surface **210***a*, and the first elastic connecting piece **211** is electrically connected to the atomizing piece **110** of the atomizing component **11**. The second elastic connecting piece **212** is disposed on the first surface **210***a*, and the second elastic connecting piece **212** is electrically connected to the induction coil **115** of the atomizing component **11**. The first conductive protrusion **213** is disposed on the second surface **210***b*, and the first conductive protrusion **213** is electrically connected to the battery component **22**.

(46) In some embodiments, the substrate **210** may be a glass substrate, such as an alkali-containing glass substrate, an alkali-free glass substrate, or a strengthened glass substrate after physical/chemical treatment. The substrate **210** may also be a plastic substrate, such as Poly terephthalate (PET), polycarbonate (PC), polymethyl methacrylate (PMMA), or polycyclic olefin polymer (COP). However, the disclosure is not limited thereto. In other embodiments, any substrate known by a person having ordinary skills in the art may be used in this disclosure.

(47) In some embodiments, the first elastic connecting piece **211** and/or the second elastic connecting piece **212** may be a spring-loaded pin (Pogo Pin), which consists of a plunger, a tube, and a spring constituted. The spring-loaded pin may be adjusted the elasticity of the spring according to requirements to achieve a more stable contact effect. Alternatively, the spring connector can also be electroplated with gold, nickel, or an alloy thereof on the surface according to requirements to increase conductivity and prevent oxidation.

(48) In some embodiments, the number of the first elastic connecting piece **211** may be two, and the number of the first electrical connector **113** may be two. Specifically, one of the two first elastic connecting pieces **211** is a positive terminal, and the other of the two first elastic connecting pieces **211** is a negative terminal.

(49) In some embodiments, the number of second elastic connecting pieces **212** may be two, and the number of second connectors may be two. Specifically, one of the two second elastic connecting pieces **212** is a positive terminal, and the other of the two second elastic connecting pieces **212** is a negative terminal. It should be noted that the second elastic connecting piece **212** is configured to transmit power to the induction coil **115**. When the positive and negative terminals of the two second elastic connecting pieces **212** are reversed, the direction of the magnetic field generated by the induction coil **115** will be reversed. In this way, the piston **114** moves in a

direction away from the atomizing piece **110**. Therefore, in some embodiments, the two second elastic connecting pieces **212** may have opposite magnetic poles, and the two second conductive pillars **1161** may have opposite magnetic poles, respectively. That is, the second elastic connecting piece **212** with the N pole may only be connected to the second conductive pillar **1161** with the S pole. On the other hand, the second elastic connecting piece **212** with the S pole may only be connected to the second conductive pillar **1161** with the N pole. Foolproof may be effectively realized by the two second elastic connecting pieces **212** with opposite magnetic poles, therefore upside-down installation of the first body **1** and the second body **2** may be prevented. Further, the first body **1** and the second body **2** are detachably connected along the axial direction d by the magnetic butt of the second electrical connector **116** and the second elastic connecting piece **212**. It should be noted that the implementation mentioned above are only examples, and the disclosure is not limited thereto.

(50) In other embodiments, the second elastic connecting piece **212** and the second conductive pillar **1161** may also be disposed with a specific shape or with a specific groove, engaging portion, etc., to realize foolproof. Alternatively, the two second elastic connecting piece **212** may also be respectively sleeved on two sleeves with opposite magnetic poles (sleeve **216** in FIG. **9**), so as to be connected to the two second conductive pillars **1161** with opposite magnetic poles. Wherein, the sleeve **216** may be fixed to the second elastic connecting piece **212** by engagement, bonding, welding, etc., but the present disclosure is not limited thereto.

(51) In some embodiments, the first conductive protrusion **213** may be a metal connector with no elasticity and is electrically connected to the battery component **22**. Alternatively, the first conductive protrusion **213** may also be a metal joint with elasticity similar to the first elastic connecting piece **211** or the second elastic connecting piece **212**.

(52) In some embodiments, the controlling component **21** may further include a controlling chip **214** and a gas flow sensor **215**. The gas flow sensor **215** is disposed on the first surface **210***a* of the substrate **210**, and the gas flow sensor **215** is electrically connected to the controlling chip **214**. For example, the controlling chip **214** may include memory, driver, encoder, read-write circuit, controlling circuit, and other components known by a person having ordinary skills in the art. The gas flow sensor **215** may be one of an absolute pressure sensor, a gauge sensor, a gauge sensor, and a differential pressure sensor, or any gas flow sensor known by a person having ordinary skills in the art. The position of the gas flow sensor **215** corresponds to the air inlet **200** of the atomizing device, so as to detect the passing of the gas flow when the atomizing device is used. When a gas flow is detected, the gas flow sensor **215** transmits the detection result to the controlling chip **214**, and the controlling chip **214** may control other components according to the detection result. For example, the controlling component **21** receives the power provided from the battery component **22** and provides the power to the atomizing component **11** through the first elastic connecting piece **211** and the second elastic connecting piece **212**. With the specific configuration mentioned above, the atomizing piece **110** and the induction coil **115** in the atomizing component **11** may operate according to the flow mentioned above, therefore a stable atomizing effect may be achieved.

(53) As shown in FIG. **9**, in some embodiments, the battery component **22** may include a battery **220** and an abutting piece **221**. The battery **220** is disposed in the second outer case **20**. Wherein, the battery **220** has a second conductive protrusion **2200**, and the second conductive protrusion **2200** is electrically connected to the controlling component **21**. More specifically, the second conductive protrusion **2200** of the battery **220** abuts the first conductive protrusion **213** on the controlling component **21**.

(54) In some embodiments, the battery **220** may be a reusable lithium battery, which may be charged by an external power source to provide power for the atomizing device again. Alternatively, the battery **220** may also be a single-use carbon-zinc battery, which may be quickly replaced by disassembling the atomizing device. It should be noted that the battery types mentioned above are only examples, and any battery known by a person having ordinary skills in the art may

be used in the present disclosure.

(55) The abutting piece **221** is disposed on one side of the battery **220** away from the second conductive protrusion **2200**. In some embodiments, the abutting piece **221** is composed of a bottom plate and a spring. The abutting piece **221** is configured to provide pressure to the battery **220** so that the battery **220** may be continuously pressed against the controlling component **21**.

(56) In the hereinbefore, the first outer case **10**, the atomizing component **11**, the second outer case **20**, the controlling component **21**, and the battery component **22** in the atomizing device have been explained in detail. However, the atomizing device of the present disclosure is not limited to the elements mentioned above. In the hereinafter, the present disclosure will further provide other elements or structures that may be disposed in the atomizing device, so that the atomizing device of the present disclosure has more excellent and diversified technical effects.

(57) As shown in FIG. **4**, FIG. **8**, and FIG. **12**, wherein FIG. **12** is a schematic diagram of the diversion channel of an embodiment of the present disclosure. In some embodiments, a diversion channel **12** may be formed between the first outer case **10** and the atomizing component **11**, and the diversion channel **12** surrounds the atomizing component **11**. The diversion channel **12** is a fluid channel for conveying gas. Therefore, the diversion channel in FIG. **12** may not have a solid body, which is formed by the gap between the first outer case **10** and the atomizing component **11**. It should be noted that the present disclosure is not limited to the diversion channel **12** only containing air. In other embodiments, the diversion channel **12** may also include a sponge, film, or filler with high air permeability, so as to realize the filtering or diversion function in the process of conducting air. In addition, the first body **1** and the second body **2** are configured to be detachably connected to each other along the axial direction d, therefore the air inlet **200**, the diversion channel **12**, and the air outlet **100** are fluidly communicated to each other.

(58) Specifically, the gas entering the atomizing device from the air inlet **200** will be diverted by the diversion channel **12** and mixed with the atomized filler at the plurality of atomizing holes of the atomizing piece **110**. With the design of split flow first and then mixed flow, users may obtain atomized gas/liquid with sufficient kinetic energy and uniform mixing. Therefore, by designing the diversion channel **12**, the atomizing device of the present disclosure may provide a more excellent user experience.

(59) As shown in FIG. **12**, in some embodiments, the diversion channel **12** may have a connecting space **121**, a disc space **122** located on one side of the connecting space **121**, and a cylindrical space **123** located on the other side of the connecting space **121**. The disc space **122** is communicated with the air inlet **200**, and the cylindrical space **123** is communicated with the air outlet **100**. Wherein, the outer diameter of the disc space **122** is larger than the outer diameter of the cylindrical space **123**, but the present disclosure is not limited thereto. The size and shape of each part of the diversion channel **12** may be adjusted according to actual requirements to achieve the best diversion effect.

(60) As shown in FIG. **12** to FIG. **14**, wherein FIG. **13** and FIG. **14** are respectively another side view of the atomizing device of an embodiment of the disclosure and a cross-sectional view along the line b-b′ in FIG. **13**. In some embodiments, the disc space **122** and the cylindrical space **123** are located at opposite sides of the first electrical connector **113** and the second electrical connector **116**, and the connecting space **121** is located between the first electrical connector **113** and the second electrical connector **116**. More specifically, the first elastic connecting piece **211** passes through the position **1220** shown in FIG. **12** and is connected to the first electrical connector **113**. In addition, the second elastic connecting piece **212** and the sleeve **216** pass through the position **1221** shown in FIG. **12** and are connected to the second electrical connector **116**.

(61) As shown in FIG. **3**, FIG. **4**, and FIG. **12**. In some embodiments, the atomizing device may further include a first inner case **13**, and the first inner case **13** is sleeved outside the atomizing component **11**. Wherein, the first inner case **13** and the first outer case **10** jointly form one side of the cylindrical space **123** close to the connecting space **121** (ie, the left side of the cylindrical space

123 in FIG. **12**). The first inner case **13** has a plurality of first diversion protrusions **130** and a plurality of first distribution channels **131** on the side surface close to the two end surfaces. The plurality of first diversion protrusions **130** contact the first outer case **10** to form a gas conducting channel between two adjacent first diversion protrusions **130**, and the channel is the first distribution channel **131**. That is, each first distribution channel **131** is located between two adjacent first diversion protrusions **130**. Wherein, the area in the cylindrical space **123** corresponding to the plurality of first distribution channels **131** is defined as a first distribution space **1232**, and the first distribution space **1232** is formed by the plurality of first distribution channels **131**. More specifically, the position **1230** in FIG. **12** is where the first diversion protrusions **130** is located. With the first diversion protrusion **130**, the passing route of the gas may be more complicated. The gas passed a complicated passing route may continuously be diverted and mixed to make the mixing more uniform. When the gas passes through the first diversion protrusion **130** (that is, the position **1230** in FIG. **12**), the first diversion protrusion **130** will divert the gas to the first distribution channels **131** on both sides (that is, the first distribution space **1232**), and the gas will be mixed again after passing through the first distribution channel **131**.
(62) In some embodiments, the plurality of first diversion protrusions **130** surrounds the side surface of the first inner case **13** in sequence and at equal intervals. It should be noted that the position, shape, and number of the first diversion protrusion **130** in the figure are all examples, and the present disclosure is not limited thereto.
(63) In some embodiments, the atomizing device may further include a first base **14**, and the first base **14** is disposed on one side of the atomizing component **11** close to the air outlet **100**. Wherein, the first base **14** and the first outer case **10** jointly form one side of the cylindrical space **123** away from the connecting space **121** (ie, the right side of the cylindrical space **123** in FIG. **12**). The first base **14** has a plurality of second diversion protrusions **140** and a plurality of second distribution channels **141**. The plurality of second diversion protrusions **140** contact the first outer case **10** to form a gas conducting channel between two adjacent second diversion protrusions **140**, and the channel is the second distribution channel **141**. That is, each second distribution channel **141** is located between two adjacent second diversion protrusions **140**. Wherein, the area in the cylindrical space **123** corresponding to the plurality of second distribution channels **141** is defined as a second distribution space **1232**, and the second distribution space **1232** is formed by the plurality of second distribution channels **141**. More specifically, the position **1231** in FIG. **12** is where the second diversion protrusions **140** is located. With the second diversion protrusion **140**, the passing route of the gas may be more complicated. The gas passed a complicated passing route may continuously be diverted and mixed to make the mixing more uniform. Taking the FIG. **12** as an example, when the gas passes through the second diversion protrusion **140** (that is, the position **1231**), the second diversion protrusion **140** will divert the gas to the second distribution channels **141** on both sides (that is, the second distribution space **1233**), and the gas will be mixed again after passing through the second distribution channel **141**.
(64) In some embodiments, the plurality of second diversion protrusions **140** surrounds the side surface of the first base **14** in sequence and at equal intervals. It should be noted that the position, shape, and number of the second diversion protrusions **140** in the figure are all examples, and the present disclosure is not limited thereto.
(65) In some embodiments, an air-permeable sponge or other similar highly air-permeable elements may also be disposed in the connecting space **121**. By adjusting the density or material of the highly permeable element, the moving speed of the gas in the diversion channel **12** may be adjusted or the impurities in the gas may be filtered.
(66) In some embodiments, the atomizing device may further include a second inner case **24** and a second base **15**. The second inner case **24** is located on one side of the second outer case **20** close to the first outer case **10**, and the second inner case **24** is in contact with the inner peripheral surface of the second outer case **20**. More specifically, the controlling component **21** and the battery

component **22** are configured to be sequentially installed into the second inner case **24** along the axial direction d, and the second inner case **24** is configured to be installed into the second outer case **20** along the axial direction d. The second base **15** is disposed on one side of the atomizing component **11** close to the air outlet **100** and is in contact with the inner surface of the first outer case **10**. The second base **15** surrounds the connecting space **121** and is located between the cylindrical space **123** and the disc space **122**. Wherein, the first body **1** and the second body **2** are configured to be detachably connected along the axial direction d to space the second inner case **24** and the second base **15** from each other. Therefore, the second outer case **20**, the second inner case **24**, the first outer case **10**, and the second base **15** together form a disc space **122**.
(67) In some embodiments, the battery component **22** is disposed in the second inner case **24**. By disposing the second inner case **24**, the battery **220** may be prevented from sliding in the second outer case **20**.
(68) In the case that the second inner case **24** is disposed with a limiting groove **240**, the substrate **210** of the controlling component **21** may have limiting protrusions **2100** on both sides (as shown in FIG. **10**), and the limiting protrusions **2100** are engaged with the limiting groove **240** of the second inner case **24**. By engaging the limiting protrusion **2100** and the limiting groove **240** of the second inner case **24** with each other, the displacement of the controlling component **21** may be prevented. Further, the limiting protrusions **2100** on both sides of the substrate **210** may have different sizes, and the limiting grooves **240** on both sides of the second inner case **24** may also have different sizes. By disposing the limiting protrusions **2100** of different sizes, the effect of foolproof may be realized.
(69) FIG. **16** is a schematic diagram of the first base, the atomizing component, and the second base of an embodiment of the present disclosure. As shown in FIG. **9** and FIG. **16**, in some embodiments, the disc space **122** is formed between the second inner case **24** and the second base **15**. For example, the second inner case **24** is located on one side of the second outer case **20** close to the first outer case **10** and in contact with the inner surface of the second outer case **20**. The second base **15** is located on one side of the first outer case **10** close to the second outer case **20** and in contact with the inner surface of the first outer case **10**. The second inner case **24** and the second base **15** are spaced apart from each other. The second outer case **20**, the second inner case **24**, the first outer case **10**, and the second base **15** are jointly form the disc space **122**. The second inner case **24** has a connecting via **241**. The connecting via **241** includes a sensor via **2410**. The sensor via **2410** is communicated with the gas flow sensor **215** and the air inlet **200**. The gas flow sensor **215** is located on one side of the sensor via **2410** and the disc space **122** is formed on the other side of the sensor via **2410**. The second base **15** includes a middle via **151** and a base distribution channel **152**. The middle via **151** forms a connecting space **121**, and the middle via **151** and the sensor via **2410** are aligned the axial direction d. An air-permeable sponge is disposed in the middle via **151**. The base distribution channel **152** is located on the side surface of the second base **15** contacting the atomizing component **11**, and the base distribution channel **152** is communicated with the connecting space **121** and the cylindrical space **123**. The number of the base distribution channel **152** is plural and annularly arranged. The gas entered from the air inlet **200** comes to the disc space **122** and diverges. A part of the gas flows to the gas flow sensor **215** through the sensor via **2410**, and the other is to enter the connecting space **121** of the middle via **151**. After passing through the connecting space **121**, the gas is divided again, a part of the gas enters the atomizing component **11**, and the other enters the cylindrical space **123** through the base distribution channel **152**.
(70) As shown in FIG. **16**, in some embodiments, the first base **14** may further have an air outlet via **142** penetrating in a radial direction, and the air outlet via **142** is communicated with the cylindrical space **123** and the air outlet **100**. The number of the air outlet via **142** may be plural, and the plurality of air outlet via **142** are arranged in a ring shape and are spaced apart from each other.
(71) As shown in FIG. **9**, in some embodiments, the connecting via **241** may further include a first

connecting via **2411** and a second connecting via **2412**. The first elastic connecting piece **211** is disposed in the first connecting via **2411**, and the second elastic connecting piece **212** and the sleeve **216** are disposed in the second connecting via **2412**.
(72) As shown in FIG. **9**, in some embodiments, the second body **2** may further include a fixing plug **23**, and the fixing plug **23** is detachably disposed on one side of the second outer case **20** away from the first outer case **10**.
(73) In some embodiments, the fixing plug **23** may be detachably connected to the second outer case **20** by a method known by a person having ordinary skills in the art, such as thread, locking, turning shaft, and the like. Furthermore, with the fixing plug **23** which is easy to detach, the user may quickly replace the battery **220** in the second outer case **20**. In addition, with the fixing plug **23** which is easy to detach, the user may quickly maintain the components of the atomizing device.
(74) As mentioned above, the present disclosure provides an atomizing device with an excellent atomizing function. Furthermore, the present disclosure also provides an assembling method of the atomizing device, and the assembling method is used to manufacture the atomizing device mentioned above. It should be noted that the order of the steps is not fixed and the order of the steps is not necessary. Some of the steps may be performed at the same time, and some of the steps may be omitted or added. The present flowchart describes the technical features of the steps of the disclosure in a broad and simple manner, and the sequence and number of steps in the assembly method of the disclosure are not limited to the present flowchart.
(75) FIG. **17** is a flowchart of the assembling method of an atomizing device of an embodiment of the present disclosure. As shown in the figure, the assembling method of the atomizing device includes:
(76) Step S**10**: Providing a first outer case **10**. Wherein, the first outer case **10** is a hollow cylinder with openings at both ends.
(77) Step S**11**: Disposing the atomizing component **11** in the first outer case **10** to form a first body **1**.
(78) Step S**12**: Providing a second outer case **20**. Wherein, the second outer case **20** is a hollow cylinder with openings at both ends.
(79) Step S**13**: Disposing a controlling component **21** and a battery component **22** into two ends of the second outer case **20** to form a second body **2**. Wherein, the controlling component **21** is electrically connected to the battery component **22**.
(80) Step S**14**: Making the first body **1** be detachably connected to the second body **2**. Wherein, the controlling component **21** is located between the atomizing component **11** and the battery component **22**, and the controlling component **21** is electrically connected to the atomizing component **11**.
(81) FIG. **18** is a flowchart of the assembling method of an atomizing component of an embodiment of the present disclosure. As shown in the figure, before step S**11**, the assembling method of the atomizing assembly **11** may include the following steps:
(82) Step S**20**: Providing an atomizing piece **110**.
(83) Step S**21**: Disposing an accommodating piece **111** on the atomizing piece **110**. Wherein, the accommodating piece **111** and the atomizing piece **110** are in fluid communication to each other. More specifically, the atomizing piece **110** is placed on an opening of the accommodating piece **111**.
(84) Step S**22**: Disposing a transmission wire **112** on the atomizing piece **110**. Wherein, one end of the transmission wire **112** is electrically connected to the atomizing piece **110**. In some embodiments, the transmission wire **112** may be fixed on the U-shaped groove of the atomizing piece **110** by crimping.
(85) Step S**23**: Disposing the first electrical connector **113** on the transmission wire **112**. Wherein, the first electrical connector **113** is electrically connected to the other end of the transmission wire **112**. In some embodiments, the first electrical connector **113** includes a conductive sheet **1130** and

a first conductive pillar **1131**. Wherein, the first conductive pillar **1131** may be fixed on the conductive sheet **1130** by crimping, and the conductive sheet **1130** may be fixed on the transmission wire **112** by welding, but the present disclosure is not limited thereto.

(86) Step S**24**: Disposing a piston **114** in the accommodating piece **111**. Wherein, the piston **114** has a magnet inside.

(87) Step S**25**: Disposing an induction coil **115** around the accommodating piece **111**. Wherein, the gap of each line segment of the induction coil **115** may be adjusted according to requirements.

(88) Step S**26**: Disposing a second electrical connector **116** on the induction coil **115**. Wherein, the second electrical connector **116** is electrically connected to the induction coil **115**. In some embodiments, the second electrical connector **116** may include a conductive piece **1160** and a second conductive pillar **1161**. Wherein, the second conductive pillar **1161** may be fixed on the conductive piece **1160** by crimping, and the conductive piece **1160** may be fixed on the induction coil **115** by welding, but the present disclosure is not limited thereto.

(89) FIG. **19** is a flowchart of the assembling method for the controlling component of an embodiment of the present disclosure. As shown in the figure, before step S**13**, the assembling method of the controlling component **21** may include the following steps:

(90) Step S**30**: Providing a substrate **210**. Wherein, the substrate **210** has a first surface **210***a* and a second surface **210***b*.

(91) Step S**31**: Disposing a controlling chip **214** on the first surface **210***a*. In some embodiments, the controlling chip **214** may be integrated on the substrate **210** by a semiconductor process.

(92) Step S**32**: Disposing a first elastic connecting piece **211** on the first surface **210***a*. Wherein, the first elastic connecting piece **211** corresponds to the atomizing piece **110** of the atomizing component **11**. In some embodiments, the first elastic connecting piece **211** may be formed on the substrate **210** by welding.

(93) Step S**33**: Disposing a second elastic connecting piece **212** on the first surface **210***a*. Wherein, the second elastic connecting piece **212** corresponds to the induction coil **115** of the atomizing component **11**. In some embodiments, the second elastic connecting piece **212** may be formed on the substrate **210** by welding.

(94) Step S**34**: Disposing a first conductive protrusion **213** on the second surface **210***b*. Wherein, the first conductive protrusion **213** corresponds to the battery component **22**. In some embodiments, the first conductive protrusion **213** may be formed on the substrate **210** by welding.

(95) FIG. **20** is another flowchart of the assembling method of the atomizing device of the present disclosure. As shown in the figure, in some embodiments, step S**14** may be implemented by the following sub steps:

(96) Sub step S**140**: Installing the atomizing component **11** into the first outer case **10** along an axial direction d to form the first body **1**. Wherein, the atomizing component **11** may be put into the first outer case **10** through one opening of the first outer case **10** and be assembled in the first outer case **10** by snapping, locking, bonding, etc. However, the present disclosure is not limited thereto.

(97) Sub step S**141**: Installing the controlling component **21** and the battery component **22** into the second outer case **20** along the axial direction d to form the second body **2**. Wherein, the controlling component **21** and the battery component **22** may be put into the second outer case **20** through one opening of the second outer case **20** and be assembled in the second outer case **20** by snapping, locking, bonding, etc. However, the present disclosure is not limited thereto.

(98) Sub step S**142**: Making the second body **2** detachably connected to the first body **1** along the axial direction d. Wherein, the second body **2** may be assembled on the first body **1** by means of snaps, locks, etc. However, the present disclosure is not limited thereto. For example, the first body **1** and the second body **2** may have threads corresponding to each other, and the first body **1** and the second body **2** are fixed to each other by the corresponding threads.

(99) FIG. **21** is another flowchart of the assembling method of the atomizing device of the present disclosure. As shown in the figure, in some embodiments, sub step S**141** and sub step S**142** may

also include the following flows:
(100) Flow F**10**: Providing a second inner case **24**.
(101) Flow F**11**: Installing the controlling component **21** and the battery component **22** into the second inner case **24** along the axial direction d in sequence.
(102) Flow F**12**: Installing the second inner case **24** into the second outer case **20** along the axial direction d. Wherein, the second inner case **24** is disposed on one side of the second outer case **20** close to the first outer case **10**.
(103) Flow F**13**: Disposing a fixing plug **23** on one side of the second outer case **20** away from the first outer case **10**.
(104) Flow F**14**: Disposing a second electrical connector **116** at one end of the atomizing component close to the second body **2**.
(105) Flow F**15**: Disposing a second elastic connecting piece **212** to the controlling component **21**. Wherein, the second elastic connecting piece **212** passes through the second inner case **24** and is close to the end surface of the first body **1**. The second electrical connector **116** and the second elastic connecting piece **212** have opposite magnetic poles.
(106) Flow F**16**: Making the first body **1** and the second body **2** be connected to each other so that the second electrical connector **116** and the second elastic connecting piece **21** are magnetically connected to each other.
(107) FIG. **22** is another flowchart of the assembling method of the atomizing device of the present disclosure. As shown in the figure, in some embodiments, sub step S**140** to sub step S**142** may also include the following flows:
(108) Flow F**20**: Disposing the first inner case **13** on the atomizing component **11**. Wherein, the first inner case **13** has a first diversion protrusion **130**.
(109) Flow F**21**: Disposing the atomizing component **11** in the first outer case **10** to form a diversion channel **12** and an air outlet **100**. Wherein, the diversion channel **12** surrounds the atomizing component **11**, and the air outlet **100** is located on one side of the atomizing component **11**.
(110) Flow F**22**: Disposing a first base **14** at one end of the atomizing component **11**. Wherein, the first base **14** has a second diversion protrusion **140**.
(111) Flow F**23**: Disposing a second base **15** at the other end of the atomizing component **11**.
(112) Flow F**24**: Providing the second inner case **24**.
(113) Flow F**25**: Installing the controlling component **21** and the battery component **22** into the second inner case **24** along the axial direction d in sequence.
(114) Flow F**26**: Installing the second inner case **24** into the second outer shell **20** along the axial direction d.
(115) Flow F**27**: Making the first body **1** and the second body **2** be connected to each other so that the second inner case **24** and the second base **15** are spaced apart from each other to form a disc space **122** of the diversion channel **12**. Wherein, the air inlet **200** is communicated with the disc space **122**. Wherein, the air inlet **200**, the diversion channel **12**, and the air outlet **100** are in fluid communication to each other, and the diversion channel **12** is located between the air inlet **200** and the air outlet **100**.
(116) In summary, in the atomizing device of the present disclosure, a diversion channel is formed in the outer case and the atomizing component. Further, the diversion channel is in fluid communication with the air inlet and the air outlet of the atomizing device. In this way, the air entering the atomization device through the diversion channel can have greater kinetic energy, so as to be uniformly mixed with the atomized filler. The evenly mixed smoke may effectively improve the user experience.
(117) Although the present disclosure has been explained in relation to its preferred embodiment, it does not intend to limit the present disclosure. It will be apparent to those skilled in the art having regard to this present disclosure that other modifications of the exemplary embodiments beyond

those embodiments specifically described here may be made without departing from the spirit of the invention. Accordingly, such modifications are considered within the scope of the invention as limited solely by the appended claims.

Claims

1. An atomizing device, comprising: an outer case having an air inlet and comprising a first outer case and a second outer case connected to each other; an atomizing component disposed in the outer case, wherein the atomizing component and the outer case jointly form an air outlet, and the air outlet is located on one side of the atomizing component away from the air inlet; wherein, a diversion channel is formed between the outer case and the atomizing component, the diversion channel surrounds the atomizing component, and the air inlet, the diversion channel, and the air outlet are in fluid communication to each other, and the diversion channel has a connecting space, a disc space located on one side of the connecting space and a cylindrical space located on another side of connecting space; and a second base disposed on one side of the atomizing component close to the air outlet, the second base being in contact with an inner surface of the first outer case, surrounding the connecting space, and located between the cylindrical space and the disc space, wherein the first outer case, the second outer case and the second base jointly form at least a portion of the disc space.
2. The atomizing device of claim 1, wherein the disc space is communicated with the air inlet, and the cylindrical space is communicated with the air outlet.
3. The atomizing device of claim 2, wherein the atomizing component comprises a first electrical connector and a second electrical connector, the disc space and the cylindrical space are located on opposite sides of the first electrical connector and the second electrical connector, and the connection space is located between the first electrical connector and the second electrical connector.
4. The atomizing device of claim 2, further comprising a first inner case, wherein the first inner case is sleeved outside the atomizing component, the first inner case and the first outer case jointly form one side of the cylindrical space close to the connecting space, and a side surface of the first inner case close to the two end surfaces has a plurality of first diversion protrusions and a first distribution channel, the plurality of first diversion protrusions is in contact with the first outer case, the first distribution channel is located between two adjacent first diversion protrusions, the cylindrical space comprises a first distribution space, and the first distribution space is formed by the first distribution channel.
5. The atomizing device of claim 4, further comprising a first base, wherein the first base is disposed on one side of the atomizing component close to the air outlet, the first base and the first outer case jointly form one side of the cylindrical space away from the connecting space, the first base has a plurality of second diversion protrusions and a second distribution channel, the plurality of second diversion protrusions is in contact with the first outer case, the second distribution channel is located between two adjacent second diversion protrusions, the cylindrical space comprises a second distribution space, and the second distribution space is formed by the second distribution channel.
6. The atomizing device of claim 5, wherein the plurality of first diversion protrusions surrounds a side surface of the first inner case, and the plurality of second diversion protrusions surrounds a side surface of the first base.
7. The atomizing device of claim 4, further comprising a second inner case, wherein the second inner case is located on one side of the second outer case close to the first outer case and in contact with an inner surface of the second outer case, the second inner case and the second base are spaced apart from each other, and the second outer case, the second inner case, the first outer case, and the second base jointly form the disc space.

8. The atomizing device of claim 7, further comprising a gas flow sensor, wherein the second inner case has a connecting via, the connecting via comprises a sensor via, and the second base comprises a middle via and a base distribution channel, the middle via forms the connection space, the middle via and the sensor via are aligned along an axial direction, the base distribution channel is located in a side surface of the second base being in contact with the atomizing component, and the base distribution channel is communicated with the connection space and the cylindrical space.
9. The atomizing device of claim 5, wherein the first base further has an air outlet via penetrating in a radial direction, and the air outlet via is communicated with the cylindrical space and the air outlet.
10. The atomizing device of claim 2, further comprising an air-permeable sponge, wherein the air-permeable sponge is disposed in the connecting space.